Independent Review of New Jersey's Response to the COVID-19 Pandemic

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March 7, 2024

Dedication

This independent review of New Jersey's response to the COVID-19 pandemic is dedicated to the tens of thousands of New Jerseyans who lost their lives, and to their loved ones. We also dedicate this review to those who lost their jobs and businesses, as well as the heroes who put themselves at great personal risk by working tirelessly 24/7 for months to save, help, and serve others.

The purpose of this review is to examine how prepared New Jersey was for the COVID-19 pandemic. The report evaluates how well the government responded, identifies lessons learned, and offers recommendations to help New Jersey fare better in a future emergency.

During our review, we met a New Jersey family that lost their parents in a nursing home early in the pandemic. During a series of very emotional sessions with the family, we learned that their father's older brother had died during the Great Influenza of 1918. They asked us, "How could this have been allowed to happen? We had 100 years to learn from the 1918 pandemic that took the older brother; why weren't we better prepared? Why didn't we have better plans in place to deal with this pandemic?"

Our federal and state governments owed it to their citizens to have the right mechanisms in place to reduce the widespread disruptions, the sheer volume of illnesses, and the devastating losses we all experienced. More was owed to the heroes called on to deal with the healthcare crisis to ensure that they were properly equipped with the staffing, plans, training, and resources needed to respond at the beginning of the crisis when the tsunami of cases hit.

We collectively failed as a nation and as a state to be adequately prepared. At the State level, heroic actions were taken to respond in good faith to the crisis. As the pandemic progressed, significant systemic improvements helped New Jersey mitigate the crisis, but no level of effort could overcome an inadequate healthcare infrastructure and scarcity of basic medical supplies. Neither the State nor the Federal Government had clear, executable plans in place to respond to and manage such limited resources in an uncertain and rapidly evolving environment.

We hope the report can serve as a playbook for New Jersey – a guide to putting in place the appropriate resources, plans, and processes – so that we can all be better prepared for the next major crisis. Let us learn from this horrific experience today so we can avoid another one tomorrow.

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Chapter 1 Executive Summary

1. Executive Summary

The COVID-19 pandemic was devastating to New Jersey with tens of thousands of lives lost, families torn apart, millions of people experiencing sickness, impaired childhood education, more than a million jobs lost, and financial ruin for so many. The pandemic arrived suddenly and upended everyday life here and all over the world. Our state – with the densest population in the country, international gateways such as Liberty International Airport, and location between New York City and Philadelphia – was ripe for being hit in the first wave of the pandemic's arrival in the United States. And it was clearly hit harder and faster than many other states.

Compounding these enormous challenges to New Jersey was the scarcity of accurate information about the virus and the shortage of the most basic items for protecting against a contagious disease. The usual source for both emergency information and equipment – the federal government generally and the Centers for Disease Control and Prevention (CDC) specifically – could not or would not, in many respects, fulfill those needs. Nor was the primary international health organization – the World Health Organization (WHO) – able to provide the guidance the entire world expected from it.

Governments at every level were called upon to handle the horrific and widespread effects of the pandemic. In keeping with our mission to conduct "an independent review of the State's handling of the COVID-19 pandemic,"[1] this review is focused both on what New Jersey had done to prepare for a potential public health emergency and, once the pandemic hit, what New Jersey's government did to manage the emergency in order to protect its residents, promote public health, provide leadership, disseminate information, and continue delivering the usual services that people rely on from their state government. This report also examines the virus's impact on New Jersey's most vulnerable and underserved residents, who bore a disproportionate share of that impact.

We undertook an independent and thorough assessment of the whole of the New Jersey State Government's preparations for potential emergencies and its decisions and actions starting from the earliest hints of a respiratory disease cluster in Wuhan, China. We obtained extensive information from 31 state agencies and entities and met with many of those who were directly involved in key decisions and actions, focusing mainly on the Office of the Governor, the Department of Health, and the Office of Emergency Management (part of the State Police). In addition, we analyzed thousands of pages of data both within the State and elsewhere to compare New Jersey's experience with that of other states. We also heard from many outside New Jersey's government who performed vital roles throughout the course of the pandemic – often in close

[1] State of New Jersey. (2022, November 28). *Governor Murphy Announces Independent Review of State's Response to COVID-19 Pandemic*. New Jersey COVID-19 Information Hub. https://covid19.nj.gov/faqs/announcements/all-announcements/governor-murphy-announces-independent-review-of-states-response-to-covid-19-pandemic#:~:text=The%20review%2C%20which%20will%20contain,consulting%20firm%20Boston%20Consulting%20Group

coordination with State officials. Not a single person turned down any request we made for information or consultation.

In fact-gathering for our analysis of New Jersey's state government, we heard some of the tragic stories that represent the experience of so many New Jerseyans and families over the past few years. Figures from the CDC show that between March 2020 and May 2023, New Jerseyans suffered nearly 3,000,000 cases of COVID-19 and more than 33,000 deaths.[2] We learned about families in which both parents died of COVID-19, leaving their children orphans. We were told about families who lost more than ten relatives. We know about the heart-wrenching experience of having an end-of-life call with a quarantined family member. We heard about nurses, social workers, and police officers who were terrified to bring the virus home to their families. In the face of these dire events, the State went to extraordinary lengths to support its residents. Many people – both in and out of government – performed heroically, often working 24/7 for long stretches of time. New Jersey is fortunate to have such dedicated people in both the public and private sectors.

Some populations in New Jersey, including elderly people and those without regular access to healthcare, were particularly susceptible to COVID-19. The pandemic compounded issues that were already present in the healthcare system, worsening inequities that already existed. Those living in congregate settings suffered enormously given the virus' ability to spread rapidly through close contact. Some of the Veterans' Homes were particularly hard-hit because of a combination of factors including wholly inadequate infection controls. Since we began our review, both the U.S. Department of Justice[3] and the State Commission of Investigation[4] issued scathing reports of Veterans' Homes, finding "Broad failures in leadership and management," resulting in numerous violations of residents' rights, including a "systemic inability to implement clinical care policy, poor communication between management and staff, and a failure to ensure basic staff competency [that] let the virus spread virtually unchecked throughout the facilities."

We undertook an extensive review of the serious issues that existed in New Jersey's long-term care and congregate settings. We analyzed New Jersey's handling of congregate settings, visiting key sites and meeting with residents and interested organizations. Our independent analysis confirms the findings by DOJ and SCI, and they are accepted here. We acknowledge that substantial reforms have been made to Veterans' Homes in New Jersey, with additional changes being implemented. This report reviews those reforms and makes further recommendations. To add to the body of

[2] Centers for Disease Control and Prevention. (2024, February). *Deaths by Week and State*. COVID-19 Data from NCHS. https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm

[3] United States Department of Justice Civil Rights Division and United States Attorney's Office District of New Jersey. (2023, September 7). *Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus*. Report available at https://www.justice.gov/media/1313306/dl

[4] State of New Jersey Commission of Investigation. (2023, October). *An Investigation into the State of New Jersey's COVID-19 Response at the Veterans Memorial Homes*. Report available at https://www.nj.gov/sci/pdf/Pandemic%20Report.pdf

information captured in those investigations, this report focuses extensively on the serious issues that existed in New Jersey's other long-term care and congregate settings.

Nobody can forget the sight of refrigerated containers used as temporary morgues, let alone corpses stacked in piles, due to mortuaries being overwhelmed with the number of New Jerseyans who died in the first wave of the pandemic. Effective preparedness is essential to avoiding a similar situation in the future. Emergency preparedness is an essential discipline for governments, whether for an act of terrorism, a "superstorm," or a global pandemic. One comment we frequently heard in interviews was that "Nobody saw this coming." While it is true that COVID-19 was a never-before-seen disease, New Jersey – and the rest of the world – had been through pandemics and large-scale infectious diseases before and knew how vital it was to prepare for the next one. The Great Influenza of 1918 was similarly catastrophic in its impact. A significant portion of the world's entire population was infected at a time in history when antivirals and other tools of modern medicine did not exist. America drew lessons from that crisis which shaped the foundation of our pandemic response planning – including how to coordinate across different branches of government; what constitutes effective public health communication; the importance of surging hospital capacity, vaccination, infection control guidelines; the effectiveness of public quarantine and isolation, and disease surveillance – for the next 100 years. Yet we come back to the central questions underlying this review: why we were not better prepared 100 years later, what lessons we will draw from this latest pandemic, and whether we as a nation will fare better when we are inevitably tested in the future.

Since 1918, New Jersey has endured several influenza epidemics and other public health emergencies ranging from Ebola to adenovirus. While nothing since the 1918 flu resulted in such large-scale death and disease, it cannot be said that "nobody saw this coming" given the historical precedents. And this is not the only crisis that New Jersey has faced—the state has weathered emergencies from Hurricane Sandy to 9/11.

This report focuses on three questions: "What did New Jersey do to be prepared?" "How did New Jersey respond and was it effective?" and "What must New Jersey do now to be better prepared for the inevitable next pandemic or other emergency?"

New Jersey did have plans for what to do if another pandemic hit, and laws were on the books to give government the appropriate emergency tools to use when it did. We analyzed how well the plans, laws, and processes in place during the pandemic functioned in the face of the actual emergency, and we make recommendations for how to improve them.

A vitally important aspect of the COVID-19 response was how to prevent its spread. One method that was known to be effective in preventing the spread of respiratory diseases transmitted in aerosol form during normal breathing was the use of facemasks. However, in the early phase of the pandemic, state governments did not know that COVID-19 spread that way. Health authorities believed the disease was spread when individuals came into contact with droplets on surfaces where they had fallen. As a result, masking was discouraged and surface cleaning was emphasized throughout March 2020.

But even if health authorities had known about aerosol spread, there was another more fundamental problem: a grossly insufficient supply of personal protective equipment – facemasks, gowns, and gloves. For all practical purposes, New Jersey's personal protective equipment (PPE) stockpiles were insufficient. On top of that, the breakdown in the global supply chain prevented quick acquisition of additional supplies. While New Jersey had a small stockpile of old masks left over from a prior health crisis, these were expired. As a result, many who should have had access to multiple masks per day were required to improvise and either re-use masks – meaning that the masks themselves could be carrying the virus into a new environment – or go without. Nurses were briefly forced to use garbage bags when the supply of sterile gowns ran out.[5] The Federal "Strategic National Stockpile" did not fare any better – ventilators that were literally of life-or-death importance to COVID-19 patients were not available in sufficient numbers and then were delivered broken or inoperable.[6] When the Federal government's did not centralize PPE procurement for the country, individual states were left to find supplies on the open market, putting them in competition with other states and countries which were equally desperate.

The lack of masks limited the ability of states to unwind lockdowns and closures in a way that did not create greater health risks. For example, New Jersey could have re-opened many indoor locations sooner with universal masking. The State could also have allowed public use of outdoor recreation sooner, assuming that there was an adequate supply of masks and people opted to use them. Beyond the mask shortage, the cynical attacks on basic health information were another tragedy of COVID-19. Communities were polarized: the decision to use masks (or socially distance or get a vaccination) was freighted with political overtones. Lives were lost to the misinformation—both deliberate and unintentional—which surrounded the pandemic.

This report analyzes these overarching issues and questions thematically and then chronologically. This recognizes that the impact of COVID-19 and what New Jersey did to manage it changed over time; each period posed different challenges and required tailored actions. To provide proper context for our observations, this report classifies different time periods during the pandemic, depending on the development of the disease and its variants, the changing effects on health, and the availability of vaccines.

The events of early 2020 reveal a great deal about how little was known at the start of the pandemic and how quickly the response escalated:

- December 2019: Reports from Wuhan about a respiratory illness.
- January 20, 2020: First New Jersey Department of Health (NJDOH) Press Conference.
- February 3, 2020: The Governor forms the Coronavirus Task Force.

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[5] Flanagan, B. (2020, May 19). *Nurses claim they wore garbage bags to shield themselves from COVID-19*. NJ Spotlight News. https://www.njspotlightnews.org/video/nurses-claim-they-wore-garbage-bags-to-shield-themselves-from-covid-19/

[6] Sanger, D., Kanno Youngs, Z., and Kullish, N. (2020, April 20). *A Ventilator Stockpile, With One Hitch: Thousands Do Not Work*. New York Times. https://www.nytimes.com/2020/04/01/us/politics/coronavirus-ventilators.html

- March 2, 2020: The Governor's initial press conference. This press conference contained the below messages, based on best available information from the CDC:

  - There is no need for masks; the assumption is that it spreads in droplets, not through breathing.
  - Precautions are the same for COVID-19 as you would take for flu – wash hands, stay home if you're sick.
  - State's main focus will be on those who are symptomatic.

- March 4, 2020: First New Jersey case confirmed

From then on, the magnitude of COVID-19's impact was apparent and immediately proceeded to crash across the State in a series of waves, which are the periods used throughout this report:

- March 2020 – June 2020 Initial surge: In this phase, widespread infections led to extreme stress on hospitals and healthcare workers trying to treat patients without sufficient PPE or proven therapeutics.
- July 2020 – May 2021 Second surge: Saw renewed infection rates but also an effective vaccine, re-stocked PPE, and better general understanding about effective treatments.
- June 2021 – March 2022 Delta and Omicron surges: Variants of the virus proving more contagious.
- April 2022 – present Endemic phase: COVID-19 remains active and causing disease but is being more effectively managed.

Governor Murphy declared a Public Health Emergency on March 9, 2020, less than a week after the first case had been reported in New Jersey. By then, the disease was already spreading fast, particularly in and around New York City and Northern New Jersey. "Super spreader" events took place in New Jersey and elsewhere during the period before it was widely known that people without symptoms could nonetheless be infected and infect others. Better information on asymptomatic aerosol spread would have allowed for quicker action and would have saved lives.

Consequently, New Jersey suffered the second-worst rate of death among all the states during the Initial Surge of the pandemic. But the State, to its credit, took bold and early steps designed to substantially reduce the number of people infected – shut-downs, quarantines, mask requirements, and social distancing were all implemented and resulted in dramatic improvements in health outcomes over the course of the pandemic. By the Delta and Omicron Wave, New Jersey became one of the states with the lowest death rates.

Regardless of the improvements, too many families lost loved ones to COVID-19. Shutdowns had disastrous effects on business and commerce. School closures not only led to lost learning for students, but huge burdens on families with school-age children whose parents had to figure out

how to keep their children happy, healthy, and learning. Many needed to do this while still doing their regular jobs and others needed to leave their jobs to be home to care for their children or ill family members.

In addition to focusing on the State's emergency preparedness, this report examines the steps New Jersey took to attack the disease, maintain the healthcare system, and promote public health by focusing on significant interventions. The report lays out the data regarding those actions and their impacts, and what other states – facing similar but not identical challenges – opted to do. From these, the report derives lessons from the strengths and challenges of New Jersey's response in each area. It then makes recommendations based on those lessons for how to improve New Jersey's readiness for and response to future emergencies.

1.1 Overall summary and recommendations

This review provides extensive detail on the actions New Jersey took to respond to COVID-19. It outlines what worked as well as the challenges for each part of the response. Across each set of actions that the State took, the State's initial lack of preparedness contributed to the challenges it faced. The actions in the early phase of the pandemic would have been more coordinated and efficient had it been prepared and received a clear signal on the severity of the disease.

Much about the disease was not known in the beginning and being one of the first states hit with the outbreak of COVID-19 made New Jersey's challenge more difficult than almost any other state. Despite this adverse set of circumstances, the State's response to COVID was aggressive, wide-ranging, and made use of the toolset it had available. Those tools became increasingly effective over time due in large measure to the heroic actions of State employees, effective and collaborative action from key agency leaders, and coordinating efforts from the center. The co-location of leaders at the ROIC and the direct involvement of senior members of the administration was key; this skillful collaboration among State leadership had been built in response to prior emergencies such as extreme weather events.

While these leaders and coordinating efforts deserve to be recognized, the trajectory of an emergency response cannot be left to the individual personalities in place when disaster strikes—making the right investments now, including better preparation, is essential to ensuring the state can rise to the challenge of responding to the next emergency.

In general, the impacts of COVID-19 in New Jersey exposed areas where society or institutions were already weak. For example, the disproportionate mortality rate for Black and Hispanic New Jerseyans was not a result of COVID-19's pathology, but the result of systemic inequities built into the health system long before the disease arrived. Similarly. perennial challenges for state governments (in New Jersey and beyond) such as operating flexibly, expediting bureaucratic processes, and coordinating across agencies became likely failure points when COVID-19 upended regular operations and created a set of new demands which agencies needed to begin to fulfill on short notice.

An overarching theme that emerged in many different contexts was that the public health system requires ongoing investment; it cannot be ignored or underfunded for years and then be expected to become capable of handling a massive global crisis. An effective public health capability requires substantial and consistent financial support, including adequate staffing and compensation that attracts people with the necessary knowledge and skills to perform the vital tasks required of the NJDOH and local health departments.

Another consistent message was that emergency plans do no good if those plans are put on a shelf and forgotten. In 2015, the NJDOH created a Pandemic Influenza Plan, which was extremely accurate in predicting what would eventually happen during the COVID-19 pandemic. It included specific recommendations about actions that could be taken; organizational structures for emergency management; and detailed factual, legal, and regulatory resources that could be consulted. Unfortunately, the 2015 Plan was not widely known within senior State leadership by the time COVID-19 hit. Yet effective emergency preparation involves planning, periodic training / exercises, and people. The people in place must be familiar with the plan, adequately equipped and trained, and know who to work with in executing it. Several people in government told us they thought "some other agency" ought to have an Emergency Preparedness Manager. In fact, that position exists (and is staffed) in the other agency, but the people we spoke with were unaware of that fact.

Throughout this document, New Jersey's response to COVID-19 will be compared to that of other states. While there were distinct models used across the country, New Jersey's operational response was not fundamentally different from other states in its region or other states which were part of the initial outbreak of the disease. Where instructive, these comparisons are used to inform recommendations.

The strengths and challenges in Chapter 5 Decisions and Response and recommendations contained in Chapter 6 Congregate Settings and Chapter 7 Recommendations of this report cover a range of topics:

- Creating emergency plans and training, exercising, monitoring, and auditing them
- Investing in improving health equity in New Jersey
- Building partnerships with community organizations, the healthcare sector, local health departments and beyond
- Improving the resiliency of the long-term care sector and managing emergencies in other congregate settings
- Improving state government collaboration and communication during an emergency response
- Investing in data and technology to support a response
- Appropriately resourcing emergency response

There have been far too many victims of this pandemic. We must not forget that COVID-19 was not simply a set of horrific data. Each statistic represents a person, a family, and a community. We

heard stories from many individuals about their personal experiences with loss. Everyone in New Jersey has their own unique story – and this report should serve as a memorial for the pandemic's many victims. It is a call to action for New Jersey to take the necessary steps to ensure that the State is properly prepared for public health crises. Despite the lessons of the last four years, New Jersey remains underprepared for the next emergency. We owe it to those who lost their lives, and the families who suffered, as well as the heroic State workers and healthcare professionals.

"The U.S. cannot prepare for these inevitable crises if it returns to normal, as many of its people ache to do. Normal led to this. Normal was a world ever more prone to a pandemic but ever less ready for one. To avert another catastrophe, the U.S. needs to grapple with all the ways normal failed us."

~ Ed Yong, 2021 Pulitzer Prize winning journalist

Chapter 2 Pre-Pandemic Preparedness

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2. Pre-Pandemic Preparedness

Along with wars, public health crises (which include pandemics) are constants in human history. Indeed, even the brief review below of some of the public health crises of the past 100 years shows the inevitability of the next pandemic. But unlike nations' unrelenting state of readiness (and funding necessary for this state of readiness) for war, preparing for the next pandemic is only considered to be a priority in the immediate aftermath of an experienced pandemic. As one headline put it: "The U.S. Approach to Public Health: Neglect, Panic, Repeat."

While preparing for war can be left, in large part, to the Federal Government, preparing for pandemics can – and must also – be done at the state, county, and local levels. Each pandemic, epidemic, and public health crisis experienced has lessons for the next one. Whether these lessons are heeded is the crux of preparedness.

This chapter is structured in four sections:

- Section 2.1 focuses on influenza pandemics over the past 100+ years and reviews some of the other pandemics and epidemics the world has faced. This brief review shows the inevitability of pandemics and that lessons can be learned from each.
- Section 2.2 discusses New Jersey's efforts to prepare for pandemics and other public health emergencies in the 21st Century.
- Section 2.3 provides a review of the state agencies tasked with emergency and public health preparedness and reviews their level of preparedness when COVID-19 hit.

2.1 The Historical Drumbeat of Pandemics

2.1.1 Influenza Pandemics

The Great Influenza (1918 H1N1 Flu)

Before the COVID-19 pandemic, the deadliest pandemic[1] in modern history was the Great Influenza of 1918. While there are several theories as to this particular influenza virus's origins,[2] John Barry, in his seminal book, *The Great Influenza*, asserts that epidemiologic evidence suggests that,

[1] The CDC defines "pandemic" as "an epidemic occurring over a very wide area (several countries or continents) and usually affecting a large proportion of the population." An "epidemic" is "the occurrence of more cases of disease than expected in a given area or among a specific group of people over a particular period of time. Centers for Disease Control and Prevention. (2015, January 21). Epidemiology glossary. Retrieved from https://www.cdc.gov/reproductivehealth/data_stats/glossary.html

[2] Barry J. M. (2004). The site of origin of the 1918 influenza pandemic and its public health implications. *Journal of translational medicine*, 2(1), 3. https://doi.org/10.1186/1479-5876-2-3

regardless of where the virus originated, it was first detected in Haskell County, Kansas. Haskell County is a sparsely populated farming county located several hours southwest of Kansas City.[3] It was there that, in January and February 1918, Dr. Loring Miner was overwhelmed with treating otherwise healthy young and middle-aged residents who were suffering—and dying—from an influenza with symptoms of "unusual intensity."[4] Dr. Miner was so alarmed that he contacted the U.S. Health Agency.[5] The wave of illness in Haskell County receded by March, but by that time at least two local soldiers, who were stationed 260 miles away at Camp Funston (a hastily built military base near Fort Riley, Kansas), had come home for a short leave before returning to the Camp.[6] By March 4, the first soldier at the camp reported ill with influenza. Within 3 weeks, more than 1,100 others were sick enough to require hospitalization.[7] Kansas was just the beginning. As soldiers were deployed from Fort Riley to military bases throughout the country, and then to Europe to fight in the final months of World War I, influenza followed and ultimately killed more American military personnel than did the fighting.[8]

While the first wave of the Great Influenza receded in late spring 1918, a second, more deadly wave occurred in the fall that year. The second wave hit Philadelphia and the mid-Atlantic region particularly hard.[9] Unfortunately, Philadelphia's decision-making at that time is now considered an example of "what not to do." On September 21, 1918, the Philadelphia Board of Health made influenza a "reportable" disease in the city.[10] But already scheduled for just a week later was the soon-to-be infamous Liberty Loan parade, the purpose of which was to sell bonds for World War I.[11] Despite physicians' and infectious disease experts' recommendations to cancel the parade, on September 28, some 200,000 people gathered on Broad Street.[12] Within 72 hours, every bed in

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[3] Barry, J. M. (2020). The Great Influenza: The Story of the Deadliest Pandemic in History (p. 93). Penguin Books. ISBN 9780241991565.

[4] Id. (p. 93)

[5] Id.

[6] Barry J. M. (2004). The site of origin of the 1918 influenza pandemic and its public health implications. *Journal of translational medicine*, 2(1), 3. https://doi.org/10.1186/1479-5876-2-3

[7] Id.; Davis, K. C. (2018, September 21). Philadelphia Threw a WWI Parade That Gave Thousands of Onlookers the Flu. Smithsonian Magazine. Retrieved from https://www.smithsonianmag.com/history/philadelphia-threw-wwi-parade-gave-thousands-onlookers-flu-180970372/

[8] Id.; Byerly C. R. (2010). The U.S. military and the influenza pandemic of 1918-1919. Public health reports (Washington, D.C. : 1974), 125 Suppl 3(Suppl 3), 82–91.

[9] Petras, G., & Gelles, K. (2020, May 22). 100 years ago, Philadelphia chose a parade over social distancing during the 1918 Spanish flu – and paid a heavy price. USA TODAY. Updated May 25, 2020. https://www.usatoday.com/in-depth/news/2020/05/22/second-wave-coronavirus-spanish-flu-1918-philadelphia-st-louis-influenza-deaths-covid-19/3085405001/

[10] Barry, J. M. (2020). The Great Influenza: The Story of the Deadliest Pandemic in History (p. 204). Penguin Books. ISBN 9780241991565.

[11] Id. at 205.

[12] Davis, K. C. (2018, September 21). Philadelphia Threw a WWI Parade That Gave Thousands of Onlookers the Flu. Smithsonian Magazine. Retrieved from https://www.smithsonianmag.com/history/philadelphia-threw-wwi-parade-gave-thousands-onlookers-flu-180970372/

each of the city's 31 hospitals was filled.[13] In the first 6 months of the flu outbreak, "[m]ore than 17,500 Philadelphians died: 4,500 in one week; 837 on a single day, October 12."[14]

In contrast to Philadelphia, the city of St. Louis canceled a similar parade. At the same time, it closed schools, churches, and entertainment venues.[15] Philadelphia, on the other hand, did not implement such measures until after its hospital beds were already full.[16] While Philadelphia had one of the highest mortality rates in the United States, at 748 deaths per 100,000 people after 24 weeks of the pandemic, St. Louis had one of the lowest, at 312 deaths per 100,000 people for the same time period.[17] The difference in outcomes is thought to be traceable to St. Louis's early and aggressive shutdown measures.[18]

It was not just Philadelphia and St. Louis. Cities throughout the country took varying approaches to combating the spread of the influenza, even though it was widely understood that the virus's spread was linked to crowded spaces.[19] Local and state public health officials did not always agree on the degree of danger posed by the influenza. This caused public confusion and distrust, and officials were met with substantial opposition from businesses when they tried to implement social distancing measures and mass closures.[20] Also in contrast to St. Louis, the New York City health commissioner did not impose a full-scale public gathering ban, opting instead to encourage businesses to stagger opening and closing times so that crowds could be minimized.[21] The public-gathering bans and closures also caused disputes about which businesses and services were allowed to remain open.[22]

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[13] Barry, J. M. (2020). The Great Influenza: The Story of the Deadliest Pandemic in History (p. 220). Penguin Books. ISBN 9780241991565.

[14] Barry, D., & Dickerson, C. (2020, April 4). The Killer Flu of 1918: A Philadelphia Story. *The New York Times*. Updated April 10, 2020. https://www.nytimes.com/2020/04/04/us/coronavirus-spanish-flu-philadelphia-pennsylvania.html

[15] Davis, K. C. (2018, September 21). Philadelphia Threw a WWI Parade That Gave Thousands of Onlookers the Flu. Smithsonian Magazine. Retrieved from https://www.smithsonianmag.com/history/philadelphia-threw-wwi-parade-gave-thousands-onlookers-flu-180970372/

[16] Wheelock, D. C. (2020, June 1). What Can We Learn from the Spanish Flu Pandemic of 1918-19 for COVID-19? Federal Reserve Bank of St. Louis. https://www.stlouisfed.org/on-the-economy/2020/june/what-can-we-learn-from-the-spanish-flu-pandemic-of-1918-for-covid-19

[17] Davis, K. C. (2018, September 21). Philadelphia Threw a WWI Parade That Gave Thousands of Onlookers the Flu. Smithsonian Magazine. Retrieved from https://www.smithsonianmag.com/history/philadelphia-threw-wwi-parade-gave-thousands-onlookers-flu-180970372/

[18] Wheelock, D. C. (2020, June 1). What Can We Learn from the Spanish Flu Pandemic of 1918-19 for COVID-19? Federal Reserve Bank of St. Louis. https://www.stlouisfed.org/on-the-economy/2020/june/what-can-we-learn-from-the-spanish-flu-pandemic-of-1918-for-covid-19

[19] Tomes N. (2010). "Destroyer and teacher": Managing the masses during the 1918-1919 influenza pandemic. *Public health reports (Washington, D.C. : 1974), 125 Suppl 3*(Suppl 3), 48–62. https://doi.org/10.1177/00333549101250S308

[20] Id.

[21] Id.

[22] Id.

The pandemic's second wave raged throughout fall 1918. In 1919, after the third of the Great Influenza's three waves had finally receded, it had infected at least 500 million people globally—33% of the world's population.[23] The Great Influenza killed around 50 million people—about 675,000 of whom were in the United States.[24] In fact, it has been estimated that the 1918 pandemic actually caused the average life expectancy in the United States to drop by 12 years for both men and women.[25] The health impact of the Great Influenza persisted long after the virus receded, as shown in a 2009 study that examined data on people born in 1919. The results showed that individuals whose mothers were in their third trimester of pregnancy in fall 1918 remained at increased risk of heart disease in their 60s, 70s, and 80s.[26]

All of this devastation was caused by a virus that was later determined to be an avian H1N1 Type A form of the influenza virus. Its symptoms were largely the same as those seen in other influenzas—fever, cough, headache, sore throat, fatigue—but were often severe.[27] In a 2008 study, researchers from the National Institutes of Health (NIH) concluded that the majority of deaths from the Great Influenza were actually caused by bacterial pneumonia, which followed the viral influenza infection.[28] As one researcher stated, the "virus landed the first blow while bacteria delivered the knockout punch."[29]

While the Great Influenza's spread was aided by a lack of protective measures such as distancing, its death toll was largely a consequence of the lack of both testing and treatment options. In 1918, there were no diagnostic tests for influenza and, especially at the beginning of the pandemic, treatment was limited to mostly supportive care. Indeed, there were no antibiotics to treat the secondary bacterial infections, let alone antivirals. The medical treatments were largely over-the-counter remedies such as aspirin, quinine, salt water, and inhaled substances for congestion,[30] to address symptoms.

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[23] Cleveland Clinic. (2021, September 21). Spanish Flu: What Is It, Causes, Symptoms & Pandemic. https://my.clevelandclinic.org/health/diseases/21777-spanish-flu

[24] Id.

[25] National Archives and Records Administration. (2009, April 30). National Archives recalls flu pandemic of 1918. https://www.archives.gov/press/press-releases/2009/nr09-77.html

[26] ABC News. (2009, October 1). Spanish Flu of 1918 left heart disease legacy among the unborn. https://abcnews.go.com/Health/SwineFlu/1918-flu-left-heart-disease-legacy/story?id=8722310

[27] Cleveland Clinic. (2021, September 21). Spanish Flu: What Is It, Causes, Symptoms & Pandemic. https://my.clevelandclinic.org/health/diseases/21777-spanish-flu

[28] National Institutes of Health (NIH). (2008, August 19). Bacterial Pneumonia Caused Most Deaths in 1918 Influenza Pandemic. https://www.nih.gov/news-events/news-releases/bacterial-pneumonia-caused-most-deaths-1918-influenza-pandemic

[29] National Institutes of Health (NIH). (2008, August 19). Bacterial Pneumonia Caused Most Deaths in 1918 Influenza Pandemic. https://www.nih.gov/news-events/news-releases/bacterial-pneumonia-caused-most-deaths-1918-influenza-pandemic

[30] Jester, B. J., Uyeki, T. M., Patel, A., Koonin, L., & Jernigan, D. B. (2018). 100 Years of Medical Countermeasures and Pandemic Influenza Preparedness. *American journal of public health, 108*(11), 1469–1472. https://doi.org/10.2105/AJPH.2018.304586

One of the most important lessons learned from the Great Influenza of 1918 is that the best methods of minimizing the effects of an airborne virus, such as mass closures and other social-distancing measures, are the most difficult to implement.[31]

1957-58 Pandemic (H2N2 Influenza)

In February 1957, another new influenza virus—which soon became a pandemic—emerged in Southern China. This influenza, an H2N2 influenza A (referred to as the Asian Flu), caused an estimated 1.1 million deaths worldwide—116,000 in the United States.[32] Despite this high death toll, the symptoms of the Asian Flu were generally mild and, unlike what was seen with the 1918 influenza, most of those who were hospitalized or died had an underlying disease.[33]

The Asian Flu's impact on the economy was small, as work absenteeism was concentrated in the education system since children were susceptible to infection.[34] Moreover, while the Asian Flu's spread was amplified by commercial jet travel and international trade, by 1957, there had been substantial advances in the ability to identify viruses, the introduction of vaccines, and global health cooperativeness. These factors helped keep the Asian Flu from having an impact similar to that of the Great Influenza.

Nevertheless, vaccine development was slow and had little impact on pandemic trends,[35] and the general belief among public experts was that preparedness had been lacking:

> *Although we have had 30 years to prepare for what should be done in the event of an influenza pandemic, I think we have all been rushing around trying to improvise investigations with insufficient time to do it properly. We can only hope that people will have taken advantage of their opportunities and at the end it may be possible to construct an adequate explanation of what happened.*[36]

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[31] Tomes N. (2010). "Destroyer and teacher": Managing the masses during the 1918-1919 influenza pandemic. *Public health reports (Washington, D.C. : 1974), 125 Suppl 3*(Suppl 3), 48–62. https://doi.org/10.1177/00333549101250S308

[32] Robinson, D., & Battenfield, A. (2023, May 10). The worst outbreaks in U.S. history. Healthline. https://www.healthline.com/health/worst-disease-outbreaks-history

[33] Pinkowski, J. (2021, January 7). The History of the Forgotten Pandemic. Yale Insights. https://insights.som.yale.edu/insights/the-history-of-the-forgotten-pandemic

[34] Id.

[35] Saunders-Hastings, P. R., & Krewski, D. (2016). Reviewing the History of Pandemic Influenza: Understanding Patterns of Emergence and Transmission. *Pathogens (Basel, Switzerland), 5*(4), 66. https://doi.org/10.3390/pathogens5040066

[36] Jackson C. (2009). History lessons: the Asian flu pandemic. *The British journal of general practice : the journal of the Royal College of General Practitioners, 59*(565), 622–623. https://doi.org/10.3399/bjgp09X453882

While the worldwide death toll of 1.1 million is sobering, in actuality, it was fortunate that the Asian Flu was mild, as there had been little effort to prepare for a public health emergency after 1918. The lesson that should have been learned from the Asian Flu was that influenza pandemics were not relegated to the past.

1968 Influenza Pandemic (H3N2)

Within 11 years, the H2N2 virus that caused the 1957 pandemic was no longer circulating.[37] It was, however, supplanted by the H3N2 influenza virus that would cause the 1968 pandemic, known as the Hong Kong Flu. The H3N2 virus was the first to "exhibit an accelerated spread due to extensive air travel," and is thought to have been spread in part by soldiers arriving back in the United States from the Vietnam War.[38] It proved to be milder than the 1957 virus, and those who had been exposed to the 1957 virus seem to have had some immunity to the 1968 virus.[39] Nevertheless, the Hong Kong Flu was estimated to have caused 1 million deaths worldwide, including 100,000 in the United States.[40]

As with the Asian Flu, the economic and social burden of the Hong Kong Flu was low, as behavioral mitigation was seen as unnecessary due to the low mortality rate and generally mild upper respiratory symptoms, chills, fevers, and muscle aches. Moreover, while there had not been substantial new public health advances since 1957, antiviral medications were available to treat influenza infections in 1968[41] for the first time. There has not been an H3N2 pandemic since 1968; however, the strain has not disappeared and "still reigns as the major and most troublesome influenza A virus in humans,"[42] as it is now a seasonal influenza that, over the last 60 years, has caused more hospitalizations and deaths than H1N1.[43]

Had the 1957 or 1968 influenzas been more severe, the world may have taken preparedness for the next pandemic more seriously. But between the mildness of the virus and advances in vaccines and

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[37] Kilbourne, E. D. (2006). Influenza Pandemics of the 20th Century. *Emerging Infectious Diseases, 12*(1), 9-14. https://doi.org/10.3201/eid1201.051254

[38] Saunders-Hastings, P. R., & Krewski, D. (2016). Reviewing the history of pandemic influenza: Understanding patterns of emergence and transmission. *Pathogens, 5*(4), 66. https://doi.org/10.3390/pathogens5040066

[39] Id.

[40] Saunders-Hastings, P. R., & Krewski, D. (2016). Reviewing the History of Pandemic Influenza: Understanding Patterns of Emergence and Transmission. *Pathogens (Basel, Switzerland), 5*(4), 66. https://doi.org/10.3390/pathogens5040066; Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases (NCIRD). (2019, January 2). 1968 Pandemic (H3N2 virus). Retrieved from https://archive.cdc.gov/www_cdc_gov/flu/pandemic-resources/1968-pandemic.html

[41] Jester, B., Uyeki, T., & Jernigan, D. (2018). Readiness for Responding to a Severe Pandemic 100 Years After 1918. *American journal of epidemiology, 187*(12), 2596–2602. https://doi.org/10.1093/aje/kwy165

[42] Kilbourne, E. D. (2006). Influenza Pandemics of the 20th Century. *Emerging Infectious Diseases, 12*(1), 9-14. https://doi.org/10.3201/eid1201.051254

[43] Jester, B. J., Uyeki, T. M., & Jernigan, D. B. (2020). Fifty Years of Influenza A(H3N2) Following the Pandemic of 1968. *American journal of public health, 110*(5), 669–676. https://doi.org/10.2105/AJPH.2019.305557

treatments, preparedness for the next pandemic was simply not a top priority, especially as memories of 1918 faded.

2009-2010 Influenza Pandemic (H1N1)

In 2009, after several relatively quiet influenza decades, a new H1N1 virus thought to have originated in Mexico was detected in California.[44] From April 15, 2009, the day the virus was detected, both the virus and the response to it moved at lightning speed. On April 18, the Centers for Disease Control and Prevention (CDC) reported the growing outbreak to the World Health Organization (WHO).[45] On April 21, the CDC began to take steps to develop material that could be used to make a vaccine—and then sent that material to vaccine manufacturing companies to begin vaccine production if production was determined to be necessary. On April 24, the CDC made the gene sequence of the new virus publicly available so that scientists could use it for research.[46] However, the virus was spreading as fast as the CDC was acting, and by April 26, the virus was detected in New York City, Ohio, and Kansas. Also on that day, the U.S. Government declared a public health emergency, and began releasing supplies (e.g., antivirals, Personal Protective Equipment [PPE], and respirators) from the strategic national stockpile. The U.S. Government also purchased 50 million more treatment courses of antiviral drugs for the stockpile.[47] By the end of April—less than 3 weeks after the first case had been detected in the United States—the WHO declared that the pandemic was imminent and alerted countries to immediately activate their pandemic preparedness plans.[48] On June 11, 2009, the WHO declared that the 2009 H1N1 virus was a global pandemic.

The United States reported the highest number of cases worldwide, but the virus was mild, in the sense that most people recovered without requiring medical treatment. In the United States, the virus peaked in May and June, although another wave began in late August and continued through the fall.[49] A national vaccination campaign began in October 2009, after four vaccines were approved by the Food and Drug Administration (FDA) on September 15. Supplies were initially limited, but by late December, anyone could get the vaccine.

From April 12, 2009 - April 10, 2010, the CDC estimated that H1N1 caused 60.8 million cases, 274,304 hospitalizations, and 12,469 deaths in the United States.[50] Worldwide, the CDC estimated

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[44] Centers for Disease Control and Prevention. (2010, June 16). The 2009 H1N1 Pandemic: Summary Highlights, April 2009-April 2010. https://www.cdc.gov/h1n1flu/cdcresponse.htm
[45] Id.
[46] Id.
[47] Id.
[48] Id.
[49] Id.
[50] Centers for Disease Control and Prevention. (2019, June 11). 2009 H1N1 Pandemic (H1N1pdm09 virus). Retrieved from https://archive.cdc.gov/www_cdc_gov/flu/pandemic-resources/2009-h1n1-pandemic.html

that hundreds of thousands of people died in the pandemic's first year.[51] It was also estimated that 80% of those who died were under 65 years old—unlike typical seasonal influenza epidemics, which generally hit older people the hardest.[52] The mortality rate of .001-.007 was, however, much less severe than that of the 1968 pandemic (.03%) or the 1918 pandemic (1% - 3%).[53] On August 10, 2010, the WHO declared an end to the 2009 H1N1 Pandemic.[54] However, even today, the virus continues to circulate as a seasonal flu.[55]

The U.S. response to the 2009 pandemic is generally considered to be successful, as "prior pandemic planning efforts and federal funding paid off, although specific aspects of prior planning were not relied on because to the nature of the H1N1 pandemic."[56] Contributing to the success were prior, sustained funding and pre-existing interagency relationships, built through meetings and exercises. However, it has been noted that the government lost credibility when vaccine availability did not meet the expectations it had set.[57]

2.1.2 Non-influenza pandemics and epidemics

It is not enough for governments to prepare for *influenza* pandemics, as throughout history, the world has seen the tragic results of several types of uncontrolled communicable diseases. While New Jersey has not faced all of the 20th and 21st Century diseases listed below, the list shows that a public health emergency can arise from almost any source—water, mosquitos, zoonotic diseases—and that New Jersey must have flexible preparedness and response plans in place that can be adapted to several types of threats to residents' health.

Cholera

The world is currently in its 63rd year of the 7th cholera pandemic, which was declared in 1961.[58] While the first 6 cholera pandemics killed around 1 million people in total, the 7th has caused around 2.86 million infections and 95,000 deaths every year.[59]

The strain of cholera bacterium underlying the current pandemic originated in the Bay of Bengal. It causes severe dehydration and sometimes death from watery diarrhea. Because cholera is spread

[51] Id.
[52] Id.
[53] Id.
[54] Id.
[55] Id.
[56] Government Accountability Office. (2011, June 27). Influenza pandemic: Lessons from the H1N1 pandemic should be incorporated into future planning (GAO-11-632). https://www.gao.gov/products/gao-11-632
[57] Government Accountability Office. (2011, June 27). Influenza pandemic: Lessons from the H1N1 pandemic should be incorporated into future planning (GAO-11-632). https://www.gao.gov/products/gao-11-632
[58] Sampath, S., Khedr, A., Qamar, S., Tekin, A., Singh, R., Green, R., & Kashyap, R. (2021). Pandemics Throughout the History. Cureus, 13(9), e18136. https://doi.org/10.7759/cureus.18136
[59] Id.

through contaminated water, the disease is commonly found in areas with little access to safe drinking water. Thus, while cholera was common in the United States during the 1800s, the advent of water and sewage treatment systems in later years has eliminated the bacterium in this country. As such, cholera cases in the United States are usually limited to those acquired during travel and through contaminated seafood.[60] Indeed, the last outbreak (which affected 8 people) in New Jersey was in 1991, and arose from infected crabmeat brought into the State in the suitcase of a traveler to Ecuador.[61] While New Jersey's drinking water is safe from cholera, the New Jersey Department of Health's (NJDOH) Communicable Disease Service includes a protocol for detecting, reporting, surveilling, and treating the disease.[62] The gulf states, which face a higher risk of cholera from infected seafood than does New Jersey, participate in the CDC's Cholera and Other Vibrio Illness Surveillance (COVIS) system.[63] Those states' health officials report cases using a COVIS report form, which captures information about the person's illness, seafood consumption, and exposure to bodies of water.[64]

Cholera and other waterborne diseases are not present in New Jersey's water because clean drinking water has long been a public health priority. In fact, in 1908, Jersey City was the first city in the country to disinfect its water supply after John Leal, a former health officer seeking to reduce waterborne illness, fought for the city to add chlorine to its water.[65] Jersey City's water treatment was so successful that by 1914, the majority of U.S. cities were using the same or similar treatments.[66] Today, after 100+ years of potable water, it would be unacceptable for New Jersey's drinking water to carry the risk of disease, and so the State is vigilant in ensuring that the water supply remains safe. Unfortunately, there has not been the same level of vigilance when it comes to protecting the public from other types of communicable diseases.

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[60] Centers for Disease Control and Prevention. (2022, November 15). Cholera - Vibrio cholerae infection. https://www.cdc.gov/cholera/usa/index.html

[61] Finelli, L., Swerdlow, D., Mertz, K., Ragazzoni, H., & Spitalny, K. (1992). Outbreak of cholera associated with crab brought from an area with epidemic disease. *The Journal of infectious diseases, 166*(6), 1433–1435. https://doi.org/10.1093/infdis/166.6.1433

[62] New Jersey Department of Health. (2008, June). Communicable Disease Manual Chapter: Cholera. Retrieved from https://www.nj.gov/health/cd/documents/chapters/cholera_ch.pdf

[63] Centers for Disease Control and Prevention. (2023, August 21). Cholera and Other Vibrio Illness Surveillance (COVIS). https://www.cdc.gov/vibrio/surveillance.html

[64] Id.

[65] McGuire, M. J. (2013). The journey that launched a revolution. In The Chlorine Revolution: Water Disinfection and the Fight to Save Lives. American Water Works Association. Retrieved from https://www.awwa.org/portals/0/files/publications/documents/samples/thechlorinerevolutionexcerpt.pdf ; Centers for Disease Control and Prevention. (2012, November 26). History of drinking water treatment. https://www.cdc.gov/healthywater/drinking/history.html

[66] National Research Council (US) Safe Drinking Water Committee. (1977). Historical note. In Drinking Water and Health: Volume 1. National Academies Press (US). Available from https://www.ncbi.nlm.nih.gov/books/NBK234165/

HIV/AIDS

Since 1981, the human immunodeficiency virus (HIV), which attacks the body's immune system, has killed 36 million people, and is thought to currently infect 35 million people worldwide.[67] If HIV is not treated, it can lead to AIDS (acquired immunodeficiency syndrome). By the end of 1991, AIDS was the second-leading cause of death among men 25 - 44 years of age in the U.S.[68] Today, approximately 1.2 million people in the U.S. have HIV, which has a disproportionate impact on certain populations, particularly racial and ethnic minorities and gay men.[69]

While HIV is now largely controllable through antiretroviral treatment, only one person has been cured of HIV, and that was after an intensive, multi-faceted, expensive treatment plan. Due to these extreme measures necessary to cure even one person, scientists have concluded that a cure is "very unlikely." Notwithstanding the unlikeliness of a cure, it would require an epidemiologic and global public health intervention to end the HIV pandemic, which, in turn, would necessitate sustained and additional resources at the local, regional, and global levels.[70]

Of course, there have been great advances in the treatment of HIV. However, inequitable access to prohibitively expensive and difficult-to-find treatment and support services have hampered the effectiveness of the treatments, and infections have not fallen as quickly as is necessary to stop the pandemic.[71] Thus, one of the lessons learned from the world's experience with HIV/AIDS is that treatments and vaccines are only effective if people can actually get them.

SARS

In 2003, a novel coronavirus, Severe Acute Respiratory Syndrome (SARS), caused the first pandemic of the 21st Century.[72] Originating in the Guangdong province in China and spreading to 29

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[67] Damle S. G. (2013). HIV/AIDS - Accomplishments and challenges?. *Contemporary clinical dentistry, 4*(4), 419–420. https://doi.org/10.4103/0976-237X.123014

[68] Centers for Disease Control and Prevention. (1991, June 7). *The HIV/AIDS epidemic: The first 10 years. Morbidity and Mortality Weekly Report, 40*(22), 357. Retrieved from https://www.cdc.gov/mmwr/preview/mmwrhtml/00001997.htm#:~:text=On%20June%205%2C%201981%2C%20the,ages%20in%20the%20United%20States

[69] amfAR, The Foundation for AIDS Research. (2023, January). HIV/AIDS in the U.S. Retrieved from https://www.amfar.org/about-hiv-aids/hiv-aids-in-the-us/#:~:text=Nearly%201.2%20million%20people%20in,and%2065%25%20were%20virally%20suppressed

[70] Sampath, S., Khedr, A., Qamar, S., Tekin, A., Singh, R., Green, R., & Kashyap, R. (2021). Pandemics Throughout the History. *Cureus, 13*(9), e18136. https://doi.org/10.7759/cureus.18136

[71] Treisman, R. (2021, December 1). What the AIDS crisis can teach us about the COVID pandemic response. NPR. https://www.npr.org/2021/12/01/1060531196/world-aids-day-2021-covid-19-similarities-inequities

[72] LeDuc, J. W., & Barry, M. A. (2004). SARS, the First Pandemic of the 21st Century. *Emerging Infectious Diseases, 10*(11), e26. https://doi.org/10.3201/eid1011.040797_02

countries, it is known to have infected 8,098 people, 774 of whom died.[73] SARS is an airborne virus spread through small droplets of saliva and via surfaces touched by an infected person.[74]

In the United States, only eight people had laboratory evidence of SARS infection, all of whom who had traveled parts of the world where SARS was spreading. SARS did not spread more widely in the United States.[75] While SARS had a much higher mortality rate than COVID-19, its effect on the world was limited, in part because SARS patients were most infectious during the second week of illness after symptoms had appeared, whereas COVID-19 patients are most infectious in the pre-symptomatic and early symptomatic phases.[76] The SARS pandemic was declared over in July 2003—7 months after its first appearance in November 2002—due to remarkable global efforts to identify the virus, isolate cases, and conduct contact tracing.[77] Although SARS had little effect on the United States, it served as a reminder that novel, infectious diseases remain a threat and that it takes concerted, cooperative efforts to impede their progress.

West Nile Virus

In 2012, the United States saw its largest West Nile Virus outbreak since 1999,[78] when the mosquito-borne disease was first detected in the country. A bite from a mosquito infected with West Nile can cause mild symptoms such as fevers and aches; however, 1 out of 100 people develop encephalitis or meningitis—potentially fatal illnesses that affect the central nervous system.[79] In 2012, the CDC received reports of 5,674 cases of West Nile and 286 deaths in the United States.[80] The largest outbreak of the disease was in Dallas County, Texas, where there were 219 confirmed cases and 19 deaths.[81] Because the best way of avoiding West Nile is avoiding mosquito bites, prevention efforts have focused on 1) educating the public on how to avoid bites,

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[73] Centers for Disease Control and Prevention. (2017, December 6). SARS Basics Fact Sheet. https://www.cdc.gov/sars/about/fs-sars.html

[74] Id.

[75] Id.

[76] Caldaria, A., Conforti, C., Di Meo, N., Dianzani, C., Jafferany, M., Lotti, T., Zalaudek, I., & Giuffrida, R. (2020). COVID-19 and SARS: Differences and similarities. *Dermatologic therapy, 33*(4), e13395. https://doi.org/10.1111/dth.13395

[77] Sampath, S., Khedr, A., Qamar, S., Tekin, A., Singh, R., Green, R., & Kashyap, R. (2021). Pandemics Throughout the History. *Cureus, 13*(9), e18136. https://doi.org/10.7759/cureus.18136

[78] European Centre for Disease Prevention and Control. (2012, August 30). Epidemiological update: 2012 West Nile virus outbreak in the USA. Retrieved from https://www.ecdc.europa.eu/en/news-events/epidemiological-update-2012-west-nile-virus-outbreak-usa-30-august-2012

[79] Centers for Disease Control and Prevention. (2023, August 18). West Nile Virus: Symptoms, Diagnosis, & Treatment. Retrieved from https://www.cdc.gov/westnile/symptoms/index.html

[80] Fox, M. (2013, May 13). 2012 was deadliest year for West Nile in US, CDC says. NBC News. Retrieved from https://www.nbcnews.com/healthmain/2012-was-deadliest-year-west-nile-us-cdc-says-1c9904312

[81] European Centre for Disease Prevention and Control. (2012, August 30). Epidemiological update: 2012 West Nile virus outbreak in the USA. Retrieved from https://www.ecdc.europa.eu/en/news-events/epidemiological-update-2012-west-nile-virus-outbreak-usa-30-august-2012

using means such as wearing long-sleeved shirts and using insect repellent; and 2) providing guidance on how to control the mosquito population in homes and yards.[82] More information on New Jersey's experience with West Nile can be found in Section 2.2.2 below.

Ebola

In 2014, the Ebola Virus Disease (Ebola), which was first diagnosed in 1976, re-appeared in West Africa and killed 11,325 people in Africa alone—and more than 28,600 cases were detected globally before the outbreak ended in 2016.[83] In the United States, 11 cases were detected - and they all resulted from individuals who had traveled to the region. Six of those people died.[84] Information on New Jersey's experience with and lessons learned from Ebola is found in Section 2.2.2. below.

Ebola is transmitted to people from wild animals. It then spreads between humans through direct contact with bodily fluids and surfaces contaminated with these fluids.[85] The symptoms of Ebola are initially similar to those of other diseases such as malaria, typhoid fever, and meningitis. The average fatality rate from Ebola is 50%.[86] Although the 2014 - 2016 outbreak was the largest since the disease's discovery, it has not been the last, as other outbreaks occurred from 2018 - 2020 in the Democratic Republic of the Congo, and in 2022 - 2023 in Uganda.[87]

Zika

In March 2015, a large outbreak of a rash illness, soon identified as Zika, was detected in Brazil.[88] Zika is spread mostly by the bite of an infected *Aedes* species mosquito, although it can also be passed from a pregnant woman to her fetus, and through sex with an infected person.[89] While the symptoms of the virus are generally mild (deaths are rare), a Zika infection during pregnancy can

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[82] Centers for Disease Control and Prevention. (2020, December 7). West Nile Virus: Prevention, Diagnosis, & Treatment. Retrieved from https://www.cdc.gov/westnile/prevention/index.html

[83] Centers for Disease Control and Prevention. (2019, March 8). 2014-2016 Ebola Outbreak in West Africa. https://www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html

[84] Id.

[85] Pan American Health Organization. (n.d.). Ebola Virus Disease. https://www.paho.org/en/topics/ebola-virus-disease

[86] Id.

[87] World Health Organization. (n.d.). Ebola outbreak 2022 - Uganda. Retrieved from https://www.who.int/emergencies/situations/ebola-uganda-2022

[88] World Health Organization. (n.d.). Zika virus disease outbreak 2015-2016. Retrieved from https://www.who.int/emergencies/situations/zika-virus-outbreak

[89] Centers for Disease Control and Prevention. (2019, May 20). About Zika. https://www.cdc.gov/zika/about/index.html

cause serious birth defects and is associated with other pregnancy problems.[90] There is no specific medicine or vaccine available for Zika.[91]

In January 2016, the United States issued a travel warning advising pregnant women to avoid travel to places where Zika was circulating.[92] The WHO declared Zika a public health emergency of international concern from February - November 2016.[93] During that year, 4,900 travel-related Zika cases were detected in the United States, and 224 cases were acquired through local mosquitos in Texas and Florida. Another 45 cases were acquired through sexual transmission.[94] As discussed in Section 2.2.2 below, there were more than 100 travel-related cases detected in New Jersey in 2016. Since 2018, there have been no cases of Zika virus transmission by mosquitos in the United States.[95]

While Zika has declined since 2017, it has not disappeared. This is especially true in the Americas, where there have been more than 532,000 suspected infections, including 175,063 confirmed cases. In addition, 22 countries and territories reported 2,439 cases of brain abnormalities associated with Zika.[96]

Mpox (formerly Monkeypox)

In May 2022, an unprecedented Mpox outbreak was discovered in the United Kingdom. The UK outbreak originated when a person infected with the disease traveled from Nigeria to Britain.[97] The outbreak soon spread throughout the world, with cases in the United States peaking in August.[98] As of January 11, 2024, the 2022 - 2023 Mpox outbreak in the United States resulted in 31,689 cases

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[90] Centers for Disease Control and Prevention. (2019, January 3). Zika Virus: Symptoms, Testing, & Treatment. Retrieved from https://www.cdc.gov/zika/symptoms/index.html; Centers for Disease Control and Prevention. (2019, May 9). Zika Virus: Pregnancy. Retrieved from https://www.cdc.gov/zika/pregnancy/index.html

[91] Centers for Disease Control and Prevention. (2019, May 20). About Zika. https://www.cdc.gov/zika/about/index.html

[92] Baylor College of Medicine. (n.d.). Zika Virus. Retrieved from https://www.bcm.edu/departments/molecular-virology-and-microbiology/emerging-infections-and-biodefense/specific-agents/zika

[93] World Health Organization. (n.d.). Zika virus disease. Retrieved from https://www.who.int/health-topics/zika-virus-disease#tab=tab_1

[94] Baylor College of Medicine. (n.d.). Zika Virus. Retrieved from https://www.bcm.edu/departments/molecular-virology-and-microbiology/emerging-infections-and-biodefense/specific-agents/zika

[95] Centers for Disease Control and Prevention. (2023, October 11). Zika cases in the United States. Retrieved from https://www.cdc.gov/zika/reporting/index.html

[96] Pan American Health Organization. (2022, October). Zika: The unknown epidemic and PAHO's swift response. Retrieved from https://www.paho.org/en/stories/zika-unknown-epidemic-and-pahos-swift-response

[97] Hraib, M., Jouni, S., Albitar, M. M., Alaidi, S., & Alshehabi, Z. (2022). The outbreak of monkeypox 2022: An overview. Annals of medicine and surgery (2012), 79, 104069. https://doi.org/10.1016/j.amsu.2022.104069

[98] Centers for Disease Control and Prevention. (2023, August 29). Mpox: Past U.S. Cases and Outbreaks. https://www.cdc.gov/poxvirus/mpox/outbreak/us-outbreaks.html

and 56 deaths.[99] Unlike past outbreaks of the virus (which was identified in 1958),[100] the 2022 outbreak was spread through sexual contact and was identified predominantly in men who have sex with men.[101] Mpox, which can have a long incubation period, includes rash, and sometimes flulike symptoms.[102] A new vaccine for Mpox (and smallpox) was approved in 2019.[103] The Mpox outbreak, which occurred as the world continued to confront COVID-19, served as a notice that preparedness for all manner of infectious diseases, not just influenza or respiratory-based, is required to protect public health.

2.2 Chronological Overview of New Jersey's 21st Century Experiences with Pandemics and its Efforts to Prepare for a Public Health Emergency

While New Jersey may not have been directly affected by of each of the pandemics and epidemics listed above, the constant drumbeat of threats to public health has required the State to devote attention and resources to preparing for public health emergencies. Accordingly, the following section details New Jersey's 21st Century (pre-COVID-19) preparedness efforts. This section observes that, in the immediate aftermath of a threat, New Jersey prioritizes preparing for the next public health emergency. However, as the memory of a threat fades, so does the focus on preparedness.

2.2.1 2000-2009

Post-9/11 Focus on Bioterrorism

Public health emergencies do not always occur naturally: a terrorism attack in a public place constitutes a public health emergency that requires the same type of response as a naturally occurring disease. Regardless of the root cause of a public health emergency, rapid detection and investigation, surveillance, and treatment are required.[104] Accordingly, in the wake of the September 11, 2001 terrorist attacks and the anthrax scare that followed, New Jersey considered

[99] Centers for Disease Control and Prevention. (2023, August 29). Mpox: Past U.S. Cases and Outbreaks. https://www.cdc.gov/poxvirus/mpox/outbreak/us-outbreaks.html
[100] World Health Organization. (2023, April 18). Mpox (monkeypox). https://www.who.int/news-room/fact-sheets/detail/monkeypox
[101] Centers for Disease Control and Prevention. (2023, August 29). Mpox: Past U.S. Cases and Outbreaks. https://www.cdc.gov/poxvirus/mpox/outbreak/us-outbreaks.html
[102] World Health Organization. (2023, April 18). Mpox (monkeypox). https://www.who.int/news-room/fact-sheets/detail/monkeypox
[103] https://www.cdc.gov/vaccinesafety/vaccines/Monkeypox-Vaccine.html#:~:text=JYNNEOS%20%5B%20PDF Centers for Disease Control and Prevention. (2024, January 30). Mpox Vaccines. Retrieved from https://www.cdc.gov/vaccinesafety/vaccines/Monkeypox-Vaccine.html
[104] Das, S., & Kataria, V. K. (2010). Bioterrorism : A Public Health Perspective. *Medical journal, Armed Forces India, 66*(3), 255–260. https://doi.org/10.1016/S0377-1237(10)80051-6

how to better prepare for a bioterrorism-related public health emergency. On October 4, 2001, the State enacted the New Jersey Domestic Security Preparedness Act, which in turn created the Domestic Security Preparedness Task Force (DSPTF) within the New Jersey Office of the Attorney General (NJOAG).[105] The DSPTF was given the authority to coordinate and supervise activities related to preparedness for a domestic attack.[106] A year later, on October 3, 2002, the Office of Counterterrorism (OCT), also within the NJOAG, was created by Executive Order (EO).[107] The OCT was tasked with leading and coordinating New Jersey's counterterrorism efforts with local, state, and federal authorities, as well as with the private sector.[108] In 2006, pursuant to an EO, the OCT merged with the DSPTF to create the New Jersey Office of Homeland Security and Preparedness (OHSP).[109] OHSP's role is to lead New Jersey's counter-terrorism preparedness efforts.[110]

A potential terrorist threat that New Jersey and the rest of the country focused on was the use of biological agents as weapons. In 2002, the biological agent that was of most concern was smallpox, because although it had been eradicated in 1977, worldwide vaccination stopped in 1980. Thus, few people had immunity to this disease, which had a 30% fatality rate.[111] In December 2001, President George W. Bush sought to substantially increase the number of smallpox vaccines in the Strategic National Stockpile. A year later, on December 13, 2002, the Bush Administration announced a three-phased civilian smallpox vaccination plan and the vaccination of 500,000 military personnel. The national vaccination program was largely a failure, with only 39,213 civilians being vaccinated.[112] The failure has been largely attributed to the CDC's failure to provide consistent and clear communication to the public on why they should take a vaccine that is "less safe than other vaccines routinely used today," because it contains the live virus.[113] Indeed, several hospitals refused to participate in the plan to vaccinate their employees because of the risk of vaccine-related complications.[114]

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[105] New Jersey Domestic Security Preparedness Task Force. (2003, March 2). Order pursuant to the New Jersey Domestic Security Preparedness Act (N.J.S.A. App. A:9-64, et seq.). Retrieved from https://www.nj.gov/transportation/about/press/2003/taskorder.pdf

[106] Id.

[107] McGreevey, J. E. (2002, October 3). Executive Order #33. State of New Jersey. https://nj.gov/infobank/circular/eom33.htm

[108] Id.

[109] McGreevey, J. E. (2002, February 9). Executive Order #5. State of New Jersey. https://nj.gov/infobank/circular/eom5.html

[110] Id.

[111] Smith, S. (2002, September). Old tactics, new threat: What is today's risk of smallpox? *Virtual Mentor, 4*(9), 271-274. https://doi.org/10.1001/virtualmentor.2002.4.9.mhst1-0209

[112] Richards, E. P., Rathbun, K. C., & Gold, J. (2004). The Smallpox Vaccination Campaign of 2003: Why did it fail and what are the lessons for bioterrorism preparedness? Louisiana Law Review. Retrieved from https://biotech.law.lsu.edu/articles/smallpox.pdf

[113] Belongia, E. A., & Naleway, A. L. (2003). Smallpox vaccine: the good, the bad, and the ugly. *Clinical medicine & research, 1*(2), 87–92. https://doi.org/10.3121/cmr.1.2.87

[114] Klein, J. (2003, March 10). US Smallpox Program: IOM Panel Raises Questions, Expresses Doubts. *Oncology Times, 25*(5), 6-8. https://doi.org/10.1097/01.COT.0000295151.67716.b7

Following the Federal Government's guidance, New Jersey focused its bioterrorism preparedness efforts on smallpox. The NJDOH published guidelines for the Management of a Suspect Case of Smallpox in Medical Care Settings, which included recommendations for hospitals to ensure appropriate identification and management of a suspected smallpox case.[115] On December 9, 2002, the NJDOH published an 81-page Smallpox Vaccination Plan that was based on CDC guidelines.[116] The NJDOH plan provided a three-phased mass-vaccination program and laid out the primary agencies' responsibilities should a public health emergency regarding smallpox be declared. The plan explained the organization and lines of communication between agencies, including the DSPTF and the New Jersey Office of Emergency Management (NJOEM). Like the Federal Government's plan, the State's smallpox vaccination plan proved unpopular. The vaccination plans, although not successful, represent the 21st Century's first effort at a public push toward advanced planning for preventing or mitigating a public health emergency and demonstrate the importance of cooperating with stakeholders such as the healthcare industry, which did not support the smallpox vaccination plan.[117]

New Jersey Enacts the Emergency Health Powers Act

In 2005, New Jersey enacted the Emergency Health Powers Act, N.J.S.A. 26:13-1 et seq. (EHPA). The impetus for the bill arose after officials observed the lack of coordination between state, local, and county health departments after 9/11. Moreover, lawmakers noted that Hurricane Katrina, which occurred just a few weeks before the bill passed, emphasized the importance of emergency planning.[118] The EHPA "provides the express authority to the Governor to declare a public health emergency and augments the emergency authority of the Commissioner of the [NJDOH] to detect, prevent, prepare for and respond to public health emergencies. It is also intended to specifically enumerate procedures that would be used during a public health emergency to exercise those powers."[119]

While the EHPA gives the Governor authority to declare a public health emergency, he or she must do so in consultation with the Commissioner of the NJDOH and the Director of the NJOEM.

The EHPA is a wide-ranging statute, which, among other things, provides that the NJDOH Commissioner "…coordinate all matters pertaining to the public health response to a public health emergency, and shall have primary jurisdiction, responsibility and authority for:

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[115] New Jersey Department of Health and Senior Services. (2003, February 3). Guidelines for the management of a suspect case of smallpox in medical care settings. Retrieved from https://www.nj.gov/health/cd/documents/topics/smallpox/smpxguidelines.pdf

[116] State of New Jersey. (2002, December 9). Smallpox Vaccination Plan (Redacted version for limited external distribution). Retrieved from https://www.nj.gov/health/cd/documents/topics/smallpox/smallpoxvacplan.pdf

[117] Moynihan R. (2003). Health professionals challenge US smallpox vaccination plan. *BMJ (Clinical research ed.), 326*(7382), 179. https://doi.org/10.1136/bmj.326.7382.179

[118] Livio, S. K. (2005, September 15). Law Increases State Power in Health Crises. Star-Ledger. p. 18.

[119] N.J.S.A. 26:13-1. Retrieved from https://repo.njstatelib.org/xmlui/bitstream/handle/10929.1/30638/L2005c222.pdf

1. Planning and executing public health emergency assessment, prevention, preparedness, response and recovery for the State;
2. Coordinating public health emergency response between State and local authorities;
3. Collaborating with relevant Federal Government authorities, elected officials and relevant agencies of other states, private organizations or companies;
4. Coordinating recovery operations and prevention initiatives subsequent to public health emergencies; and
5. Organizing public information activities regarding public health emergency response operations."

The EHPA specifies that all of the above be taken in coordination with the State Office of Emergency Management and in accordance with the State Emergency Operations Plan. It also specifies that the NJOEM provide the NJDOH commissioner with all required assistance. In short, the EHPA provides the structure and powers that would become critical during the COVID-19 public health emergency—the first time the EHPA was used.

Focus on Pandemic Influenza Preparedness

On November 1, 2005, a few months after New Jersey enacted the EHPA, President George W. Bush announced the National Strategy for Pandemic Influenza, outlining how the Federal Government intended to prepare, detect, and respond to a pandemic.[120] The National Strategy acknowledged that preparing for and responding to a pandemic is the responsibility of all levels of government – federal, state, and local – and that the nation must have an integrated set of plans to address a pandemic comprehensively. As such, the National Strategy stated that state and local governments should have pandemic preparedness plans. The "pillars" of the Strategy were: "preparedness and communication," "surveillance and detection," and "response and containment."[121] Even though President Bush requested $7.1B to implement the National Strategy, Congress approved only $3.8B in funds for pandemic influenza preparedness.

In May 2006, following up on the National Strategy for Pandemic Influenza, President Bush published the Strategy's Implementation Plan, which included more than 300 actions that should be taken to address the threat of an influenza pandemic. Those actions reflected the purpose of the National Strategy, as they required involvement from all levels of government.[122]

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[120] The White House. (2007). Pandemic flu. Retrieved from https://georgewbush-whitehouse.archives.gov/infocus/pandemicflu/

[121] Homeland Security Council. (2005, November). National Strategy for Pandemic Influenza. Retrieved from https://www.cdc.gov/flu/pandemic-resources/pdf/pandemic-influenza-strategy-2005.pdf

[122] Bush, G. W. (2006, May). National Strategy for Pandemic Influenza: Implementation Plan. The White House. Retrieved from https://georgewbush-whitehouse.archives.gov/homeland/pandemic-influenza-implementation.html

A month later, in June 2006, the National Governors Association (NGA) published *Preparing for a Pandemic Influenza: A Primer for Governors and Senior State Officials*.[123] That document was "intended to complement the federal guidance." The NGA anticipated that, when a pandemic occurs, "governors and senior officials will be at the forefront of protecting public health, maintaining critical services and infrastructure, and leading the public from crisis to recovery."[124] Rather than provide planning guidance, the NGA document "introduce[d] senior state officials to many of the considerations they will face in developing" a pandemic response plan."[125]

The document outlined four factors to inform states' efforts to manage the outbreak and maintain critical operations. Those factors were:

1. Focusing resources to ensure continuation of essential services
2. Because medical response capability will be strained, other measures (such as restricting public gatherings and closing schools) will be needed to control the spread of the disease
3. The government must work closely with the private sector to ensure that critical operations and services are maintained
4. Partnerships must be built and tested before a pandemic to ensure appropriate and rapid action.[126]

In April 2006, amid the focus on pandemic preparedness, a strain of avian influenza was detected in a Camden County live bird market. Upon detection of the disease, the market owner killed his remaining flock, and the market was permitted to be reopened after it was cleaned and disinfected. Through these actions, the avian influenza was successfully contained. The State's Disaster Critical Incident Stress Response unit within the Department of Employee and Organization Development followed up on this experience by hosting, on August 31, a Summit on Avian Influenza. The Summit included presentations by the Departments of Environmental Protection, Agriculture, Health, Homeland Security, Emergency Management, and the Division of Mental Health Services, within the Department of Human Services.[127]

In September 2008—2 years later—after conducting regional pandemic preparedness workshops, the NGA published its assessment of the states' pandemic preparedness, focusing on health care,

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[123] National Governors Association Center for Best Practices. (2006). Preparing for a Pandemic Influenza: Primer for Governors and Senior State Officials. ISBN: 1-55877-402-5. Retrieved from https://www.nga.org/wp-content/uploads/2020/02/Pandemic-Influenza-Primer.pdf

[124] Id.

[125] Id.

[126] Id.

[127] New Jersey Department of Health and Senior Services, New Jersey Department of Agriculture, New Jersey Department of Human Services, Division of Mental Health Services, & US Centers for Disease Control. (2006, August 31). Avian Flu Summit. Retrieved from https://www.nj.gov/lps/dcisr/avianflu.html

commerce, education, and public safety.[128] The NGA's overall conclusion was that, while state governments were more aware of the problems a pandemic could create, they were not adequately prepared for a pandemic such as the one that occurred in 1918. However, the NGA acknowledged that there is no "baseline … against which state pandemic preparedness can reasonably be measured."

The NGA observed that although the pandemic threat had not lessened, the momentum for preparing for a pandemic had been lost. It attributed the loss of momentum to some successes in preparedness planning, the slowing spread of H5N1 avian influenza, and a decrease in preparedness spending, which "increased the competition between preparedness activities and public health's traditional roles and responsibilities."[129] In short, preparing for a pandemic was not highly prioritized, especially at the state and local level.

2009 H1N1 Pandemic

Within a year after the NGA pointed out the lack of momentum for pandemic planning, the WHO declared an H1N1 influenza pandemic.[130] On April 30, 2009—before the pandemic was declared—the Governor issued a press release announcing five confirmed cases of H1N1 in New Jersey.[131] The press release also emphasized New Jersey's coordinated response to contain the spread of the disease. Among other things, the NJDOH and OHSP tested the State's Pandemic Influenza Response Plan to identify operational gaps, and the NJDOH opened a 24/7 H1N1 call center.[132] NJOEM had established a Joint Information Center (JIC) at the Regional Operations and Intelligence Center (ROIC).[133] Further, the county offices of emergency management were working with NJOEM, which was prepared to facilitate the distribution of antivirals with security support from the NJSP.[134]

H1N1 cases continued throughout the spring, then dipped in the summer. In preparation for the expected fall upswing in cases, in July, August, and September 2009, the NJDOH held a statewide

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[128] Logan, C. (2008, September). Pandemic Preparedness in the States: An Assessment of Progress and Opportunity. National Governors Association Center for Best Practices. Retrieved from https://transition.fcc.gov/pshs/docs/clearinghouse/best-practices/National_Governors_Association_PANDEMIC_ASSESSMENT_0809.pdf

[129] Id.

[130] World Health Organization. (n.d.). Influenza A (H1N1) pandemic 2009 - 2010. Retrieved from https://www.who.int/emergencies/situations/influenza-a-(h1n1)-outbreak

[131] Governor's Office. (2009, April 30). Governor Corzine announces five confirmed cases of H1N1 Influenza in New Jersey. State of New Jersey. Retrieved from https://www.nj.gov/njoem/media/pdf/pr050109_h1n1flu.pdf

[132] Id.

[133] Id.

[134] Id.

Influenza Pandemic Preparedness Summit.[135] The Summit consisted of 5 days of meetings that brought together local health, hospital, homeland security, emergency management, and other officials to coordinate efforts. The NJDOH and the New Jersey Department of Education (NJDOE) also held a summit for district superintendents and local health officials to, among other things, provide guidance on school closures and continuity of educational services.[136] Also in August 2009, the Governor announced that the NJDOH would be awarded $10M in federal funding to enhance the State's efforts to deal with the fall 2009 H1N1 Influenza Season.[137]

Throughout New Jersey's yearlong response to H1N1, it administered more than 1.1 million doses of vaccine. There were 9,000 laboratory-confirmed cases of H1N1 and 42 deaths in the State.[138]

2.2.2 2010-2019

West Nile and Ebola

The threats to public health did not relent—in fact, they increased in the second decade of the Century. Within two years of responding to the H1N1 pandemic, New Jersey encountered a health epidemic in the form of the West Nile Virus. 2012, the United States had 5,674 reported West Nile cases and 286 deaths from the virus. Of those 5,674 cases, New Jersey had 48 cases and 6 fatalities.[139] The NJDOH's response to the disease included education, testing, surveillance, and spraying pesticides.[140]

Then, in 2014, the largest Ebola epidemic in history began in West Africa. Generally, Ebola outbreaks are not a concern for New Jersey – or the United States. However, during the 2014 - 2016 epidemic, the threat of Ebola in New Jersey became very real when, in October 2014, a passenger with symptoms arrived at Newark Liberty International Airport from West Africa. The

[135] New Jersey Department of Health and Senior Services. (2009, August). NJDHSS Deputy Commissioner at the Pandemic Influenza Preparedness Summit 2009: NJ Communi-CABLE Special Influenza Edition. Retrieved from https://njaap.org/uploadfiles/documents/f196.pdf

[136] New Jersey Department of Education. (2009, August 18). DOE/DHSS to hold Pandemic Influenza Summit for Superintendents and Health Officers. Retrieved from https://www.nj.gov/education/news/2009/0818flu.pdf

[137] Governor's Office. (2009, August 3). Governor announces New Jersey to receive $10 million in federal funding for H1N1 response. State of New Jersey. Retrieved from https://www.nj.gov/humanservices/emergency/GovAnnounces10milH1N1fedfunds.pdf

[138] New Jersey Department of Health. (2015, September). NJDOH Pandemic Influenza Plan. Retrieved from https://www.nj.gov/health/er/documents/pandemic_influenza_plan.pdf

[139] New Jersey Department of Health. (2012). Mosquito-borne virus test results: End of Year 2012. Retrieved from https://www.nj.gov/health/cd/westnile/documents/results_end_of_year_2012.pdf

[140] New Jersey Department of Health. (2012, September 7). New Jersey continues efforts to fight West Nile Virus amid increased cases and first death. Retrieved from https://www.nj.gov/health/news/2012/approved/20120907.shtml

passenger was evaluated and determined not to have Ebola.[141] Soon thereafter, however, Ebola screenings began at Newark (New Jersey) and JFK (New York) airports. The New Jersey Governor activated an Ebola preparedness plan and created the Ebola Virus Disease Joint Response Team, which coordinated quarantine, isolation, and private travel for any individuals who were symptomatic or at risk of exposure.[142] The NJDOH ordered more than $1M in PPE for health care workers, partnered with Rutgers University to provide training programs for health educators, and sent guidance to local health departments (LHDs).[143]

Additionally, the governors of New Jersey and New York worked together to implement a mandatory quarantine policy that required anyone who arrived at Newark or Kennedy airports and had direct contact with Ebola patients to quarantine for 21 days.[144] The policy, which was stricter than federal guidelines, mandated quarantine without symptoms, even though Ebola is not spread asymptomatically.[145] The policy was controversial and resulted in at least one lawsuit (which was settled) against the State by a nurse who was quarantined even though she exhibited no symptoms.[146] Ultimately, there were no confirmed Ebola cases in New Jersey.[147]

2015 Outbreak Control & Pandemic Influenza Plans

The Ebola scare prompted the NJDOH to take additional steps to prepare for a public health emergency. In January 2015, the NJDOH issued its guidelines for the Control of Respiratory Virus Outbreaks in Long-Term Care and Other Institutional Settings.[148] In September of the same year, the NJDOH division of Public Health Infrastructure, Laboratories & Emergency Preparedness (PHILEP) published its Pandemic Influenza Plan, which is discussed in more detail below.[149] The NJDOH's Guidance for Control of Respiratory Virus Outbreaks and its Pandemic Influenza Plan

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[141] ABC News. (2014, October 4). New Jersey Department of Health: Passengers on Newark flight do not have Ebola. Retrieved from https://6abc.com/ebola-cdc-newark-airport-centers-for-disease-control/336791/

[142] O'Dowd, M. E. (2014, October). State takes comprehensive public health approach in response to Ebola. New Jersey Department of Health Newsletter. Retrieved from https://www.nj.gov/health/newsletter/documents/2014/oct_2014_newsletter.pdf

[143] Id.

[144] Santora, M. (2014, October 24). First patient quarantined under strict new policy tests negative for Ebola. The New York Times. https://www.nytimes.com/2014/10/25/nyregion/new-york-ebola-case-craig-spencer.html

[145] Id.

[146] Santora, M. (2017, July 27). New Jersey accepts rights for people in quarantine to end Ebola suit. The New York Times. https://www.nytimes.com/2017/07/27/nyregion/new-jersey-accepts-rights-for-people-in-quarantine-to-end-ebola-suit.html

[147] New Jersey Department of Health. (2022, December 16). Ebola Communicable Disease Manual Chapter. Retrieved from https://www.nj.gov/health/cd/documents/chapters/ebola_ch.pdf

[148] New Jersey Department of Health. (2015, January). NJDOH guidelines for the control of respiratory virus outbreaks in long-term care and other institutional settings. Retrieved from https://www.nj.gov/health/cd/documents/flu/outbreak_prevention.pdf

[149] New Jersey Department of Health. (2015, September). NJDOH Pandemic Influenza Plan. Retrieved from https://www.nj.gov/health/er/documents/pandemic_influenza_plan.pdf

reflected the Department's awareness of many of the challenges presented by a respiratory-based pandemic.

Zika

In January 2016, the mosquito-borne Zika virus made its way to New Jersey. The first confirmed case in the State was diagnosed in a woman who was visiting New Jersey from Colombia.[150] After being hospitalized for a few days with symptoms, the woman recovered and returned to Colombia. At that point, there had been no U.S. mosquitos found to be carrying the virus.[151] However, as it was understood that at least one type of mosquito found in New Jersey had the capability to carry Zika, and many travelers would likely arrive in New Jersey from areas with local transmission, the State took action to prepare for Zika's arrival. Accordingly, in March 2016, the NJDOH began a multilingual public-outreach campaign (#zapzika) to help citizens understand the dangers of Zika and how to avoid exposure.[152] Of primary concern was minimizing exposure to pregnant women, as the virus can be transmitted in utero and result in birth defects.[153]

In April 2016, more than 300 local, state, and federal officials attended a Zika preparedness summit in New Jersey that was hosted by the CDC and sponsored by New Jersey federal congressmen.[154] The goal of the summit was to identify gaps in readiness and provide advice and support to states to develop Zika action plans.[155] Additionally, President Obama submitted a request for $1.9B in supplemental funding for a Zika response.[156] In May of the same year, the New Jersey Governor announced availability of Zika virus testing in New Jersey.[157] Through October 2016, there were 137 travel-related cases of Zika reported in New Jersey,[158] and the public health interventions were likely responsible – at least in part – for the fact that it did not spread further.

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[150] O'Brien, K. (2016, January 20). N.J. confirms first case of Zika in the state. NJ.com. Updated January 20, 2016. https://www.nj.com/healthfit/2016/01/state_confirms_case_of_zika_virus_in_northern_nj.html

[151] Id.

[152] Stainton, L. (2016, March 4). New Jersey begins multilingual Zika awareness campaign. WHYY. Retrieved from https://whyy.org/articles/new-jersey-begins-zika-educaation-campaign/

[153] Centers for Disease Control and Prevention. (2019, May 14). Microcephaly & other birth defects. Retrieved from https://www.cdc.gov/zika/healtheffects/birth_defects.html

[154] New Jersey Hospital Association. (2016, April 4). Apr. 4, 2016: National Zika Summit Held by CDC. Retrieved from https://www.njha.com/pressroom/daily-message/2016-daily-message/apr/apr-4-2016-national-zika-summit-held-by-cdc/

[155] Id.

[156] Office of Senator Cory Booker. (2016, April 29). Booker, Menendez convene Zika Virus Preparedness Summit. Retrieved from https://www.booker.senate.gov/news/press/booker-menendez-convene-zika-virus-preparedness-summit

[157] New Jersey Department of Health. (2016, May 23). Christie Administration announces Zika virus testing in New Jersey. Retrieved from https://www.nj.gov/health/news/2016/approved/20160523a.shtml

[158] Bennett, C. (2016). #ZapZika campaign remains robust during summer season. New Jersey Department of Health Newsletter. Retrieved from https://www.nj.gov/health/newsletter/documents/2016/summer_2016.pdf

2018 NGA Public Health Preparedness and Response Workshop and Proposal

In February 2018, the Governor sent a Letter of Intent for the State to participate in the NGA's Public Health Preparedness and Response Workshop for State and Territorial Gubernatorial and Legislative Leadership. The Governor stated that New Jersey intended to use the Workshop to increase the State's readiness for and effectiveness during a public health emergency."[159] The Letter of Intent indicated New Jersey's commitment to creating a Healthcare and Public Health Subcommittee under the DSPTF to meet the State's preparedness needs. New Jersey was one of six states selected to participate in the Workshop, which took place in May 2018 and was attended by OHSP, New Jersey State Police (NJSP), and NJDOH representatives.[160]

At the Workshop, which was supported by the CDC, the New Jersey team developed three steps to overcome challenges to public health preparedness:

- Create DSPTF Healthcare and Public Health Subcommittee
- Integrate NJDOH personnel into the New Jersey ROIC
- Integrate Regional Medical Coordination Centers (RMCC) into the emergency management paradigm

The integration of NJDOH into the ROIC, a co-locating representative model, was considered critical to fostering agency cooperation and information-sharing. This "co-locating model" required that a representative from the NJDOH work physically within the OHSP or NJSP to communicate robust and timely updates. Additionally, the integration of the RMCCs into the emergency management paradigm was seen as important to enable the NJOEM to integrate the RMCC's resources into the NJOEM system. The NJOEM began working with the RMCCs to accomplish this goal.

On June 11, 2019, NJDOH Commissioner Elnahal signed an EO establishing the Healthcare and Public Health Sector Working Group, which was to report to the DSPTF. However, by the time the COVID-19 public health emergency was declared, the Working Group had not been fully implemented.

Adenovirus Outbreak

In fall 2018, New Jersey was hit with an outbreak of adenovirus at the Wanaque Center for Nursing and Rehabilitation. Adenovirus is a common respiratory virus that can be deadly to people with compromised immune systems. The outbreak resulted in at least 33 cases and, tragically, 11

[159] Murphy, P. (2018, February 9). Letter to the National Governors Association Center for Best Practices.
[160] New Jersey Department of Health. (2018, April 3). New Jersey picked by NGA to develop public health preparedness, response strategies. Retrieved from https://www.nj.gov/health/news/2018/approved/20180403b.shtml

pediatric residents' deaths. A Centers for Medicare & Medicaid Services (CMS) report concluded that the outbreak and deaths occurred "due to a lack of administrative oversight, slow responses from medical staff, and a flawed infection-control plan."[161] The report further determined that, "[i]n violation of federal regulations, the [nursing home's] administration had also failed to make plans for how it would handle a potential outbreak."[162] By November 2018, the NJDOH took enforcement action against the Wanaque Center, prohibited all new admissions to the entire facility, and required the hiring of a certified infection control practitioner (ICP) and the services of a NJDOH-approved physician or physician practice with board certification in infectious disease.[163]

The Wanaque outbreak prompted the NJDOH to publish, in June 2019, Policy Recommendations for Infection Control at Long-Term Care Facilities (LTCFs).[164] The Department's Communicable Disease Service (CDS) offered several recommendations, including:

1. Support for a more robust local health department infrastructure to respond to outbreaks
2. Continuing to fund the Infection Control Assessment & Response team
3. Continuing to fund non-influenza laboratory testing
4. Employment of dedicated staff for respiratory virus surveillance.

The document further noted that, other than for influenza, the CDS had received no federal or state funding to conduct any respiratory virus surveillance or other respiratory virus activities. Additionally, through the same document, NJDOH Facility Survey and Field Operations made several recommendations for LTCFs, including hiring full-time infection control professionals, including an Infection Preventionist responsible for all aspects of the facility's Infection Control and Prevention Plan, at specialized facilities.

Also in response to the Wanaque outbreak, the New Jersey legislature passed bill A-5527/S-3900, which Governor Murphy signed into law on August 15, 2019.[165] In essence, the statute requires the NJDOH to mandate the development of outbreak response plans by certain LTCFs, and those

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[161] Ducharme, J. (2019, March 4). Federal investigators find critical failings at health center where 11 children died in virus outbreak. Time. Retrieved from https://time.com/5540986/wanaque-adenovirus-federal-report/

[162] Washburn, L. (2019, February 27). 'I knew we had a problem after the 4th death': Failures led to 11 Wanaque center deaths. NorthJersey.com. Retrieved from https://www.northjersey.com/story/news/watchdog/2019/02/27/wanaque-center-for-nursing-and-rehabilitation-failures-contributed-adenovirus-deaths/2952837002/

[163] New Jersey Department of Health. (2018, November 14). NJ Department of Health takes enforcement action against Wanaque Center for Nursing and Rehabilitation. Retrieved from https://www.nj.gov/health/news/2018/approved/20181114c.shtml

[164] New Jersey Department of Health. (2019, June 6). Policy recommendations for infection control at long-term care facilities. Retrieved from https://nj.gov/health/healthfacilities/documents/Wanaque%20Policy%20Report_DOH_06062019.pdf

[165] New Jersey Legislature. (2019). Bill A5527 AcaSa (2R). Retrieved from https://www.njleg.state.nj.us/bill-search/2018/A5527

facilities were required to develop their response plans by February 11, 2020—180 days after the Act's effective date. Specifically, each facility's plan had to include, at a minimum:

- A protocol for isolating and cohorting infected and at-risk patients in the event of an outbreak of a contagious disease until the cessation of the outbreak.
- Clear policies for the notification of residents, residents' families, visitors, and staff in the event of an outbreak of a contagious disease at the facility.
- Information on the availability of laboratory testing, protocols for assessing whether facility visitors were ill, protocols to require ill staff to not present at the facility for work duties, and processes for implementing evidence-based outbreak response measures.
- Policies to conduct routine monitoring of residents and staff to quickly identify signs of a communicable disease that could develop into an outbreak; and policies for reporting outbreaks to public health officials in accordance with applicable laws and regulations.

Public criticism of the bill noted that "only a handful of the roughly 670 facilities would have to run their plans by the [NJDOH The rest were on the honor system."[166] The same article stated that the NJDOH "worried about its limited resources—objected to a requirement that all of the plans be submitted for state vetting. Lawmakers reworked the bill to limit the mandate to [fewer] than two dozen sites."

2019 NJOEM Hazard Mitigation Plan

Also in 2019, NJOEM published its revised New Jersey State Hazard Mitigation Plan,[167] which, in Section 5.21,[168] addressed the threat of pandemics. The Hazard Mitigation Plan is discussed below, in the discussion regarding the NJOEM's readiness for a public health emergency when COVID-19 hit.

New Jersey Does Not Participate in the 2019 Crimson Contagion Exercise

In August 2019, the U.S. Department of Health & Human Services (USHHS) conducted the Crimson Contagion 2019 Functional Exercise, which exercised the nation's ability to respond to a large-scale outbreak of a then-hypothetical novel, highly contagious, and severe influenza virus that originates

[166] Sutton, S. (2020, May 11). New Jersey almost required stricter infection-control rules. But then it backed off. Politico. https://www.politico.com/states/new-jersey/story/2020/05/11/how-new-jersey-failed-to-follow-through-on-the-lessons-of-wanaque-1283081
[167] State of New Jersey Office of Emergency Management. (2019, January 25). 2019 New Jersey State Hazard Mitigation Plan. Retrieved from https://nj.gov/njoem/mitigation/pdf/2019/mit2019_section5-21_Pandemics.pdf
[168] State of New Jersey Office of Emergency Management. (2019, January 25). Section 5.21: Pandemic. 2019 New Jersey State Hazard Mitigation Plan. Retrieved from https://nj.gov/njoem/mitigation/pdf/2019/mit2019_section5-21_Pandemics.pdf

in China and quickly spreads around the world.[169] The exercise included 12 states, several federal agencies, hospitals, and LHDs, among other entities. New Jersey was invited to participate, but for unknown reasons, declined. New Jersey's neighboring states of Pennsylvania, New York, and Connecticut accepted the invitation.[170] Lessons learned by states that participated in the Crimson Contagion exercise are discussed in **Section 5.02 Emergency Response Governance and Coordination**.

Late 2019 - early 2020: a new disease emerges and the world goes on alert

By December 2019, reports began to emerge from Wuhan, China about a novel and severe respiratory disease. By December 12, a cluster of patients began to experience symptoms of an atypical pneumonia-like illness. On December 31, 2019, China reported 41 cases of the atypical pneumonia to the WHO.[171]

The next day, January 1, 2020, the WHO put itself on "emergency footing" by setting up the Incident Management Support Team (IMST) across all three organization levels: Headquarters, Regional Headquarters, and Country Offices. Within a few days, the WHO had started posting about the atypical pneumonia cases on social media and began to publish disease outbreak news. Also on January 5, the CDC's National Center for Immunization and Respiratory Diseases initiated its process for investigating the novel pneumonia virus.[172]

In China, also on January 5, the genetic sequence of the atypical pneumonia was uploaded by a physician to the Chinese Center for Disease Control and Prevention, but it was not shared with the world at that point.[173] Chinese health officials publicly identified a novel coronavirus, 2 days later, as causing the atypical pneumonia outbreak, and the CDC established an incident management structure to guide its response to the novel coronavirus following the preparedness plan used for Middle East Respiratory Syndrome Coronavirus (MERS). On January 10, the WHO started using the term "2019 Novel Coronavirus," and the CDC first published information about the outbreak on its website. The next day, the CDC updated its travel health notice for persons traveling to Wuhan as Level 1: "practice usual precautions."

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[169] Department of Health and Human Services. (2020, September 16). Crimson Contagion 2019 Functional Exercise After-Action Report. Retrieved from https://www.governmentattic.org/38docs/HHSaarCrimsonContAAR_2020.pdf
[170] Government Accountability Office. (2021, August). Biodefense: After-action findings and COVID-19 response revealed opportunities to strengthen preparedness. Report to Congressional Committees. Retrieved from https://www.gao.gov/assets/720/716078.pdf
[171] World Health Organization. (2020, April 27). Archived: WHO Timeline - COVID-19. Retrieved from https://www.who.int/news/item/27-04-2020-who-timeline---covid-19
[172] Centers for Disease Control and Prevention. (2023, March 15). *CDC Museum Covid-19 Timeline*. Retrieved from https://www.cdc.gov/museum/timeline/covid19.html#:~:text=January%205%2C%202020&text=The%20genetic%20sequence%20for%20the,Zhang%20of%20Fudan%20University%2C%20Shanghai
[173] Id.

On January 12, China reported the first death from the disease and shared the genetic sequence for the virus with the world through a global genetic database.[174] A day later, the virus was detected in Thailand; by January 14, the WHO had found evidence of human-to-human transmission, although the means of transmission was not reported. On January 17, 2 days after the virus was confirmed in Japan, the CDC began screening passengers for symptoms on direct and connecting flights from Wuhan.

On January 20, 2020, the first laboratory-confirmed case of COVID-19 was detected in the United States, in the State of Washington. On January 23, the city of Wuhan, a city of 11 million people, was placed on lockdown, although there was still no statement about how the disease was transmitted. A day earlier, the WHO decided not to declare COVID-19 a Public Health Emergency of International Concern.

On January 24, 2020, the same day a travel-related case was confirmed in Illinois, the NJDOH issued its first statement on the new virus. In that press release, NJDOH Commissioner Judith Persichilli based her remarks on the latest information from the CDC and the WHO, and stated: "Although this novel virus in understandably a cause for concern, it is important for New Jersey residents to know that the risk to the public remains low."

The Commissioner then assured the public that the NJDOH was "prepared – along with [its] partners – to respond to potential novel coronavirus cases" due to its experience with respiratory virus and flu season, and hundreds of disease outbreaks each year.[175]

During the next week, the CDC issued a Level 3 Travel Health Notice advising travelers to avoid all non-essential travel to China due to the 2019 Novel Coronavirus outbreak. Meanwhile, President Trump established a COVID-19 interagency task force and the CDC reported the first human-to-human transmission of COVID-19 in the United States, in Illinois.[176] On January 31, the WHO reconvened earlier than planned to declare the COVID-19 a Public Health Emergency of International Concern (PHEIC). The Secretary of USHHS, Alex Azar, followed suit and declared the COVID-19 outbreak a public health emergency.[177]

A few days later, on February 3, 2020, New Jersey Governor Phil Murphy signed EO 102 establishing the Coronavirus Task Force. The Task Force, led by Commissioner Persichilli and which included representatives from several other agencies, was tasked with preparing for and

[174] Centers for Disease Control and Prevention. (2023, March 15). *CDC Museum Covid-19 Timeline*. Retrieved from https://www.cdc.gov/museum/timeline/covid19.html
[175] New Jersey Department of Health. (2020, January 24). New Jersey outlines preparedness activities related to 2019 novel coronavirus. Retrieved from https://www.nj.gov/health/news/2020/approved/20200124a.shtml
[176] Centers for Disease Control and Prevention. (2023, March 15). *CDC Museum Covid-19 Timeline*. Retrieved from https://www.cdc.gov/museum/timeline/covid19.html
[177] Id.

responding to the public health hazard from COVID-19, as well as coordinating with health care facilities regarding possible treatment of symptomatic patients.[178]

On February 4, 2020, the FDA approved emergency use authorization (EUA) for the COVID-19 diagnostic test developed by the CDC. However, a laboratory in New York soon reported that the tests produced "untrustworthy results."[179]

On February 5, a few days after the Federal Government named Newark International Airport as one of 20 airports participating in the CDC's enhanced screening and quarantine program, an asymptomatic traveler who arrived in Newark from China was quarantined. The screening and quarantine program was similar to that used during the 2014 Ebola scare and mandated a 14-day quarantine (at CDC quarantine stations) for travelers who met certain criteria. In this instance, the passenger was transported to a quarantine station and monitored by the NJDOH. If the passenger developed symptoms, he or she would be sent to University Hospital in Newark to be treated in isolation. To participate in this program, New Jersey partnered with the Federal Government and the Port Authority of New York.[180]

Meanwhile, the virus continued its global spread, Italy became a global hotspot, and on February 6, the United States reported its first COVID-19 death.[181] On February 7, 2020, the President gave a private interview and told the reporter:

"It goes through air, Bob. That's always tougher than the touch. You know, the touch - you don't have to touch things, right? But the air, you just breathe the air. That's how it's passed. And so that's a very tricky one. That's a very delicate one. It's also more deadly than your - you know, your - even your strenuous flus."[182]

There was still no official information provided to the public – neither from China nor the Federal Government – about how, exactly, the disease was transmitted.

On February 25, the CDC's Dr. Nancy Messonnier (the director of the National Center for Immunization and Respiratory Diseases at the time) held a telebriefing and braced the nation to expect economic mitigation efforts to contain COVID-19. She told the nation that these efforts might include school closing, workplace shutdowns, and canceling gatherings and public events.

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[178] New Jersey Office of the Governor. (2020, February 02). Governor Murphy Signs Executive Order Establishing Coronavirus Task Force. Retrieved from https://www.nj.gov/governor/news/news/562020/20200203d.shtml

[179] Centers for Disease Control and Prevention. (2023, March 15). *CDC Museum Covid-19 Timeline*. Retrieved from https://www.cdc.gov/museum/timeline/covid19.html

[180] New Jersey Department of Health. (2020, February 05). New Jersey Department of Health Statement on Mandatory Quarantine Order. Retrieved from https://www.nj.gov/health/news/2020/approved/20200205a.shtml

[181] Centers for Disease Control and Prevention. (2023, March 15). *CDC Museum Covid-19 Timeline*. Retrieved from https://www.cdc.gov/museum/timeline/covid19.html

[182] Morning Edition. (2020, September 10). *Trump tells Woodward he deliberately downplayed coronavirus threat*. NPR. https://www.npr.org/2020/09/10/911368698/trump-tells-woodward-he-deliberately-downplayed-coronavirus-threat

She stated that the "disruption to everyday life may be severe." On March 1, 2020, the CDC created a hospitalization surveillance network for COVID-19 called COVID-NET to track COVID-19 hospitalizations by modifying existing respiratory surveillance networks.

On March 2, 2020, Governor Murphy, along with Commissioner Persichilli, NJSP Superintendent Colonel Pat Callahan, and others, held a press briefing regarding COVID-19. The information imparted in the New Jersey press conference mirrored that of the Federal Government's official briefings. At that time, there had been no confirmed cases in New Jersey, although tests, based on strict CDC requirements, had been administered to a few individuals and sent to the CDC lab for interpretation. A detailed discussion of testing is found in Section 5.08 Testing. The Governor reiterated what Commissioner Persichilli had stated in the January 24 press release; that is, that the "risk to the average American is low," and that people with respiratory symptoms were most likely suffering from the flu or a cold. NJDOH leaders noted that the CDC was not recommending that the public wear face masks, and that N95 respirators should be reserved for health care professionals. They also advised the public to take general precautions – handwashing, covering [your] mouth when coughing, and staying home when sick—to help protect [yourself] from respiratory viruses. At that time, the focus was on symptomatic patients, as Commissioner Persichilli stated that a handful of people who had recently returned from traveling were in quarantine but that they did not have symptoms and were therefore considered "low risk." The Governor informed the public that the State was in communication with the Federal Government, and that response efforts would be coordinated.[183]

On March 4, 2020—2 days later—New Jersey's first COVID-19 case was confirmed, and the Governor declared a Public Health Emergency less than a week later, on March 9.

2.3 NJDOH's and NJOEM's Pandemic Preparedness Efforts

Under the EHPA, the NJDOH is the primary agency charged with responding to and preparing the State for a public health emergency.[184] The statute provides that the NJDOH is responsible for "coordinat[ing] all matters pertaining to the public health response to a public health emergency, and shall have primary jurisdiction, responsibility and authority for planning and executing public health emergency assessment, prevention, preparedness, response and recovery for the State."[185] While the NJDOH is given this responsibility upon the declaration of a public health emergency, no operational changes are tied to the declaration of a public health emergency that would support such substantial additional duties—no money became available concurrent with the declaration, and the staffing, procurement, and contracting rules and procedures remained the same. Though the EHPA also requires the NJDOH to coordinate its activities with the NJOEM and execute its

[183] New Jersey Office of the Governor. (2020, March 2). *TRANSCRIPT: March 2nd, 2020 Coronavirus Briefing*. Retrieved from https://www.nj.gov/governor/news/news/562020/approved/20200302.shtml
[184] N.J.S.A. 26:13-3(c)(1).
[185] Id.

responsibilities in accordance with the State Emergency Operations Plan, the NJDOH remains responsible for preparing for and responding to a public health emergency.[186] The NJOEM, on the other hand, "shall provide [] all required assistance."

2.3.1 NJDOH Readiness

As the agency with the statutory mandate to lead New Jersey in a public health emergency, the NJDOH's level of preparedness for just such an event would be key to the success or failure of the State's response to COVID-19. Within the NJDOH, PHILEP—which oversees the Offices of Disaster Resilience, Emergency Medical Services, Pandemic Planning and Response, and the Public Health and Environmental Agencies—is tasked with "providing strategic and operational leadership to coordinate New Jersey's hospital and public health disaster resilience, laboratory services and emergency preparedness and response."[187] It attempted to accomplish these duties in numerous ways.

The 2015 NJDOH Pandemic Influenza Plan

As noted above, in 2015, due to the anticipated increase in influenza occurrences, PHILEP published a Pandemic Influenza Plan; the NJDOH's operative pandemic plan when the COVID-19 Public Health Emergency was declared in March 2020.[188] The purposes of the 257-page Pandemic Plan were to:

- Describe the role of the NJDOH in response to an influenza pandemic affecting New Jersey.
- Minimize morbidity and mortality potentially resulting from an influenza pandemic.
- Coordinate internal NJDOH response activities.
- Provide guidance and information to Local Information and Communications System (LINCS) agencies,[189] LHDs, and healthcare partners and other stakeholders in the development of their own influenza pandemic plans.[190]

[186] Id.
[187] New Jersey Department of Health. (n.d.). Public Health Infrastructure, Laboratories & Emergency Preparedness. Retrieved from https://www.nj.gov/health/philep/
[188] New Jersey Department of Health. (2015, September). NJDOH Pandemic Influenza Plan. Retrieved from https://www.nj.gov/health/er/documents/pandemic_influenza_plan.pdf
[189] LINCS is a network of 21 local health departments throughout the state that enhance the identification and containment of diseases relevant to public health. New Jersey Department of Health. (n.d.). Local Public Health. Retrieved from https://www.nj.gov/health/lh/professionals/
[190] New Jersey Department of Health. (2015, September). NJDOH Pandemic Influenza Plan. Retrieved from https://www.nj.gov/health/er/documents/pandemic_influenza_plan.pdf

While the Pandemic Influenza Plan focused on a generic influenza pandemic, many of its warnings and assumptions proved predictive for the coming COVID-19 pandemic. Indeed, the Plan warned that, in an influenza pandemic,

> [o]utbreaks would most likely occur simultaneously throughout much of the U.S., preventing shifts in human and material resources that usually occur in response to other disasters. The effect on individual communities will be relatively prolonged (weeks to months) in comparison to other types of disasters. Healthcare systems could be rapidly overburdened, economics strained, and social order disrupted.[191]

The Plan also noted that "New Jersey's geographic and demographic characteristics make it particularly vulnerable to importation and spread of infectious diseases, including influenza."

In creating the Pandemic Influenza Plan, the NJDOH relied on several assumptions based on previous flu pandemics, including that, "no vaccines will be available for at least 6 months and then there will be limited quantities available on a periodic basis," "there will be a large number of hospitalizations and deaths," and "medical supplies will be limited."[192] While those assumptions would be confirmed during the COVID-19 pandemic, others—such as that there would be an existing supply of effective antivirals and that only "up to" 50% of the population would be affected—were not.

Nevertheless, even if all of the assumptions underlying the Pandemic Influenza Plan were not what actually happened in the COVID-19 pandemic, much of it could have been useful for responding to the COVID-19 pandemic and for nearly any public health emergency. For example, the "Command and Control" Operations section stated that, if there is "evidence or credible threat of a pandemic in New Jersey or nearby," the NJDOH will activate the NJDOH Incident Command System (ICS), the Department's internal leadership system meant to "facilitate and streamline emergency response" during a public health emergency.[193] Once the ICS is activated, the Incident Commander (IC) and Section Chiefs (SC) will develop an incident Action Plan (IAP) to define the Department's operational response."[194] While the ICS constitutes the NJDOH's internal leadership, the Pandemic Influenza Plan states that "externally, the Department operates under the [SEOP] under the leadership of the [NJOEM] as the Emergency Support Function 8 (Public Health and Medical Services) lead state agency." These two command and control systems are described in the Pandemic Influenza Plan as "distinct but interrelated ecosystems."[195] The Pandemic Influenza Plan then explains the 8 sections— operations, planning, logistics, public information, administration/finance, laboratories, epidemiology/surveillance, and state agency liaisons—that the IC will oversee, provides an organizational chart, and details each section's "action items."[196]

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[191] Id. at 3.
[192] Id. at 4-5.
[193] Id. at 10.
[194] Id.
[195] Id.
[196] Id.

Training & Collaboration

Beyond creating the Pandemic Influenza Plan, PHILEP engaged in cross-agency and cross-government preparedness training, which included leading and participating in exercises with the NJOEM, LINCS agencies, and others. However, PHILEP did not participate in many tabletop exercises with agencies other than the NJOEM, and thus there was not a full understanding of other state agencies' roles and responsibilities. One of the pre-COVID-19 tabletop exercises that the NJDOH and NJOEM conducted was a full-scale Strategic National Stockpile (SNS) exercise, which was required by the CDC and U.S. Air Marshals. The SNS is a "repository of potentially life-saving pharmaceuticals and medical supplies for use in a public health emergency in which local supplies have been or may be depleted."[197] The SNS exercise involved:

1. Activating the SNS
2. A simulated distribution of resources to three counties
3. The collaboration of various federal and state partners, including the CDC, U.S. Air Marshals, health departments, state police, special ops units, and other first responders.

Although the SNS exercise was a good starting point to understand how use of the SNS works, the SNS plan was for medications, not PPE; its relevance to the coming COVID-19 pandemic was thus limited.

Moreover, while PHILEP led exercises and knew how to manage vaccine clinics, they had not prepared for mass "everyone-at-once" vaccination sites. PHILEP's preparedness plans were also missing an emergency succession plan to be implemented in the event of a disruption in leadership.

Pursuant to federal law, hospitals had long been required to have emergency preparedness plans.[198] The healthcare industry's experience with the 2009 H1N1 pandemic and 2014 Ebola scare had led hospitals to update their infection control plans to ensure that they included specific areas in their facilities for evaluation of patients with airborne diseases, PPE protocols, and protocols for testing and management of specimens" Moreover, prior to the COVID-19 pandemic, hospitals that could serve as treatment centers were identified and guidelines for transporting patients were created. The NJDOH was further charged with regulating other healthcare facilities, including LTCFs, which were also required to have outbreak response plans, infection prevention policies, and flu plans.

[197] Centers for Disease Control and Prevention. (2014, March 28). Receiving, distributing, and dispensing Strategic National Stockpile assets: Guide to preparedness, Version 11. Retrieved from https://stacks.cdc.gov/view/cdc/77036
[198] Department of Health and Human Services, Office of Inspector General. (2014, September). Hospital emergency preparedness and response during Superstorm Sandy. Retrieved from https://oig.hhs.gov/oei/reports/oei-06-13-00260.pdf

Funding for Public Health Initiatives

One frequently cited barrier to pre-COVID-19 preparedness was the lack of funding for public health initiatives. Public health initiatives focus on preventative healthcare measures (e.g., anti-smoking campaigns) and surveillance (e.g., data systems to support federal health reporting). The differences across state public health spend per capita are substantial – ranging from slightly less than $150 per capita per year, to less than $10 according to Trust for America's Health (TFAH). New Jersey spent slightly less than the median state on public health per capita in Fiscal Year (FY)19. However, it is important to note that public health spend per capita for a state can be shaped by both the health-related agency structures and the healthcare delivery systems in the state:

- Structure of agencies responsible for public health: As there is no strict definition for what constitutes "public health spend," the funding received by the state's health department is often (but not exclusively) a proxy for the state's public health spending. However, depending on the structure of state governments, a number of different state agencies may provide health-related services. Thus, department structure can impact accounting and change what is counted as public health spend (e.g., if initiatives for youth health are budgeted for in the Department of Education budget).

- Health care delivery system: The private sector (e.g., payers, providers) can contribute to the state's total health, with healthcare innovation or delivery being primarily done by the private sector rather than public investment. In states like New Jersey, this may result in a reduction in public spending, as there is less need for the State to fill in health gaps. For example, Managed Care Organizations (MCOs) in some states are required to contribute a percentage of their profits to health initiatives, decreasing the state's public health spending. In addition, rural states where access to health care is challenging have a higher public health spend per capita, as remote areas have fewer points of private healthcare.

It is also worth noting that overall, New Jersey has a higher total healthcare spend per capita that most other states. New Jersey ranks 11th in terms of health spend per capita in 2019 ($11,264), in contrast to the median state, which spent $9,632. This spend also captures healthcare delivery (e.g., spend on hospital stays, outpatient visits, and prescription drugs). As a result, New Jersey has some of the best health outcomes of any state in the country—which is to be expected, given its overall healthcare spend.

Despite being in the average range, the NJDOH believes that New Jersey's government failed to provide adequate resources to prepare for a public health emergency, noting the denial of its

request for $1M in the 2020 pre-COVID-19 budget to fund a so-called black swan event.[199] Further, chronic underfunding has affected the development and maintenance of the type of public health infrastructure necessary to ensure community resilience. Thus, funding for black swan events, or the hiring of sufficient personnel to stand up a B and C team to reduce the extraordinary demands that were placed on NJDOH personnel, and generally to increase the size of the public health workforce is of vital importance and would have paid dividends during the pandemic.

2.3.2 NJOEM Preparedness

The NJOEM is charged with preparing New Jersey for and responding to emergencies. Since 1989, under the Civil Defense and Disaster Control Act, the NJOEM has been required to adopt a State Emergency Operations Plan (SEOP), which must include a plan for the evacuation of hospitals and other health care facilities in a major disaster or emergency.[200] Among the NJOEM's other duties, pursuant to the statute, is educating the public about available emergency resources and the "importance of emergency preparedness planning."[201] Moreover, each county and municipality is required to devise an Emergency Operations Plan for the NJOEM's approval.[202] While the NJOEM in general, and SEOP in particular, focus on natural and man-made disasters, the SEOP goes into effect whenever the Governor declares a State of Emergency, such as for COVID-19. Thus, its role in preparing for and responding to all types of emergencies—including health emergencies—is paramount.

The NJOEM has taken several approaches to prepare the State for an emergency. One way is through its Directive 51, which requires every agency to implement a Continuity of Operations (COOP) Plan. Additionally, to be eligible for FEMA disaster recovery assistance and mitigation funding, the NJOEM publishes a State Hazard Mitigation Plan (Mitigation Plan), the latest pre-COVID-19 revision of which was published in 2019.[203] The Mitigation Plan serves "as a guide for State decision makers as they commit resources to reducing the effects of hazards."[204]

One hazard that the Mitigation Plan identified was an influenza pandemic, which could "claim thousands of lives and adversely affect[ ] critical infrastructure and key resources. An influenza

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[199] A "black swan" event is a random, unexpected event that has extreme impacts, and for which explanations are "concocted after the fact, making it explainable and predictable." Antipova, T. (2020). Coronavirus pandemic as Black Swan Event. *Integrated Science in Digital Age 2020*, *136*, 356–366. https://doi.org/10.1007/978-3-030-49264-9_32

[200] N.J.S.A. § App. A9-43.1.

[201] Id. at §A9-43.1(c).

[202] N.J.S.A. § App. A9-43.4.

[203] New Jersey Office of Emergency Management. (n.d.). Hazard Mitigation Plans. Retrieved from https://nj.gov/njoem/mitigation/hazard-mitigation-plans.shtml

[204] New Jersey Office of Emergency Management. (2019, January 25). Executive Summary of the New Jersey State Hazard Mitigation Plan (p. 8). Retrieved from https://nj.gov/njoem/mitigation/pdf/2019/mit2019_Section_Executive.pdf

pandemic has the ability to reduce the health, safety, and welfare of the essential services workforce, immobilize core infrastructure, and induce fiscal instability."[205]

While the Mitigation Plan does not contain details about a pandemic response plan, it sets out the various hazards that a pandemic could have on New Jersey, including the effects of a pandemic on the State's critical infrastructure and healthcare system. Moreover, the Plan includes county-by-county and industry-by-industry vulnerability assessments and estimates of absenteeism at critical facilities. The Mitigation Plan further charts each relevant state agency's role in mitigating or responding to different types of hazards—including pandemics—and provides a description of the agencies' relevant policies, programming, and funding sources.

Another step (pre-COVID-19) that the NJOEM took to prepare for emergencies was to increase its capabilities and equipment stores to enable it to comprehensively respond to a large-scale incident. For example, in the 5 years before COVID-19, the NJSP had overseen the development of the New Jersey All Hazards Incident Management Team, which, by the time the COVID-19 public health emergency was declared, had the capacity and capability to support the NJDOH for the COVID-19 response by planning and operating Field Medical Stations and COVID-19 testing and vaccination sites. In addition, during the COVID-19 public health emergency, the NJSP's Search and Rescue operations had the capability to provide support due to its previous increase in personnel and equipment capacity.

The NJOEM also had developed relationships with State Emergency Management Program Stakeholder (SEMP) agencies before February 1, 2020, by participating in monthly meetings concerning several types of hazards, including public health emergencies. The NJOEM's relationships with the SEMP agencies were ready to be leveraged early in the COVID-19 response.

The NJOEM had participated in training and exercising for elements of a response to a viral outbreak or other health emergency. These sessions were conducted by the NJDOH and other health-related federal, state, and local entities. For example, the NJSP participated in multi-agency planning, training, and exercising activities in connection with:

- The various outbreaks of Ebola
- Dissemination of Medical Countermeasures and access to/transportation of the Strategic National Stockpile
- Mass casualties
- Regional health planning and coordination

[205] State of New Jersey Office of Emergency Management. (2019, January 25). Section 5.21: Pandemic. 2019 New Jersey State Hazard Mitigation Plan. Retrieved from https://nj.gov/njoem/mitigation/pdf/2019/mit2019_section5-21_Pandemics.pdf

Chapter 3 Methodology

3. Methodology

This report is the culmination of an independent review, called for by Governor Murphy in 2022, of New Jersey's response to the COVID-19 pandemic.[1] In performing this independent review, Montgomery McCracken Walker & Rhoads LLP (MMWR) retained the services of Boston Consulting Group (BCG) to provide both broad support for this project and specific expertise in the many subject matter areas encompassed by this review. The report examines:

- The State's handling of the COVID-19 pandemic, including looking at the State's readiness in 2019/2020 to respond to a pandemic
- The impact of the pandemic on New Jersey and New Jerseyans
- The decisions made and actions taken by the State to respond to the challenges presented by COVID-19
- Recommendations to improve New Jersey's preparedness for a future public health emergency and other emergencies more broadly.

A thoughtful approach is required to faithfully examine these complex issues, including both a comprehensive set of sources and careful methodology. This report was prepared through research, fact-gathering, and analytical methods that included interviews, literature review, and quantitative analysis. The report draws on a robust range of data and sources, in addition to input from a range of subject matter experts (SMEs), to develop a comprehensive understanding of what occurred leading up to and during the brunt of the pandemic from 2020-2022 and offer learnings. For full details about the methodology used in this review, including why certain states were selected to be used as comparators with New Jersey to derive the most useful insights from the analysis, please see the Appendix of this report.

[1] New Jersey Government. (2022, November 22). Governor Murphy announces Independent Review of State's response to COVID-19 pandemic: FAQ. Governor Murphy Announces Independent Review of State's Response to COVID-19 Pandemic. https://covid19.nj.gov/faqs/announcements/all-announcements/governor-murphy-announces-independent-review-of-states-response-to-covid-19-pandemic

Chapter 4 Data and Outcomes

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4. Data and Outcomes

The COVID-19 pandemic caused historic deaths and economic devastation; it was the worst pandemic in American history and the most significant crisis that New Jersey has faced. Across the United States, the disease killed more than one million people, hospitalized tens of millions more, and led to more economic harm than the Great Recession. Both the Federal and State Governments across the country were unprepared to deal with the widespread impacts. New Jerseyans suffered more than most: at least three million people became sick and more than 30,000 died. Nearly every New Jersey resident and worker was impacted by the disease in some way: residents lost family members, neighbors, jobs, and lived through a period of fear and uncertainty that significantly impacted mental health and wellbeing.

Many factors contributed to the fact that the people of New Jersey suffered disproportionately from the COVID-19 pandemic. Among these are New Jersey's high population density, proximity to New York City (the site of the country's first major outbreak), and fact that the government – Federal and State – were unprepared to respond to a health emergency of this scale.

In the first few months after the COVID-19 public health emergency was declared in March 2020, New Jersey had the second-highest death rate in the United States. In just 4 months, by the end of June 2020, more than 13,000 people in New Jersey would die, nearly half of all the deaths that New Jersey would experience as a result of the pandemic. In New Jersey, as in the rest of the country, the effects were not spread equally across the population: older residents made up most fatalities (85% of total deaths came from those aged 65+, of which nearly half came from long-term care facilities [LTCFs]). These effects were also unequally distributed across racial and ethnic lines, with Black residents of New Jersey dying at higher rates than White, Asian, and Hispanic residents. Yet a few years later, fatality rates in New Jersey were among the lowest in the country, due in part to a successful vaccination campaign that was able to vaccinate over 70% of its eligible population in 6 months' time. Overall, New Jersey's fatality rate per capita was the 13th lowest in the U.S. Additional details of the challenges faced, and New Jersey's operational response, are contained in Chapter 5.

The pandemic devasted workers and businesses in New Jersey. The shutdown in March 2020 cut off most economic activity, the first time the economy had been shut down for an extended period because of an emergency. Even after the economy "reopened," ongoing supply chain issues, business closures, travel bans, fear, and uncertainty meant that thousands of New Jerseyans lost their jobs. A combination of high disease severity, the makeup of New Jersey's economy, and long business shutdowns meant that the pandemic's economic impacts were more pronounced in New Jersey than in most parts of the United States.

This chapter presents a data-driven overview of the magnitude of COVID-19's impact on New Jersey. It considers health outcomes, including cases, hospitalizations, and fatalities; vaccination outcomes; and the economic impact of the pandemic. Where relevant, New Jersey's outcomes are compared to other states and contextualized to consider factors such as disease progression, vaccine hesitancy, and economic shutdowns. This chapter also includes an examination of the impact of COVID-19 on specific populations in New Jersey, including race, age, and income.

4.1 Health Outcomes

4.1.1 Section Overview

The COVID-19 pandemic was an extraordinary global health emergency that caused more than a million confirmed deaths in the United States and seven million deaths globally. The pandemic brought trade, travel, and regular life to a halt and had lasting impacts on individuals and communities – impacts that will continue to unfold in the coming decades. While the pandemic significantly changed life for all Americans, New Jersey's residents experienced this suffering earlier and more acutely than many other states. A combination of many factors placed New Jersey at the center of COVID-19's first wave of devastation in the U.S., including:

- The dense, urban characteristics of much of New Jersey
- The large number of residents who live and work in the New York City area
- The fact that New Jersey includes multiple gateways by which global travelers enter the U.S. (e.g., through international airports in Newark, New York, and Philadelphia).

During the first few months of the pandemic, New Jersey had significantly higher levels of COVID-19 than almost any other state. Between March and June 2020, New Jersey had the second-highest number of for fatalities per capita in the United States. In addition to the emotional and economic devastation to the families of the deceased, this immediately and unexpectedly placed stress on the healthcare system. Despite this, in the subsequent months, New Jersey dramatically reduced case count and fatality rates below those of many other states; by the Delta & Omicron wave, only eight states had lower fatality rates.

This section provides insights into:

- The overall severity and progression of COVID-19 in New Jersey.
- How the health impacts of COVID-19 in New Jersey differed from those in other states.
- The variance in health impacts by demographic group within New Jersey.

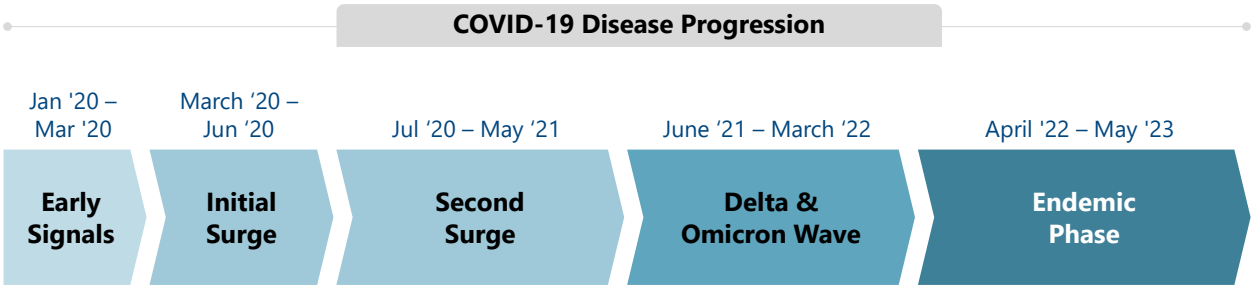
In addition, this section compares New Jersey with both all 50 states and 13 peer states that experienced similarly high levels of disease severity of COVID-19 early in the pandemic.

Finally, this section assesses how the health impacts of COVID-19 varied across different populations:

- Outcomes for residents aged 65+, who are more susceptible to COVID-19, are compared to the total population's health outcomes. This section compares New Jersey's outcomes to other states.
- Outcomes for groups in congregate care settings, including LTCFs and correctional facilities, where COVID-19 is more susceptible to spreading. This section compares New Jersey's outcomes to other states.
- Within New Jersey, outcomes across Asian, Black, Hispanic, and White populations are compared to understand racial and ethnic disparities during the pandemic.[1]

As outlined in the Methodology section of this report, five periods are used to understand COVID-19's progression over time.

Exhibit 4-1: Timeline of COVID-19 disease progression



The health outcome analyses in this section are focused on the Initial Surge, Second Surge, and Delta & Omicron phases shown above. Each period posed unique challenges to different states across the United States. The virus's progression looked different state to state, and states responded differently as their ability and approach to managing the pandemic evolved. Together, these factors shaped the outcomes that each state experienced.

4.1.2 Contextual Factors and Comparison States

At the onset of the pandemic, New Jersey's inherent characteristics shaped how COVID-19 progressed and subsequently impacted New Jersey's health and economic outcomes. Although

[1] This report was unable to compare racial/ethnic demographic outcomes between states as this data is not consistently defined or reported. For example, states may use different definitions to denote "Hispanic" and "non-Hispanic," and some states did not report any racial/ethnic information at all.

every community in the United States was impacted by COVID-19, leading to widespread suffering, New Jersey experienced its peak in COVID-19 cases before June 2020, during the Initial Surge, and ahead of many other states. Unlike New Jersey, some states did not see their highest levels of COVID-19 until months later and were able to better prepare for the pandemic's peaks by learning from the experiences of states that were impacted first.

Several factors contributed to why New Jersey experienced higher prevalence of COVID-19 cases before many parts of the country. Among these are:

- Density: New Jersey is the most densely populated state. Proximity is a key factor in COVID-19 transmission.
- Multi-generational housing: New Jersey has the 11th- highest rate of multi-generational housing in the United States. This is a key factor in enabling familial spread.
- Travel hub: New Jersey hosts Newark Liberty International Airport, a major entry point into the United States, which enabled the disease to enter New Jersey from abroad. More than three million New Jerseyans travelled in January 2020, increasing the opportunity for exposure to the disease.
- Proximity to New York City: One of the earliest and largest COVID-19 outbreaks in the U.S. was in the New York City metro area, which includes more than 10 counties in Northern New Jersey.

As a result of these characteristics and other factors (such as the prevalence of certain health conditions like diabetes or cardiovascular diseases), not all states experienced COVID-19's impact in the same way or at the same time. For states like New Jersey, which experienced high case counts and fatalities earlier in the pandemic, distinct challenges placed additional stress on their healthcare systems.[2] For example, earlier in the pandemic, there was insufficient information about the disease itself, as well as how it could be avoided and/or treated, and a slow healthcare response from the Federal Government.

To provide more nuance in comparison, this analysis will compare New Jersey against all 49 other states and a sub-set of states that experienced an early peak in case counts. This differentiation is particularly important when comparing outcomes during the initial outbreak (from March to June 2020).

CDC data show which states experienced the highest fatality rates during the first outbreak of the pandemic, from March to June 2020 (see Exhibit 4-2). The CDC tracks these data for each state as well as a selection of major metropolitan areas (New York City, Philadelphia, Chicago, Los Angeles, Houston). States are included in the "initial outbreak states" peer group if they are represented in the upper third of fatality rates for March to June 2020. This group includes New Jersey and 13

[2] See Chapter 4 Appendix A-1: Examples of variations in surge timing across states.

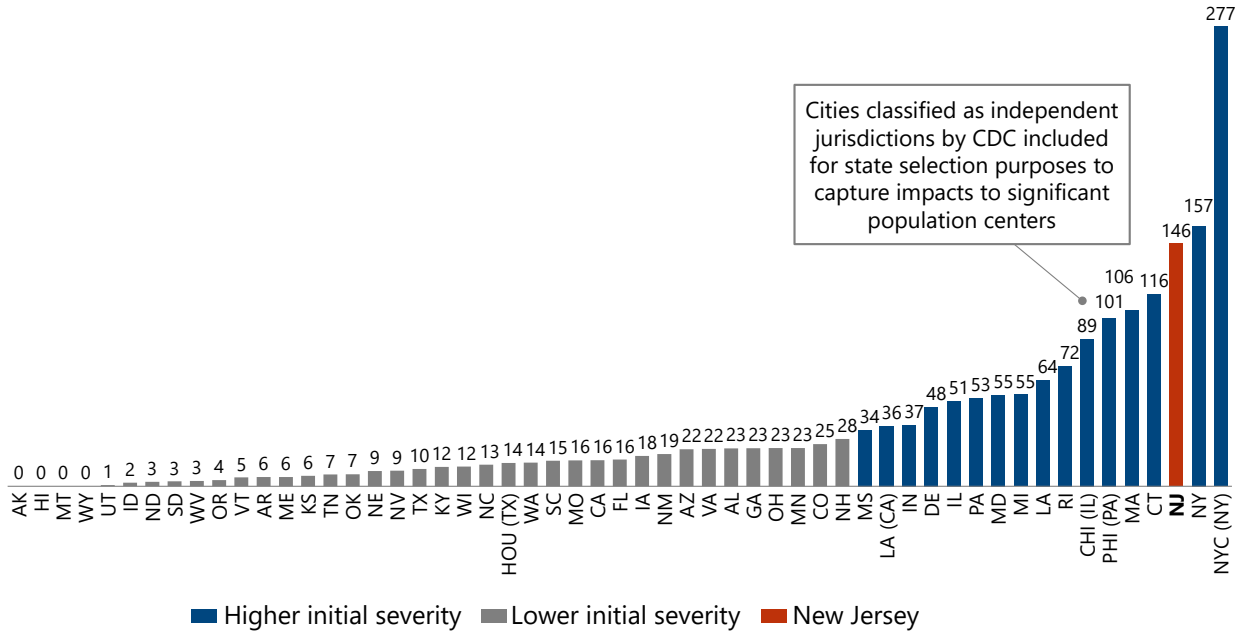
additional peer states. California's statewide fatality rate is outside of the upper third but is included because Los Angeles' fatality rate is within range. For three other metro/state pairs (New York City/New York, Philadelphia/Pennsylvania, Chicago/Illinois), both the metro and state fatality rates put the state into the peer group. For Houston/Texas, both the metro and state fatality rates during this period are too low to be included in the peer group.

Given the higher severity early on, these 14 states had less warning time than the remaining 36 to prepare to manage the pandemic.

- New York
- Connecticut
- Massachusetts
- Pennsylvania
- Illinois
- Rhode Island
- Louisiana
- Michigan
- Maryland
- Delaware
- Indiana
- California (included because of high case count in Los Angeles)
- Mississippi

Exhibit 4-2: States and major metro areas that experienced higher severity in the Initial Surge

Fatalities reported per 100k from March 2020 to June 2020 (Initial Surge Period)



Note: Cities that are their own CDC Jurisdiction for allocation of federal COVID funding: Chicago, Houston, Los Angeles County, New York City, Philadelphia, and Washington, D.C (DC Excluded)
Source: CDC, New York Times

4.1.3 New Jersey Health Outcomes

Three primary metrics measure health outcomes: cases, hospitalizations, and fatalities.[3] While each of these metrics were reported nationally and were used to compare and measure COVID-19's impact, the fatality rate is the most consistent and reliable metric for comparison across states. Cases and hospitalizations are both critical metrics—and played essential roles in guiding New Jersey's response to COVID-19—and all three are used in the analysis to follow.

	Cases	Hospitalizations	Fatalities
Definition	Number of reported and confirmed positive COVID-19 cases	Number of reported hospital admissions confirmed to be due to COVID-19	Number of deaths confirmed and categorized as caused by COVID-19
Metrics Used	• Cumulative case counts • Weekly new confirmed cases	• Cumulative hospital admissions • Monthly hospital admissions	• Cumulative fatalities • Weekly new deaths due to COVID-19 • Weekly excess deaths
Availability and Reliability	Case count data was inconsistent in early 2020 but became more reliable once mass testing became more available in the Summer of 2020.	Better data on hospitalizations is available starting August 2020, because hospitals were mandated to begin submitting data to the HHS.	Fatalities are generally the most reliable metric but are still subject to interstate reporting differences (particularly early-to-mid 2020).

COVID-19 devasted communities across America. In New Jersey, residents experienced this earlier and more intensely than many other states. At the pandemic's peak during the Initial Surge, there were roughly 27 deaths for every 100,000 people in New Jersey, devastating families and upending society. During this period, New Jersey had the second-highest death rate in the country. The 4 months of the Initial Surge represented almost half (44%) of all of New Jersey's deaths in the 2-year period that this report analyses. Even though the Initial Surge represented only a fraction of the total cases New Jersey would see by March 2022, the high fatality rate remains in the memories of many New Jersey residents.

As more scientific information about the disease became available, healthcare providers were better able to treat those who were sick. As a result, fatality rates improved in New Jersey and across the country. By the end of the Delta & Omicron wave, New Jersey's fatality rate had improved to one of the lowest in the country. Though New Jersey saw the highest concentration of

[3] See Chapter 4 Appendix A-2: Timeline of New Jersey COVID-19 Reported Cases.

cases during the Delta & Omicron wave (54% of all reported cases), it also saw its lowest share of fatalities (22%).

As shown below, while most cases in New Jersey occurred during the Delta & Omicron wave, hospitalizations and fatalities were at their highest levels during the initial and second surges and the three metrics peaked at roughly the same time within each surge period.[4] [5] [6]

Exhibit 4-3: New Jersey COVID-19 impacts across periods

Cumulative cases, hospitalizations, and fatalities in New Jersey per 100k population

	NJ COVID-19 impact across selected metrics (% Distribution across periods)			
	Cumulative Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
Cases reported (incidence)	23,666 (100%)	1,847 (8%)	9,094 (38%)	12,725 (54%)
Hospitalizations	1,789 (100%)	532 (30%)	694 (39%)	563 (31%)
Fatalities	347 (100%)	153 (44%)	117 (34%)	78 (22%)

Source: USAFacts, CDC

Reporting on fatalities

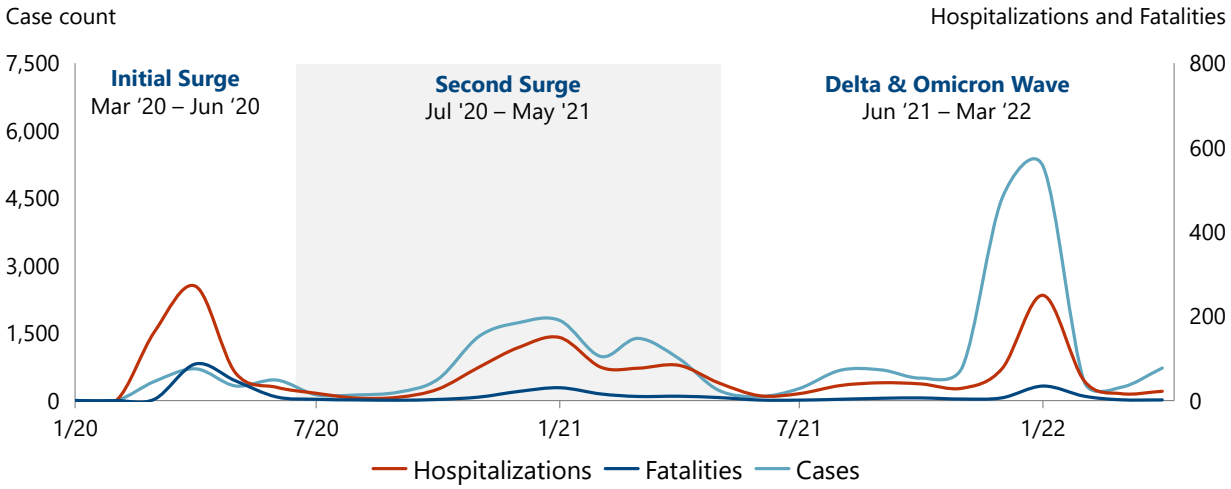
*Early reporting on fatalities was challenging because it was difficult to properly categorize COVID-19 deaths due to a lack of testing. Using Excess Deaths as an alternative method of recording deaths shows similar magnitude and timing of COVID-19 fatality peaks. Excess Deaths include those that have occurred, directly or indirectly, from COVID-19 and are an additional measure of disease progression with often fewer reporting issues.**

** Excess Deaths are calculated by the CDC as the difference between the actual number of deaths in a period and the estimate of expected deaths in that same period.*

[4] See Chapter 4 Appendix A-2: Timeline of New Jersey COVID-19 Reported Cases.
[5] See Chapter 4 Appendix A-3: Timeline of New Jersey COVID-19 Hospitalizations.
[6] See Chapter 4 Appendix A-4: Timeline of New Jersey COVID-19 Fatalities.

Exhibit 4-4: New Jersey trends in cases, hospitalizations, and fatalities

Weekly confirmed excess deaths, fatalities per 100k of New Jersey's total population



1. Total across time range
Note: The CDC COVID Data Tracker, which accounts for all confirmed hospital admissions in the US begins reporting hospital admissions in 08/2020 and was used as the source dataset from that period forward; for 01/2020-07/2020 the CDC Case Surveillance dataset was used, which includes hospitalization data for 36% of cases and accounts for ~50% of all known hospitalizations; hospitalization reporting by state ranges from 0-100% of cases (NJ reported hospitalization data for 90% of cases)
Source: CDC COVID Data Tracker; CDC COVID-19 Case Surveillance Public Use Data with Geography Data Dictionary- Public; CDC Provisional COVID-19 Deaths by Sex and Age- Public

Testing Reporting

Official reported case counts did not reflect the full scale of the disease across the country, as reporting was highly subject to testing availability.

In addition, early in the pandemic, only PCR testing was available. As technology developed and supply chains improved, rapid testing became available.

The data presented in this report is subject to the availability and accuracy of testing reporting by period. For example, in the Initial Surge, testing was slow to ramp up and varied significantly across states. During the Delta & Omicron wave, many people conducted home tests that were rarely reported to health authorities. As a result, case rates were severely undercounted in both periods.

As a result, this report relies on fatalities – which were closely tied to cases - to compare the relative severity of COVID-19 outbreaks across states when needed.

This trend was also seen across the United States. As hospitalizations increased, so did deaths, and these metrics were both linked to the number of COVID-19 infections in a particular state. In other words, states with higher case counts of COVID-19 experienced higher levels of fatalities, regardless of factors like state healthcare response or disease variations across geographies.[7]

While these metrics spiked at the same time throughout the

[7] See Chapter 4 Appendix A-13: Comparative Ranking of Cases, Hospitalizations, and Fatality Rates across Periods (New Jersey, Peer States and U.S.) and Chapter 4 Appendix A-6: Relationship between U.S. Average Case Counts, Hospitalizations, and Fatalities across periods.

pandemic, as the pandemic progressed, for a given number of people that became infected, fewer were hospitalized, and fewer died. This change reflects various contributing factors, including the virus's mutation, the introduction of vaccines, improved treatment methods, and earlier medical response.[8]

4.1.4 New Jersey Health Outcomes Compared to Other States

In the first few months of the pandemic, New Jersey had significantly more COVID-19 cases than other states. For example, in the Initial Surge period (March 2020 to June 2020), New Jersey had the second-highest levels of COVID-19 cases per 100,000 people of all U.S. states (shown below as ranking 49th of 50 states; this report consistently uses "1st" as "best" and "50th" as "worst" depending on the metric). Even compared to other states with significant initial outbreaks, New Jersey, along with New York, had meaningfully higher levels of COVID-19. As discussed earlier in this section, this was primarily caused by factors like geography (the first major outbreak of COVID-19 in the United States was in New York City) and the states' high population density.

In later surges, New Jersey's case rates improved. In the first surge, New Jersey ranked 49th (second-highest level of COVID-19, 1,847 cases per 100k population). By the second surge, New Jersey ranked 21st out of all states (9,901 cases/100k) and 12th by the time the Delta & Omicron wave (12,739).[9] It is important to note that the increasing case rates over time reflect both the mutation of the disease (it became more transmissible and less deadly) as well as improved identification of cases through increased testing availability.

These high levels of COVID-19, particularly in the Initial Surge period, translated to higher hospitalization and fatality rates in New Jersey. For example, during the Initial Surge, New Jersey had higher hospitalizations than almost all other states.[10] This ranking improved by later stages; by the Delta & Omicron wave, New Jersey's hospitalization rates were in line with its peers (7th) and above the U.S. average (16th). As a result of high levels of COVID-19 in this initial period, New Jersey had higher cumulative hospitalizations than most of the U.S. (it ranked 42nd).[11]

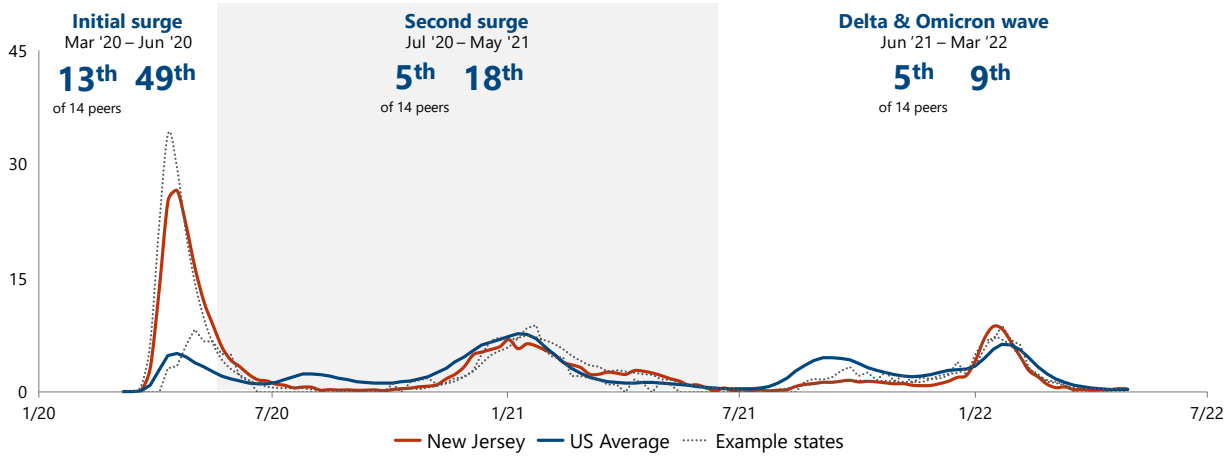
The high levels of cases and hospitalizations, particularly in the Initial Surge period, are reflected in fatalities as well.[12] For example, New Jersey experienced the second-highest national rate of fatalities in the Initial Surge. Only New York – which was at the heart of the COVID-19 outbreak in this period – saw more fatalities. However, as the pandemic progressed and as medical science

[8] See Chapter 4 Appendix A-8: Comparison of New Jersey, Peer State, and U.S. Reported COVID-19 Cases by Period.
[9] See Chapter 4 Appendix A-8: Comparison of New Jersey, Peer State, and U.S. Reported COVID-19 Cases by Period.
[10] See Chapter 4 Appendix A-2: Timeline of New Jersey COVID-19 Reported Cases.
[11] See Chapter 4 Appendix A-8: Comparison of New Jersey, Peer State, and U.S. Reported COVID-19 Cases by Period.
[12] See Chapter 4 Appendix A-10: Comparison of New Jersey, Peer State, and U.S. Hospitalizations by Period.

learned effective treatments, and as vaccines became available,[13] fatality rates significantly improved in New Jersey. By the end of the Delta & Omicron wave 2 years later, New Jersey had moved to having one of the lowest fatality rates in the United States.[14]

Exhibit 4-4: New Jersey fatality rates compared to the U.S.

Weekly COVID-19 deaths per 100k of total population1 for NJ and example peer states[2], including NJ rank within time periods[3]



Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a higher rate of illness or deaths than the other 49 states.

1. Count of death certificates mentioning COVID -19 anywhere (as underlying or multiple cause of death) 2. DE and NY were chosen as examples because they ranked 1 st and last, respectively, of the 14 Initial Outbreak states for cumulative COVID fatalities in the Initial Surge. 3. Ranked by average of weekly COVID fat alities per 100K across each day in time range
Source: CDC WONDER Multiple Cause of Death Database ; US Census

Differences in states' populations impacted the number of COVID-19 fatalities in those states. Because older adults and those with pre-existing conditions are more likely to experience severe symptoms of COVID-19 and die, states with older populations or high levels of chronic disease would have higher fatalities. Research since 2020 has shown that states with an older population, or with higher rates of heart disease, have more COVID-19 fatalities. As a result, other researchers have attempted to create a normalized comparison of COVID-19's impact between states by incorporating information on age and health conditions into fatality rates. One study published in *The Lancet*[15] adjusted COVID-19 fatality rates for age and co-morbidities. Though many states

[13] In later surges, vaccination rates played a role in decreasing disease severity and fatalities. New Jersey had a comparatively higher vaccination rates than many other U.S. states, partially explaining lower fatalities even as COVID-19 cases remained high.

[14] See Chapter 4 Appendix A-12: Comparison of New Jersey, Peer State, and U.S. Fatalities by Period.

[15] Bollyky, Thomas J, et al. "Assessing covid-19 pandemic policies and behaviors and their economic and educational trade-offs across US states from Jan 1, 2020, to July 31, 2022: An observational analysis." The Lancet, vol. 401, no. 10385, 23 Mar. 2023, pp. 1341–1360, https://doi.org/10.1016/s0140-6736(23)00461-0

changed their relative ranking, New Jersey's relative rank did not change even when adjusted for age and co-morbidities.[16]

[16] Death rates used in this study were taken from the Institute for Health Metrics and Evaluation's (IHME) COVID-19 modeling database and were adjusted by the authors to account for under-reporting. As a result, numbers and the associated relative rankings differ from fatalities totals used in this report, which were extracted directly from the CDC.

Exhibit 4-5: Age and Co-morbidity Adjusted Fatality Rates Across States

State	Unadjusted deaths per 100,000 population	Age profile	Comorbidity profile	Standardized deaths per 1000,000 population	Change of rank
Hawaii	119 (1)	-16	+45	147 (1)	=
New Hampshire	218 (2)	-20	+16	215 (2)	=
Maine	270 (7)	+53	+1	218 (3)	↗
Vermont	231 (5)	-34	+51	249 (4)	↗
Maryland	287 (11)	+4	-6	285 (5)	↗
Washington	221 (4)	+10	+55	286 (6)	↘
Connecticut	307 (14)	-46	+32	293 (7)	↗
Ohio	407 (36)	-28	-86	293 (8)	↗
Pennsylvania	396 (33)	-58	-41	297 (9)	↗
Nebraska	184 (9)	-5	+19	298 (10)	↘
Delaware	384 (29)	-31	-41	311 (11)	↘
Florida	416 (38)	-67	-36	313 (12)	↗
Rhode Island	352 (23)	-40	+9	321 (13)	↗
West Virginia	575 (51)	-97	-155	322 (14)	↗
New York	384 (31)	-27	-33	325 (15)	↗
Michigan	438 (40)	-33	-79	326 (16)	↗
North Dakota	332 (20)	-21	+16	328 (17)	↗
Oregon	285 (10)	-23	+68	330 (18)	↘
Indiana	403 (35)	+14	-85	332 (19)	↗
Virginia	316 (17)	+17	+3	336 (20)	↘
Kentucky	472 (41)	+10	-140	341 (21)	↗
Wisconsin	310 (16)	-21	+51	341 (22)	↗
Missouri	426 (39)	-26	-58	342 (23)	↗
Illinois	331 (19)	-1	+12	342 (24)	↘
Minnesota	257 (6)	-4	+90	342 (25)	↘
Iowa	341 (22)	-36	+39	344 (26)	↗
North Carolina	359 (25)	+4	-15	348 (27)	↘
South Dakota	354 (24)	-32	+32	354 (28)	↘
Massachusetts	317 (18)	-21	+58	355 (29)	↘
New Jersey	384 (30)	-17	+3	370 (30)	=
Kansas	379 (28)	-4	-4	371 (31)	↘
Louisiana	491 (43)	+42	-147	385 (32)	↘
Arkansas	472 (42)	-10	-62	400 (33)	↘
Oklahoma	493 (44)	+16	-97	412 (34)	↘
South Carolina	495 (45)	-2	-78	415 (35)	↘
California	291 (12)	+20	+107	418 (36)	↘
Montana	392 (32)	-47	+75	420 (37)	↘
Tennessee	503 (46)	+8	-90	421 (38)	↘
Wyoming	366 (27)	+0	+56	422 (39)	↘
Alabama	540 (49)	+0	-110	429 (40)	↘
Texas	364 (26)	+89	-24	429 (41)	↘
Alaska	271 (8)	+99	+73	443 (42)	↘
Georgia	413 (37)	+74	-41	447 (43)	↘
Nevada	403 (34)	+35	+14	453 (44)	↘
Utah	219 (3)	+102	+146	467 (45)	↘
Idaho	336 (21)	+34	+99	469 (46)	↘
Colorado	293 (13)	+43	+137	473 (47)	↘
Mississippi	551 (50)	+25	-88	488 (48)	↘
New Mexico	510 (47)	-32	+42	521 (49)	↘
District of Columbia	309 (15)	+66	+152	526 (50)	↘
Arizona	539 (48)	-11	+53	581 (51)	↘

Note: Cumulative death rate standardization, Jan 1, 2020, to July 31, 2022

4.1.5 Variations in Health Outcomes for Populations Within New Jersey

4.1.5.1 65+ Population

Older individuals had a higher risk of experiencing severe symptoms after contracting COVID-19.[17] As a result, the 65+ population became a focus of state and national health departments for tracking outcomes, promoting vaccination, and overall attempts to save lives.

While older individuals caught COVID-19 at similar rates,[18] their higher-risk profile meant they made up a significant portion of total hospitalizations and fatalities.[19] Several factors contributed to the fact that people aged 65+ were more likely to die from COVID-19, including:

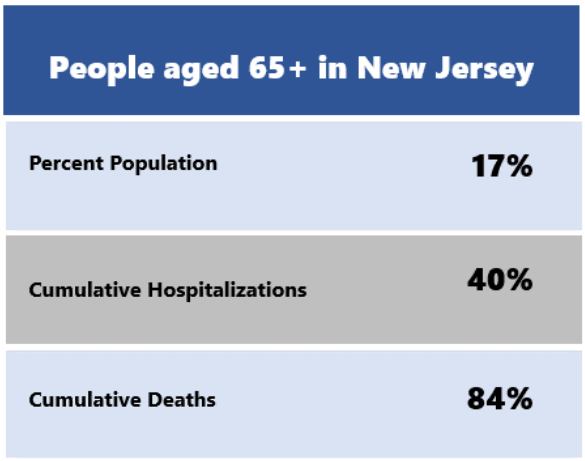
- Weaker immune systems and other chronic health conditions: As people age, their immune system weakens, making it harder to fight off infections. Additionally, older adults are more likely to have chronic conditions like heart disease, diabetes, and lung disease. Both the regular aging process and chronic conditions can lead to reduced lung capacity, a key factor in determining the severity of the disease's progression.
- Social factors: Older adults were more likely to be exposed to the virus in social settings like nursing homes or other congregate care facilities or multigenerational housing.
- Delayed treatment: Older adults might delay seeking treatment due to mobility issues, lack of access, or not recognizing symptoms.

[17] See Chapter 4 Appendix A-16: Timeline of US Share of Hospitalizations and Fatalities from 65+ Population.
[18] See Chapter 4 Appendix A-15: Comparison of Share of COVID-19 Cases Made up of Individuals 65+ (New Jersey, Peer States, and U.S.
[19] See Chapter 4 Appendix A-16: Timeline of New Jersey Share of Hospitalizations and Fatalities from 65+ Population.

Exhibit 4-6: Share of Hospitalizations and Fatalities from 65+ Population by Period

	Hospitalizations per 100k for 65+ as a % of total hospitalizations				Fatalities per 100k for 65+ as a % of total fatalities			
	Cumulative Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22	**Cumulative** Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
New Jersey	40% 9th 3rd (Peers)	42% 20th 2nd (Peers)	42% 7th 3rd (Peers)	36% 8th 3rd (Peers)	84% 44th (US) 11th (Peers)	85% 50th (US) 14th (Peers)	85% 16th (US) 5th (Peers)	81% 12th (US) 7th (Peers)
Initial outbreak states average	46%	47%	47%	44%	72%	66%	77%	68%
US Total	46%	45%	48%	44%	78%	85%	83%	70%

1. Rankings based on how large the share of total hospitalizations/fatalities belonging to the aged 65+ population is.
Source: CDC; BCG analysis



65+ population

Older individuals caught COVID-19 at similar rates to the rest of the population. While the 65+ population formally made up a large percentage of recorded COVID-19 cases during the Initial Surge, this was largely because targeted testing prioritized people who were at higher risk.

Throughout the pandemic, the 65+ population represented just under half of COVID-19-related hospitalizations, despite being a small percentage of the population. This percentage was highest in the Initial Surge but decreased during the Delta & Omicron surge, reflecting higher vaccinations among this age group. The rate of hospitalizations for the 65+ populations in New Jersey was similar to, or lower than, those of other U.S. states.

The health risks of COVID-19 for older populations were most notable in fatalities – 84% of New Jersey's fatalities came from the 65+ population. As with hospitalizations, this percentage decreased over time. The rate of fatalities started at 85% in the Initial Surge but fell slightly to 81% during the Delta & Omicron wave.

Particularly in the first surge, New Jersey saw a higher proportion of fatalities from the 65+ population than other states. Over time, this improved, and by the Delta & Omicron wave, the

proportion of fatalities from the 65+ population was 12th compared to other states and 7th compared to peers.[20]

4.1.5.2 Long-term care facilities (LTCFs)

In New Jersey, adults living in congregate care settings had a fatality rate around 10 times higher than that of the 65+ population and drove many of the deaths in this age grouping. Congregate care settings include nursing homes and other long-term care facilities, where a large portion of the population over the age of 80 live. Throughout the pandemic, nursing homes represented about 30% of cumulative deaths in the 65+ population with the share of deaths peaking at 45% during the Initial Surge. While New Jersey saw a lower percentage of deaths in the 65+ age grouping from nursing homes than other states, nursing homes drove almost half of all deaths in the 65+ population across the country in the Initial Surge.

Exhibit 4-7: Comparison of New Jersey Nursing Home Deaths as a % of 65+ Population Deaths Across Periods

Cumulative COVID-19 nursing home fatalities as a percentage of cumulative COVID-19 fatalities for the 65+ population

	Nursing home deaths as % of total 65+ deaths			
	Cumulative Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
New Jersey	30%	45%	24%	10%
Initial Outbreak States	34%	57%	37%	12%
U.S. Total	30%	49%	39%	11%

Source: CMS COVID-19 Nursing Home Data, CDC

Cumulatively, this rate of nursing home deaths was higher than other initial outbreak states and the U.S. total. This was driven by New Jersey seeing disproportionately more deaths per capita in Initial Surge, even compared to states that had higher levels of fatalities amongst their general population during this time. In the Initial Surge, New Jersey ranked 49th compared to all other

[20] See Chapter 4 Appendix A-16: Timeline of New Jersey Share of Hospitalizations and Fatalities from 65+ Population.

states. In subsequent COVID-19 surges, New Jersey's nursing home fatality rate consistently fell among the 10 best states.

Exhibit 4-8: Comparison of New Jersey, Peer State, and U.S. LTCF Fatalities by Period

Cumulative COVID-19 fatalities per 100k of nursing home population

Numbers are not absolute; scaling to 1,000 of population

	Total nursing home fatalities per 100k			
	Cumulative Jan '20 – Mar '22	**Initial Surge**[1] Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
New Jersey	16,256 43rd (US) 10th/14 (Peers)	10,511 49th (US) 13th/14 (Peers)	4,525 5th (US) 2nd/14 (Peers)	1,219 7th (US) 5th/14 (Peers)
Initial Outbreak States	14,393	5,058	7,740	1,595
U.S. Total	13,663	2,958	8,833	1,872

1. Total number of residents calculated as an average of occupancy over entire period. 2. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include cases and fatalities as early as 1/1/20.
Source: CMS COVID-19 Nursing Home Data

This trend was similar in veterans' homes, a subset of the long-term care facilities just discussed. New Jersey's cumulative fatality rate for veterans' homes ranked 32nd in the U.S.

Exhibit 4-9: Comparison of New Jersey, Peer State, and U.S. Veteran Home Fatalities by Period

Cumulative COVID-19 fatalities per 1k of veteran nursing home population[1]

Numbers are not absolute; scaling to 1,000 of population

	Total veteran nursing home fatalities per 1k residents			
	Cumulative Jan '20 – Mar '22	**Initial Surge**[2] Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
New Jersey	207 32nd/38 (US) 8th/11 (Peers)	146 36th/38 (US) 9th/11 (Peers)	32 13th/38 (US) 6th/11 (Peers)	29 31st/38 (US) 10th/11(Peers)
Initial Outbreak States[3]	157	61	79	17
U.S. Total[4]	132	33	82	18

Note: Weekly trends not visualized due to low numbers of cases and fatalities.
1. Total number of residents calculated as an average of occupancy over entire period; 2. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include fatalities as early as 1/1/20; 3. Includes the 11 initial outbreak states with certified veteran nursing homes that report data; 4. Includes all 38 states with certified veteran nursing homes that report data.
Source: CMS COVID-19 Nursing Home Data

Chapter 6 of this report covers health impacts to congregate care, including long-term care facilities and veteran homes in detail.

4.1.5.3 Correctional facilities

Correctional facilities are another major State-run congregate setting. New Jersey's cumulative fatality rate for incarcerated individuals ranked 43rd compared to other states. This was driven by high fatalities in the Initial Surge that were almost double the fatality rate seen in the general population (277 deaths for every 100k people, as opposed to 146 deaths in the general population). By the Second Surge, the fatality rate in New Jersey correctional facilities had decreased to one of the best in the country and below the general population's fatality rate during this same period (65 fatalities for every 100k people, as opposed to 112 in the general population). This was potentially aided by New Jersey's efforts to vaccinate incarcerated individuals who were made eligible for vaccination early in the vaccination campaign.

Exhibit 4-10: Comparison of New Jersey, Peer State, and U.S. Correctional Facility Fatalities by Period

Cumulative COVID-19 cases per 100k of correctional facility population

Numbers are not absolute; scaling to 100k of population

	Total correctional facility fatalities per 100k			
	Cumulative Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
New Jersey	342 43rd (US) 12th/14 (Peers)	277 50th (US) 14th/14 (Peers)	65 4th (US) 2nd/14 (Peers)	
Initial Outbreak States	258	64	193	*Data for Delta/Omicron period not available*
U.S. Total[1]	235	52	182	

1. Includes Federal correctional facilities.
Note: The Marshall Project data was collected from prison agencies directly and verified with officials. Incarceration data includes adult and juvenile state facilities, federal facilities, and immigration detention facilities. The Marshall Project did not include data for Delta and Omicron stage (Jun '21 – Mar '22).
Source: The Marshall Project

Chapter 6 of this report covers health impacts to congregate care, including correctional facilities, in additional detail.

4.1.5.4 Race/Ethnicity

Given existing racial/ethnic health inequities prior to the pandemic, the health impacts were not felt equally across racial and ethnic groups within New Jersey. For example, many racial and ethnic minorities are more likely to live in multigenerational households or congregate living situations and are more likely to be essential workers who had to continue going to and from work, both of which contribute to the spread of COVID-19. In addition, baseline chronic diseases like diabetes and hypertension are higher amongst these communities and are significant co-morbidities for COVID-19. Areas with higher rates of racial and ethnic minorities also tend to have under-resourced health care systems. As a result, these communities tend to have significantly higher rates of COVID-19 prevalence and morbidity.

This report examines the pandemic's impacts on different demographic groups. Because reliable and comparable data does not exist for all 50 states, this analysis has been conducted for New Jersey only and selected other states that also report robust data on race and ethnicity.

Some of the challenges with analyzing the impact of COVID-19 on different racial and ethnic groups across states include:

- Collecting demographic data. Race and ethnicity data was not collected for all cases, hospitalizations, or fatalities reported, and was inconsistently tracked across periods of the pandemic. For example, during the peak of the crisis, healthcare providers prioritized administering emergency care over data collection.
- Group classification. Race and ethnicity definitions, such as distinctions between Hispanic as an ethnicity rather than a racial category, were not uniform across states and contributes to miscounting or gaps in data.
- Consistency of state reporting. Because data collected by states differed in definition, scope, consistency, and accuracy, cross-state comparisons are not always possible.
- Age pyramids across racial and ethnic groups: Data show that case and fatality rates did vary by race and ethnic group, reflecting long-standing health inequities and differences in access to care. However, data also show that age was an even stronger predictor of fatality rate than race or ethnicity. Differences in the age structure of racial groups by state complicate comparisons. For example, 6% of New Jersey's Hispanic population is aged 65+, vs 11% in Florida, contributing to differences in fatality rates in those states. There is no comprehensive dataset that allows simultaneous comparison by race/ethnicity and age across states.

Despite these challenges, it is still possible and important to draw conclusions from available information. In New Jersey, Black residents saw higher cumulative per-capita fatality rates than any other racial group. This trend was most notable in the Initial Surge, in which Black per-capita fatalities were 40% higher than White fatalities and almost triple the fatality rate for Asian residents. This disparity reflects underlying inequities in healthcare access and outcomes pre-dating COVID-19 and persisting today. It also reflects the fact that Black New Jerseyans were more likely to have jobs that put them at risk of contracting COVID-19, including essential work.

Racial inequities in health impacts were present despite age differences. As discussed, most fatalities in New Jersey across all time periods were concentrated in New Jersey's 65+ population. Despite this, White residents had lower per-capita fatalities in the Initial Surge despite having a higher share 65+ individuals than their Black and Hispanic counterparts (22% of White residents in New Jersey are over 65, compared to 13% of Black residents and just 8% of Hispanic residents). Asian residents also had significantly lower fatality rates than Black and Hispanic residents, despite having a similar share of the population who was 65 years or older (12%). Although White fatality rates decreased faster than other racial and ethnic groupings in later surges, this may reflect higher primary series, booster, and bivalent booster vaccination rates among the 65+ population (as outlined in the Vaccinations section of this chapter).

Exhibit 4-11: Breakdown of fatalities by race in New Jersey

NJ not ranked against other states due to inconsistencies in race/ethnicity categorization and reporting across states and inability to account for differences in age

	Fatalities per 100k[2]			
	Cumulative Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
Asian	138	77	44	17
Black	379	207	128	43
Hispanic[1]	254	133	85	37
White	244	147	97	0
Total NJ Population	259	141	98	20

1. Collected data grouped Hispanic into a racial identification rather than an ethnicity. 2. 4% of cumulative fatalities are included in totals but excluded from racial group reporting. Other racial groups include but are not limited to American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and people who identify with more than one race.
Note: Initial Surge fatalities are based off cumulative data on July 7, 2020, due to missing data at the end of June '20.
Source: DOH data; US Census 2020.

4.2 Vaccination Outcomes

4.2.1 Section Overview

The COVID-19 vaccination campaign was one of the largest public health efforts ever undertaken. State governments were responsible for quickly and equitably rolling out a primary series of vaccinations, followed by boosters, to nearly their entire populations. Vaccinations were a critical element of the public health response to the pandemic – they helped decrease COVID-19's severity and significantly reduced the likelihood of death.

New Jersey was at the forefront of the rush to vaccinate the U.S.; once vaccines became available, New Jersey was able to quickly – and equitably – roll out an effective vaccination campaign. As a result, New Jersey was able to achieve high primary series and booster vaccination rates across different ages, geographies, and demographics, which no doubt played a large role in the substantial improvement in health outcomes seen in New Jerseyans as time went on.

This section provides insights into:

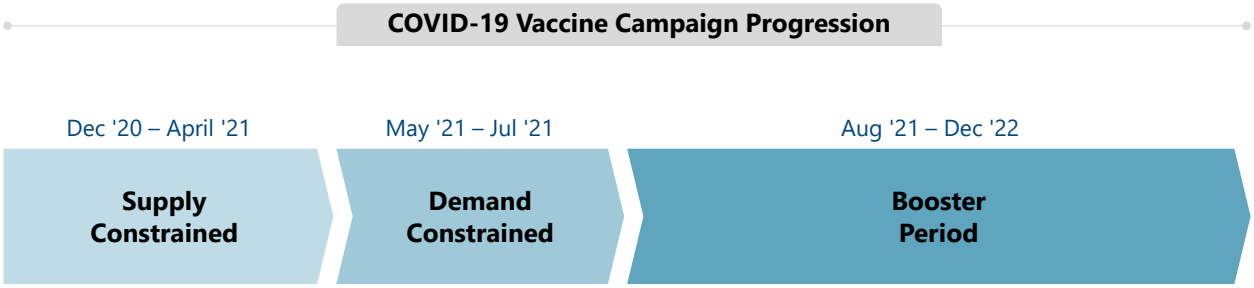
- New Jersey's initial vaccination rollout.
- New Jersey's ongoing maintenance of vaccine coverage.
- Vaccination differences across New Jersey's population, including adolescents and pediatrics, the 65+ population, counties within New Jersey (using the CDC's county-level Social Vulnerability Index [SVI]), and racial/ethnic groups.

In addition, this section considers New Jersey's vaccination eligibility timelines and the disproportionate impact of COVID-19 across different communities. The following were considered:

- 65+ population
- Adolescent and pediatric populations
- Counties (using SVI)
- Racial and ethnic groups

New Jersey's COVID-19 vaccine campaign had three distinct phases.

Exhibit 4-12: Timeline of vaccine rollouts



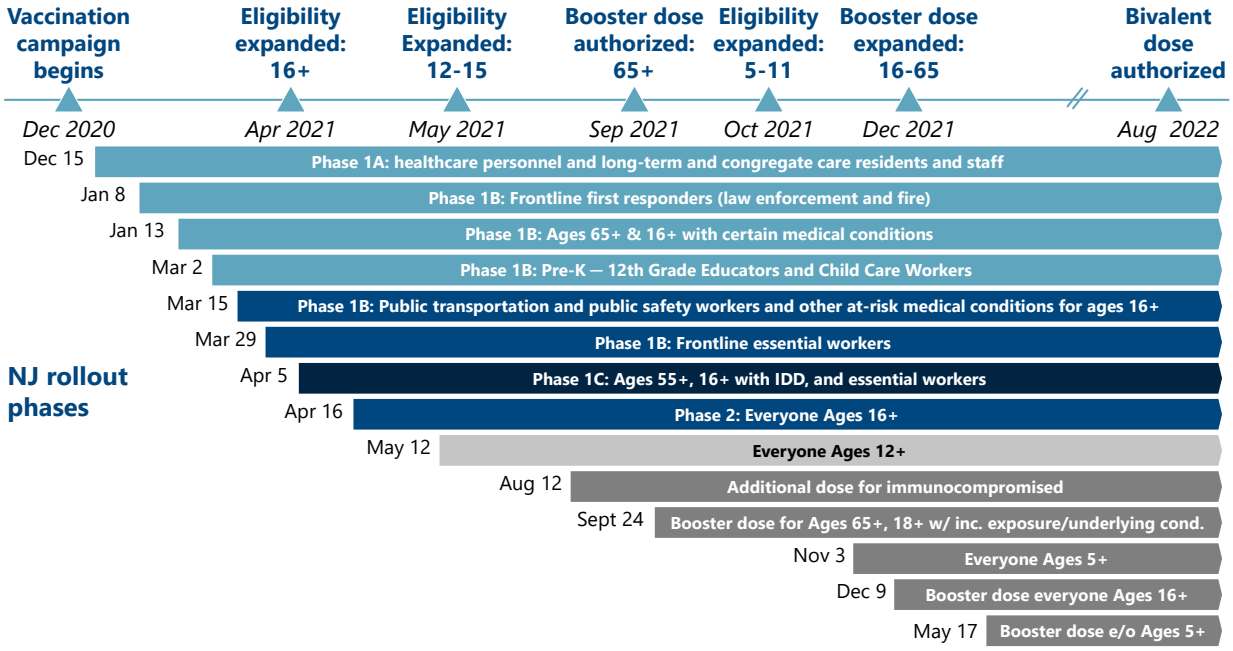
1. Supply-constrained period (December 2020 to April 2021): In this period, vaccines were limited, and there were unique operational challenges. All states had to make prioritization decisions about which residents would be eligible to receive the limited supply of vaccines.
2. Demand-constrained period (May 2021 to July 2021): In this period, vaccine availability was no longer constrained. Instead, states were limited by vaccine hesitancy rates and operational constraints, such as the number of providers who had signed up to help administer vaccines.
3. Booster period (August 2021 to December 2022): Once booster shots were approved, states had to ensure a rapid rollout of additional doses to address waning vaccine coverage levels. States also continued to face issues with hesitancy that impacted the 'last mile' of primary series vaccine uptake. In this section, New Jersey's vaccination rates are compared to all 50 states as well as to peer states with similar levels of vaccine hesitancy.

Additional detail on what New Jersey did to administer the vaccine, including boosters and pediatric vaccination, is presented in Section 5.10 Vaccinations. This includes a detailed chronology of the rollout, analysis of the key decisions New Jersey made, a comparison to other states and an evaluation of which aspects were effective.

4.2.2 New Jersey's Vaccination of its Population When Supply Was Constrained

As part of the Federal Government's response to COVID-19, the first vaccine became available on December 15, 2020. However, initial supplies were limited. To manage the limited supply efficiently, states had to design a phased approach to vaccine rollout that made certain groups – like healthcare workers and elderly residents – eligible for vaccinations earlier than others. Limited eligibility for the COVID-19 vaccine lasted approximately 5 months. By the end of April 2021, the vaccine became available to the adults across all states.

Exhibit 4-13: Timeline of New Jersey Vaccine Eligibility Phases



Note: Pfizer authorizations (first doses + boosters) were for ages 16+ while Moderna was only authorized for 18+
Source: COVID-19 Vaccination Plan New Jersey, December 15, 2020

Note: Pfizer authorizations (first doses + boosters) were for ages 16+ while Moderna was only authorized for 18+; Source: COVID-19 Vaccination Plan New Jersey, December 15, 2020

Each state was responsible for establishing eligibility groups for each phase of its vaccination campaign. These groupings were informed by CDC guidance; however, this guidance was often vague and left room for individual state interpretation (for example, the definition of "essential workers"), which required states to issue their own, more detailed guidance.

Exhibit 4-14: Examples of New Jersey vaccine prioritization compared to other states

Primary series vaccination eligibility criteria, Example states as illustration

CDC Prioritization Tier

	CDC Guidance[2]	New Jersey	Pennsylvania	California	Florida
1A	• Healthcare personnel[1] • Long-term care facility (LTCF) residents	• Healthcare personnel • LTCF residents	Phase 1A: Tier 1 • Healthcare personnel • LTCF residents • Adults ≥ 65 years • Individuals 16-64 with high-risk condition	• Healthcare personnel • LTCF residents	• Healthcare personnel • Adults ≥ 65 years • Adults 18-64 w/ underlying medical condition
1B	• Frontline essential workers (FEW) in police & fire, education, food & ag, grocery, childcare, postal • Adults ≥ 75 years	• FEW in police & fire • Adults ≥ 65 years • Individuals 16-64 with high-risk condition	Phase 1A: Tier 2 • FEW in police & fire, emer. services, education, food & ag, grocery	Phase 1B: Tier 1 • FEW in police & fire, education, food & ag, grocery, childcare • Adults ≥ 65 years	Phase 1B • FEW ≥ 50 years in police, fire & emer. services, K-12 education
1C	• Other essential workers • Adults 65-74 years • Individuals 16-64 with high-risk condition	• FEW in public transportation, education, childcare	Phase 1B • FEW in public transportation, clergy, postal, childcare	Phase 1B: Tier 2 • FEW in public transportation, social services, clergy • Individuals 16-64 with high-risk condition	Phase 1C • All adults 60 years

1. Defined as workers (paid or unpaid) in healthcare settings with the potential for direct or indirect exposure to COVID-19 2. CDC guidance from the National Governors Association, based on Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) recommendations

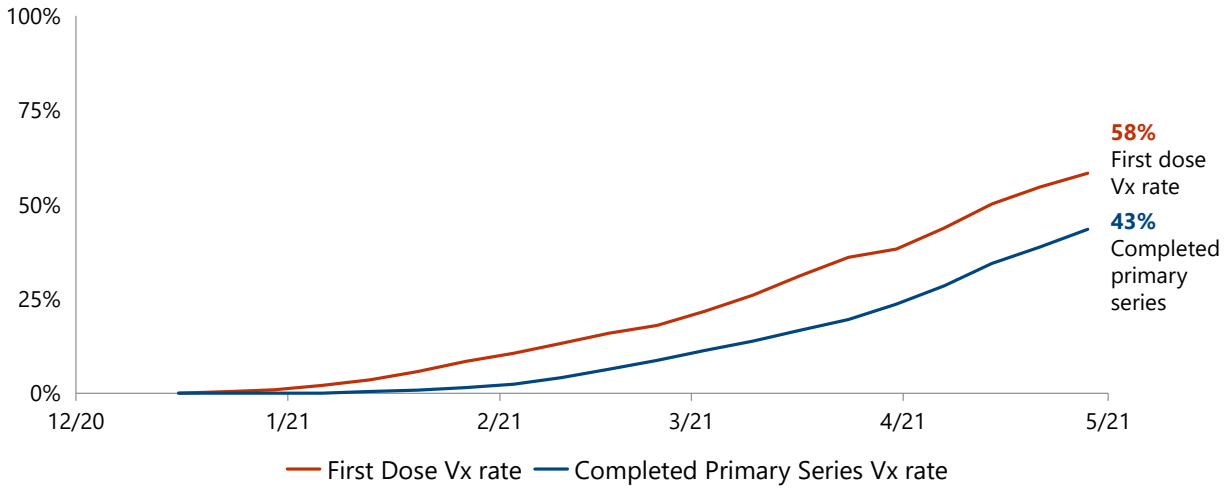
Early in the vaccination campaign, there was less variation across states in who was eligible. Almost all states, including New Jersey, prioritized vaccinating healthcare personnel and long-term care facility residents (LTCFs). In early 2021, when Phase 1B began, states began to vary more from each other, and the CDC, when it came to:

- The 65+ population and the population of those with high-risk conditions, as some states prioritized their vaccinations earlier, or later, than CDC guidance suggested.
- Essential workers, which states often defined at a more granular level than CDC guidance.

By the end of the supply-constrained vaccination phase in April 2021, New Jersey had reached a 58% first-dose vaccination rate, and 43% of the 18+ population had completed their primary series.[21]

Exhibit 4-15: Timeline of New Jersey Vaccination Rates during Supply Constrained Era

Percentage of 18+ population vaccinated with first dose and completed primary series vaccinations



Source: CDC COVID-19 Vaccinations in the United States,Jurisdiction

High vaccination rates resulted from a successful operational rollout. All states received limited Federal vaccine supplies, pro-rated based on their population sizes, and were responsible for distributing those shots as efficiently as possible. Vaccine throughput (the share of distributed Federal vaccine supplies that were actually administered to residents by each state) was an important determinant of state vaccination rates. Variations in throughput rate show differences in states' operational capabilities to administer shots.

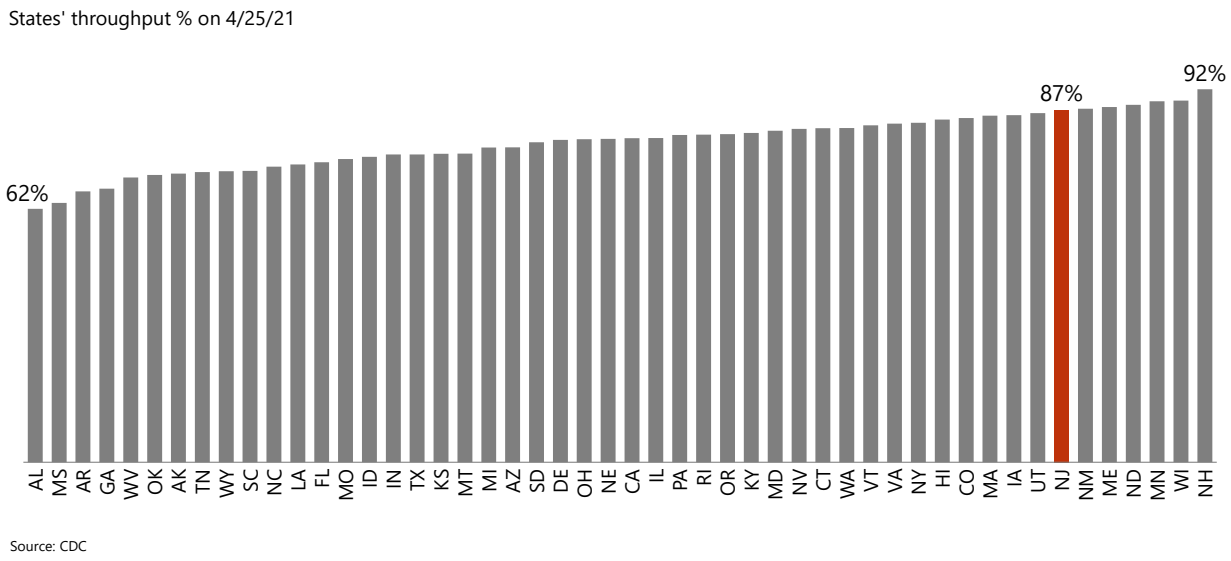
States with higher throughput vaccinated more people relative to the supply they were given. New Jersey was in the top 20% of states in vaccine throughput.[22] This achievement was a major factor in the overall success of New Jersey's vaccination program during this period.

[21] See Chapter 4 Appendix B-1: Comparative Timeline of New Jersey and U.S. Vaccine Throughput in Supply Constrained Period.

[22] See Chapter 4 Appendix B-1: Comparative Timeline of New Jersey and U.S. Vaccine Throughput in Supply Constrained Period.

Exhibit 4-16: Comparison of Vaccine Throughput Across States by End of Supply Constrained Period

States' throughput percentage in April 2021



Source: CDC

4.2.3 New Jersey's Vaccination of its Population When Supply Constraints Were Lifted

Around May 2021, the vaccination campaign shifted from being supply-constrained to demand-constrained. This "demand-constrained phase" of vaccination, was characterized by:

- A ramp-up in the production of vaccines, which meant they were more readily available to residents who also had a choice regarding which vaccines they received.
- The maturing of distribution channels, allowing for appointment availability to overtake the demand for vaccines.
- Expansion of eligibility to the adult population.

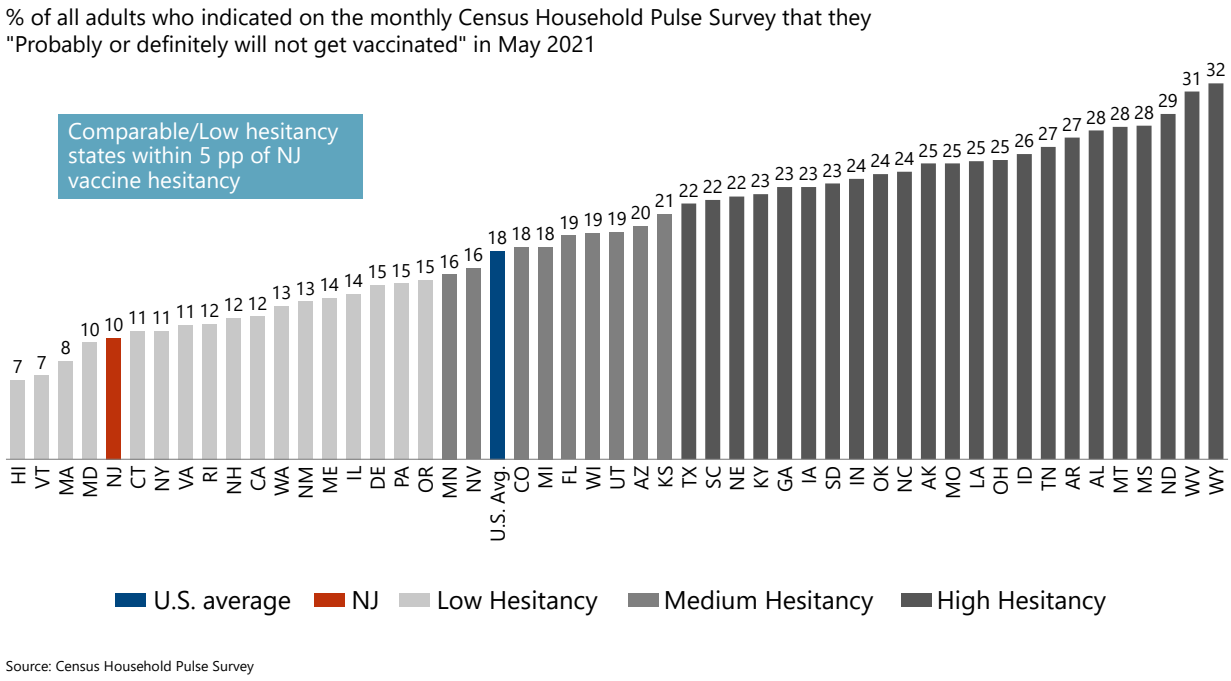
The increase in vaccine supply allowed states to shift their focus from ramping up vaccination capabilities to encouraging residents to register for vaccinations. During this period, the success of a state's vaccination campaign was influenced less by operational efficiency and more by the levels of vaccine hesitancy and access within each state.

At the beginning of the demand-constrained period in May 2021, New Jersey residents had among the highest willingness rates in the United States to be vaccinated – only 10% of residents surveyed in the Census' Household Pulse Survey indicated that they "probably or definitely will not get vaccinated." By contrast, other states surveyed had levels of hesitancy reaching as high as 32%.

Given the wide variation in vaccine hesitancy levels, states' vaccination campaigns and their final vaccination rates should be considered in the context of how willing their populations were to get

vaccinated. This section compares New Jersey to states with similar levels of hesitancy in May 2021, when the demand-constrained period began. During this period, 17 states had levels of vaccine hesitancy within 5 percentage points of New Jersey's.

Exhibit 4-17: Vaccine Hesitancy Across States at Beginning of Demand Constrained Period

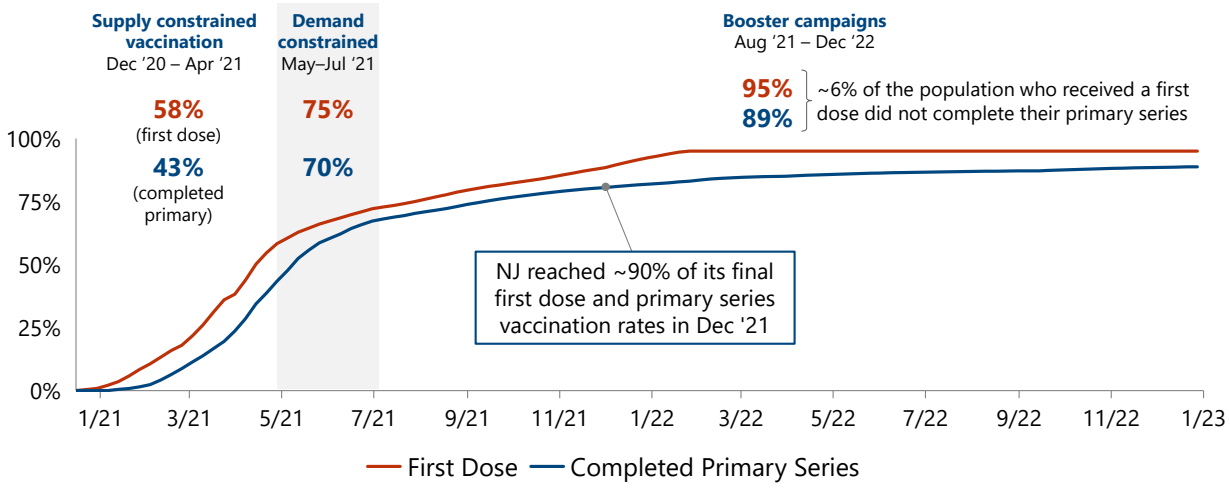


Source: Census Household Pulse Survey

By December 2021 – only 6 months after the shift to demand-constrained vaccination campaign – New Jersey had already reached approximately 90% of the total first dose and primary series vaccinations that it would administer by the end of the pandemic. Vaccine rates leveled off and remained relatively stable by mid-2022. By the end of December 2022, New Jersey had reached a first dose and primary series vaccination rate of 95% and 89%, respectively.

Exhibit 4-18: Timeline of New Jersey First Dose and Completed Primary Series Vaccination Rates

% of 18+ NJ population vaccinated with first dose and completed primary series. Including final vaccination rate at end of each period.



Source: CDC COVID-19 Vaccinations in the United States,Jurisdiction

New Jersey achieved first dose and completed primary series vaccination rates above the U.S. average and in line with most states that had comparable initial hesitancy levels.[23] By the end of December 2022, New Jersey had completely vaccinated 89% of its adult population. This was in line with the 85% vaccination rate that states with comparable hesitancy levels reached and almost 10 percentage points higher than the 78% vaccination rate across the United States.

Changing hesitancy

State and national public health campaigns were an essential tool in addressing vaccine hesitancy and combating misinformation. These efforts are reflected in the overall decrease in vaccine hesitancy across the United States (from 18% to 10% between May 2021 and December 2022).

New Jersey's vaccine hesitancy rates decreased at a comparable speed and degree to other states during the same period (from 10% to 2%).

[23] See Chapter 4 Appendix B-3: Comparison of New Jersey, Peer State, and U.S. First Dose Vaccinations Across Periods.

Exhibit 4-19: Comparison of New Jersey, Peer State, and U.S. Primary Series Vaccination Rates across Periods

% of 18+ population vaccinated with the full primary series, including NJ's rank against its peers[1] and U.S. Total

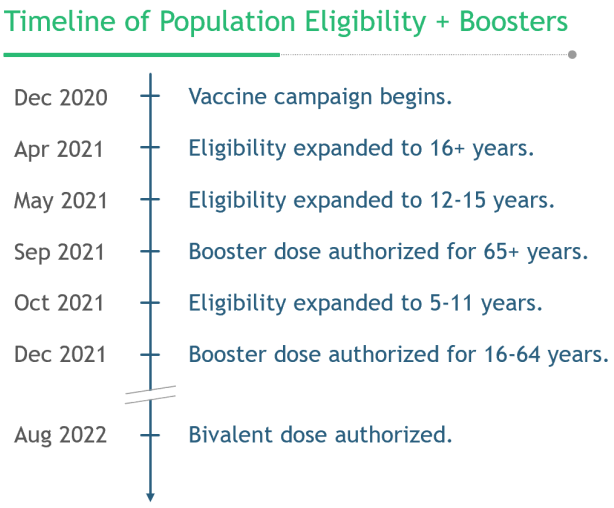
	Supply constrained Dec '20 – Apr '21		Demand constrained May '21 – July '21		Booster campaigns Aug '21 – Dec '22	
Geography	**18+ Primary Series complete**	**NJ rank** *Relative to group*	**18+ Primary Series complete**	**NJ rank** *Relative to group*	**18+ Primary Series complete**	**NJ rank** *Relative to group*
New Jersey	43%	-	70%	-	89%	-
States with comparable hesitancy	40%	6th/18	65%	6th/18	85%	7th/18
US Total	34%	10th/50	54%	6th/50	78%	7th/50

Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a higher hesitancy rate than the other 49 states.
1. Rank out of 18. States peer to NJ in vaccine hesitancy have lower rates of vaccine hesitancy than the U.S. average at 5/29 /2020. These states include: HI, VT, MA, MD, CT, NY, VA, RI, NH, CA, WA, NM, ME, IL, DE, PA, OR.
Source: Census HPS, CDC COVID -19 Vaccinations in the United States,Jurisdiction

4.2.4 New Jersey's Maintenance of Vaccination Coverage

Maintaining vaccine coverage and protection against COVID-19 was critical because vaccine effectiveness diminishes the more time passes since the last dose was administered. A vaccine administered 3 months prior to contracting COVID-19 offers more protection against hospitalization and death than a vaccine administered a year prior. Because COVID-19 strains mutated over time, the original vaccines were also progressively less effective against later variations of the virus.

To maintain vaccine coverage, states quickly rolled out a new series of vaccines when boosters became available in the fall of 2021. Boosters promoted continued resistance against COVID-19, especially as the disease continued to mutate. Because boosters were an additional shot of the existing primary series vaccine, states were able to leverage their existing vaccine infrastructure to make boosters available more quickly and efficiently than in the initial primary series rollout. As boosters were being rolled out, states had to simultaneously continue to focus on increasing primary series vaccination rates.



Despite the efficient rollout, resident and provider fatigue increased over time. This led to lower booster vaccination rates, and by the end of 2021, much of the mass vaccination infrastructure had wound down.

Booster eligibility rollout was less varied than that of initial vaccines. When booster vaccinations were approved in September 2021, states followed CDC eligibility guidance with little to no variation and prioritized healthcare personnel and older adults. Just 2 months later, in November, all adults were eligible to receive a booster.

Exhibit 4-20: Comparison of New Jersey and Select State's Booster Eligibility Guidance

	CDC Guidance[1]	New Jersey	Pennsylvania	California	Florida
9/23: CDC AICP approves booster	• Healthcare personnel • Adults ≥ 75 years	• Healthcare personnel • Adults ≥ 75 years	• Healthcare personnel • Adults ≥ 75 years	• Healthcare personnel • Adults ≥ 75 years	• Healthcare personnel • Adults ≥ 75 years
10/21 CDC expands eligibility to select pop.	• All adults 65-74 years • Adults 18-64 w/ underlying medical condition or in a high-risk setting	• All adults 65-74 years • Adults 18-64 w/ underlying medical condition or in a high-risk setting	• All adults 65-74 years • Adults 18-64 w/ underlying medical condition or in a high-risk setting	• All adults 65-74 years • Adults 18-64 w/ underlying medical condition or in a high-risk setting	• All adults 65-74 years • Adults 18-64 w/ underlying medical condition or in a high-risk setting
11/19: CDC expands eligibility to all adults	• All adults 18-64 years	• All adults 18-64 years	• All adults 18-64 years	• All adults 18-64 years	• All adults 18-64 years

1. CDC guidance from the National Governors Association, based on Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) recommendations
Source: CDC press releases

In August 2022, the bivalent booster was authorized. Recipients of bivalent boosters were eligible to receive a vaccine, regardless of whether they had received a primary vaccine. The vaccine was meant to protect against the newer Omicron strain of the COVID-19 virus.

By December 2022, 49% and 17% of the New Jersey population had received a booster and bivalent booster, respectively.[24]

Exhibit 4-21: New Jersey 18+ Vaccination Rates by Vaccine type

States showed greater degrees of variation in vaccination rates for boosters/bivalent boosters than with primary series vaccination. This reflected the varying levels of prioritization and emphasis. By the end of 2022, booster vaccination rates varied from a low of 26% in Alabama and North Carolina to a high of 63% in Vermont. Bivalent boosters also had a high degree of variation: the lowest vaccination rate for bivalent boosters was 7% in Mississippi, while the highest was 33% in Vermont.

By the end of 2022, New Jersey's booster vaccination rate of 49% was in line with other states that had similar hesitancy levels and slightly above the U.S. average.[25] [26]For the bivalent booster, New Jersey's rate of 17% was in line with the U.S. average and behind similar hesitancy states who reached a rate of 21%.[27]

[24] See Chapter 4 Appendix B-4: Timeline of New Jersey Vaccination Rates by Vaccine Type.
[25] See Chapter 4 Appendix B-5: Booster Vaccination Rates Across States.
[26] See Chapter 4 Appendix B-5: Booster Vaccination Rates Across States.
[27] See Chapter 4 Appendix B-6: Bivalent Booster Vaccination Rates Across States.

Exhibit 4-22: Comparison of New Jersey, Peer State, and U.S. 65+ Booster vaccination rates

% of 65+ population vaccinated with Booster and Bivalent Boosters, including New Jersey's rank against its peers[1] and nationally

	Vaccination rates as of Dec '22					
Geography	**1st Booster** *65+ Vx rate*	**NJ rank** *Relative to group*	**2nd Booster** *65+ Vx rate*	**NJ rank** *Relative to group*	**Bivalent Booster** *65+ Vx rate*	**NJ rank** *Relative to group*
New Jersey	70%	-	38%	-	35%	-
States with comparable hesitancy	73%	15th/18	45%	16th/18	43%	17th/18
US Average	68%	25th/50	40%	31st/50	37%	32nd/50

NJ rank is lower for the 65+ population than it was for the total population; NJ rank vs US was 14th and 24th for booster and bivalent booster vaccination rates

Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g., #50) is "bad" as it implies a lower vaccination rate than the other 49 states.
1. Rank out of 18. States peer to NJ in vaccine hesitancy have lower rates of vaccine hesitancy than the U.S. average at 5/29/2020. These states include: HI, VT, MA, MD, CT, NY, VA, RI, NH, CA, WA, NM, ME, IL, DE, PA, OR.
Source: Census HPS, CDC COVID-19 Vaccinations in the United States,Jurisdiction

4.2.5 Variance in Vaccination by Population within New Jersey

During the pandemic, there were variations in vaccine rates based on population and demographics. This report looks at vaccination rates across the following populations:

- 65+ population. This group was prioritized by the CDC for the initial rollout because they were at high risk of hospitalization and fatalities.
- Adolescent and pediatric populations. These populations became eligible later in the vaccination campaign because the vaccines had not been approved for those under the age of 18.
- Counties within New Jersey. Under-resourced counties with higher social vulnerability ratings had existing health inequities prior to COVID-19 that influenced vaccine access and uptake.[28]

[28] This analysis was conducted within New Jersey only.

- **Race/ethnicity.** Prior to COVID-19, health inequities existed across racial/ethnic lines that influenced vaccine access and uptake.[29]

4.2.5.1 Vaccinations Among the 65+ Population

Because of the higher health risks of contracting COVID-19, the 65+ population was prioritized nationally for primary series and booster vaccinations. Although states across the United States opened eligibility to the 65+ population on different dates, every state prioritized vaccinating older individuals before opening eligibility to the entire population.

In line with this, when vaccine supply was limited in the initial months of the vaccine rollout, New Jersey's 65+ population was vaccinated at a significantly higher rate.[30] By the end of the supply-constrained period in April 2021, New Jersey was able to vaccinate 77% of the 65+ population with a first dose, and 69% had completed their primary series. These rates were much higher than the 58% and 43% vaccination rates of the general population. In New Jersey, vaccine hesitancy rates were also much lower for the 65+ population than the total population.[31]

[29] This analysis was conducted within New Jersey only. Reporting gaps, including variations in race and ethnicity definitions, were present across states and prevented a 50-state comparison of outcomes.
[30] See Chapter 4 Appendix B-1: Comparative Timeline of New Jersey and U.S. Vaccine Throughput in Supply Constrained Period.
[31] See Chapter 4 Appendix B-8: New Jersey 65+ and Total Vaccine Hesitancy Throughout the Pandemic.

Exhibit 4-23: Comparison of New Jersey, Peer State, and U.S. 65+ Primary Series vaccination rates

% of 65+ population vaccinated with the full primary series, including NJ's rank against its peers[1] and nationally

	Supply constrained Dec '20 – Apr '21		Demand constrained May '21 – July '21		Booster campaigns Aug '21 – Dec '22	
Geography	**65+ pop. Vaccination rate**	**NJ rank** *Relative to group*	**65+ pop. Vaccination rate**	**NJ rank** *Relative to group*	**65+ pop. Vaccination rate**	**NJ rank** *Relative to group*
New Jersey	69%	-	83%	-	95%	-
States with comparable hesitancy	68%	12th/18	81%	11th/18	95%	1st (tie)/18
US Average	62%	26th/50	72%	16th/50	93%	1st (tie)/50

Initial difference in vaccination rates is potentially explained New Jersey's prioritization of essential workers during the initial vaccine roll-out; other states may have focused on prioritizing specific age groups

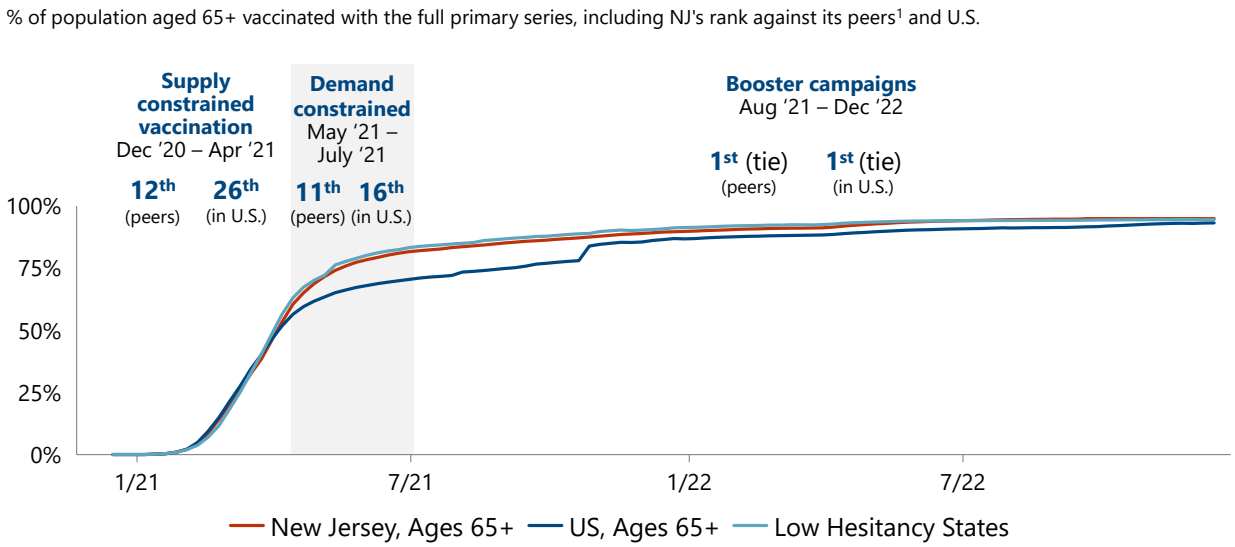
Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g., #50) is "bad" as it implies a higher hesitancy rate than the other 49 states.
1. Rank out of 18. States peer to NJ in vaccine hesitancy have lower rates of vaccine hesitancy than the U.S. average at 5/29/2020. These states include: HI, VT, MA, MD, CT, NY, VA, RI, NH, CA, WA, NM, ME, IL, DE, PA, OR.
Source: Census HPS, CDC COVID-19 Vaccinations in the United States, Jurisdiction

Ramp-up timing across the country varied, but most states had achieved similar final primary series vaccination rates for the 65+ population by the end of December 2022. New Jersey ramped up vaccination rates in line with the United States in the supply-constrained period. New Jersey quickly increased primary vaccination rates to above most states by the time boosters were introduced in August 2021. This difference in vaccination ramp-up timing is potentially explained by New Jersey's prioritization of essential workers during the initial vaccine rollout rather than older populations. Due to supply constraints, New Jersey did not open eligibility to include the total 65+ population until April as part of eligibility Phase 1C. By December 2022, New Jersey was tied for 1st place in the United States for 65+ primary series completion rates.[32]

[32] See Chapter 4 Appendix B-7: Timeline of New Jersey Adult Population and 65+ First Dose and Primary Series Vaccination Rates during the Supply Constrained Period.

Exhibit 4-24: Comparative Timeline of New Jersey', Peer States, and U.S. 65+ Primary Series Vaccination Rates

% of population aged 65+ vaccinated with the full primary series, including NJ's rank against its peers[1] and U.S.



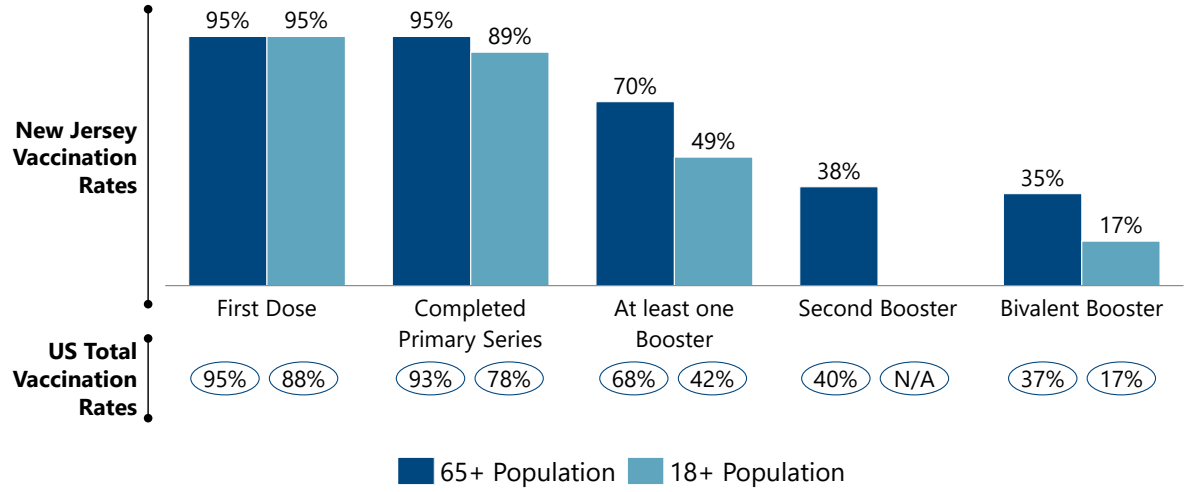
Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a lower vaccination rate than the other 49 states.
1. Ranking of NJ vaccination rate for ages 18 and older and 65 and older on the last day of the period.
Source: CDC COVID-19 Vaccinations in the United States,Jurisdiction

Note: Rankings reflect New Jersey's performance relative to other states. A higher rank (e.g., #50) is "bad" as it implies a lower vaccination rate than the other 49 states.

As with the primary series vaccines, the 65+ population had a much higher rate of boosters than the adult 18+ population in New Jersey and across the United States. By December 2022, 70% of the 65+ population had received a booster and 35% had received a bivalent booster (in contrast to 49% and 17% of the adult population).

Exhibit 4-25: New Jersey 65+ Vaccination Rates by Vaccine Type, Compared to U.S.

% of 65+ and 18+ population vaccinated across vaccination types



Note: In March 2022, the CDC encouraged 65+ individuals to get a second booster 4 months after their first
Source: CDC COVID-19 Vaccinations in the United States, Jurisdiction; BCG analysis

By December 2022, New Jersey achieved booster vaccination rates for the 65+ population that were above those of the broader United States. As the CDC recommended that older populations receive a second dose and then later introduced the bivalent booster, New Jersey began to lag on 65+ second booster and bivalent booster rates when compared to other states, Section 5.10 Vaccinations discusses causes for a reduced focused on later COVID-19 boosters, including higher rates of anti-vaccine sentiments in response to boosters in New Jersey. As shown below, New Jersey achieved 1st and 2nd booster rates for the 65+ population, in line with the U.S. average and below most peer states. Bivalent booster rates were below the U.S. average and peers.

Exhibit 4-26: Comparison of New Jersey, Peer State, and U.S. 65+ Booster Rates

% of 65+ vaccinated with the booster and bivalent boosters, including NJ's rank against its peers[1] and U.S.

	Vaccination rates as of Dec '22					
Geography	**1st Booster** *65+ Vx rate*	**NJ rank** *Relative to group*	**2nd Booster** *65+ Vx rate*	**NJ rank** *Relative to group*	**Bivalent Booster** *65+ Vx rate*	**NJ rank** *Relative to group*
New Jersey	70%	-	38%	-	35%	-
States with comparable hesitancy	73%	15th/18	45%	16th/18	43%	17th/18
US Average	68%	25th/50	40%	31st/50	37%	32nd/50

NJ rank is lower for the 65+ population than it was for the total population;
NJ rank vs US was 14th and 24th for booster and bivalent booster vaccination rates

Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g., #50) is "bad" as it implies a lower vaccination rate than the other 49 states.
1. Rank out of 18. States peer to NJ in vaccine hesitancy have lower rates of vaccine hesitancy than the U.S. average at 5/29/2020. These states include: HI, VT, MA, MD, CT, NY, VA, RI, NH, CA, WA, NM, ME, IL, DE, PA, OR.
Source: Census HPS, CDC COVID-19 Vaccinations in the United States,Jurisdiction

Booster uptake was necessary to avoid waning immunity and keep residents healthy. Because people were not staying up to date with their booster vaccinations, hospitalizations and fatalities among the 65+ population increased going into the Delta & Omicron wave.

4.2.5.2 Vaccinations Among Children and Adolescents

Pediatric and adolescent vaccination rates varied across states but were significantly less than primary vaccination rates for the adult population. Vaccine hesitancy was particularly high among the parents/caregivers of adolescents and children. While there is limited state-by-state data on vaccine hesitancy for children, this report has assumed that there are similar relative trends between personal hesitancy rates and parents' hesitancy rates for their children across states (i.e., while pediatric vaccine hesitancy is expected to be higher in all states, states with higher adult vaccine hesitancy are likely to also have higher pediatric vaccine hesitancy when compared to others).

Exhibit 4-27: Comparison of New Jersey, Peer State, and U.S. Adolescent and pediatric primary series vaccination rates

Percentage vaccinated with the full primary series, by age

	Primary series vaccination rates as of Dec '22			
Geography	**Adolescent Vx rates** *Ages 12-17*	**NJ rank** *Relative to group*	**Pediatric Vx rate** *Ages under 12*	**NJ rank** *Relative to group*
New Jersey	75%	-	26%	-
States with comparable hesitancy[1]	72%	9th/18	27%	11th/18
US Average	61%	9th/50	21%	28th/50

Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a lower vaccination rate than the other 49 states.
1. Rank out of 18. States peer to NJ in vaccine hesitancy have lower rates of vaccine hesitancy than the U.S. average at 5/29/2020. These states include: HI, VT, MA, MD, CT, NY, VA, RI, NH, CA, WA, NM, ME, IL, DE, PA, OR.
Source: Census HPS, CDC COVID-19 Vaccinations in the United States,Jurisdiction; BCG Analysis

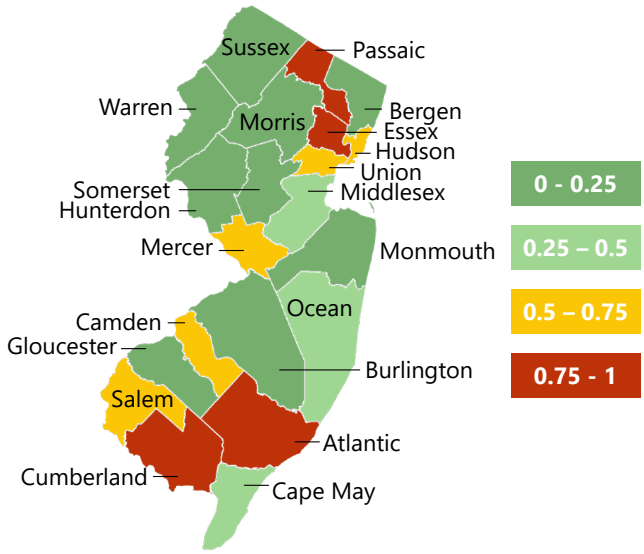
By December 2022, New Jersey achieved an adolescent vaccination rate of 75%, roughly in line with the 72% rate of states with comparable vaccine hesitancy and significantly above the 61% U.S. average. When it came to pediatric vaccines – those administered to children under the age of 12 – New Jersey reached a primary series completion rate of 26%. This was in line with the 21% rate achieved across the United States.

4.2.5.3 Vaccinations Across Counties Within New Jersey

The CDC's SVI index was used to evaluate equitable vaccine distribution across counties in New Jersey. SVI is a standard measure that used by the Federal Government and many states to assesses levels of disadvantage and evaluate equity at a county level. The SVI index is as a score from 0-1 (where 1 is the most socially vulnerable) and incorporates the following measures:

- Socio-economic status (including measures of poverty, unemployment, housing cost burden, etc.).
- Household characteristics (including 65+ residents, residents under 18, single-parent households, etc.).
- Racial and ethnic minority status.

Exhibit 4-28: Map of New Jersey County SVI Scores



Source: CDC

Primary series vaccination rates were similar between counties in New Jersey; while less vulnerable counties did achieve the highest vaccination rates, they were only 2 percentage points higher than the most vulnerable counties in New Jersey. This gap widened slightly as boosters and bivalent boosters were introduced. Despite this, booster and bivalent vaccination rates in the highest SVI counties were at or above the U.S. average.

Exhibit 4-29: New Jersey Vaccination Rates by county SVI and Vaccine Type

Percentage of 18+ population vaccinated, by vaccination type and county SVI as of May 2023

May	Vaccination rates by Vaccine Type		
Geography	**Completed Primary Series**	**At least one booster**	**Bivalent Booster**
0.00 - 0.25 ***(least vulnerable)***	91%	52%	22%
0.25-0.50	85%	48%	19%
0.50 – 0.75	90%	49%	20%
0.75 – 1.0 ***(most vulnerable)***	89%	45%	17%
Gap between highest and lowest SVI counties	-2	-7	-5%

1. In each state, there were vaccination doses that could not be allocated to particular county SVIs (this included ~5% of doses on average); they have been excluded
Note: CDC reports first dose as including J&J vaccine; Vaccination rates shown as of May 2023
Source: CDC COVID-19 Vaccinations in the United States,Jurisdiction; BCG Analysis

4.2.5.4 Vaccinations Based on Race / Ethnicity

Race and ethnicity vaccination coverage analyses were conducted on an intra-state level for New Jersey. The analysis is unable to compare New Jersey to other states or jurisdictions because race and ethnicity information is not reported by all states, and states differ in definitions of racial/ethnic categories.

Vaccination rates by race and ethnicity were also subject to variations in hesitancy rates across groups. Recent studies have found that likelihood to get vaccinated is correlated to trust in the medical community; as a result, many Black Americans had higher rates of vaccine hesitancy at the beginning of the vaccination campaign in December of 2020. This reflects well-documented, widespread racial inequalities in access to and quality of healthcare across the country.

Although initial levels of vaccine hesitancy in Black communities across the U.S. were high, hesitancy rates across the country decreased faster for Black Americans than White Americans and, by mid-2021, White Americans reported higher rates of vaccine hesitancy[33]. By December 2022, vaccination hesitancy rates in New Jersey had decreased across the board and was similar across all racial and ethnic groups in the state.[34]

[33] Morales, D. Hesitancy or Resistance? Differential Changes in COVID-19 Vaccination Intention Between Black and White Americans. Journal of Racial and Ethnic Health. https://link.springer.com/article/10.1007/s40615-022-01494-1
[34] New Jersey data based on Census Household Pulse Survey.

While race/ethnicity was an important data point tracked by New Jersey, gaps in reporting made it difficult for New Jersey to accurately track the percent of each population group that had received a vaccine.[35] In December 2020, estimated first-dose vaccination rates across racial groups indicate the highest vaccination rates occurring for Asian residents, followed by White and Hispanic residents. Despite having a lower vaccine hesitancy rate in May 2021 than their peers, the final vaccination rate among Black New Jersey residents was around 10 percentage points below the White and Hispanic vaccination rate, which provides evidence that that access issues contributed to lower vaccination rates, not just hesitancy. This gap in vaccination rates was present across time periods and was widest in the earlier phases of the vaccination campaign. Additional information on equity related vaccination efforts on the part of the New Jersey government can be found in Section 5.10 Vaccinations.

Exhibit 4-30: New Jersey Vaccination Rate by Race/Ethnicity and Period

Percent of New Jersey population with at least one vaccine dose, by race/ethnicity across time periods

Demographic	Supply constrained Dec '20 – Apr '21	Demand constrained May '21 – July '21	Booster campaigns Aug '21 – Dec '22
White, non-Hispanic	51%	65%	86%
Hispanic (any race)	31%	54%	84%
Asian, non-Hispanic	51%	72%	95%
Black, non-Hispanic	29%	46%	76%
Other or multiple races, non-Hispanic	95%	95%	95%
NJ Total % Vaccinated with at least one dose	46%	62%	86%

Many people vaccinated were recorded as 'Other' or 'Unknown' due to vaccination site staff not asking for, or collecting race/ethnicity data during vaccinations

Note: Vaccination rates are estimates. Vaccinations attributed to 'Other' or 'Unknown' races were capped at 95% of 'Other' census population and remainder was redistributed proportionally based on census population breakdowns. Total first doses administered include non-NJ residents vaccinated in NJ and totals may differ from other reported totals due to reporting inconsistencies between internal DOH documents and CDC reported data. White, Asian, and Black / AA are all Non-Hispanic. Other category includes American Indian / Alaska - NH, Native Hawaiian / Pacific Islander - NH, and all who identify as two or more races – NH
Source: 2020 Census data, NJDOH

[35] Although collecting this information is mandated by the State, many people who were vaccinated were recorded as having a race of 'Other' or 'Unknown' in vaccination record systems. As of December 2022, State records show that 22% of vaccinations were distributed to those with 'Other' or 'Unknown' race/ethnicity despite only 4% of non-Hispanic adults in New Jersey being categorized as 'Other' in the census.

4.3 Economic Outcomes

4.3.1 Section Overview

COVID-19 made normal life impossible. Fear of the disease, New Jersey's first full-scale economic shutdown, supply chain collapse, and waves of sickness meant economic disruption for the economy on a scale the state had never previously experienced. Thousands of New Jersey residents lost their jobs and income, and businesses were shuttered. When those businesses did re-open, many needed to comply with new behavioral and industry guidelines that meant they could not operate at full scale or efficiency.

These changes had wide-reaching economic impacts across the United States and New Jersey; many workers were left without jobs for an extended period and some businesses permanently closed. Lower-income workers faced a disproportionate share of this harm because they were over-represented in sectors, like hospitality, which saw the brunt of the impacts. Even as the economy and businesses recovered, workers did not always recover lost jobs and or make up for lost wages. Despite the economic recovery, COVID-19 led to a fundamental restructuring of both state economies and the United States economy.

In New Jersey, these economic impacts were more pronounced than in most parts of the United States. New Jersey's higher-than-average levels of COVID-19, industry and employment mix that skews toward industries more impacted by COVID-19, and a longer government-mandated shutdown than most other states, led to worse GDP and employment losses than elsewhere.

This section provides insight into:

- COVID-19's impacts on New Jersey's economic activity.
- How those economic changes impacted New Jersey's workers.
- COVID-19's impacts to employment for populations in New Jersey (e.g., by income level, gender, and race/ethnicity)
- How COVID-19 has led to permanent structural changes to New Jersey's economy.

Two indicators of economic health are used to understand how COVID-19 impacted the New Jersey economy: job losses and business activity.

Unemployment/job losses are measured using "absolute employment level" rather than unemployment rate, which may be a more familiar metric. Unemployment rate measures the people who have recently lost a job and looked for a job in the last 4 weeks. However, the level of economic suffering caused by COVID-19 meant that people were removed from the workforce for a longer period (for example, to care for sick relatives or children who could not go to school). After several months, people without a job stop being counted as "unemployed," which makes the metric flawed for measuring COVID-19's impact. Absolute employment level captures the total number of people who are and are not working, regardless of how long they have been away from paid employment and study.

Business activity is measured using gross domestic product (GDP). This metric measures New Jersey's total economic output. It can be used to measure economic activity by sectors and to understand structural changes in the industry composition of New Jersey's economy that have forward-looking impacts for New Jersey. Though this metric is represented as a dollar figure (billions of dollars), it is important to remember that this financial figure represents people's livelihood, including the incomes they use for everyday necessities.

Disease severity and the length of shutdowns shaped COVID-19's impact on both job losses and business activity. For example:

- States experiencing more severe COVID-19 impacts early in the pandemic saw more dramatic changes in state and business functioning as state governments had to divert significant state and economic resources to manage the outbreak, which affected the state's economy.
- While almost all states had some form of shutdown, the variations in the length of shutdowns may have contributed to differences in economic impact.

The impacts on New Jersey's economy are compared to both the U.S. and peer states with similar influencing factors:

- **Initial disease severity:** 13 other states that experienced comparable levels of disease severity early in the pandemic.
- **Shutdown length:** 9 other states that implemented non-essential business shutdowns of a comparable length.

To understand how different groups within New Jersey experienced economic impacts, this section also compares Absolute Employment Level impacts across income level, gender, and race/ethnicity. Because this demographic information is not reported state-by-state at a granular enough level to capture quarterly impacts, this analysis is conducted at an intra-state level. Where available, national metrics are used to benchmark impacts.

4.3.2 Contextualizing Outcomes

Disease severity and shutdown length influenced economic impacts. Alone, each factor worsened employment and business activity losses but combined, they magnified each other's impact. This created additional economic hardship for New Jersey residents.

Disease severity was associated with shutdown timing:

- Initial outbreak states had higher disease levels and generally shut down non-essential businesses earlier and for longer periods to contain disease levels.
- Initial outbreak states were hit first and had less time to prepare for the economic impacts of COVID-19, resulting in more immediate and severe GDP loss.
- Disease severity caused changes in consumer behavior that impacted economic outcomes. For example, consumers fearing infection changed their spending habits (e.g., shopping or outdoor dining), even when those activities were allowed.

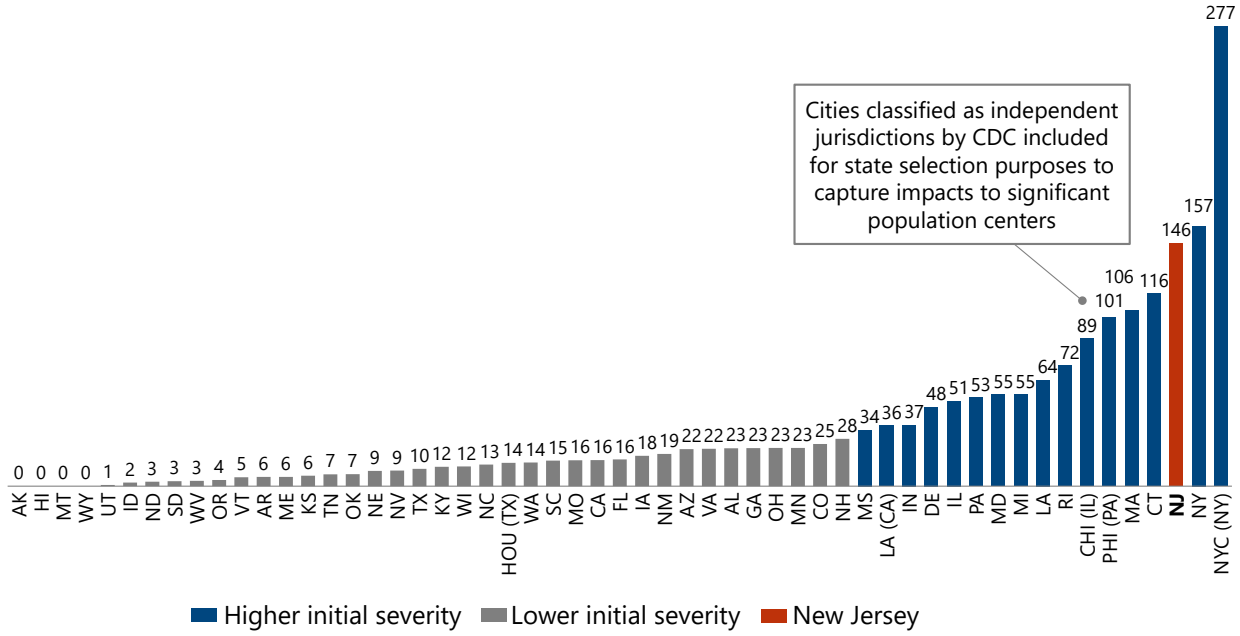
Shutdown length extended the duration of GDP loss, increasing total GDP loss. Shutdowns directly impacted business activity across industries, and as businesses closed or decreased their operations, the resultant revenue loss drove total GDP loss.

- Because shutdowns varied in length, they extended the duration of economic losses.
- As total shutdowns eased, the level and type of restrictions that states imposed across industries (e.g., gym closures) changed, impacting recovery times.

New Jersey was one of the states with high fatalities during the initial outbreak of COVID-19. Given the impacts of disease severity on economic outcomes, New Jersey is compared to 13 peer states that also experienced higher severity in the Initial Surge.

Exhibit 4-31: States and major metro areas that experienced higher severity in the Initial Surge

Fatalities reported per 100k from March 2020 to June 2020 (Initial Surge Period)

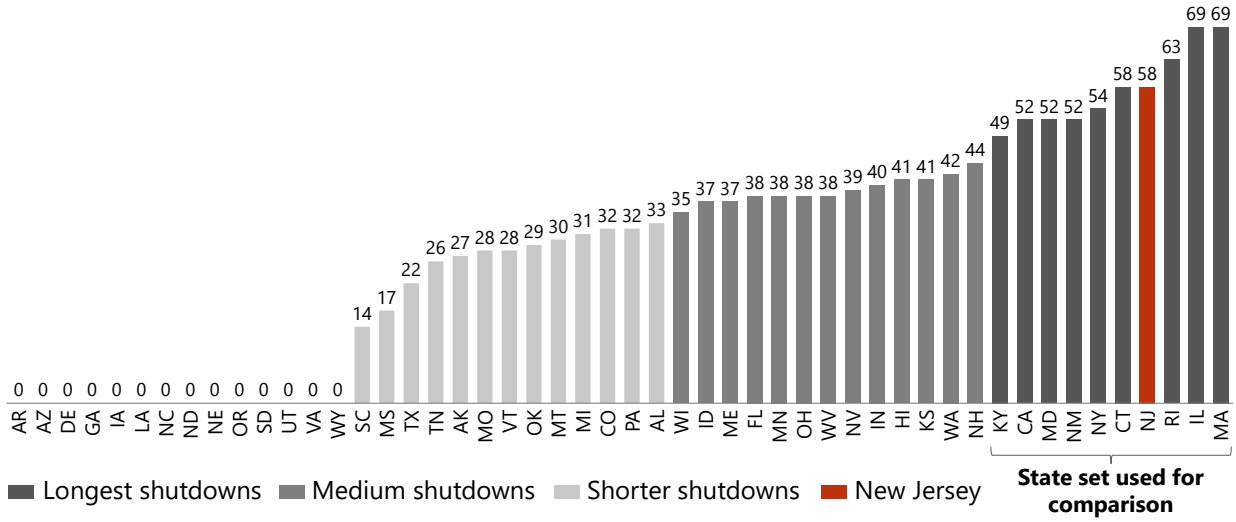


Note: Cities that are their own CDC Jurisdiction for allocation of federal COVID funding: Chicago, Houston, Los Angeles County, New York City, Philadelphia, and Washington, D.C (DC Excluded)
Source: CDC, New York Times

New Jersey was also one of 10 states that implemented longer shutdowns to attempt to control the spread of COVID-19.

Exhibit 4-32: Comparison of shutdown length in days across states

Shutdown length (days), defined by closures of non-essential businesses



Source: Oxford Covid-19 Government Response Tracker; Various news reports

Note: Information from the University of Oxford Blavatnik Index.

4.3.3 Impacts on New Jersey's Workforce

Economic losses and uncertainty translated to layoffs that led many New Jersey workers to miss paychecks, lose savings, or change careers. COVID-19 had both immediate and longer-term impacts on New Jersey's workforce.

Examples of immediate impacts included:

- Direct worker illness (self or family) that prevented them from working.
- Shifts in labor force participation (e.g., due to childcare responsibilities associated with COVID-19).
- Reductions in demand for labor as a result of company closures, shutdowns, and other measures to stop the spread of illness.

Long-term and ongoing impacts included:

- Changes in industry mix in the economy that impacted employment.
- Changes in labor intensity by industry, which impacted GDP.
- Changes in working norms of employees in industries that required flexibility by both the employer and employee.

In January 2020, before the COVID-19 public health emergency was announced, New Jersey's unemployment rate sat at a historic low of 4% and roughly 100,000 workers were receiving unemployment insurance (UI) benefits. Only a few months later, in Spring 2020, New Jersey's unemployment rate peaked at 15%, a significant and rapid jump from pre-COVID-19 levels.

Unemployment Insurance claims also climbed rapidly and reached 0.7M[36] by May 2023. This roughly corresponds with the drop in employment from ~4.2M to ~3.5M but does not reflect the full extent of job or wage losses. The true scale of unemployment was even larger; the 700,000 workers receiving benefits do not account for:

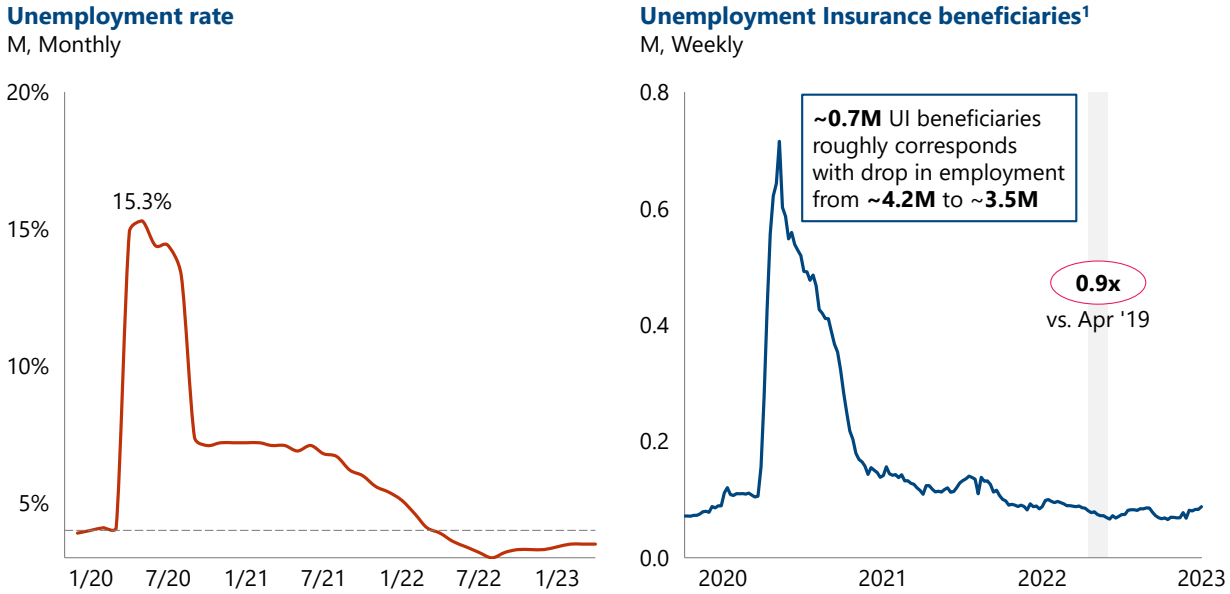
- Undocumented workers.
- Individuals who dropped out of the labor force.
- Those receiving Pandemic Unemployment Assistance (PUA), which includes many self-employed and covers those who do not qualify for regular benefits but are:
    - Unemployed.
    - Partially employed.
    - Unable to work.

The unemployment rate and the number of people receiving UI benefits did not recover for nearly 2 years. By mid-2023, fewer people were receiving UI benefits than before the pandemic.[37]

[36] See Chapter 4 Appendix C-7: Impact of COVID-19 on New Jersey Total Employment.

[37] In April 2023, there were approximately 10% fewer people receiving UI benefits as there were in April 2019.

Exhibit 4-33: Timeline of New Jersey unemployment rate and UI claims



1. Total continued claims, dated by filed week; ~400k claims out of 1.1M were PUA and PEUC (extended unemployment benefits) and are not included
Source: NJ Department of Labor and Workforce Development; U.S. Department of Labor, Employment and Training Administration

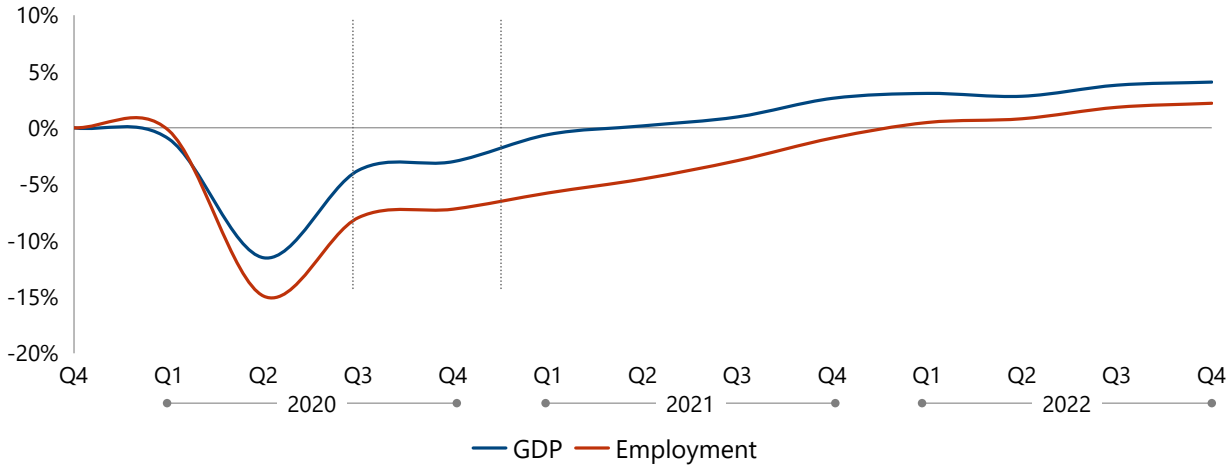
Traditional unemployment statistics, however, can understate harm during periods when people leave the workforce. While the unemployment rate and UI claims returned to pre-COVID-19 levels, labor force participation dropped by 6% after COVID-19 and had only recovered to 99% in January of 2023.

As a result, to fully account for the magnitude of employment harm, the analysis of this section focuses primarily on total employment levels, which better capture the combined impacts of changes in labor supply and demand.

Consistent with trends seen in previous recessions, New Jersey's absolute employment level recovery lagged almost a full year behind GDP. For example, after the 2008 financial crisis, GDP fully recovered to pre-recession levels by late 2009, but employment levels did not recover until 2012.

Exhibit 4-34: Timeline of New Jersey quarterly percentage change in real GDP

Quarterly percentage change in New Jersey real GDP and absolute employment, not normalized, indexed to Q4 2019 levels

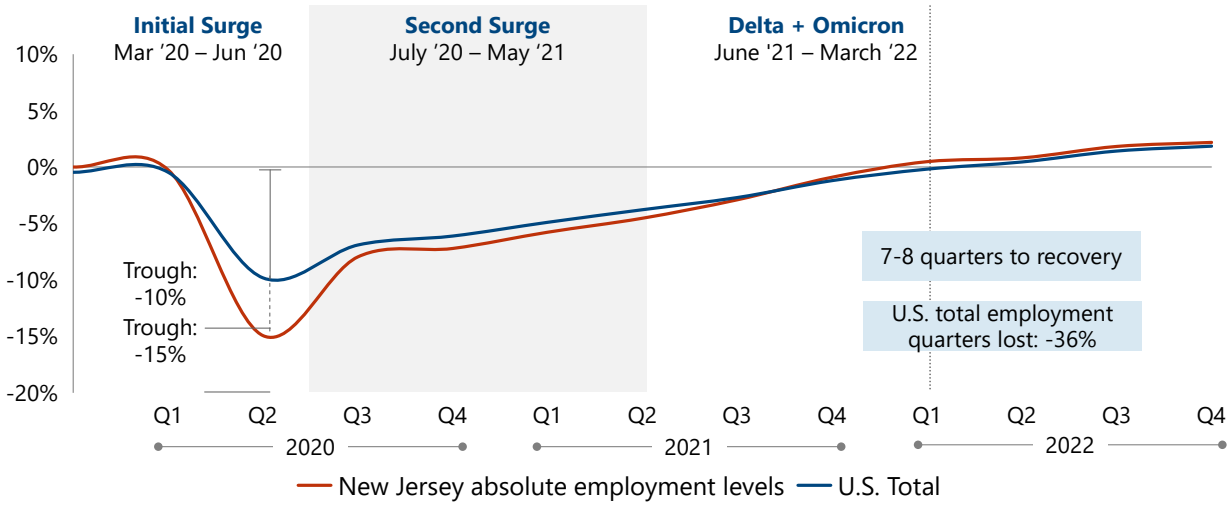


Source: US Census; USA Facts; BEA; BLS; BCG Analysis

In New Jersey, absolute employment levels dipped by ~15% and did not recover for 2 years. Exhibit 4-35 shows a quarterly percentage change in New Jersey's absolute employment levels, not normalized, indexed to Q4 2019 levels for easy comparison of periods.

Exhibit 4-35: Comparative Timeline of New Jersey and U.S. employment levels

Quarterly percentage change in New Jersey absolute employment levels, not normalized, indexed to Q4 2019 levels



Note: Absolute employment levels used because unemployment rates do not capture changes in labor force participation
Source: BLS; BCG Analysis

This job loss was significant and for some workers; it meant being out of a job for months at a time.

While the initial decline in employment (and, as a result, the level of lost employment) was more pronounced in New Jersey than in other states, New Jersey recovered to pre-pandemic levels at the same time as the U.S. average.[38]

Like with GDP, the pandemic's effects on the job market were inconsistent across industries. For example, in June 2020, a larger share of UI beneficiaries came from leisure and hospitality and educational and health services.[39] The unemployment impacts were primarily concentrated in sectors with lower wages. In June 2020, New Jersey residents who received regular UI benefits were:

- More likely to have educational and health services experience (18% in June 2020 as opposed to 10% pre-COVID-19).

[38] See Chapter 4 Appendix C-11: Comparative Employment Loss in Q2 2020 by Industry, New Jersey vs US
[39] See Chapter 4 Appendix C-8: New Jersey Unemployment Beneficiaries in June 2020 by Industry

- More likely to have leisure and hospitality experience (18% in June 2020 versus 14% pre-COVID-19).
- Less likely to have construction experience (6% in June 2020 versus 12% pre-COVID-19).
- Less likely to have professional services experience (15% in June 2020 versus 22% pre-COVID-19).

Using these unemployment claims to calculate implied unemployment rates, the construction and leisure and hospitality sectors saw the highest unemployment rates in New Jersey in mid-2020.

Unequal impact

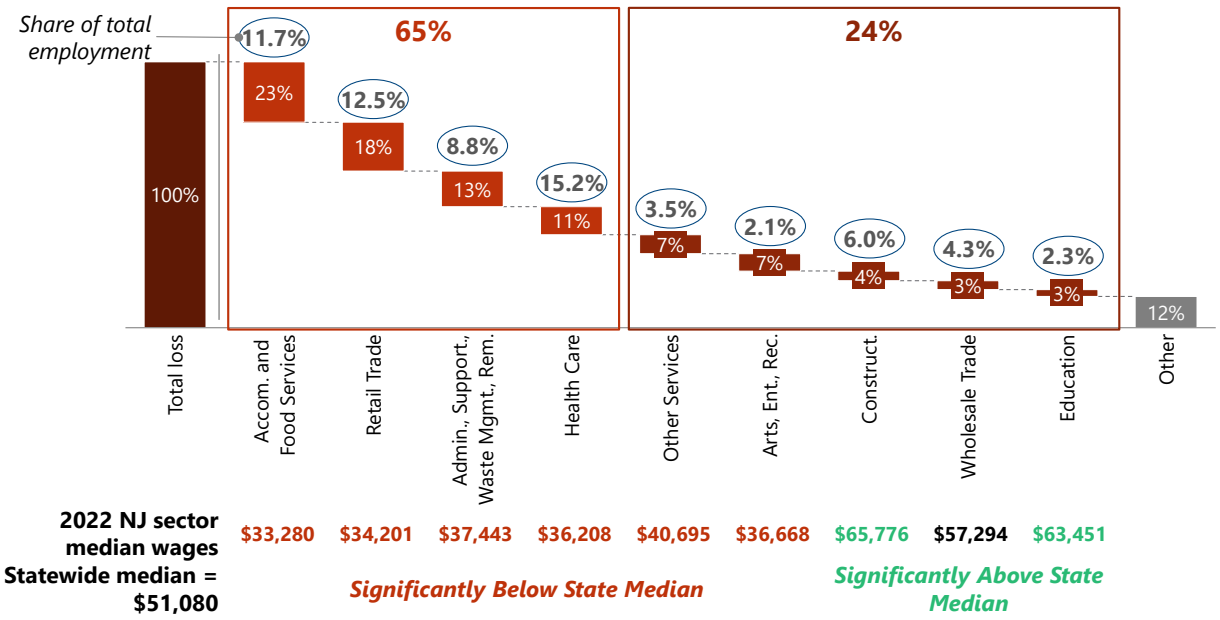
Lower-income workers bore the brunt of the pandemic's effects. Over 60% of employment-quarters lost is concentrated in four sectors with lower wages than the New Jersey median. Sectors with the highest income earners experienced lower losses.

- *65% of losses were in food services, retail, administrative support, and other low-paying occupations.*
- *Only 24% of losses were in high-paying jobs, such as construction, wholesale, and education.*

Across the whole pandemic, sectors were similarly unevenly impacted when it came to employment losses; just four sectors made up over 60% cumulative lost employment from 2019 to 2023.

Exhibit 4-36: Distribution of cumulative employment loss in New Jersey, by industry

Q4 2019 to Q3 2022, percentage of total employment harm



1. Total employment loss is calculated as the sum of quarterly change in total employment levels (indexed to Q4 '19) per sector, in every quarter from Q4 '19-Q3 '22 where change in employment is negative.
Source: BEA, NJ Department of Labor; BCG analysis

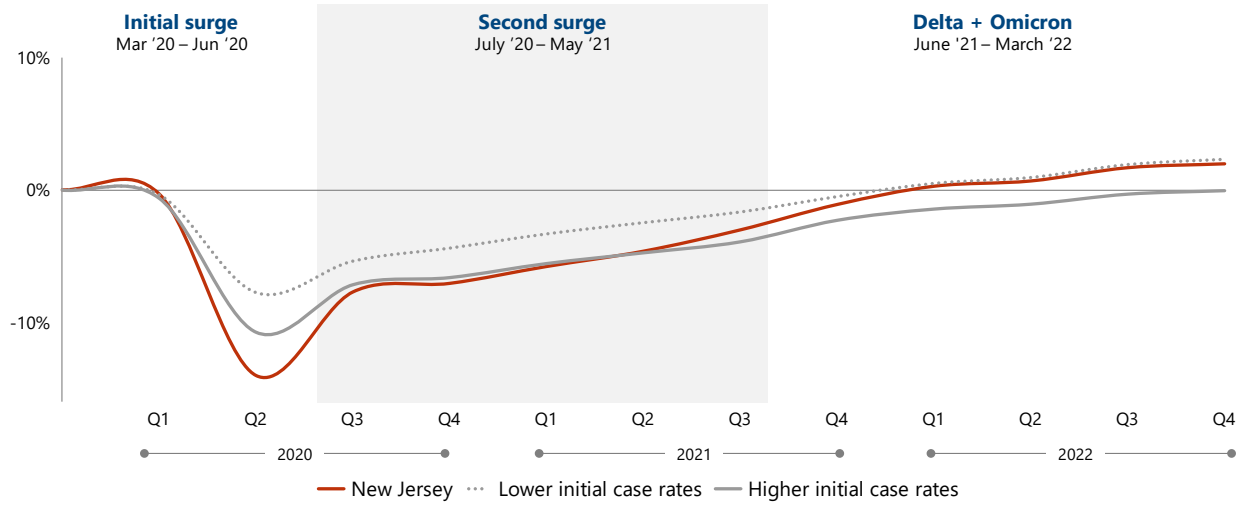
The differences in employment impacts by sector drove some of the differences in New Jersey's employment losses from the U.S. average. New Jersey's employment-by-sector makeup was different from other states from the start of the pandemic. For example, a larger percentage of New Jersey's workforce was in sectors such as healthcare, professional and scientific, and transportation / warehousing. By contrast, New Jersey had a lower percentage of workforce in sectors such as manufacturing and construction. Normalizing New Jersey's industry mix to match that of the U.S. leads to an employment loss of -14% for New Jersey, a slight decrease from the un-normalized loss of -15%.[40]

As with GDP, New Jersey and other states with higher initial disease severity saw bigger impacts to in employment than states with lower initial disease severity.

[40] See Chapter 4 Appendix C-11: Comparative Employment Loss in Q2 2020 by industry, New Jersey vs U.S.

Exhibit 4-37: Comparative Timeline of Employment Levels by initial disease severity

Percentage change in industry adjusted Absolute Employment Level, indexed to Q4 2019 levels



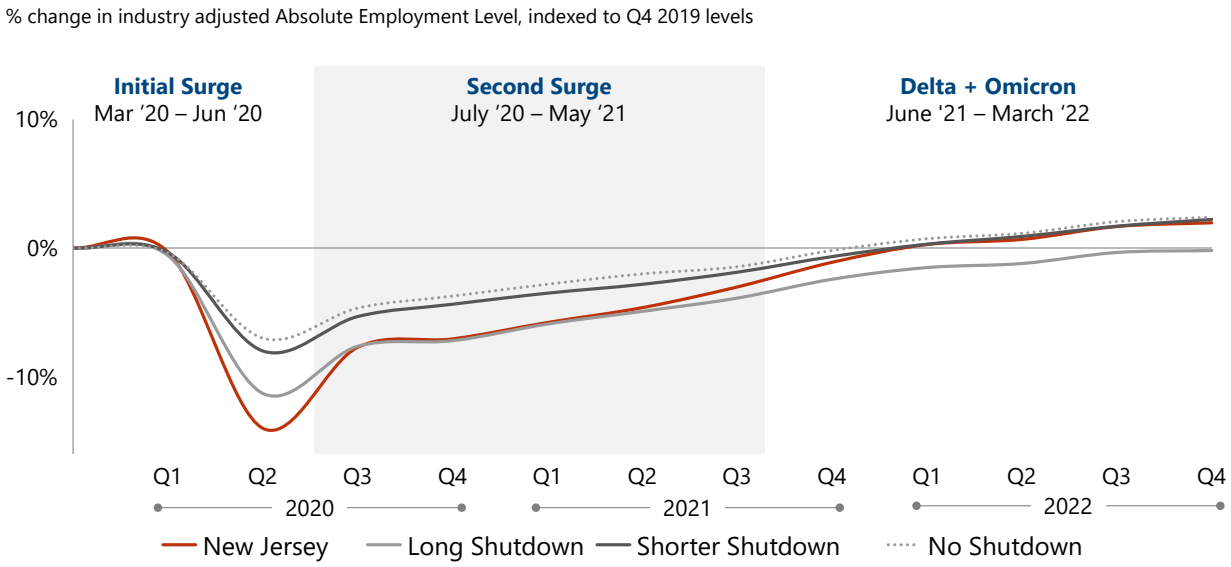
Source: US Census; Census QWI; BEA; BLS; BCG Analysis

States with higher disease severity saw more employment losses than the U.S. average across all measures; there was a significant gap in employment performance compared to lower-impact states.[41] Similarly, states with longer shutdowns had mildly longer recovery times but significantly deeper troughs.

[41] See Chapter 4 Appendix C-12: Employment Loss Impact by Disease Severity.

Exhibit 4-38: Comparative Timeline of Employment Levels by shutdown length

Percentage change in industry adjusted Absolute Employment Level, indexed to Q4 2019 levels



Source: USA Facts; BLS; BCG Analysis

States with longer shutdowns also saw more employment losses than the U.S. average on all measures. There was a significant gap in performance compared to states with shorter or no shutdowns.[42]

Taking into account industry makeup, disease severity, and shutdown length, New Jersey's employment impacts align with states that had similar shutdown lengths.

4.3.3.1 Impacts Across Populations

The economic impacts of COVID-19 were spread unevenly across segments of the United States, many of which already experienced unequal economic opportunities pre-pandemic.

- **Age.** Older workers faced difficulty in training and re-entering the labor force, whereas younger workers may have had fewer opportunities to build their skills.
- **Family status.** Parents, particularly single parents, faced increasing challenges in balancing employment and care responsibilities.

[42] See Chapter 4 Appendix C-13: Employment Loss Impact by Shutdown Length.

- **Immigration status.** Undocumented immigrants, in particular, faced potential hiring barriers (e.g., language, legal, certification requirements).
- **Education level.** Industries that did not require a college degree for entry were structurally damaged by COVID-19. Workers with lower educational credentials may have faced more difficulty in adapting to new skill requirements.
- **Gender.** Women left the labor force at greater rates than men during COVID-19. While labor participation rates have rebounded after the pandemic, many women continue to face persistent barriers to re-entry.[43]
- **Race/ethnicity.** The pandemic exacerbated existing racial and ethnic disparities and gaps, particularly given their higher representation in industries that could not accommodate remote work.
- **Persons with disabilities.** This population faced higher unemployment rates during the pandemic; however, labor force participation in this group increased due to the increasing prevalence of flexible/remote work models.

In New Jersey, while the immediate employment level impacts were similar across racial and ethnic groups, there was some variation in recovery times. For example, in Q2 of 2021, the employment level for New Jersey's Black residents was at 93% of its levels in Q2 of 2019. This was two points lower than the White population and 5 points lower than the Asian population. By Q2 2022, all demographic groups had recovered, and even surpassed, pre-COVID-19 levels. Non-White and Hispanic racial and ethnic groups also had higher employment levels than their White and non-Hispanic counterparts. The exact driver of this is unknown but is likely driven by people entering the workforce as a result of new job openings after COVID-19.

[43] E.g. permanent impacts to childcare sectors while being responsible for a greater amount of childcare in their homes; being more likely to be employed by lower paying sectors permanently impacted by the pandemic.

Exhibit 4-39: New Jersey Employment level changes by race and ethnicity

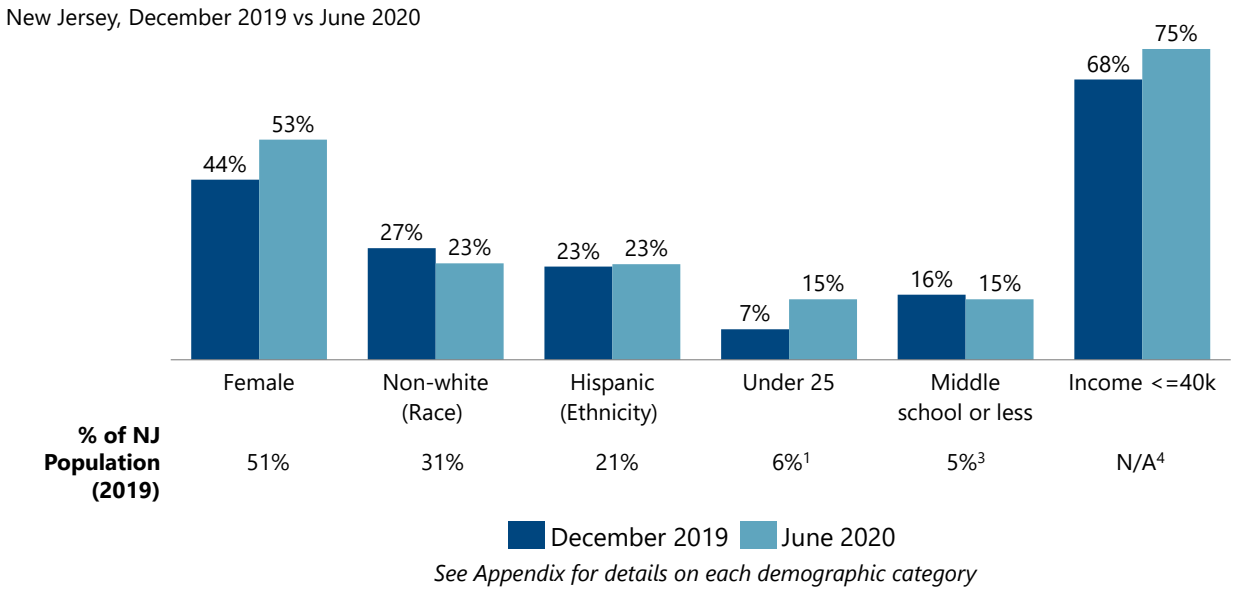
Employment levels by year (as % of Q2 2019)

	Total Employment Levels	Q2 '20	Q2 '21	Q2 '22
Race	**Asian**	93%	101%	108%
	Black	91%	93%	101%
	White	90%	96%	100%
Ethnicity	**Hispanic**	90%	95%	104%
	Non-Hispanic	91%	96%	101%
	NJ Total	90%	96%	102%

1. Race and ethnicity are separated as ethnicity categories (Hispanic vs non-Hispanic) are not mutually exclusive with race categories (e.g., an individual can be classified both White and Hispanic).
Source: Census QWI; NJ Department of Labor and Workforce Development; BCG Analysis

Women, lower-income, and younger workers saw the biggest impacts on employment in June 2020. For example, in New Jersey, the share of UI beneficiaries increased by 9 percentage points for women from December 2019 to June 2020. The impact on women is likely to be even larger due to labor force dropout – nationally, of the 1.1M individuals who left the workforce between August and September 2020, over 80% were women. Lower-income workers also saw a noticeable increase; the share of UI beneficiaries earning less than $40,000 a year increased by seven percentage points in that same time period.

Exhibit 4-40: Share of New Jersey UI beneficiaries by population



1. 20-24 only, excluding 0-19 2. New York Times, National Women's Law Center 3. Population 25 years and over 4. Population data by income unavailable.
Source: NJ Department of Labor and Workforce Development; US Census Bureau; BCG analysis

4.3.4 Impacts to New Jersey's Economic Activity

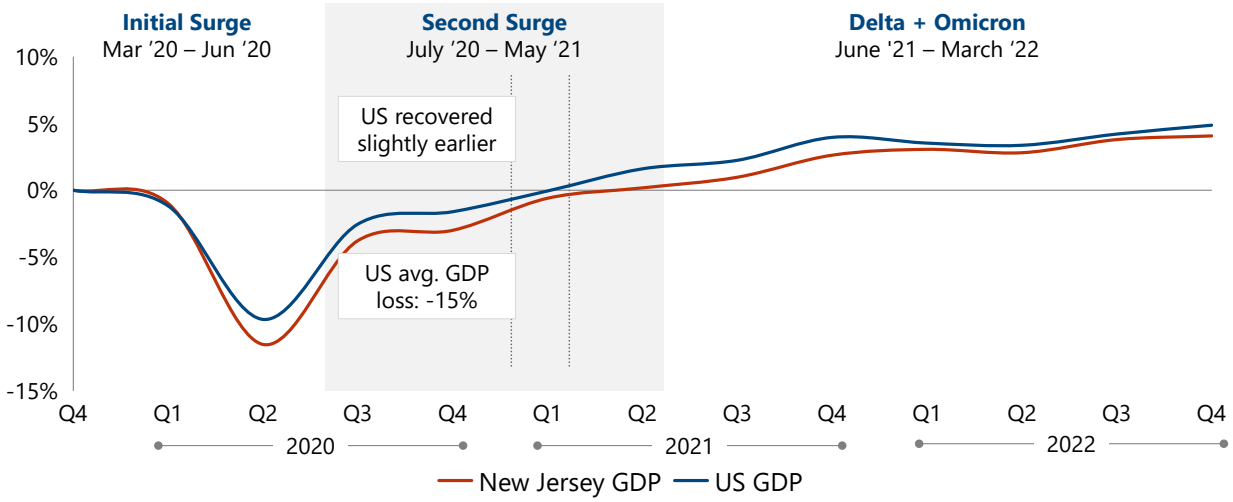
All states saw the most significant impacts to economic activity in the months immediately following the beginning of the pandemic. In Q2 of 2022, New Jersey's GDP dropped by 11.5% and did not return to pre-COVID-19 levels until Q2 2021. Together, this steep drop and yearlong recovery time resulted in a total GDP loss of -20% of Q4 2019 levels. This does not account for lost economic activity had GDP kept growing at pre-COVID-19 levels over the same period.[44]

Compared to the U.S. average,[45] New Jersey saw a deeper dip in GDP and a slightly longer time to recover.

[44] See Chapter 4 Appendix C-1: Timeline of New Jersey GDP Impact.
[45] The -15% GDP loss for the U.S. on average shown in Exhibit 4-28 is a straight average of all the states.

Exhibit 4-41: Comparative timeline of New Jersey and U.S. GDP Recovery

Quarterly % change in New Jersey and US Real GDP, not normalized, indexed to Q4 2019 levels



Source: US Census; USA Facts; BEA; BCG Analysis

Impacts to GDP were spread unequally across industries. Several of New Jersey's biggest sectors, such manufacturing, healthcare, and retail trade, were severely impacted, with real estate experiencing the highest GDP losses.

Exhibit 4-42: Impact to New Jersey GDP across industries

Industry	Share of GDP 2019	Q2 GDP Trough	Total GDP Loss 2020-2022
Real estate	15%	-5%	-13%
Professional, scientific, and technical	10%	-6%	-8%
Manufacturing	10%	-13%	-62%
Government and government enterprises	10%	-4%	-29%
Health care	8%	-17%	-21%
Wholesale trade	8%	-12%	-12%
Retail trade	6%	-17%	-43%
Finance and insurance	6%	-2%	-7%
Information	5%	-1%	-1%
Management of companies	4%	-6%	-9%
Admin, support, waste management	4%	-18%	-33%
Transportation and warehousing	4%	-31%	-140%

Source: BEA; BLS; BCG analysis

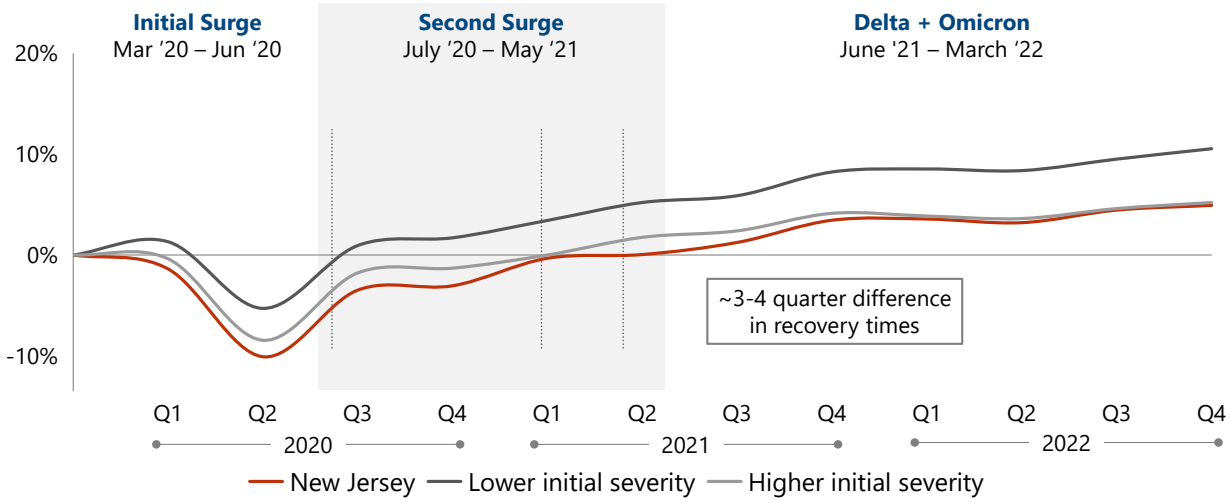
Industry composition explains some of the difference in New Jersey's economic outcomes from the U.S. average. After adjusting for industry mix, New Jersey saw a smaller GDP dip of 10%, and total GDP loss diminished to -17% (compared to 20% unadjusted).[46]

As discussed, to properly contextualize economic outcomes, New Jersey has been compared to states that experienced similar levels of diseased severity during the Initial Surge and to states that implemented longer shutdowns. On average, states with higher disease severity saw deeper troughs and longer recovery times. New Jersey followed a similar trend of peer states with increased disease severity.

[46] See Chapter 4 Appendix C-3: Timeline of New Jersey GDP Impacts (Industry and non-Industry Adjusted).

Exhibit 4-43: Comparative Timeline of GDP impacts by initial disease severity grouping

% change in Real GDP, normalized to US industry composition, indexed to Q4 2019 levels



Source: US Census; USA Facts; BEA; BLS; BCG Analysis

States with higher disease severity lost more GDP than the U.S. average. For example, higher disease severity states experienced a GDP dip of approximately 8% in the months immediately after the pandemic, compared to a dip of 5% in lower disease severity states.[47]

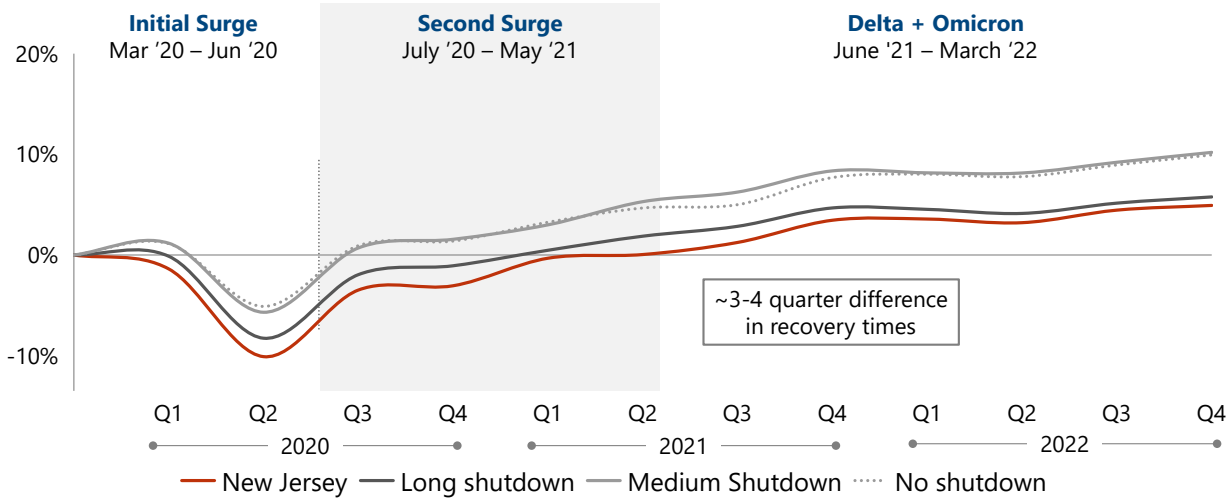
Similarly, states with longer shutdowns had more severe GDP impacts and longer recovery times than others. New Jersey's GDP and recovery times were more impacted even when compared to other states that had similarly long shutdowns.[48]

While New Jersey ranked 45th out of 50 states for Total GDP Loss, it also was one of the states that experienced the most fatalities and implemented the longest shutdowns. Combined, disease severity and shutdown length account for a significant portion of New Jersey's GDP loss during COVID-19.

[47] See Chapter 4 Appendix C-4: GDP Impact by Disease Severity Grouping.
[48] See Chapter 4 Appendix C-13: Employment Loss Impact by Shutdown Length.

Exhibit 4-44: Comparative Timeline of GDP impacts by shutdown length grouping

% change in Real GDP, normalized to US industry composition, indexed to Q4 2019 levels



Source: US Census; USA Facts; BEA; BLS; BCG Analysis

4.3.5 Structural Changes to New Jersey's Economy

COVID-19 had permanent, structural impacts on industries that will continue to influence the economy long after the end of the public health emergency.

Long-Term Negative Impacts

In some industries, COVID-19 caused permanent structural harm and/or accelerated pre-existing negative trends.

- **Brick-and-mortar retail.** The pandemic accelerated growth of e-commerce that negatively impacted retailers and retail jobs.
- **Commercial real estate (retail).** The growth of e-commerce reduced the demand for commercial real estate. This was exacerbated by the loss of spending associated with on-site work.
- **Travel-dependent industries, especially those relying on business travel.** This industry experienced lower long-term demand due to reduced rates of business and international leisure travel and associated reduction in visitor spend.
- **Arts and entertainment (A&E).** A&E recovered only partially due to the slow recovery of visitor spending.
- **Passenger transportation.** COVID-19 impacted this segment by reducing on-site work, business travel, and international tourism.

- Commercial real estate. This segment experienced a reduction of on-site work and an overall reduction in demand for office space throughout the shutdown and as remote work became more feasible.
- Office services and commuter-dependent businesses. This segment experienced lower demand due to the reduction in spending associated with on-site work – for example, office supply stores and public transportation.
- Office and retail construction. COVID-19 caused lower demand for office and brick-and-mortar retail space, and therefore negatively impacted the construction of new facilities.

Temporary Harm

Industries that experienced temporary harm saw negative impacts due to COVID-19. However, these industries have returned (or are expected to return) to "normal" in the post-COVID-19 era, as they would in a typical recession.

1. Food services. The material mix shift resulted from full to limited service and material reduction in the demand for Business-to-Business (B2B) food services.
2. Spectator sports. This industry was less dependent on visitor spend than the broader Arts & Entertainment sector.
3. Healthcare providers. While annualized growth dropped after sharp declines early in the pandemic, it has fully recovered.
4. Residential real estate. This segment has fully recovered, following a temporary decline in occupancy rates and prices.
5. Non-commercial construction. After an initial lull, non-commercial construction saw a boost in the residential and infrastructure segments.

Long-Term Positive Impact

COVID-19 benefited and/or accelerated pre-existing positive trends.

1. Online retail. COVID-19 accelerated the expansion of e-commerce as residents were able to make most of their purchases online.
2. Warehousing and distribution. The rise of e-commerce drove increasing demand for industrial real estate, warehousing, and courier services.
3. Digital and remote services. Permanent behavioral changes accelerated the growth of digital and remote services (e.g., collaboration tools) and the enabling technologies that support them (e.g., high-speed Internet).
4. Telemedicine. The telemedicine share grew significantly throughout the COVID-19 pandemic, although future growth will depend upon changes in policy.

In the aftermath of the pandemic, New Jersey has a structurally different economic makeup.[49] By the end of 2022, professional services and information made up a larger share of GDP, while manufacturing and construction declined the most.

Exhibit 4-45: Change in sector makeup of New Jersey economy

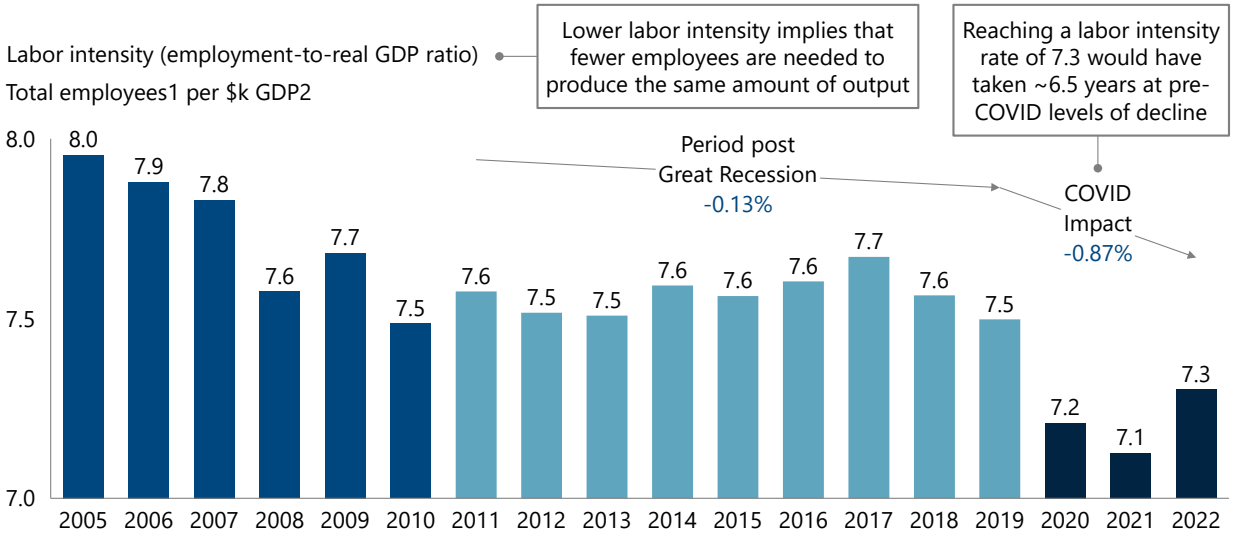
	NJ Share of GDP		
Industry	**Q4 '19**	**Q4' 22**	**Change (pp)**
Real estate, rental, leasing	15%	14%	-0.4
Professional services	10%	12%	1.6
Manufacturing	10%	9%	-1.0
Health care	8%	9%	0.2
Wholesale	8%	8%	0.2
Retail	6%	6%	-0.4
Finance and insurance	6%	6%	-0.1
Information	5%	6%	1.0
Management of companies	4%	4%	0.2
Admin, support, waste management	4%	4%	0.3
Transportation and warehousing	4%	3%	-0.3
Construction	3%	2%	-0.6

1. Shares do not equal 100 as only top industries in NJ are represented
Source: US Census; Census QWI; BEA; BLS; BCG Analysis

In addition to changing the sector makeup of the economy, the pandemic accelerated declines in labor intensity. Lower labor intensity implies that fewer employees are needed to produce the same amount of output. In the 3 years between 2019 and 2022, New Jersey reached a labor intensity rate that would have taken ~6.5 years at pre-COVID-19levels of decline.

[49] See Chapter 4 Appendix C-14: New Jersey Changes in share of GDP and employment by industry, 2019-2022.

Exhibit 4-46: COVID-19 impact on New Jersey labor intensity



1. All Employees: Total Nonfarm in New Jersey 2. Real Gross Domestic Product: All Industry Total in New Jersey, Millions of Chained 2012 Dollars
Source: FRED (Federal Reserve Bank of St. Louis); BCG analysis

Two main drivers of changing labor intensity in the New Jersey economy are: (1) Change in Industry Mix; and (2) Change in Employment Intensity of Industries.

Change in industry mix: Several industries (e.g., healthcare, food services, and retail) have higher labor intensity, while others (e.g., finance, insurance, and real estate) have lower labor intensity. As these industries change in the overall share of the economy, the economy experiences changes in labor intensity at a macro-level.

Change in employment intensity of industries: Independently of their contribution to the overall economy, industries have changed – and will continue to change – their level of labor intensity for a variety of reasons, including:

- Technological improvements (e.g., those that impact labor productivity, such as mechanized packaging and warehousing management).
- Changes in business models, such as online delivery of goods and services.

Professional, business, information, and mining sectors saw increasing labor intensity – meaning they achieved greater output with fewer employees. Other sectors, such as construction and manufacturing, saw decreases labor intensity – meaning that with the same number of employees, they were achieving lower output.

This industry-level view is needed to identify the structural impacts of COVID-19 and long-term trends, such as areas of the economy where jobs will be either lost or created.

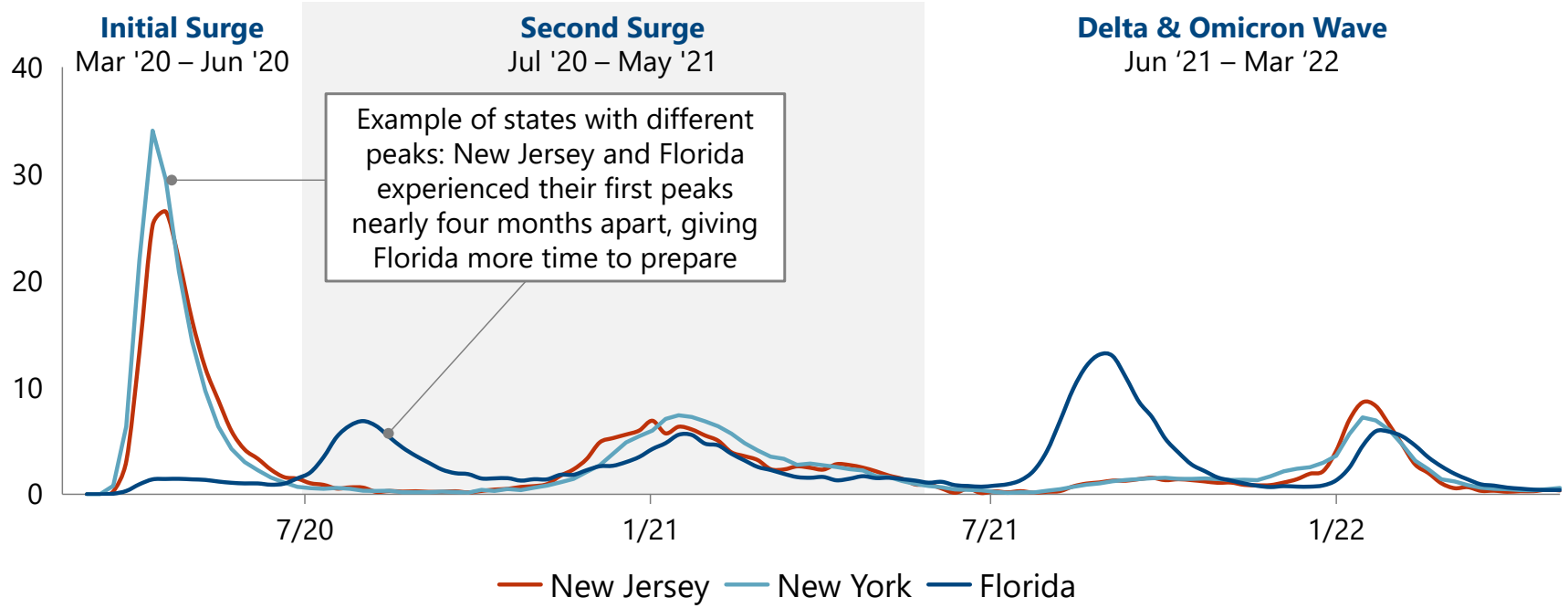
4.4 Conclusion

The data presented in this chapter reflects the enormous health and economic damage that COVID-19 caused in New Jersey. Chapter 5 recounts what the State did in response to the pandemic; assesses how effective its decisions and actions were at meeting the enormous challenges; and compares New Jersey's actions with those taken by other states to analyze both the consequences of different approaches, and lessons that can be learned from that analysis.

4.5 Appendix A: COVID-19 Heath Outcomes

A-1 Examples of variations in surge timing across states

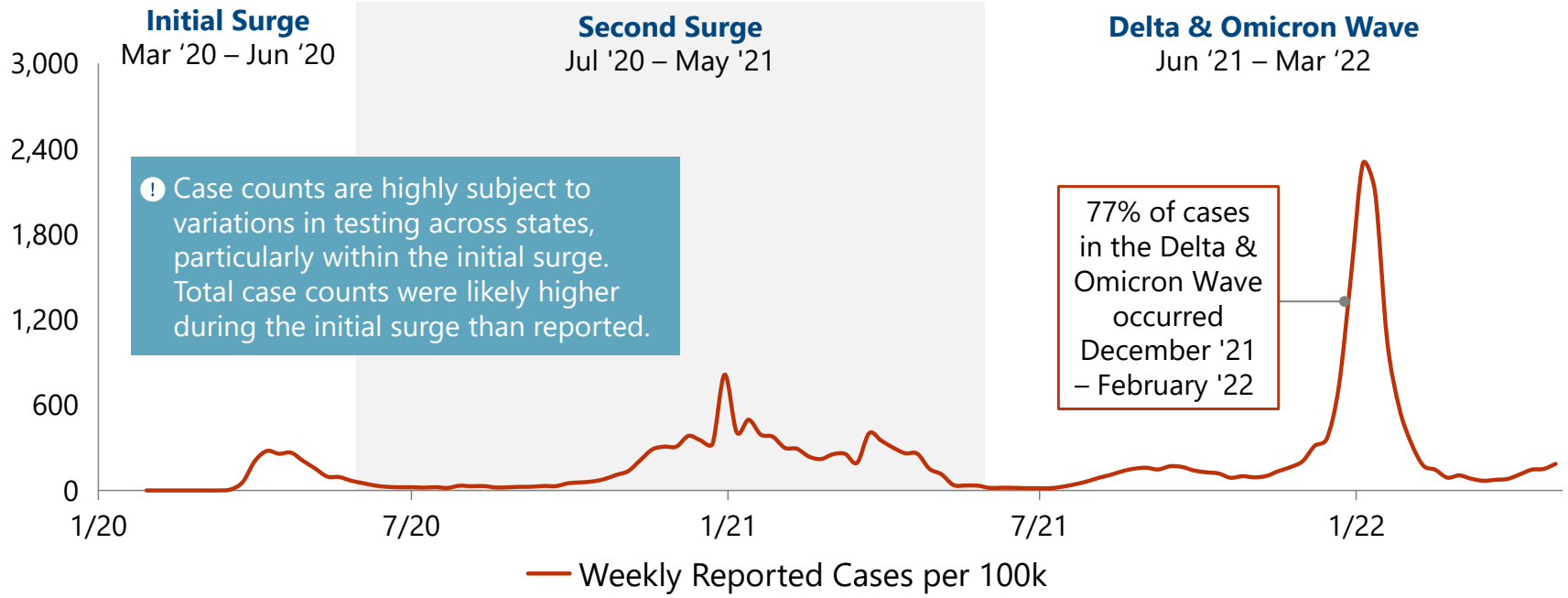
Weekly COVID-19 fatalities per 100k of total population for New Jersey and two example states[1]



1. Count of death certificates mentioning COVID-19 anywhere (as underlying or multiple cause of death) 2. Average of weekly COVID fatalities per 100K across each day in time range
Source: CDC WONDER Multiple Cause of Death Database; US Census

A-2 Timeline of New Jersey COVID-19 Reported Cases

Weekly new confirmed COVID-19 cases per 100k

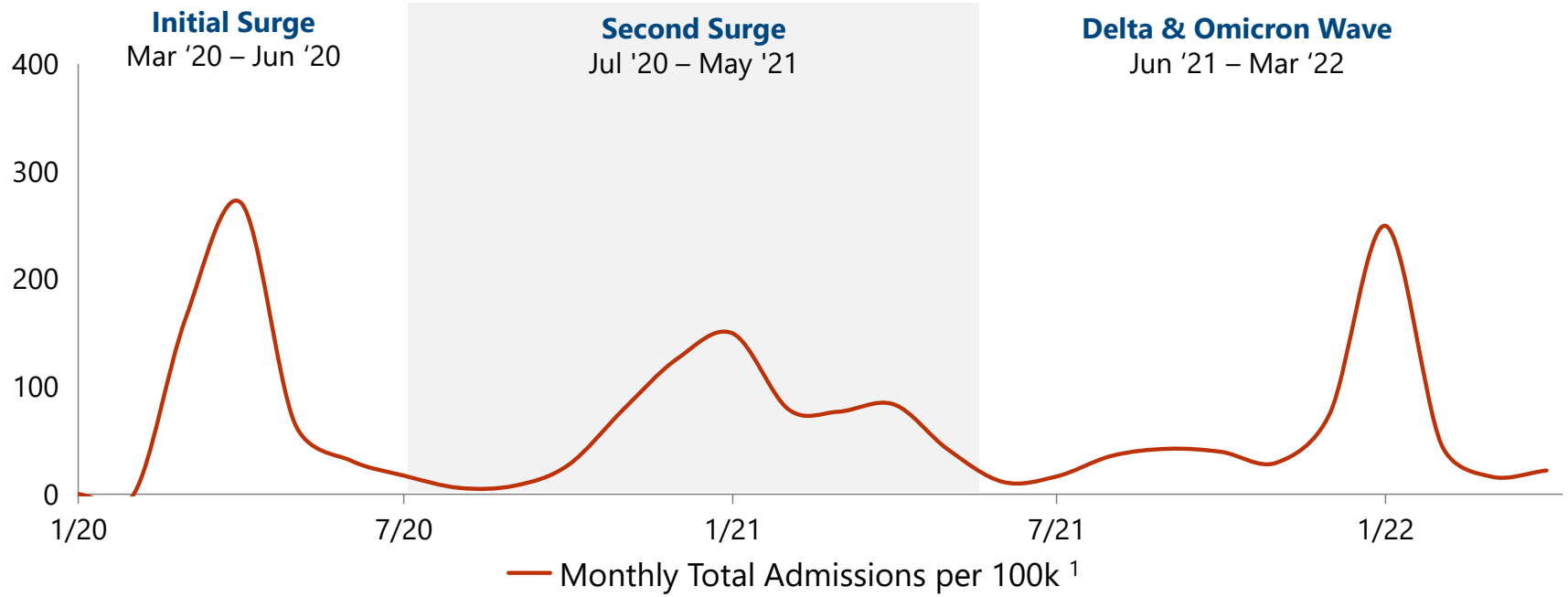


Note: Per 100k; For most states, USAFacts directly collects daily county-level cumulative totals of positive cases from a table, dashboard, or PDF on the state public health website. This data is compiled either through scraping or manual entry. Because of the frequency of data updates, they may not reflect the exact numbers reported state and local government organizations or the news media. Numbers may also fluctuate as agencies update their own data. Normalization per 100k based on census populations;
Source: USAFacts

New Jersey's 24,000 total cases occurred across the three periods (March 2020 to March 2022) over three distinct peaks, with the highest levels of COVID-19 occurring during the Delta & Omicron Wave (weekly new confirmed COVID-19 cases per 100k).

A-3 Timeline of New Jersey COVID-19 Hospitalizations

Monthly total COVID-19hospitalizations per 100k of total NJ population

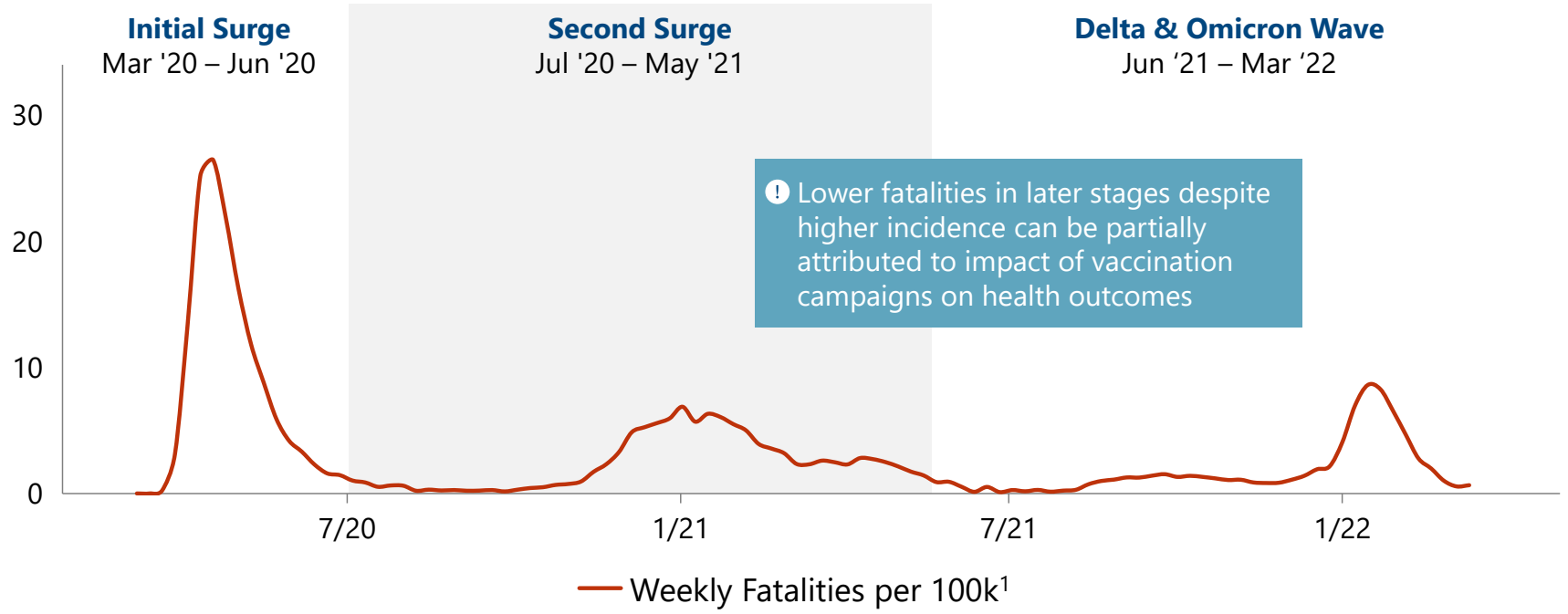


1. Total across time range
Note: The CDC COVID Data Tracker, which accounts for all confirmed hospital admissions in the US begins reporting hospital admissions in 08/2020 and was used as the source dataset from that period forward; for 01/2020-07/2020 the CDC Case Surveillance dataset was used, which includes hospitalization data for 36% of cases and accounts for ~50% of all known hospitalizations; hospitalization reporting by state ranges from 0-100% of cases (NJ reported hospitalization data for 90% of cases)
Source: CDC COVID Data Tracker; CDC COVID-19 Case Surveillance Public Use Data with Geography Data Dictionary- Public; CDC Provisional COVID-19 Deaths by Sex and Age- Public

Hospitalizations in New Jersey also occurred in three distinct peaks, with the Initial Surge and Delta & Omicron waves seeing the highest peaks.

A-4 Timeline of New Jersey COVID-19 Fatalities

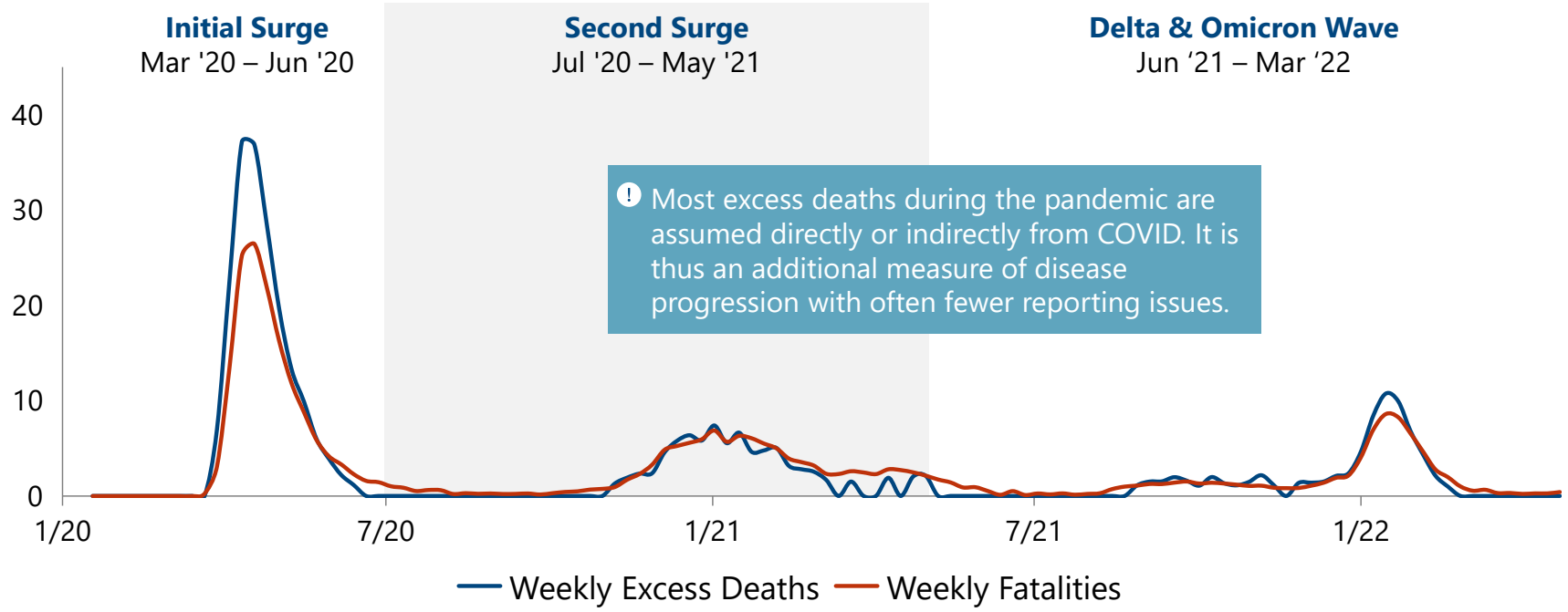
Fatalities[1] peaked at similar frequency to the previous charts, though they generally decreased during later waves of COVID-19 (Weekly COVID-19 deaths per 100k of total population, including New Jersey rank within time periods)



Note: Count of death certificates mentioning COVID-19 anywhere (as underlying or multiple cause of death) 1. Average of weekly COVID fatalities per 100K across each day in time range
Source: CDC WONDER Multiple Cause of Death Database; US Census

A-5 Timeline of New Jersey COVID-19 Excess Deaths

Weekly confirmed excess deaths, fatalities per 100k of New Jersey's total population



1. Excess deaths is the difference between the actual number of deaths in the period and the upper-bound threshold estimate of expected deaths from the CDC.
Source: CDC Excess Deaths Associated with COVID-19

Excess deaths, defined as the difference between the actual number of deaths in the period and the upper bound threshold estimate of expected deaths from the CDC, are an alternative method of capturing fatalities; this measure shows similar patterns.

A-6 Relationship between U.S. Average Case Counts, Hospitalizations, and Fatalities across periods

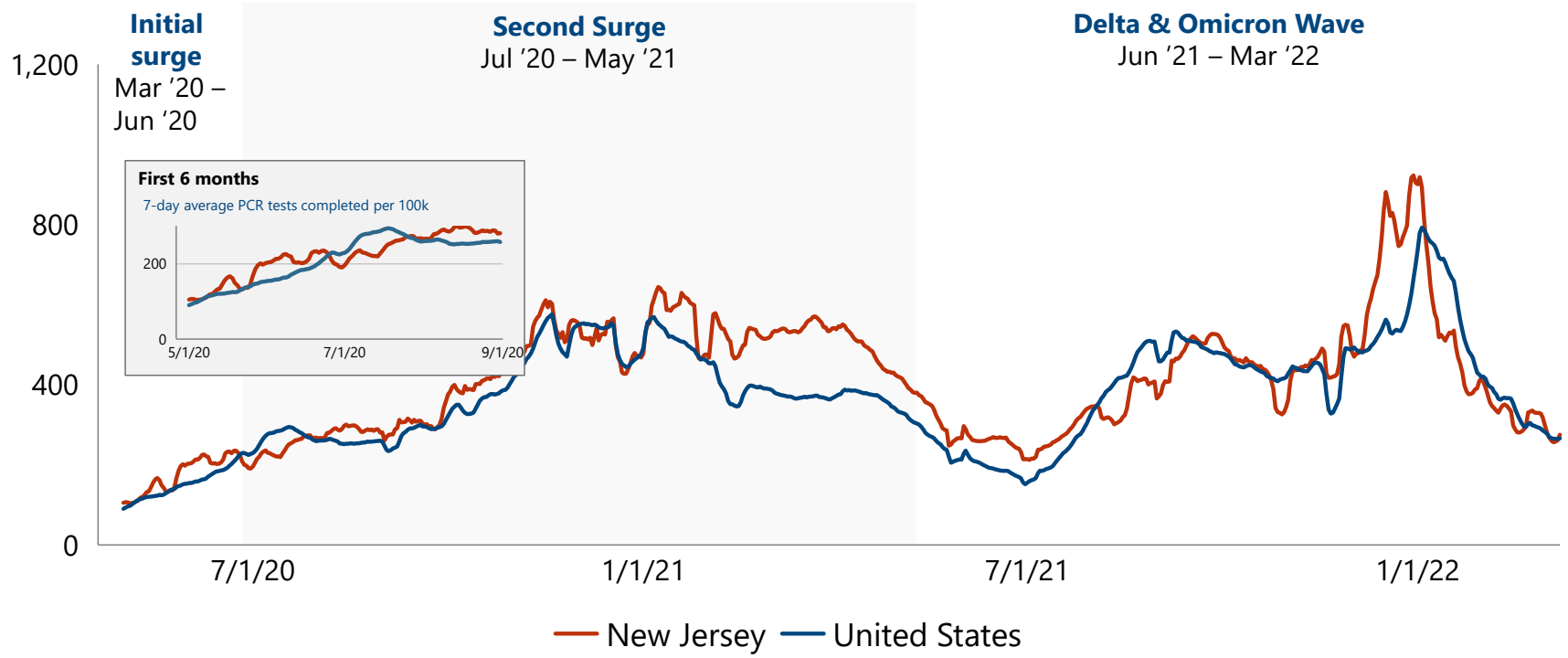
	Ratio between US average outcomes			
	Cumulative Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
Hospitalizations to case counts	6%	12%	7%	5%
Fatalities to case counts	1%	4%	2%	1%
Fatalities to hospitalizations	20%	35%	21%	17%

Source: CDC, USAFacts

Ratios between outcomes fall as the pandemic progresses, from 35% hospitalizations to fatalities in the Initial Surge to 17% in the Delta and Omicron surge, suggesting that outcomes are more related to each other in the Initial Surge.

A-7 Timeline of Completed PCR Tests in New Jersey vs the U.S. Average

Total completed PCR tests (7-day average) per 100k, for New Jersey and the US average (includes PCR tests that tested both positive and negative)



Note: Average of measure across time period Source: HHS COVID-19 Diagnostic Laboratory Testing (PCR Testing) Time Series (results from over 1,000 U.S. laboratories and testing locations including commercial and reference laboratories, public health laboratories, hospital laboratories, and other testing locations. Data are reported to state and jurisdictional health departments in accordance with applicable state or local law and in accordance with the CARES Act); US Census

A-8 Comparison of New Jersey, Peer State, and U.S. Reported COVID-19 Cases by Period

Total confirmed COVID-19 cases per 100k of total population

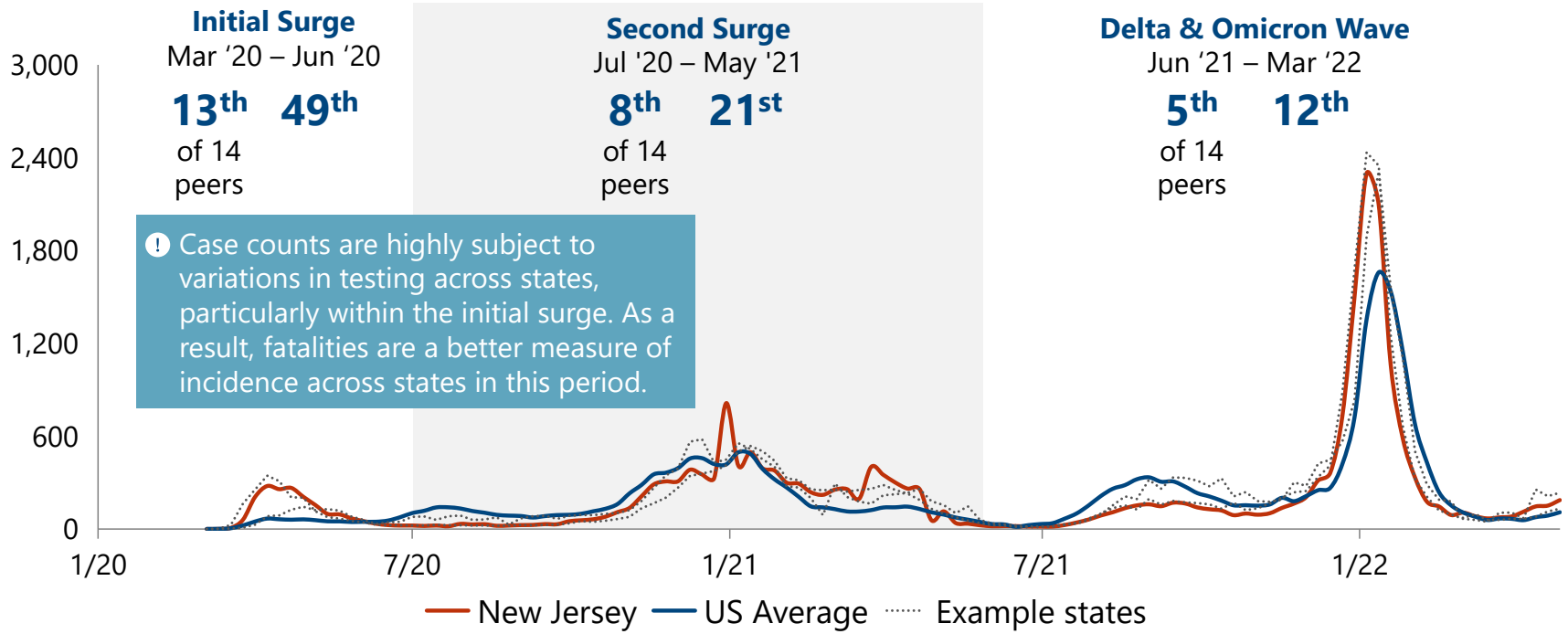
	Total cases per 100k			
	Cumulative Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
New Jersey	23,682 19th (US) 6th/14 (Peers)	1,847 49th (US) 13th/14 (Peers)	9,901 21st (US) 8th/14 (Peers)	12,739 12th (US) 5th/14 (Peers)
Initial outbreak states	22,818	1,119	8,728	12,954
US Total	23,800	821	9,126	13,830

Note: For most states, USAFacts directly collects daily county-level cumulative totals of positive cases from a table, dashboard, or PDF on the state public health website. This data is compiled either through scraping or manual entry. Because of the frequency of data updates, they may not reflect the exact numbers reported state and local government organizations or the news media. Numbers may also fluctuate as agencies update their own data; normalization per 100k based on census populations; Weekly numbers; Rank based on cumulative case count in time period
Source: USAFacts

New Jersey and initial outbreak states had higher levels of COVID-19 earlier in the pandemic but fell below the U.S. by the Delta & Omicron period.

A-9 Comparative Timeline of New Jersey, Example Peer States, and U.S. Reported COVID-19 Cases

Weekly new confirmed COVID-19 cases per 100k for NJ and example peer states, including NJ rank within time periods



Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a higher rate of illness or deaths than the other 49 states; For most states, USAFacts directly collects daily county-level cumulative totals of positive cases from state public health websites. This data is compiled either through scraping or manual entry. Because of the frequency with which data is updated, they may not reflect the exact numbers reported by state. Numbers may also fluctuate as agencies update their own data; normalization per 100k based on census populations; Weekly numbers; DE and NY were chosen as examples because they ranked 1st and 14th, respectively, of the 14 Initial Outbreak states for COVID cases in the Initial Surge; Rank based on cumulative case count in time period
Source: USAFacts

New Jersey experienced relatively higher levels of COVID-19 throughout the pandemic, particularly in the Initial Surge.

A-10 Comparison of New Jersey, Peer State, and U.S. Hospitalizations by Period

Total hospitalizations due to COVID-19 per 100k of total population

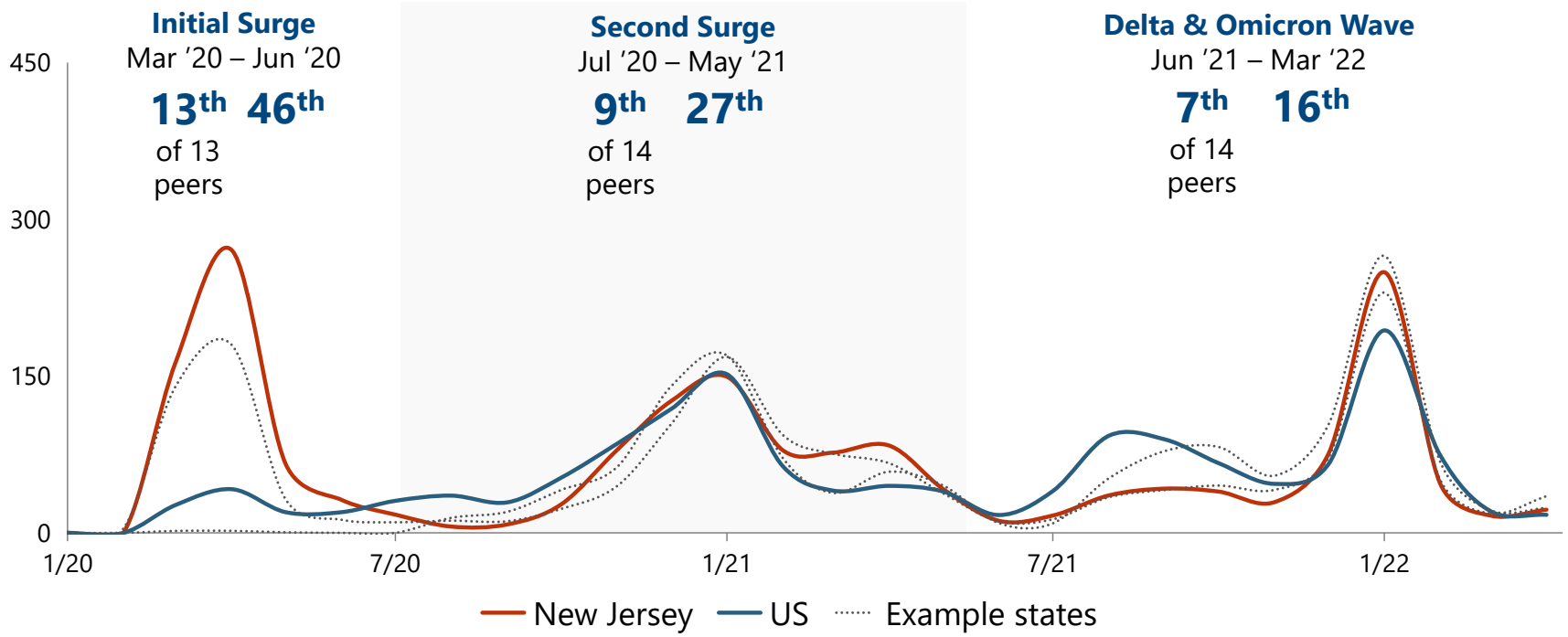
	Total hospitalizations per 100k[1]			
	Cumulative Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
New Jersey	1,796 42nd (US) 13th/13 (Peers)	556 46th (US) 13th/13 (Peers)	677 27th (US) 9th/14 (Peers)	563 16th (US) 7th/14 (Peers)
Initial outbreak states	1,370	175	618	577
US Total	1,508	108	693	707

1. Count of monthly COVID-19 related hospital admissions; Ranked by cumulative COVID-19 hospital admissions per 100K residents across time range
Note: Pre-August data from hospital surveys before hospitals were required to report data, some data inaccuracies may exist as a result
Source: COVID-19 Case Surveillance Public Use Data with Geography Data Dictionary- Public; CBP Decennial 2020 Census

New Jersey had higher hospitalizations than peers and the U.S. average in the first surge but was close to the U.S. in later periods.

A-11 Comparative Timeline of New Jersey, Example Peer States, and U.S. COVID-19 Hospitalizations

Total monthly COVID-19 admissions per 100k of total population for NJ and example peer states, including NJ rank within time periods



Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a higher rate of illness or deaths than the other 49 states; Pre-August data from hospital surveys before hospitals were required to report data, some data inaccuracies may exist as a result; Count of monthly COVID-19 related hospital admissions 2. DE and NY were chosen as examples because they ranked 1st and 12th, respectively, of the 13 Initial Outbreak states for COVID hospitalizations in the Initial Surge (NJ ranked last, so NY was chosen for being second to last); Ranked by cumulative COVID-19 hospital admissions per 100K residents across time range
Source: COVID-19 Case Surveillance Public Use Data with Geography Data Dictionary- Public; CBP Decennial 2020 Census

A-12 Comparison of New Jersey, Peer State, and U.S. Fatalities by Period

Total fatalities due to COVID-19 per 100k of total population

	Total fatalities per 100k			
	Cumulative Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
New Jersey	332 37th (US) 11th/14 (Peers)	146 49th (US) 13th/14 (Peers)	112 18th (US) 5th/14 (Peers)	74 9th (US) 5th/14 (Peers)
Initial Outbreak States Average	295	68	133	94
US Total	290	37	137	116

Note: Count of death certificates mentioning COVID-19 anywhere (as underlying or multiple cause of death)
Source: CDC

New Jersey had the second highest fatalities in the first surge, but had lower rates in later surges, both among initial outbreak states and all states.

A-13 Comparative Ranking of Cases, Hospitalizations, and Fatality Rates across Periods (New Jersey, Peer States and U.S.)

New Jersey's hospitalizations and fatalities are in line with disease severity

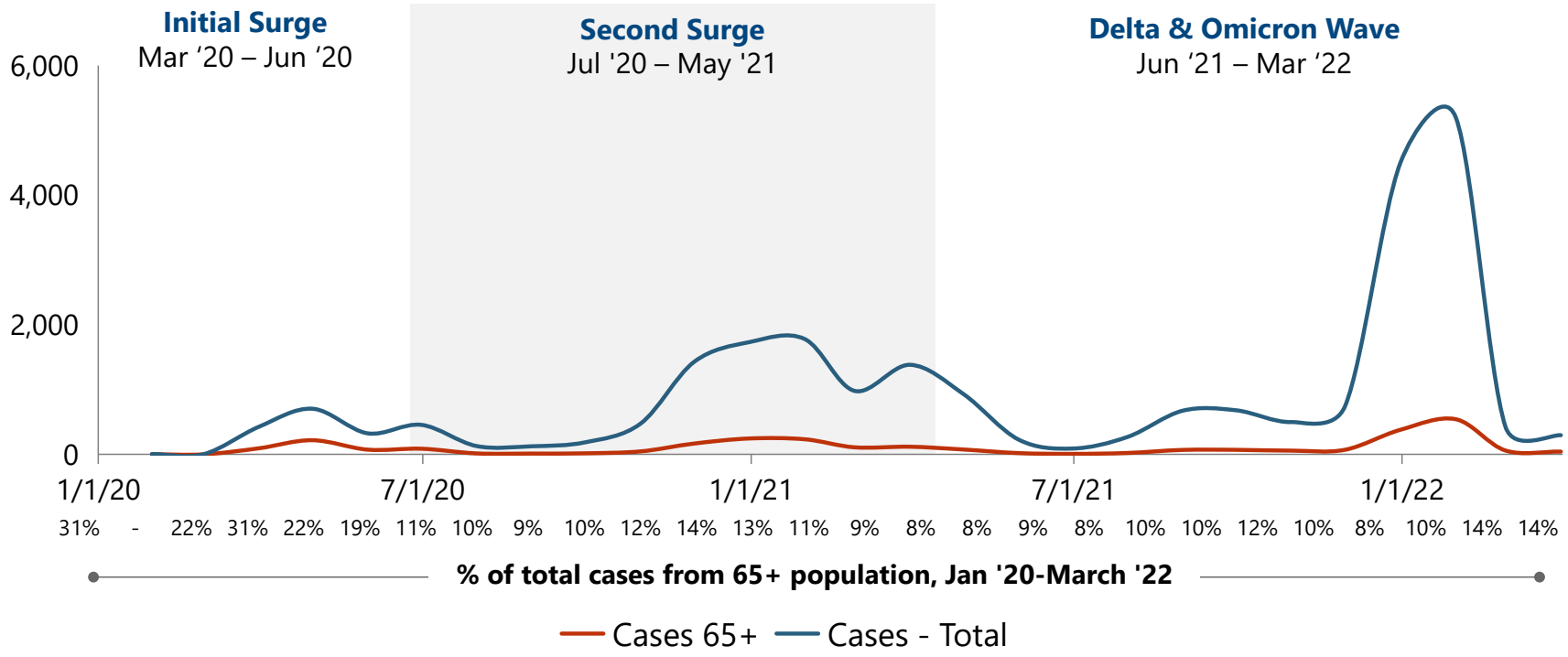
	Initial Surge (March-June '20)					Second Surge (July '20-May '21)				
	Total Cases	Total Hospital-izations	Total Fatalities	Fatalities/ Incidence	Fatalities/ Hospital-izations	Total Cases	Total Hospital-izations	Total Fatalities	Fatalities/ Incidence	Fatalities/ Hospital-izations
New Jersey	1,847 44th (US) 13th (Peers)	556 44th (US) 13th (Peers)	146 49th (US) 13th (Peers)	8% 47th (US) 11th (Peers)	28% 28th (US) 4th (Peers)	9,091 21st (US) 8th (Peers)	677 27th (US) 9th (Peers)	112 18th (US) 5th (Peers)	1% 15th (US) 4th (Peers)	17% 12th (US) 3rd (Peers)
Initial outbreak state average	1,119	175	68	4%	31%	8,728	618	133	1%	21%
US Total	821	108	37	4%	35%	9,126	693	137	2%	21%

Note: Ranks for total cases, hospitalizations, fatalities based on cumulative counts over periods. Ranks for fatalities as a share of incidence and hospitalizations are based on the percentage.
Source: CDC

A-14 Timeline of Share of Total COVID-19 Cases in New Jersey Made up of Individuals 65+

New Jersey's monthly cases for total and aged 65+ population per 100k of total population. Includes % of total cases made up of individuals 65 and over

The population aged 65+ consistently made up a large share of COVID-19 cases, but this share fell over time.



Source: CDC COVID-19 Case Surveillance Public Use Data with Geography Data Dictionary- Public

A-15 Comparison of Share of COVID-19 Cases Made up of Individuals 65+ (New Jersey, Peer States, and U.S.)

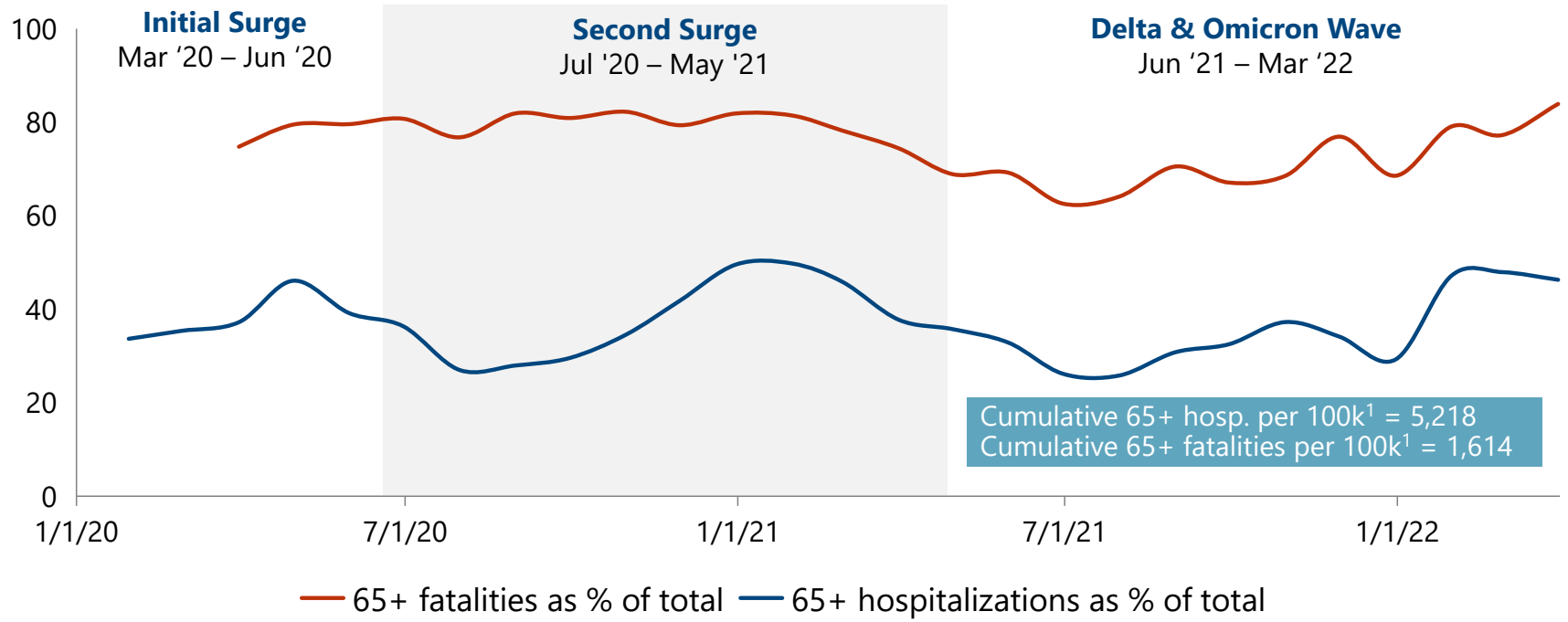
	Reported cases per 100k for 65+ population as a % of total cases reported			
	Cumulative Jan '20 – Mar '22	**Initial Surge** Mar '20 – Jun '20	**Second Surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – Mar '22
New Jersey	12%	25%	11%	10%
Initial Outbreak States	11%	20%	12%	9%
US Total	11%	17%	13%	10%

Source: CDC COVID-19 Case Surveillance Public Use Data with Geography Data Dictionary- Public

The share of COVID-19 cases coming from 65+ population declined in later periods.; This pattern is consistent across the U.S.

A-16 Timeline of New Jersey Share of Hospitalizations and Fatalities from 65+ Population

65+ hospitalizations and fatalities, as % of total hospitalizations and fatalities



1. Per 100k of 65+ population, not 100k of total population.
Source: CDC Provisional Death Counts for COVID-19, CDC COVID-19 Case Surveillance Public Use Data with Geography Data Dictionary- Public

The 65+ population also comprised a significant portion of total hospitalizations and fatalities.

A-17 New Jersey Fatalities by Race compared to Age Makeup

NJ not ranked against other states due to inconsistencies in race/ethnicity categorization and reporting across states and inability to account for differences in age

	Share of population	Percent of total fatalities[2] Cumulative Mar '20 – Mar '22	Initial Surge Mar '20 – Jun '20	Second Surge Jul '20 – May '21	Delta & Omicron Jun '21 – Mar '22
Asian	10%	5%	6%	5%	9%
Black	12%	18%	18%	16%	27%
Hispanic[1]	22%	21%	20%	19%	40%

1. Collected data grouped Hispanic into a racial identification rather than an ethnicity. 2. 4% of cumulative fatalities are included in totals but excluded from racial group reporting. Other racial groups include but are not limited to American Indian, Alaska Native, Native Hawaiian, other Pacific Islander, and people who identify with more than one race.
Note: Initial Surge fatalities are based off cumulative data on July 7, 2020, due to missing data at the end of June '20.
Source: DOH data; US Census 2020.

A-18 Summary metrics by pandemic stage

Metric	Cumulative Jan '20 – Mar '22	Early signals Jan '20 – Mar '20	Initial Surge Apr '20 – Jun '20	Second Surge Jul '20 – May '21	Delta & Omicron Jun '21 – Mar '22	Endemic phase Apr '22 – May '23
Daily new COVID cases per 100k[1]	216 (25th)	N/A	103 (50th)	178 (21st)	310 (12th)	192 (34th)
Adults ever experiencing COVID symptoms per 100k (monthly)	317 (34th)	N/A	268 (50th)	402 (32nd)	306 (32nd)	195 (44th)

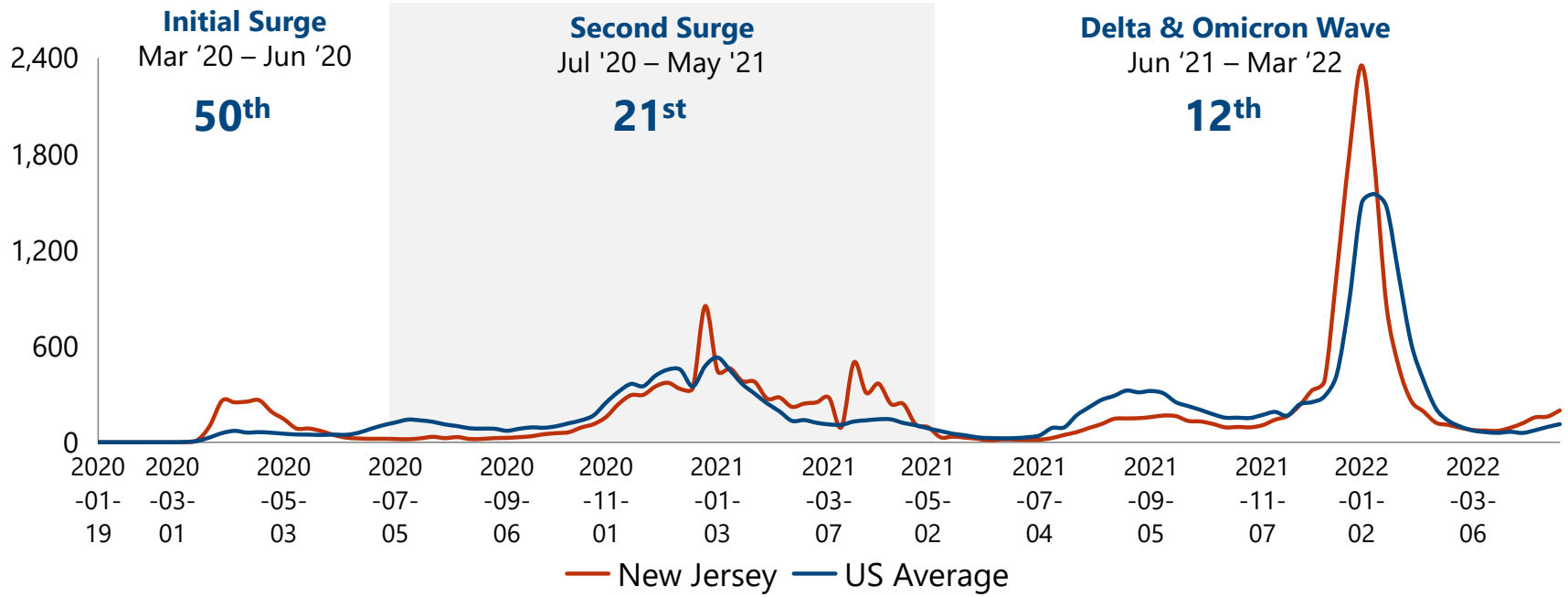
Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a higher rate of illness or deaths than the other 49 states;; For all analyses, the case month was taken as the month of date related to the illness or specimen collection or the date case information was received by the CDC; For the Surveillance dataset utilized for Adults experiencing symptoms, 93% of cases included symptoms data

1. 7-day average

Source: CDC COVID-19 Case Surveillance Public Use Data with Geography Data Dictionary- Public; CDC WONDER Multiple Cause of Death Database; CDC Weekly Excess Deaths Estimate; CMS COVID-19 Nursing Home Data; US Census

A-19 Comparative Timeline of New Jersey and U.S. daily reported COVID-19 cases

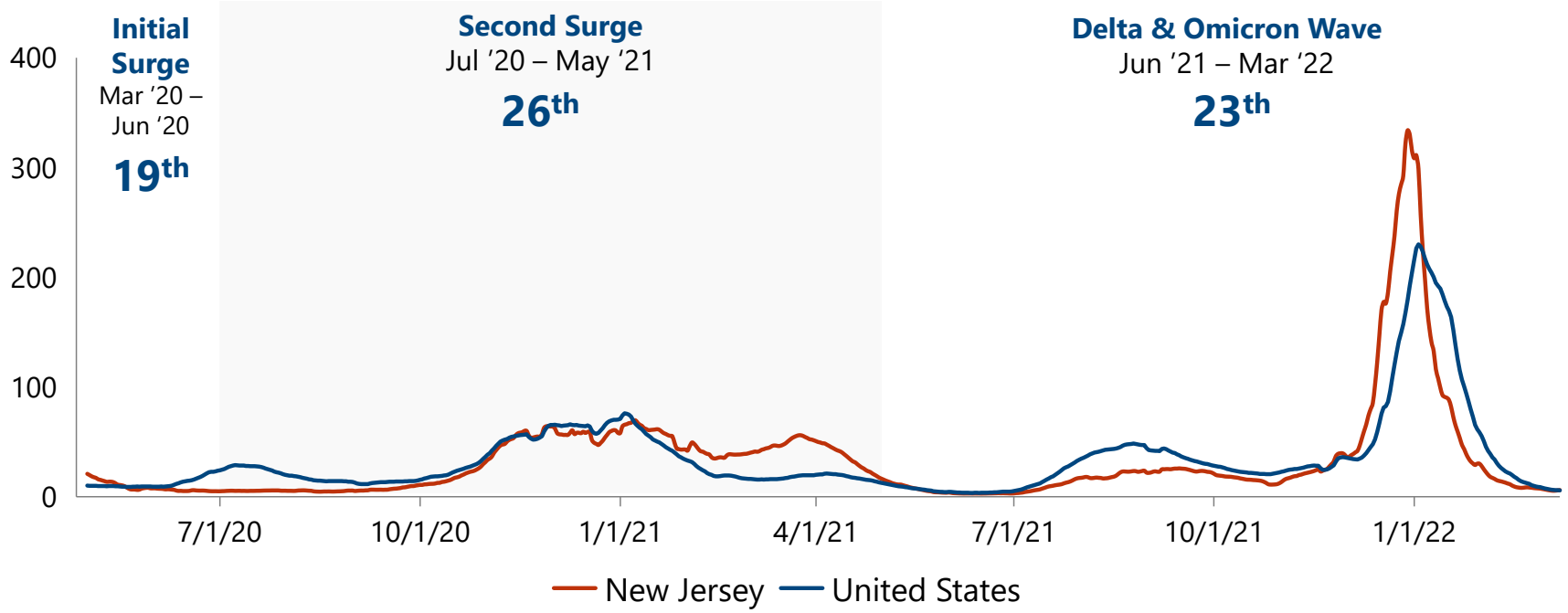
Weekly new confirmed COVID-19 cases per 100k, including NJ rank within time periods



Note: For most states, USAFacts directly collects daily county-level cumulative totals of positive cases from a table, dashboard, or PDF on the state public health website. This data is compiled either through scraping or manual entry. Because of the frequency with which we are currently updating this data, they may not reflect the exact numbers reported state and local government organizations or the news media. Numbers may also fluctuate as agencies update their own data; normalization per 100k based on census populations; Weekly numbers; Rank based on cumulative case count in time period
Source: USAFacts

A-20 Comparative Timeline of New Jersey and U.S. weekly average positive PCR tests

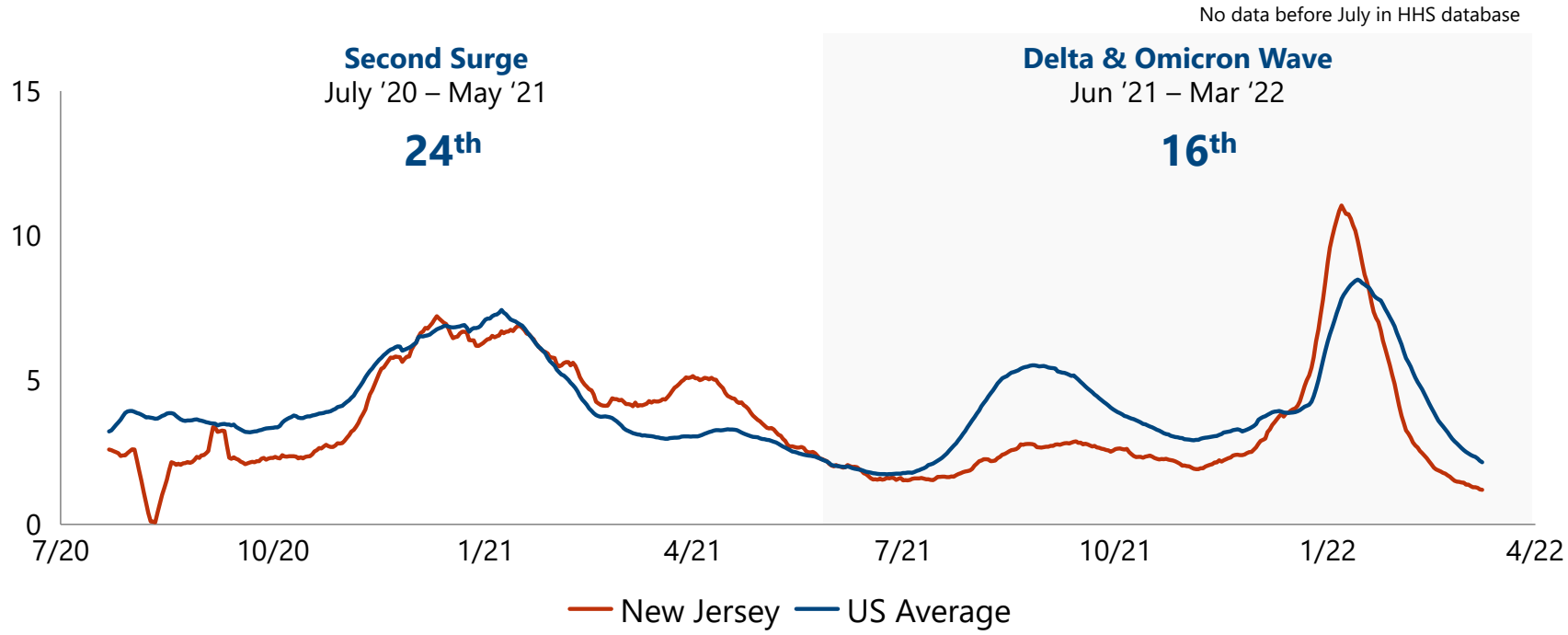
7-day average positive PCR tests per 100k, including NJ rank within time periods



Note: Testing volumes dictated reported case rates significantly–see, for example, NJ in April 2020, when fatalities and admissions were peaking
Source: HHS COVID-19 Diagnostic Laboratory Testing (PCR Testing) Time Series (results from over 1,000 U.S. laboratories and testing locations including commercial and reference laboratories, public health laboratories, hospital laboratories, and other testing locations. Data are reported to state and jurisdictional health departments in accordance with applicable state or local law and in accordance with the CARES Act); US Census

A-21 Comparative Timeline of New Jersey and U.S. COVID-19 Hospital Admissions

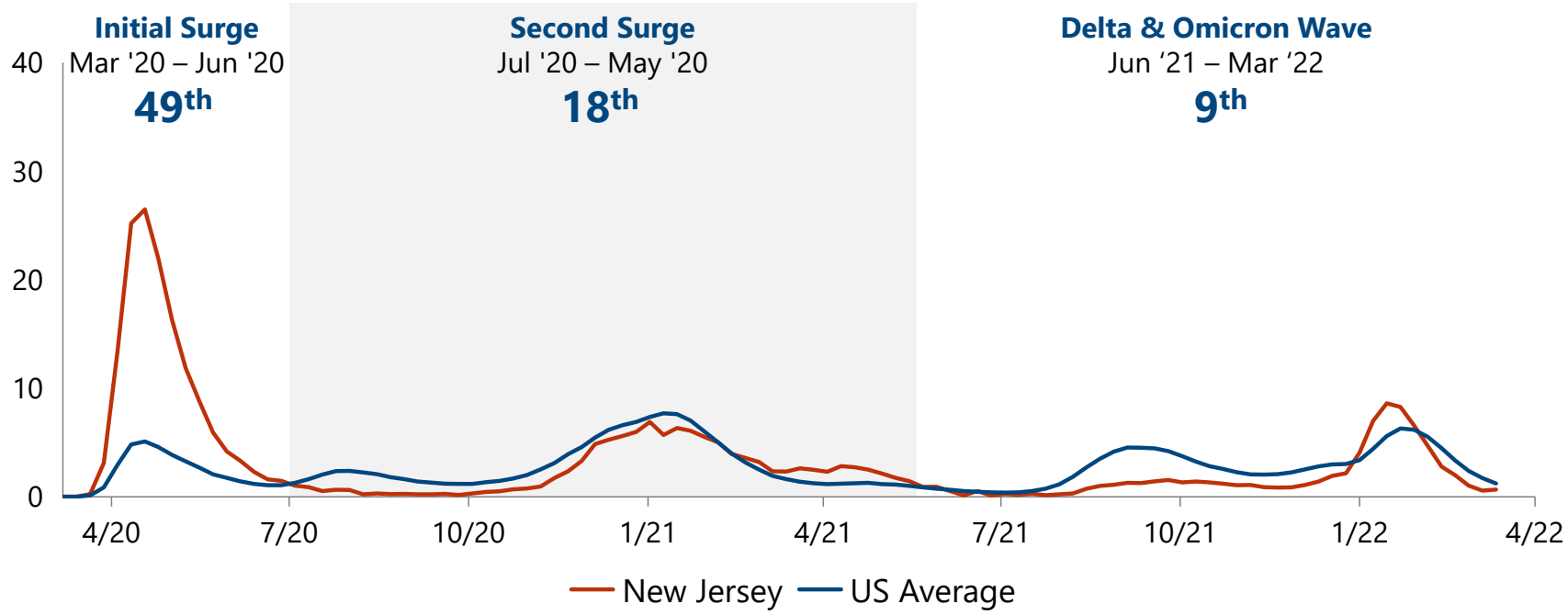
7-day average COVID-19 admissions per 100k residents, including NJ rank within time periods



Note: Number of adult and pediatric patients admitted to an inpatient bed who at the time were either confirmed to have or suspected of having COVID-19; Average of 7-day average COVID admissions per 100K across each day in time rang
Note: US average weighted based on Census population
Source: HHS COVID-19 Reported Patient Impact and Hospital Capacity By State Timeseries; US Census

A-22 Comparative Timeline of New Jersey and U.S. Excess Deaths

Average weekly excess deaths per 100k, including NJ rank within time periods



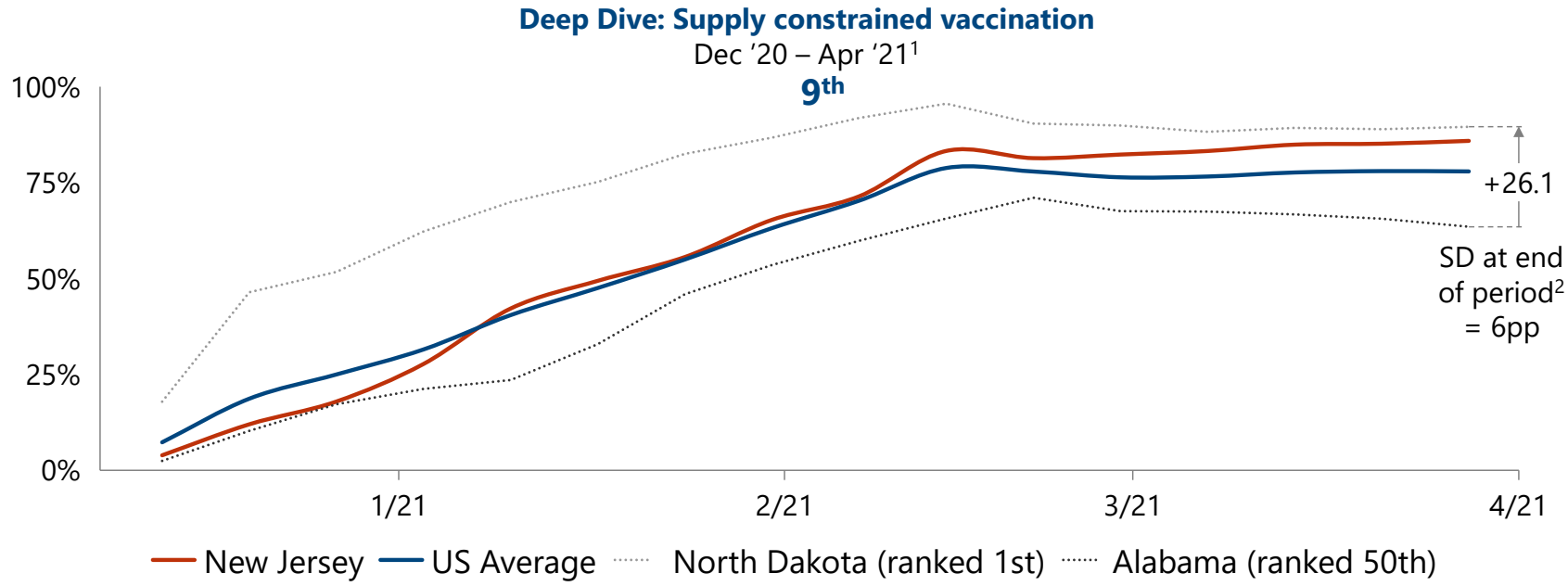
Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a higher rate of illness or deaths than the other 49 states.; Count of death certificates mentioning COVID-19 anywhere (as underlying or multiple cause of death); Average of weekly COVID fatalities per 100K across each day in time range
Source: CDC WONDER Multiple Cause of Death Database; US Census

4.6 Appendix B: COVID-19 Vaccination Outcomes

This Appendix contains addenda as referenced by the preceding main document.

B-1 Timeline of Supply Constrained Period COVID-19 throughput, New Jersey compared to U.S.

Daily vaccine throughput by state (doses administered/doses distributed), including NJ rank within time periods



Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a lower vaccination rate than the other 49 states; Data begins week starting 12/13/20 (weeks start on Sunday); CDC throughput data is potentially inconsistent between states, as some states may have reported vaccine shipments as "distributed" when they weren't delivered (only ordered); ND and AL are shown as they are the highest and lowest ranked states in throughput rate at the end of the period, respectively.
1. NJ rankings as of last day of the period (3/28/21) 2. Standard deviation calculated from the spread of individual state throughput rates from the weighted US average in the week of 3/28/21
Source: CDC; BCG Analysis

B-2 Comparative Change in Hesitancy Rates for New Jersey and U.S. throughout the pandemic

% of survey respondents who indicated that they "Probably or definitely will not get vaccinated"

Geography	May '21	Dec '22[1]	Percentage point change in hesitancy May '21 – Dec '22
New Jersey	10% 5th/50	2% 8th/50	-8
Lower hesitance states (n=18)	12%	4%	-8
Higher hesitance states (n=32)	24%	15%	-9
US Average	18%	10%	-8

Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a higher hesitancy rate than the other 49 states; Group includes both respondents who answered and had not received any COVID-19 vaccine at the time and those who had already received one or more doses; Rankings and totals as of last date reported within period; At least one dose can include J&J vaccine 1. CDC data for booster vaccinated rates ends at 7/31/22; booster rankings and vaccination rates shown are as of 7/31/22
Source: Census Household Pulse Survey; BCG Analysis

New Jersey had comparatively low starting hesitancy that decreased in line with the rest of the U.S.

B-3 Comparison of New Jersey, Peer State, and U.S. First Dose Vaccinations Across Periods

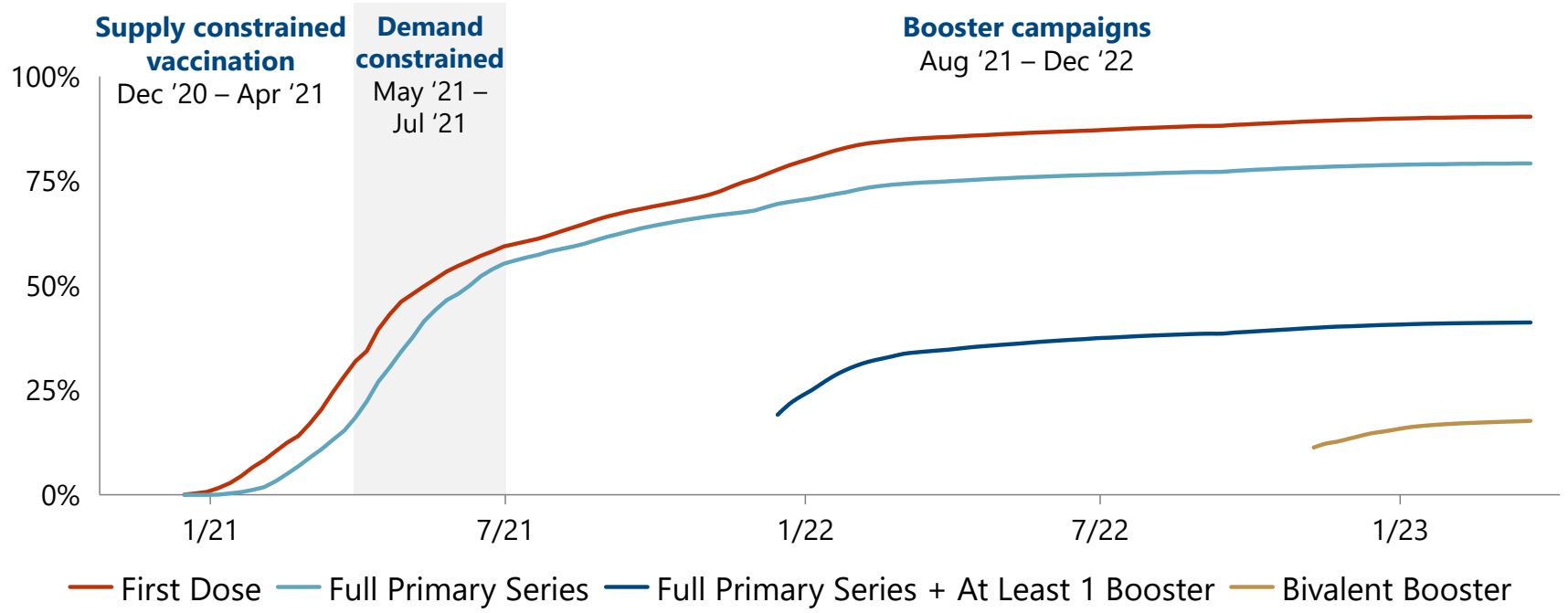
% of 18+ population vaccinated with first dose, including NJ's rank against its peers and nationally

	Supply constrained Dec '20 – Apr '21		Demand constrained May '21 – July '21		Booster campaigns Aug '21 – Dec '22	
Geography	**18+ First Dose Vx rate**	**NJ rank** *Relative to group*	**18+ First Dose Vx rate**	**NJ rank** *Relative to group*	**18+ First Dose Vx rate**	**NJ rank** *Relative to group*
New Jersey	58%	-	75%	-	95%	-
States with comparable hesitancy[1]	57%	8th/18	74%	9th/18	95%	1st (tie)/18
US Average	47%	9th/50	59%	9th/50	88%	1st (tie)/50

Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a higher hesitancy rate than the other 49 states.
1. Rank out of 18. States peer to NJ in vaccine hesitancy have lower rates of vaccine hesitancy than the U.S. average at 5/29/2020. These states include: HI, VT, MA, MD, CT, NY, VA, RI, NH, CA, WA, NM, ME, IL, DE, PA, OR.
Source: Census HPS, CDC COVID-19 Vaccinations in the United States,Jurisdiction

B-4 Timeline of New Jersey Vaccination Rates by Vaccine Type

% of total population vaccinated with each vaccine type



Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a lower vaccination rate than the other 49 states.
Source: CDC COVID-19 Vaccinations in the United States,Jurisdiction

From mid-2022 onward, vaccination rates were largely stable.

B-5 Booster Vaccination Rates Across States

% of population aged 18+ vaccinated with at least one booster by December 2022, ordered by highest to lowest vaccination rate

State	% Vaccinated
Vermont	63%
Rhode Island	59%
Maine	58%
Minnesota	54%
Massachusetts	54%
Connecticut	54%
Maryland	53%
California	52%
Washington	52%
Colorado	50%
Oregon	49%
Wisconsin	49%
New Mexico	49%
New Jersey	49%
Illinois	48%
Virginia	48%
New York	47%
New Hampshire	45%
Iowa	45%
Nebraska	45%
Delaware	44%
Michigan	44%
Utah	43%
Ohio	41%
Pennsylvania	41%

State	% Vaccinated
Arizona	39%
Alaska	39%
Kansas	39%
South Dakota	38%
Montana	37%
Florida	36%
Indiana	36%
West Virginia	36%
Kentucky	35%
North Dakota	35%
Idaho	34%
Nevada	34%
Missouri	34%
Tennessee	33%
South Carolina	32%
Texas	32%
Oklahoma	31%
Arkansas	31%
Georgia	31%
Wyoming	31%
Louisiana	30%
Mississippi	28%
Alabama	26%
North Carolina	26%
Hawaii	N/A

Note: HI is omitted because no data is reported for the period.
Source: CDC; BCG analysis

B-6 Bivalent Booster Vaccination Rates Across States

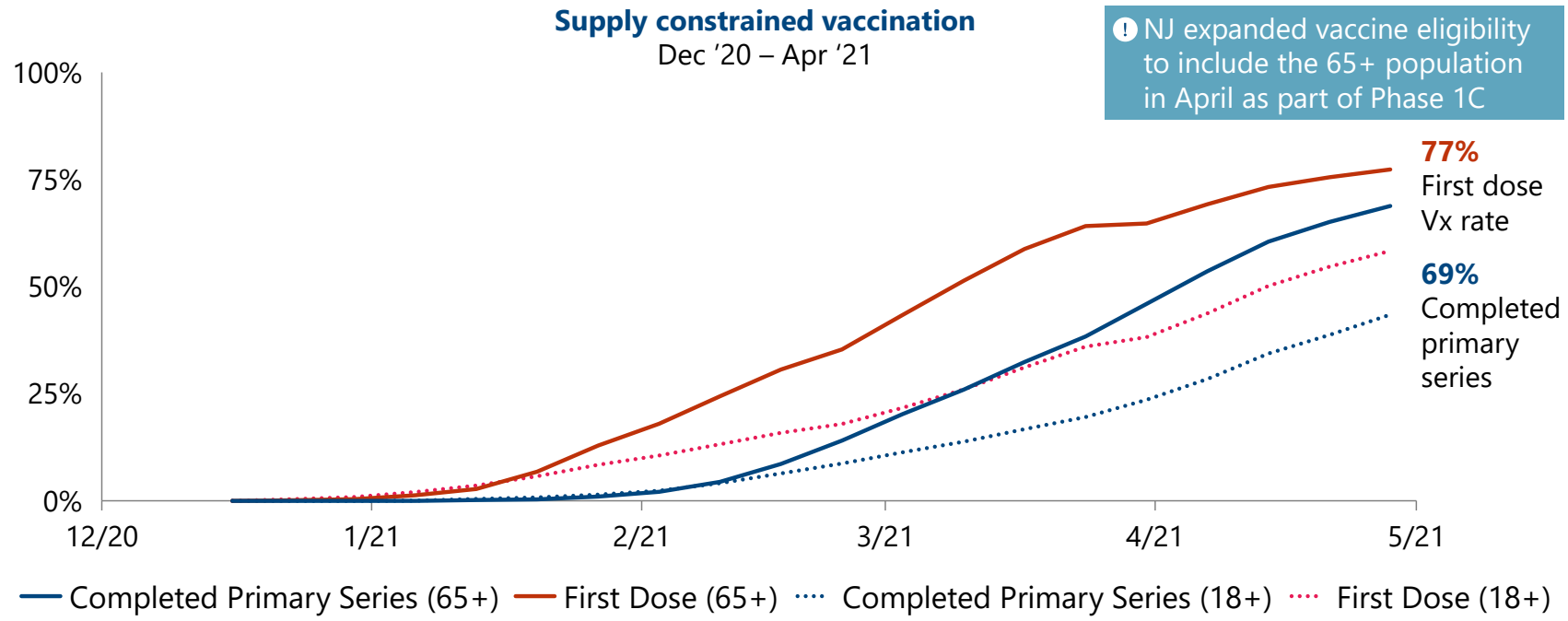
% of population aged 18+ vaccinated with bivalent booster by December 2022, ordered by highest to lowest vaccination rate

State	% Vaccinated
Vermont	33%
Maine	31%
Massachusetts	30%
Minnesota	28%
Washington	26%
Connecticut	26%
Rhode Island	26%
Maryland	25%
Wisconsin	24%
New Hampshire	24%
New Mexico	23%
Colorado	23%
Oregon	22%
Virginia	22%
Iowa	21%
Illinois	21%
Delaware	21%
California	21%
Pennsylvania	19%
Michigan	19%
South Dakota	18%
Nebraska	18%
New York	18%
New Jersey	17%
Ohio	17%
Kansas	17%
North Dakota	17%
Utah	16%
Montana	16%
Arizona	16%
North Carolina	16%
Missouri	16%
Idaho	15%
Alaska	15%
Nevada	14%
Kentucky	13%
Oklahoma	13%
Wyoming	13%
West Virginia	12%
South Carolina	12%
Arkansas	12%
Indiana	11%
Texas	11%
Florida	11%
Tennessee	11%
Georgia	11%
Alabama	8%
Louisiana	8%
Mississippi	7%
Hawaii	N/A

Note: HI is omitted because no data is reported for the period Source: CDC; BCG analysis

B-7 Timeline of New Jersey Adult Population and 65+ First Dose and Primary Series Vaccination Rates during the Supply Constrained Period

% of 18+ and 65+ NJ population vaccinated with first dose and completed primary series vaccinations



Source: CDC COVID-19 Vaccinations in the United States by Jurisdiction

B-8 New Jersey 65+ and Total Vaccine Hesitancy Throughout the Pandemic

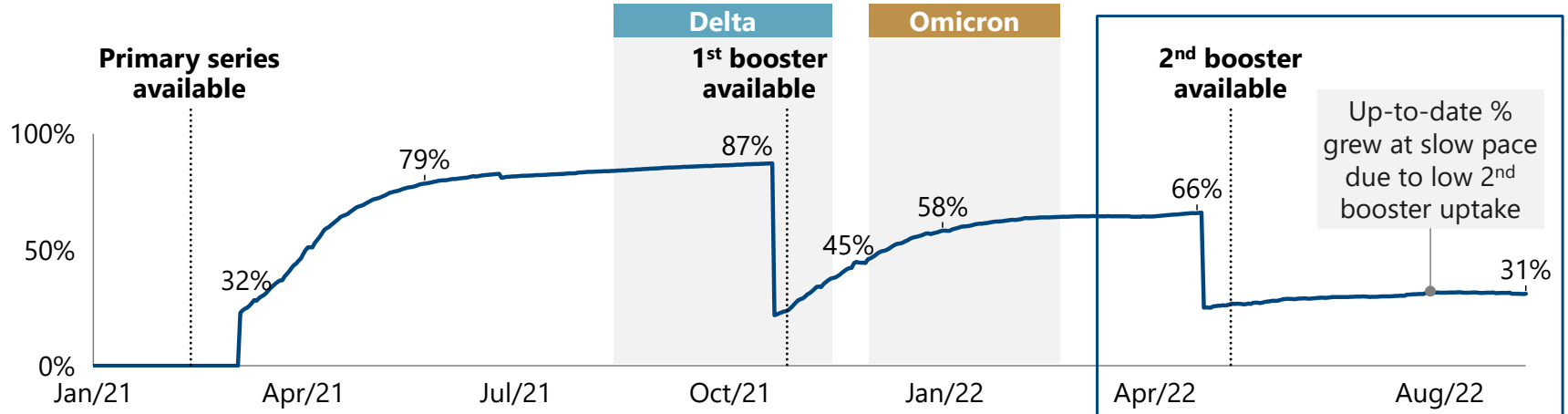
% of survey respondents who indicated that they "Probably or definitely will not get vaccinated"

Demographic (Age)	May '21	Dec '22[1]	Percentage point change in hesitancy May '21 – Dec '22
65+ Population	2%	0%	-2
New Jersey Total	10%	2%	-8

Note: Group includes both respondents who answered and had not received any COVID-19 vaccine at the time and those who had already received one or more doses. Rankings and totals as of last date reported within period; At least one dose can include J&J vaccine 1. CDC data for booster vaccinated rates ends at 7/31/22; booster rankings and vaccination rates shown are as of 7/31/22
Source: Census Household Pulse Survey; BCG Analysis

B-9 Impact of Booster Coverage on 65+ Hospitalizations during Delta & Omicron Wave

% of 65+ population with up-to-date vaccination coverage

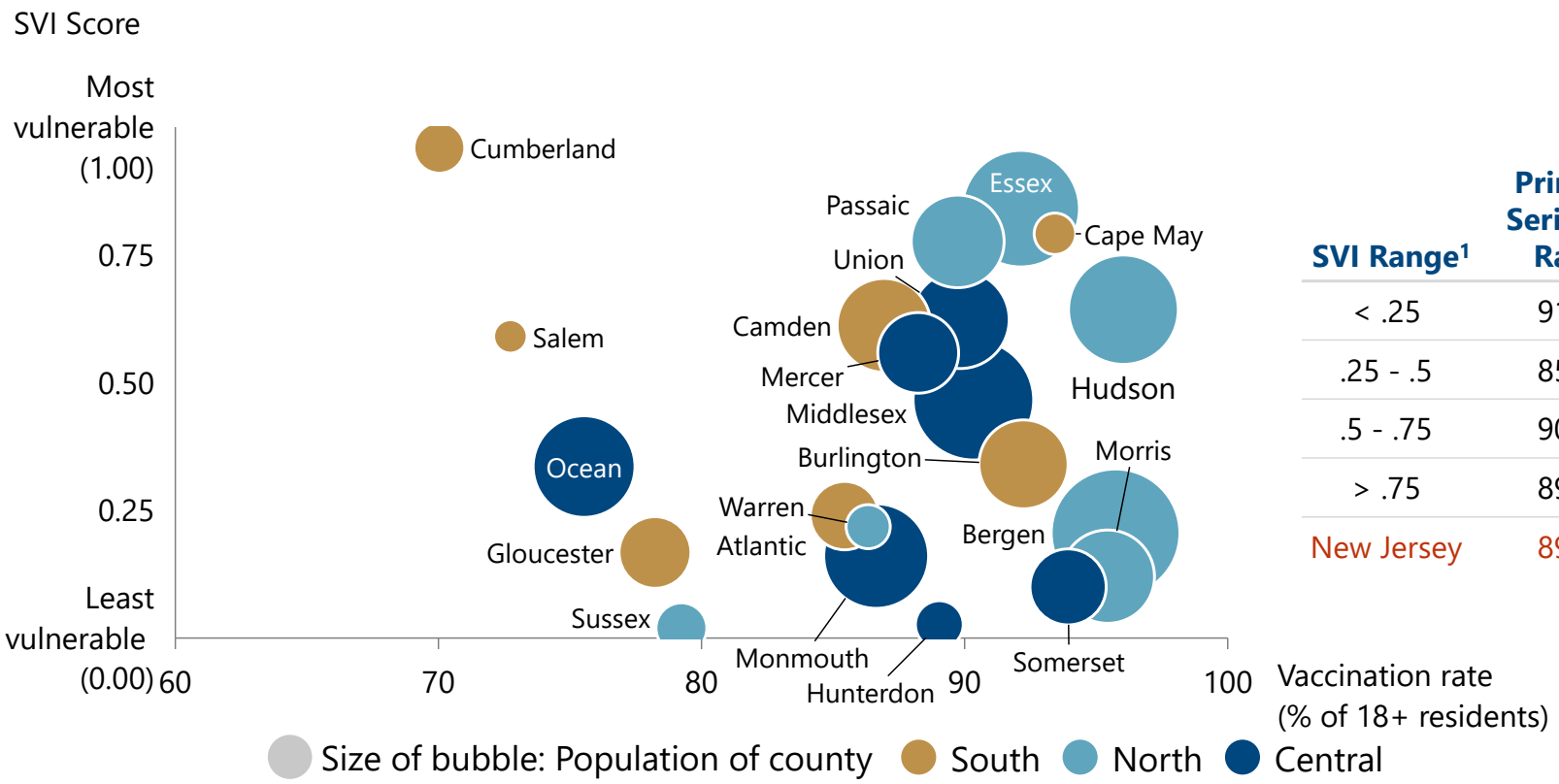


	Delta surge	Omicron surge
Timeline	Sep 2021 – Nov 2021	Dec 2021 – Feb 2022
Avg 65+ % up-to-date[1]	86%[2]	↓ 59%
# of 65+ admissions	~4.6K	↑ ~15.1K
Avg 65+ % of total admissions	34%	↑ 38%

1. Up-to-date refers to a person who has received all vaccines for which they are eligible. This definition changes over time as new boosters are approved and as a function of when an individual received their last shot. 2. Does not include time period after 1st booster authorization
Source: CDC; BCG analysis

B-10 New Jersey Primary Series Vaccination Rates by County SVI

% of New Jersey's 18+ population vaccinated with the full primary series, by county SVI, as of May 2023

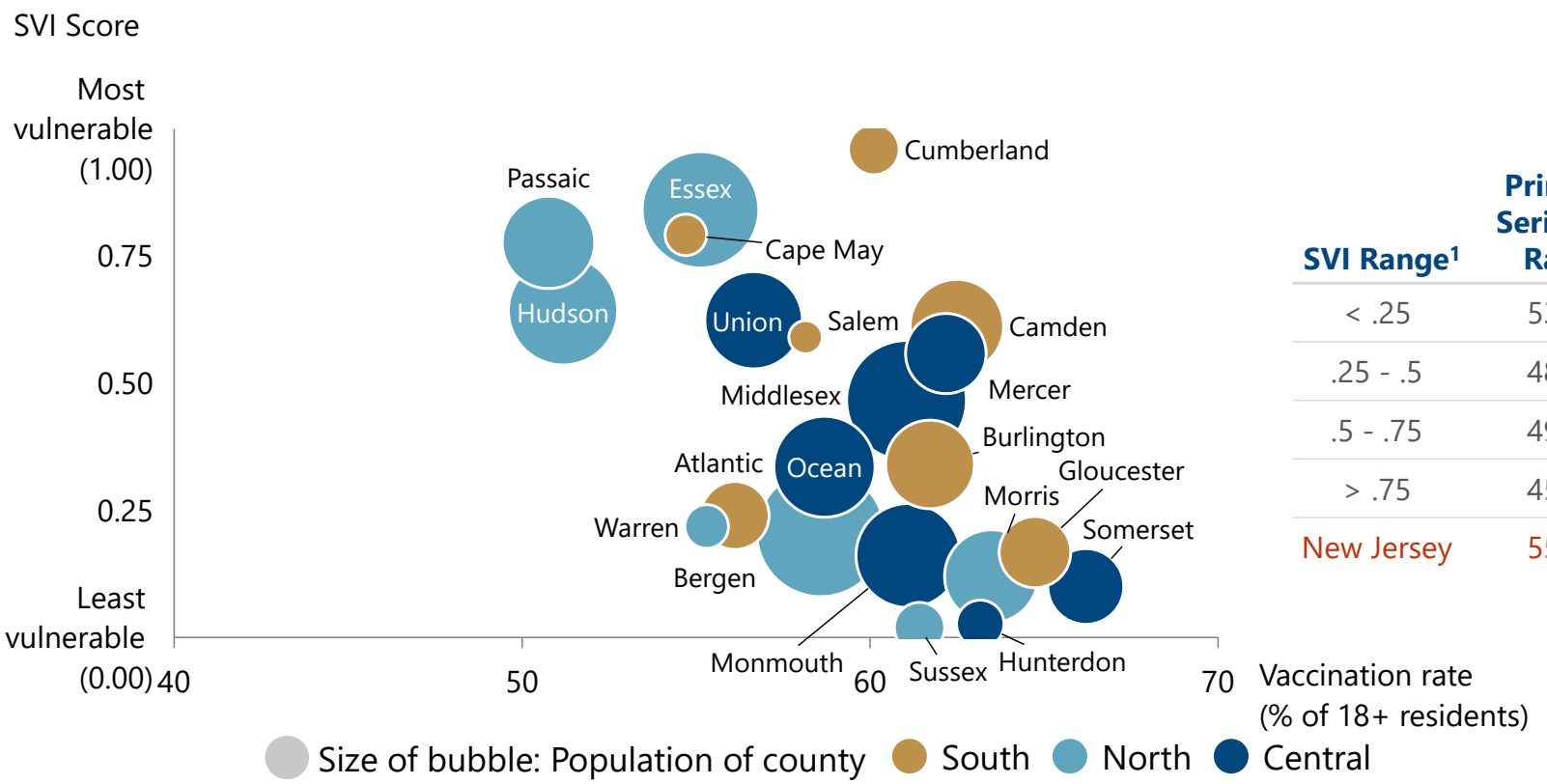


SVI Range[1]	Primary Series Vx Rate[2]
< .25	91%
.25 - .5	85%
.5 - .75	90%
> .75	89%
New Jersey	89%

Note: Percent of people 18+ with a completed primary series (have second dose of a two-dose vaccine or one dose of a single-dose vaccine). Adjusted to represent the entire NJ population
1. Communities with lower SVI scores are less vulnerable to the impact of public health emergencies, disasters, or pandemics 2 Weighted average of vaccination rates for each SVI group to represent the entire NJ population.
Source: CDC; CDC US SVI 2018; 2019 Census Data

B-11 New Jersey Booster Vaccination Rates by County SVI

% of New Jersey's population vaccinated with the full primary series, by county SVI as of May 2023

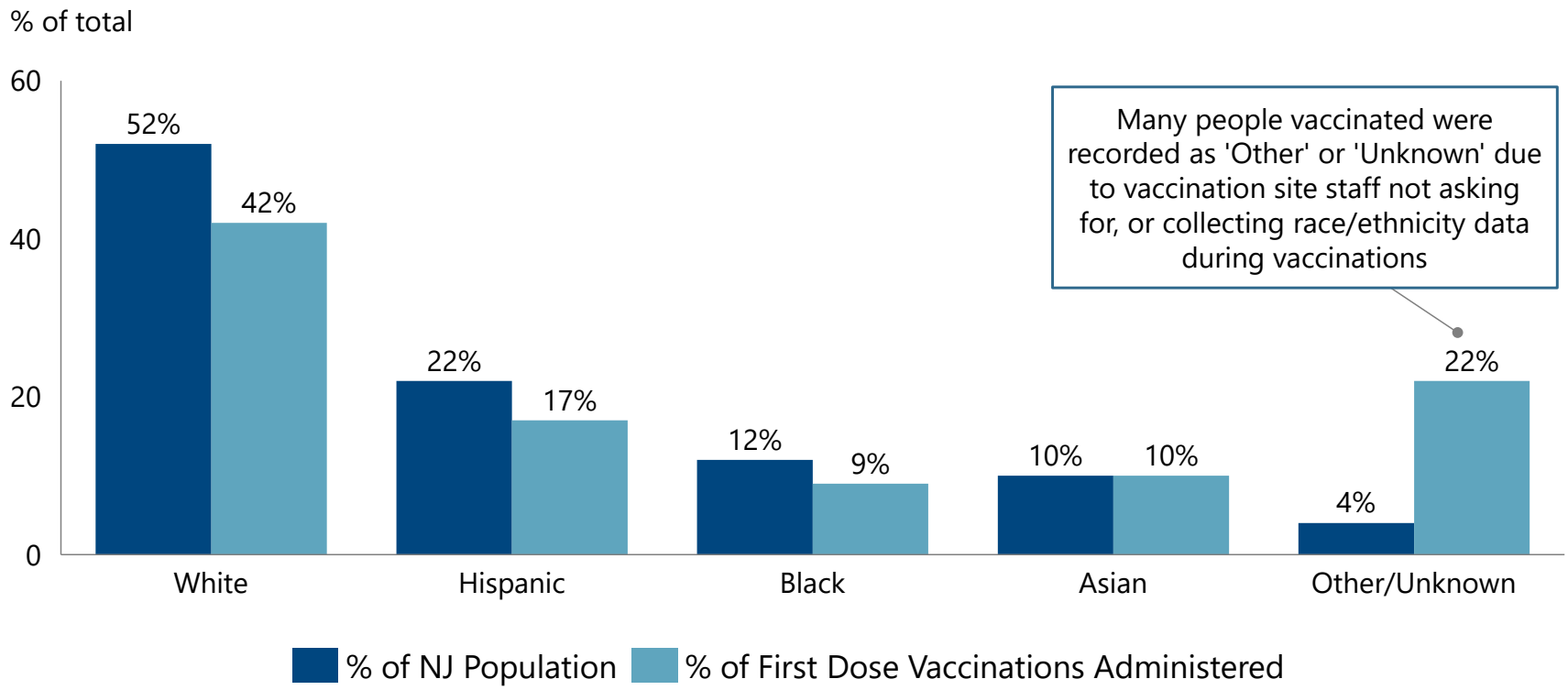


SVI Range[1]	Primary Series Vx Rate[2]
< .25	53%
.25 - .5	48%
.5 - .75	49%
> .75	45%
New Jersey	55%

Note: Percent of people 18+ who completed a primary series and have received a booster including Bivalent. Adjusted to represent the entire NJ population 1. Communities with lower SVI scores are less vulnerable to the impact of public health emergencies, disasters, or pandemics 2. Weighted average of vaccination rates for each SVI group to represent the entire NJ population.
Source: CDC; CDC US SVI 2018; 2019 Census Data

B-12 New Jersey Vaccines Administered by Race/Ethnicity Compared to Population Breakdown

Percent of NJ population vaccinated, by race/ethnicity as of December 2022 vs census demographic data



Note. White, Asian, and Black / AA are all Non-Hispanic. Other category includes American Indian/Alaska - NH, Native Hawaiian/Pacific Islander - NH, and all who identify as two or more races – NH. Other and Unknown categories skewed higher in vaccination data due to healthcare professionals not asking for or recording race at time of vaccination
Source: 2020 Census data, NJDOH

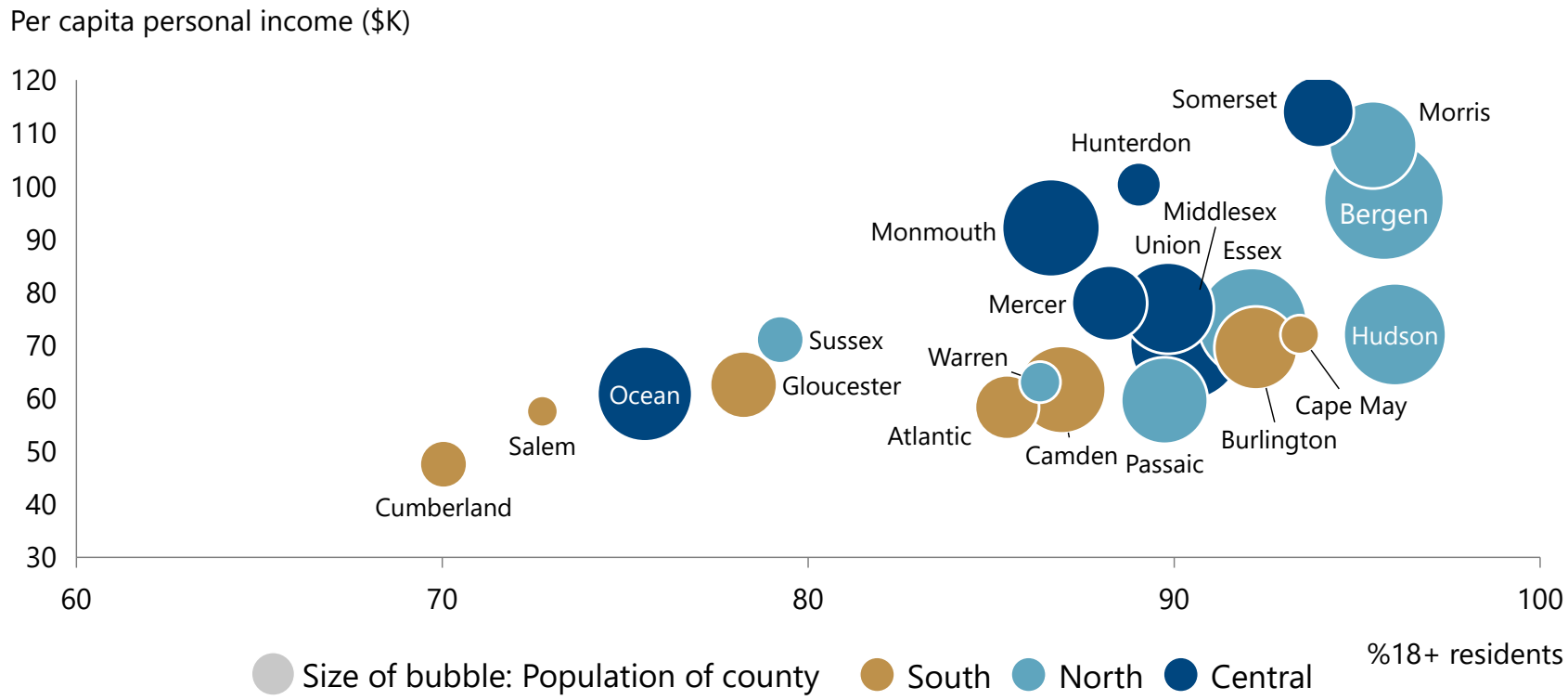
B-13 New Jersey Summary vaccination rates by age as of May 2023

Demographic	Unvaccinated Rate	First dose *(includes J&J)*	Complete primary series	Primary series + 1 booster	Primary series + 2 boosters	Bivalent boosters
All ages below 12 (Pediatric)	67% 33rd	33% 19th	27% 13th	5% 22nd		4% 30th,1
All ages 12-17	22% 39th	78% 13th	75% 9th	26% 14th	*2 boosters only tracked for ages 50+ and 65+*	7% 28th
All ages 18+	5% 1st (tied)	95% 1st (tied)	89% 7th	49% 14th		21% 24th
Ages 65+	5% 1st (tied)	95% 1st (tied)	95% 1st (tied)	71% 25th	56.3% 31st	41% 32nd
Total	9% 41st	91% 11th	79% 8th	41% 14th	N/A	18% 24th, 1

1. Bivalent only applicable to ages 5+; Pediatric shows ages 5 to 12 and Total shows ages 5+
Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a lower vaccination rate than the other 49 states.
CDC reports first dose as including J&J vaccine
Source: CDC COVID-19 Vaccinations in the United States,Jurisdiction

B-14 New Jersey Primary Series Vaccination Rates by county, income per capita

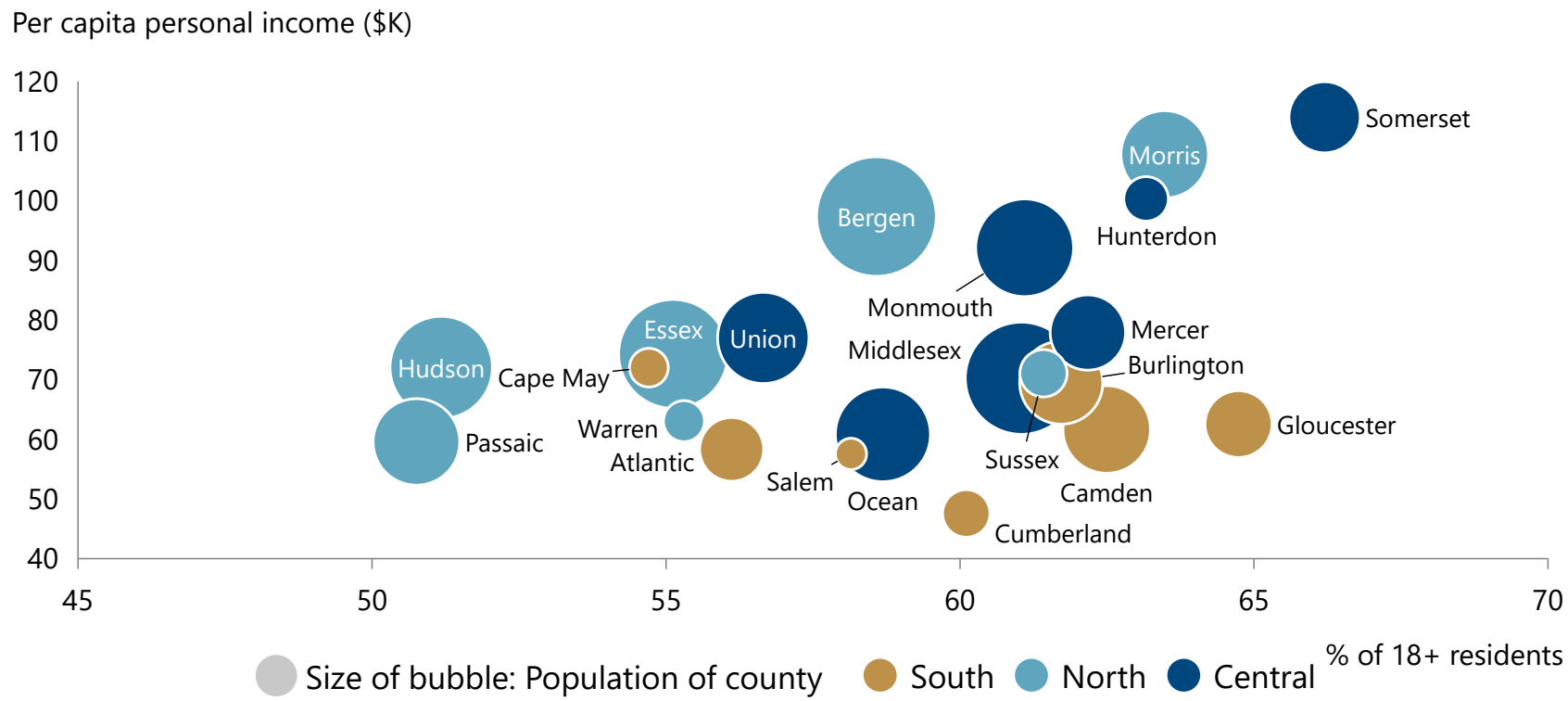
18+ Primary series vaccination rate



Note. Percent of people 18+ with a completed primary series (have second dose of a two-dose vaccine or one dose of a single-dose vaccine). Adjusted to represent the entire NJ population
Source: CDC, 2020 Census DEC Demographic Profile; 2019 Census Data, BEA (2021)

B-15 New Jersey Booster Vaccination Rates by county, income per capita

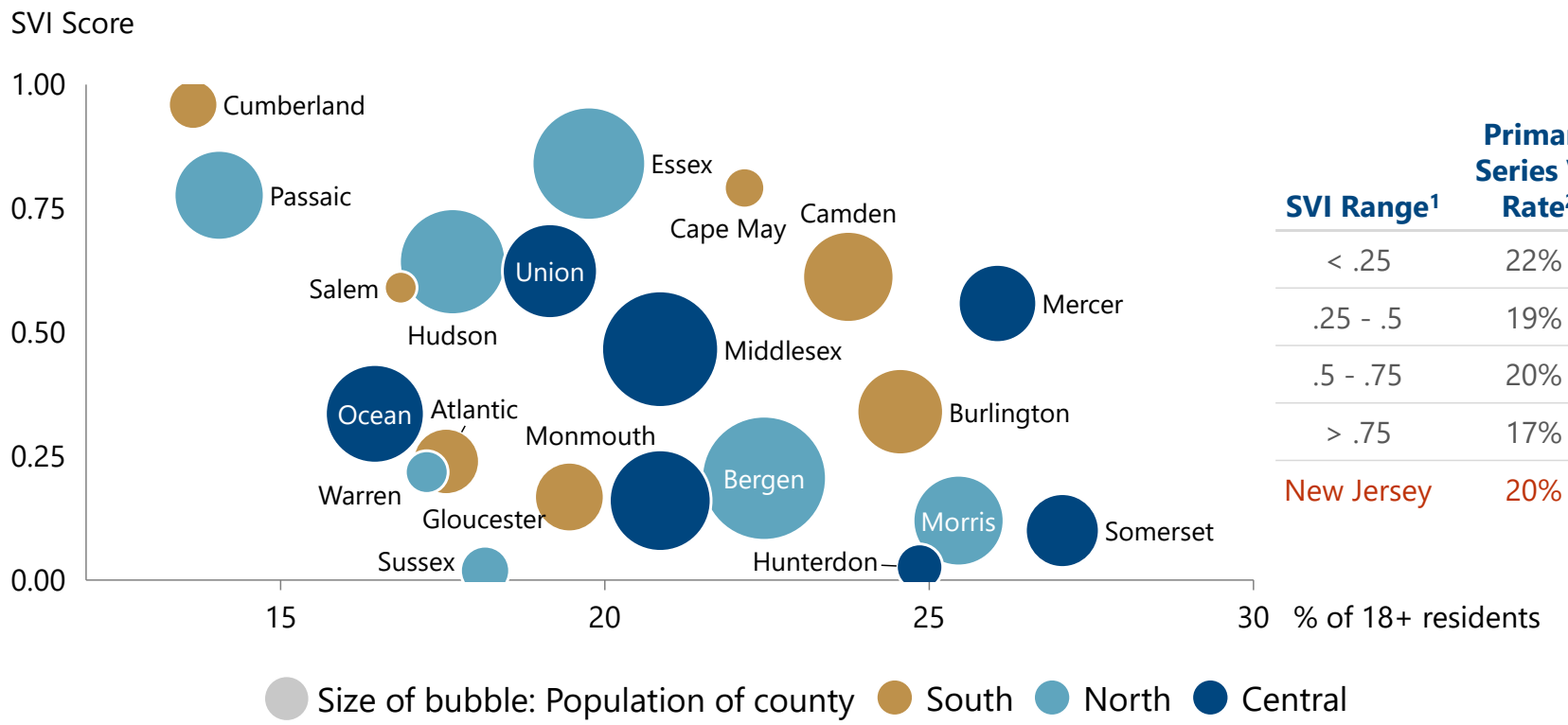
18+ Booster vaccination rate



Note: Percent of people 18+ who completed a primary series and have received a booster including Bivalent. Adjusted to represent the entire NJ population
Source: CDC; CDC 2019 Census Data; BEA (2021)

B-16 New Jersey Bivalent Booster Vaccination Rates by county, SVI

Bivalent vaccination rate



SVI Range[1]	Primary Series Vx Rate[2]
< .25	22%
.25 - .5	19%
.5 - .75	20%
> .75	17%
New Jersey	20%

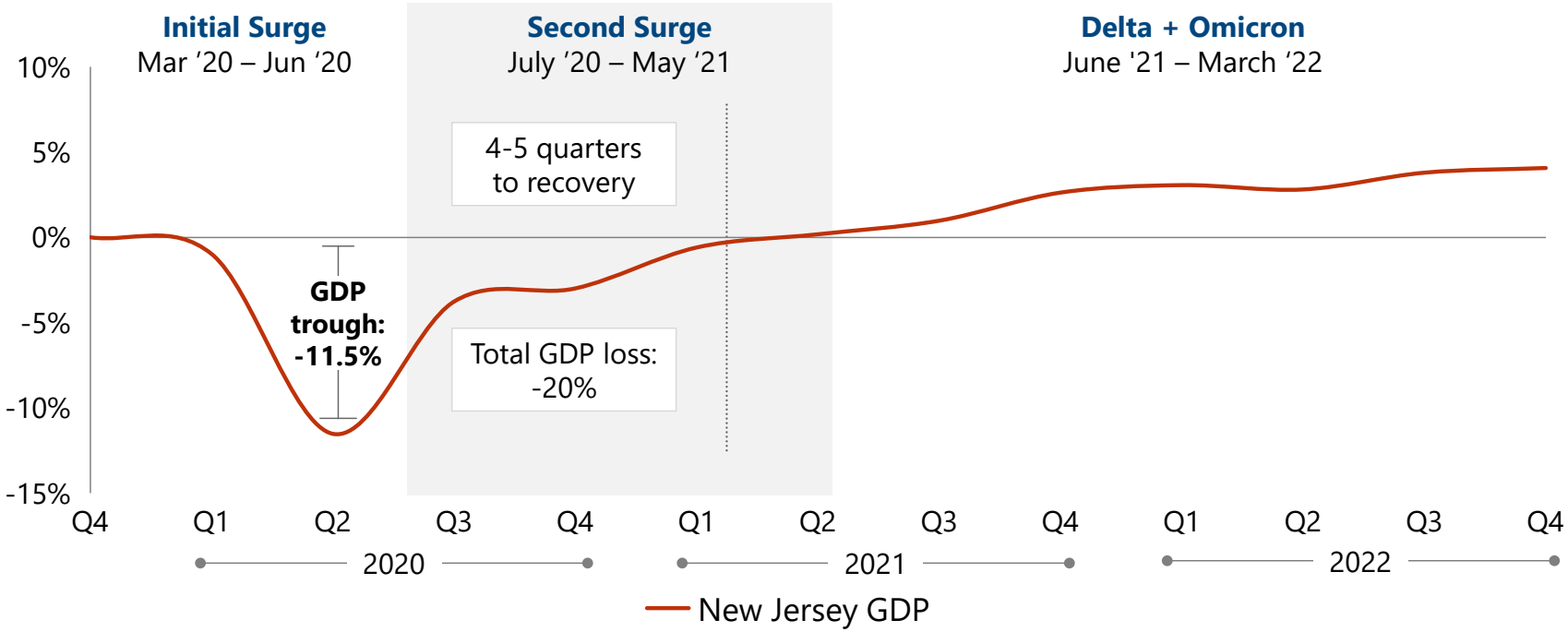
Note: Percentage of individuals aged 18+ who have received a bivalent booster dose, irrespective of any other shots they may have received. Adjusted to represent the entire NJ population
1. Communities with lower SVI scores are less vulnerable to the impact of public health emergencies, disasters, or pandemics 2. Weighted average of vaccination rates for each SVI group to represent the entire NJ population.
Source: CDC; CDC US SVI 2018; 2019 Census Data

4.7 Appendix C: COVID-19 Economic Outcomes

This Appendix contains addenda as referenced by the preceding main document.

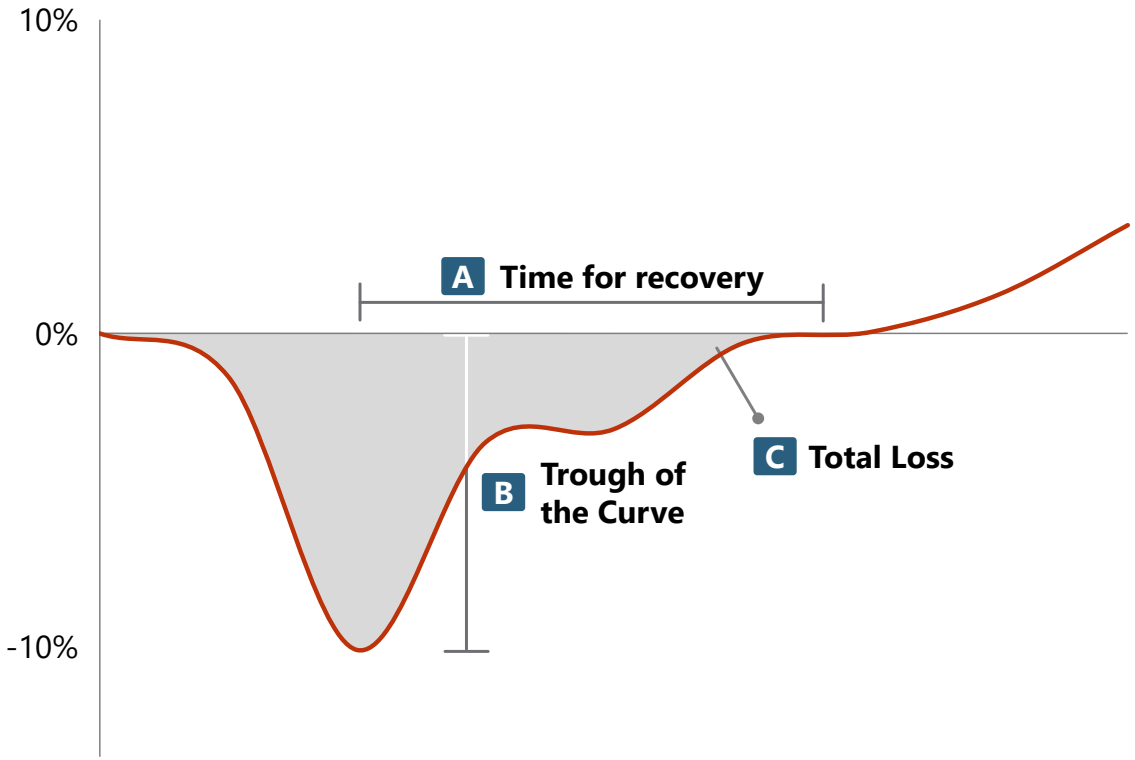
C-1 Timeline of New Jersey GDP Impact

Quarterly % change in New Jersey Real GDP, not normalized, indexed to Q4 2019 levels



Source: US Census; USA Facts; BEA; BCG Analysis

C-2 Metrics Used – Economic Outcomes



A Time for recovery

Measures the speed of recovery through the number of quarters for GDP or employment to recover, from its deepest dip in the curve relative to Q4 2019

B Trough of the Curve

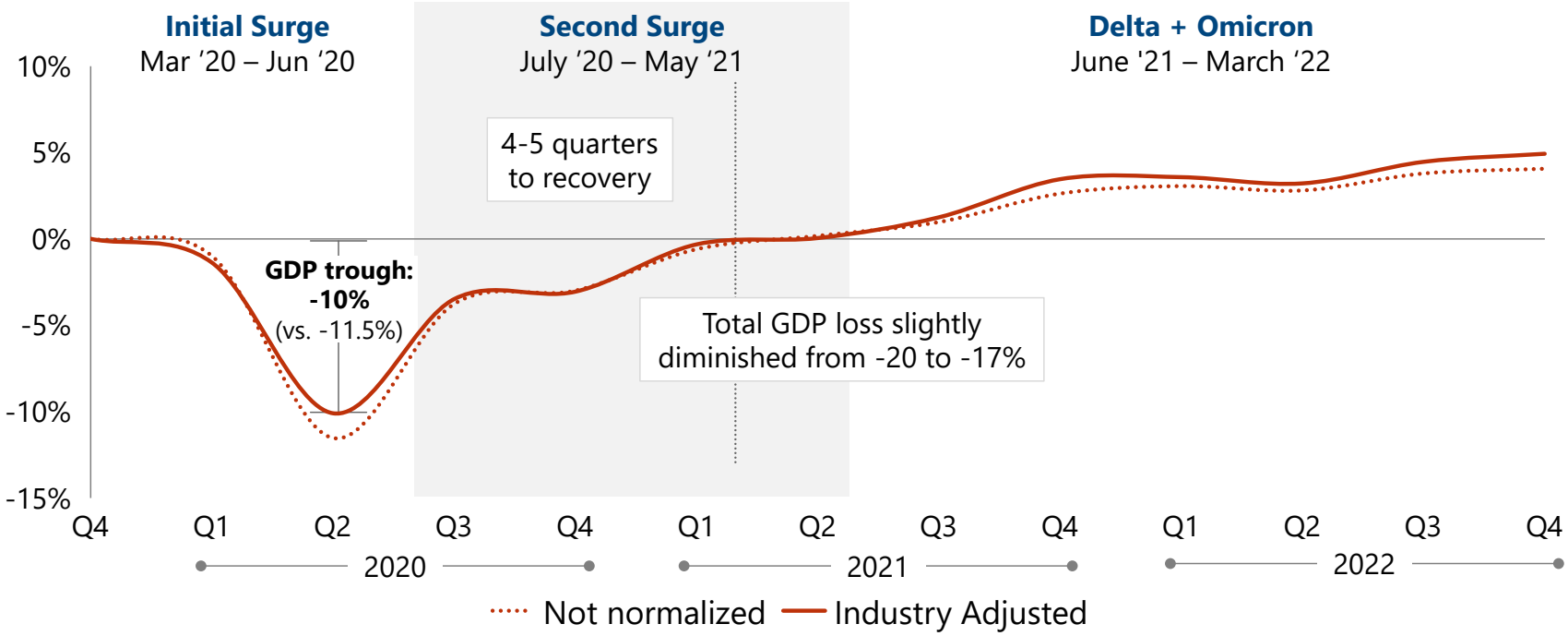
Measures the magnitude of COVID's immediate impact through the % decrease in the deepest dip in GDP or employment relative to Q4 2019

C Total Loss

Measures the total loss of a metric over the pandemic period through the sum of lost quarterly GDP or employment until recovery

C-3 Timeline of New Jersey GDP Impacts (Industry and non-Industry Adjusted)

% change in New Jersey Real GDP, indexed to Q4 2019 levels (Industry adjusted values adjusted to overall US industry composition)



Source: US Census; USA Facts; BEA; BCG Analysis

Accounting for industry composition explains some of the difference from the U.S. average; New Jersey saw a smaller GDP trough after adjusting for industry.

C-4 Comparison of GDP Impacts by Disease Severity Grouping

Industry adjusted impacts to GDP across selected metrics

Initial Surge disease severity	GDP Trough	GDP Loss recovered by Q4 2020[1]	GDP Loss
Higher initial severity	-8%	99%	-14%
Lower initial severity	-5%	102%	-7%
US total	-6%	101%	-7%

Less severe impacts than US total Impacts in line with US total More severe impacts than US total

1. Defined as GDP levels in Q4 2020 as a percentage of Q4 2019 GDP
Source: BEA, Census QWI

Across all GDP measures, the 14 states with higher disease severity lost more GDP than the U.S. average.

C-5 Comparison of GDP Impacts by Shutdown Length

Industry adjusted impacts to GDP across selected metrics

Shutdown length group	GDP Trough	GDP Loss recovered by Q4 2020[1]	GDP Loss
Longest shutdown	-8%	99%	-13%
Medium Shutdown	-6%	102%	-8%
Shorter shutdown	-6%	101%	-8%
No shutdown	-5%	101%	-9%
US total	-6%	101%	-7%

Less severe impacts than US total Impacts in line with US total More severe impacts than US total

1. Defined as GDP levels in Q4 2020 as a percentage of Q4 2019 GDP
Source: BEA

States with longer shutdowns also saw higher losses than the U.S. average across all Gross Domestic Product (GDP) measures.

C-6 Comparison of New Jersey, Peer State, and U.S. GDP Impact by Disease Severity and Shutdown Length

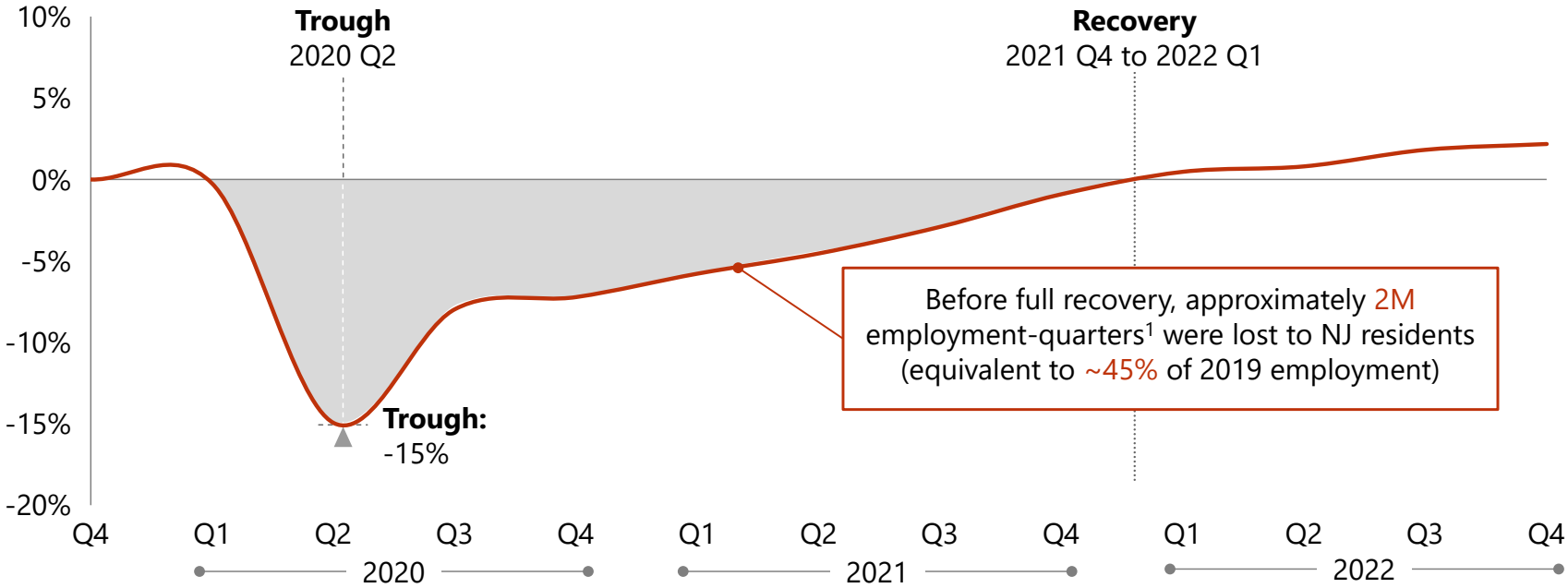
GDP impact compared to disease severity and shutdown length

	Total GDP Loss *Area Under Water, Normalized*	**NJ Rank[1]** *Relative to group*
New Jersey	-17%	-
States that experienced higher initial disease severity	-14%	11th / 14
States with longer shutdowns	-13%	9th / 10
US Total	-7%	45th/ 50

1. New Jersey compared to its peer group of states and the U.S. in general in terms of GDP lost.
Source: BEA

C-7 Impact of COVID-19 on New Jersey Total Employment

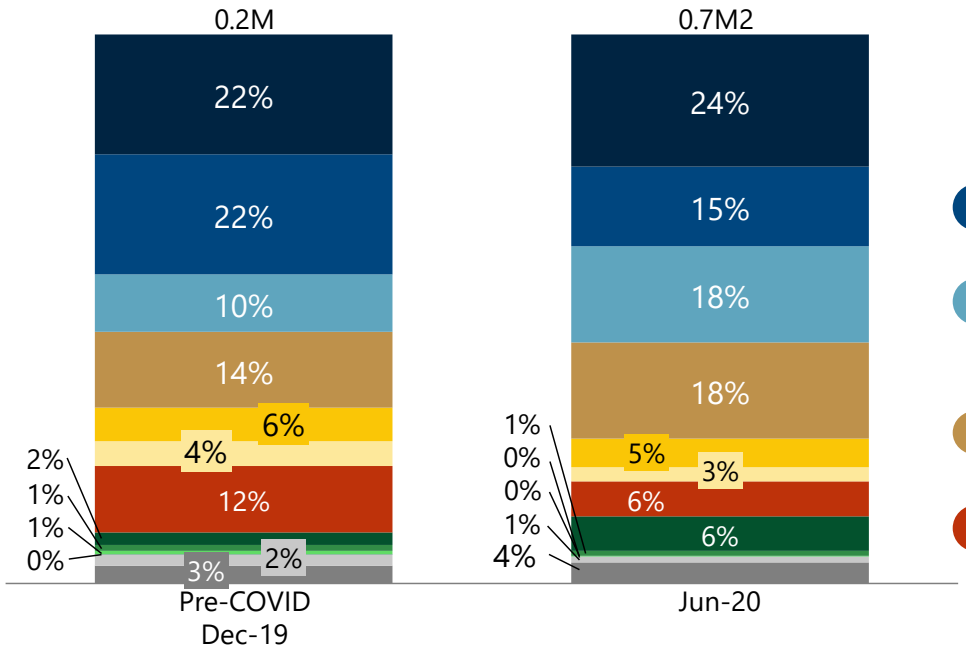
Total employment (indexed to Q4 2019)



1. Calculated as the sum of quarterly absolute changes to total employment, indexed to Q4 '19, for every quarter between Q4'19-Q3'22 where change in employment was negative. Referred to as person-years of lost employment by some economics.
Source: Bureau of Economic Analysis (BEA), BCG Analysis

C-8 New Jersey Unemployment Beneficiaries in June 2020 by Industry

Share of UI beneficiaries by sector (December 2019 vs. June 2020)



Compared to 2019, NJ residents receiving regular UI benefits in June 2020 were:

A **Less** likely to work in professional services
15% vs. **22%**[1]

B **More** likely to work in educational and health services
18% vs. **10%**[1]

C **More** likely to work in leisure and hospitality
18% vs. **14%**[1]

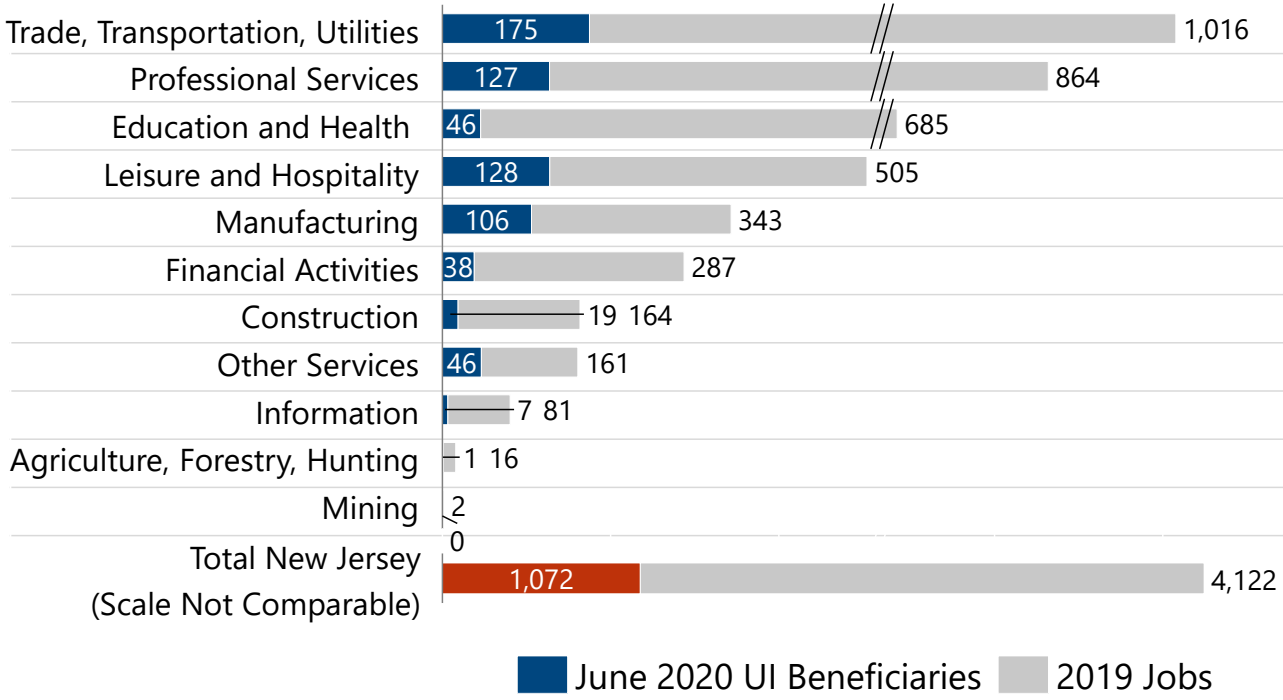
D **Less** likely to work in construction
6% vs. **12%**[1]

Trade, Transportation and Utilities
Professional and Business Services
Educational and Health Services
Leisure and Hospitality
Manufacturing
Financial Activities
Construction
Other Services
Information
Agriculture, Forestry and Hunting
Mining
Public Administration
Unclassified

1. December 2019 data used as proxy for pre-COVID composition of unemployment beneficiaries; ~400k claims out of 1.1M total were categorized as "missing data"; NJDOL estimates 80-85% are PUA and PEUC claims, which have been excluded. 17.% of the "missing data" claims data were redistributed proportionally to the sector shares of UI claims with known industry information.
Source: NJ Department of Labor and Workforce Development; BCG analysis

C-9 New Jersey Implied Unemployment Rates by Industry in June 2020

UI Beneficiaries by Sector vs. 2019 Employment (K)



	Average wage[2] NJ	Implied unemployment rate[1] 2019	2020
Trade, Transportation, Utilities	N/A	3%	17%
Professional Services	N/A	4%	13%
Education and Health	$76,274	2%	17%
Leisure and Hospitality	$83,959	4%	25%
Manufacturing	$91,407	3%	14%
Financial Activities	$123,997	3%	7%
Construction	$139,224	10%	24%
Other Services	$149,799	2%	29%
Information	$56,457	2%	8%
Agriculture, Forestry, Hunting	$33,821	7%	7%
Mining	$39,263	5%	14%
Total New Jersey (Scale Not Comparable)	$67,040	4%	26%

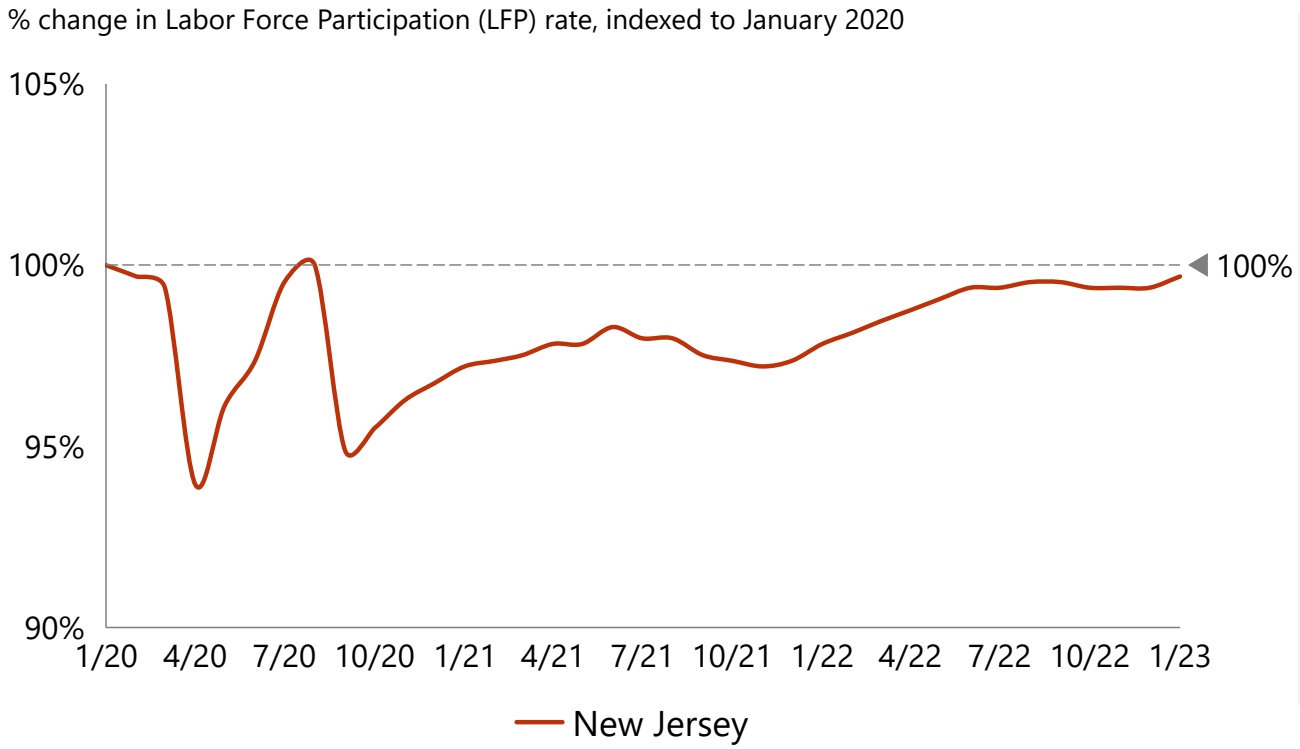
Significantly Below State Average

Significantly Above State Average

1. UI Beneficiaries by Sector June 2020 / 2019 Sector Employment; ~400k claims out of 1.1M total were categorized as "missing data"; NJDOL estimates 80-85% are PUA and PEUC claims, which have been excluded. 17.% of the "missing data" claims data were redistributed proportionally to the sector shares of UI claims with known industry information 2. Wages for NJ are averages of years 2019 and 2020
Source: NJ State Department of Labor

C-10 Timeline of New Jersey Labor Force Participation Recovery

% change in Labor Force Participation (LFP) rate, indexed to January 2020



Source: BLS, BCG analysis

Traditional unemployment statistics can understate harm during periods of declining labor force participation rate.

As a result, to fully account for the magnitude of employment harm, the analysis of this section primarily focuses on total employment levels, which better capture the joint impacts of labor supply and demand changes.

C-11 Comparative Employment Loss in Q2 2020 by industry, New Jersey vs U.S.

Q4 2019 Share of employment and Employment Loss, by industry[1]

	Share of employment Q4 2019[1]		Employment Q2 2020 (% diff. from Q4 2019)	
Industry	NJ	US	NJ	US
Health care	16%	15%	-14%	-7%
Retail trade	13%	13%	-5%	-5%
Admin, support, waste management	10%	9%	-9%	-3%
Professional, scientific, technical	8%	7%	-18%	-10%
Manufacturing	7%	9%	-5%	-3%
Wholesale trade	6%	4%	-5%	-5%
Transportation, warehousing	6%	5%	-9%	-2%
Construction	5%	6%	-4%	-4%
Information	2%	2%	-17%	-6%
Management of companies	2%	2%	-7%	-13%
Real estate, rental, leasing	2%	2%	-8%	-4%

NJ employment loss is -15%, without normalizing industries to match US mix

Normalizing NJ industry to match the rest of US reveals an employment loss of -14%

1. Shares do not equal 100 as only top 10 industries in US represented
Source: US Census; Census QWI; BEA; BLS; BCG Analysis

C-12 Employment Loss Impact by Disease Severity

Industry adjusted impacts to Absolute Employment Levels across selected metrics

Initial Surge disease severity	Employment Trough	Employment Loss recovered by Q4 2020[1]	Total employment loss
Higher initial severity	-11%	93%	-46%
Lower initial severity	-8%	96%	-30%
US total	-10%	94%	-36%

Less severe impacts than US total Impacts in line with US total More severe impacts than US total

1. Defined as GDP levels in Q4 2020 as a percentage of Q4 2019 GDP
Source: BEA, Census QWI

C-13 Employment Loss Impact by Shutdown Length

Industry adjusted impacts to Absolute Employment Levels across selected metrics

Shutdown length[1]	Employment Trough	Employment Loss recovered by Q4 2020[2]	Total employment loss
Longest shutdown	-11%	93%	-48%
Med. Shutdown	-9%	95%	-37%
Shorter shutdown	-8%	96%	-30%
No shutdown	-7%	96%	-25%
US total	-10%	94%	-36%

Less severe impacts than US total Impacts in line with US total More severe impacts than US total

1. "Longest shutdown" = 49-69 days. "Medium shutdowns" = 35-44 days. "Shorter shutdowns" = 14-33 days. 2. Defined as GDP levels in Q4 2020 as a percentage of Q4 2019 GDP
Source: BEA, Census QWI

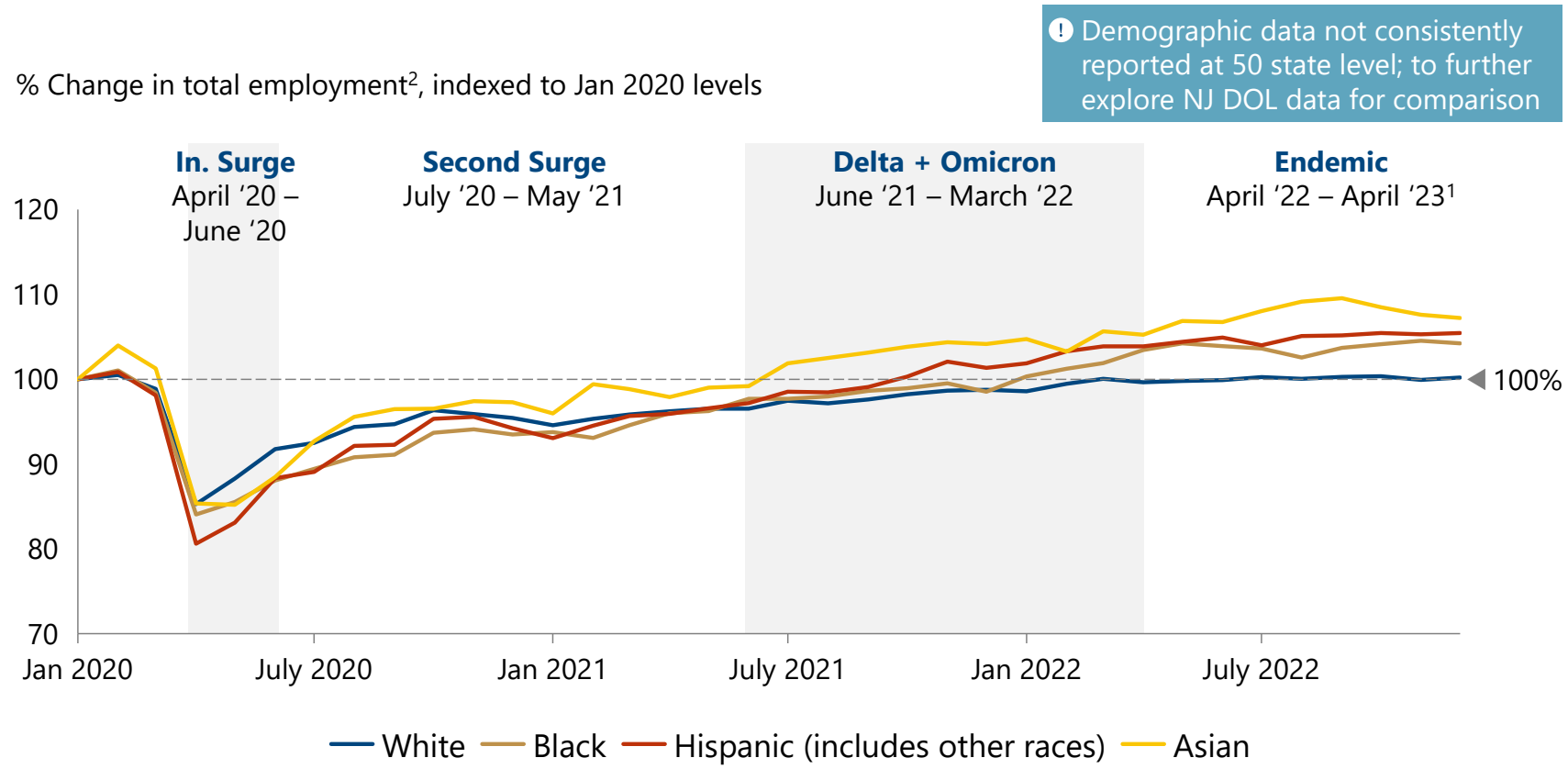
C-14 New Jersey Changes in share of GDP and employment by industry, 2019-2022

Industry	Employment share Q4 2019	Change in employment share 2019-2022[1]	GDP share Q4 2019	Change in GDP share 2019-2022[1]	pp change employme intensity, 201 2022
Trade, transportation, utilities	21.1%	0.4	19.5%	-0.5	-0.3
Education, health care	17.2%	0.4	9.6%	0.1	-0.2
Professional, business	16.3%	0.6	17.8%	2.1	-2.5
Government	14.4%	-0.8	9.8%	-0.5	-0.2
Leisure, hospitality	9.5%	-0.4	3.1%	-0.1	-0.2
Financial	6.0%	0.0	20.3%	-0.5	-0.1
Manufacturing	6.0%	-0.1	9.8%	-1.0	2.0
Other Services	4.1%	-0.1	1.8%	0.0	0.1
Construction	3.8%	0.0	2.8%	-0.6	0.0
Information	1.7%	0.1	5.2%	1.0	2.8
Mining, logging	0.0%	0.0	0.1%	0.0	0.5

WE Done

Note: GDP does not include agriculture, forestry, fishing and hunting. Change in employment share and GDP share are percentage point changes, change in employment intensity is percentage change
Source: BEA; BCG analysis

C-15 Economic Impacts: Absolute Employment impacts by race (U.S. Total)

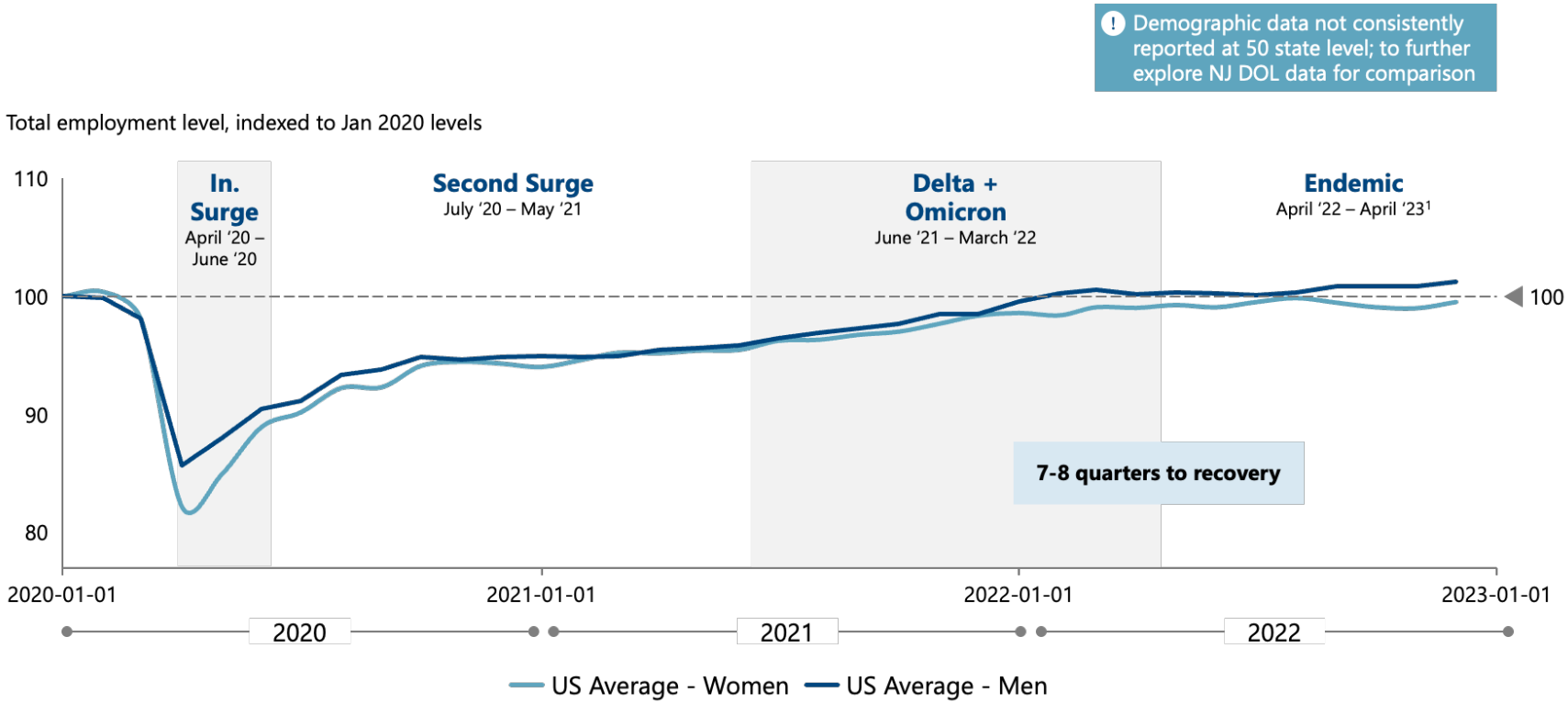


Source: BLS; BCG analysis

Across the US, employment level returned to pre-COVID-19 levels fastest for Asian workers, followed by Hispanic, Black, and White workers.

C-16 Economic Impacts: Absolute Employment by gender (U.S. Total)

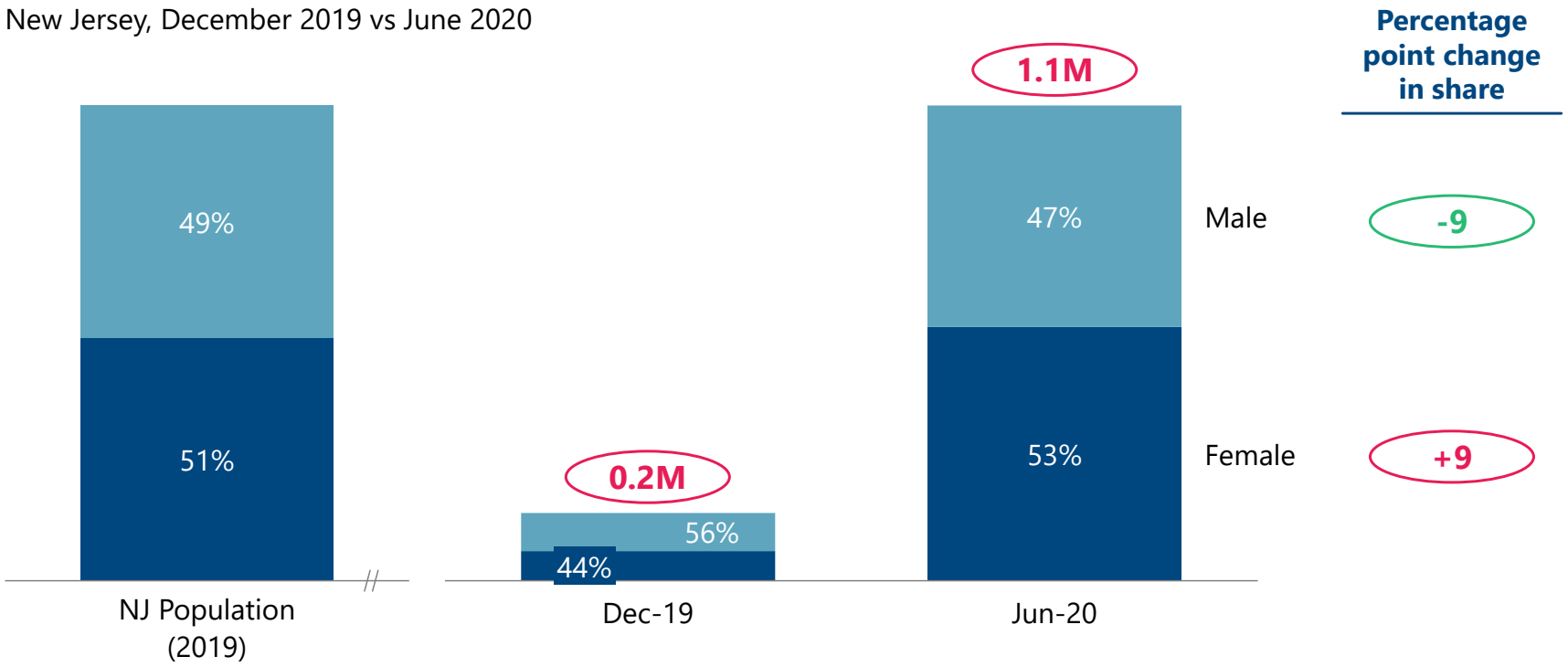
Women saw a sharper dip in total employment and took longer to recover than men



Source: BLS; BCG analysis

C-17 New Jersey June 2020 UI Beneficiaries by Gender

Share of UI Beneficiaries by Gender

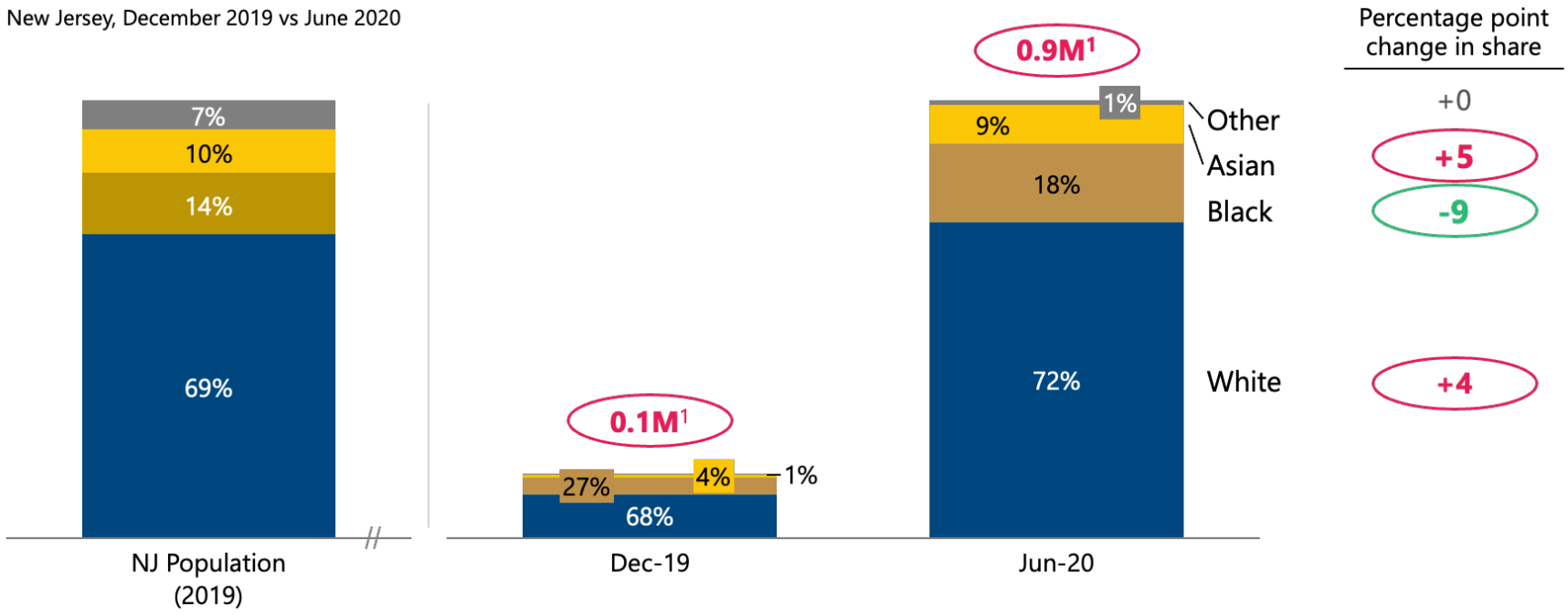


Note: Regular UI Beneficiaries only
Source: NJ Department of Labor and Workforce Development; US Census Bureau

In June of 2020, a higher percentage of women were receiving UI benefits than in December of 2019.

C-18 New Jersey June 2020 UI Beneficiaries by Race

Share of UI Beneficiaries by Race

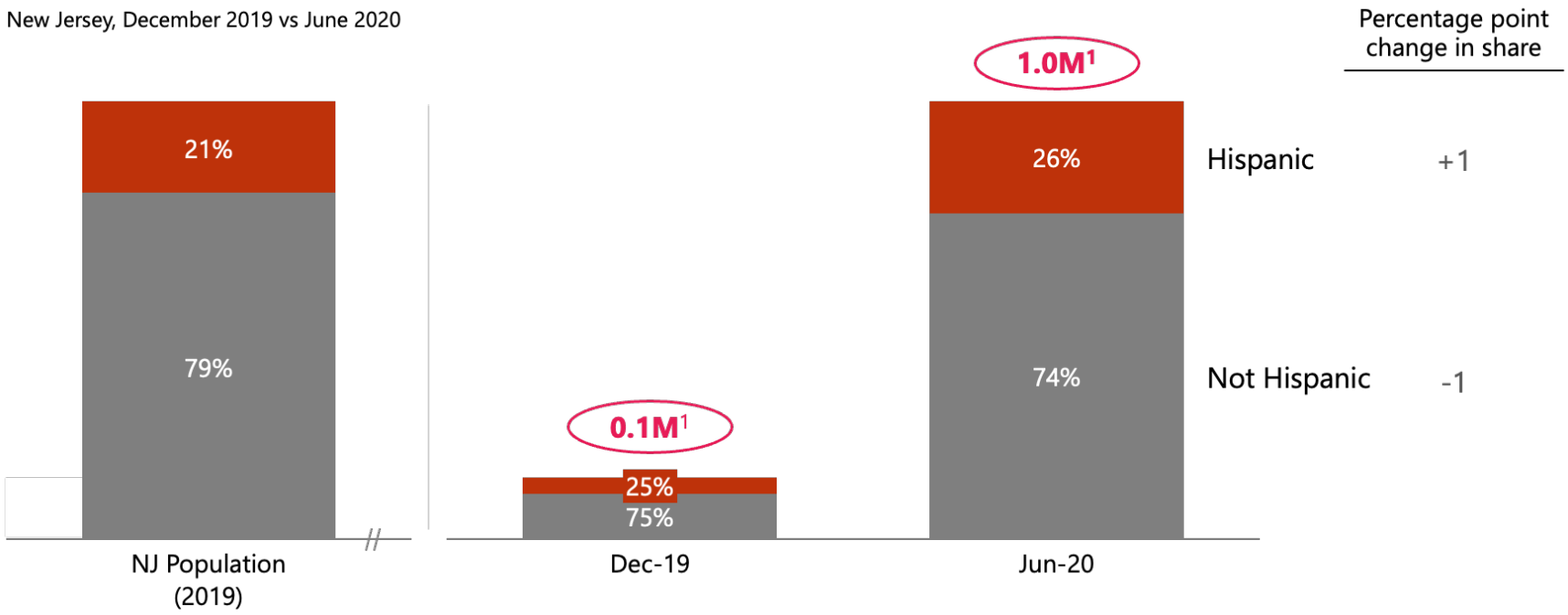


1. Excludes beneficiaries with no known race (15% Dec-19, 17% Jun-20); Note: Regular UI Beneficiaries only
Source: NJ Department of Labor and Workforce Development; US Census Bureau

In June of 2020, Black NJ residents were less likely to be receiving UI benefits than in Dec '19, while the share of Asian and White residents increased.

C-19 New Jersey June 2020 UI Beneficiaries by Ethnicity

Share of UI Beneficiaries by Ethnicity

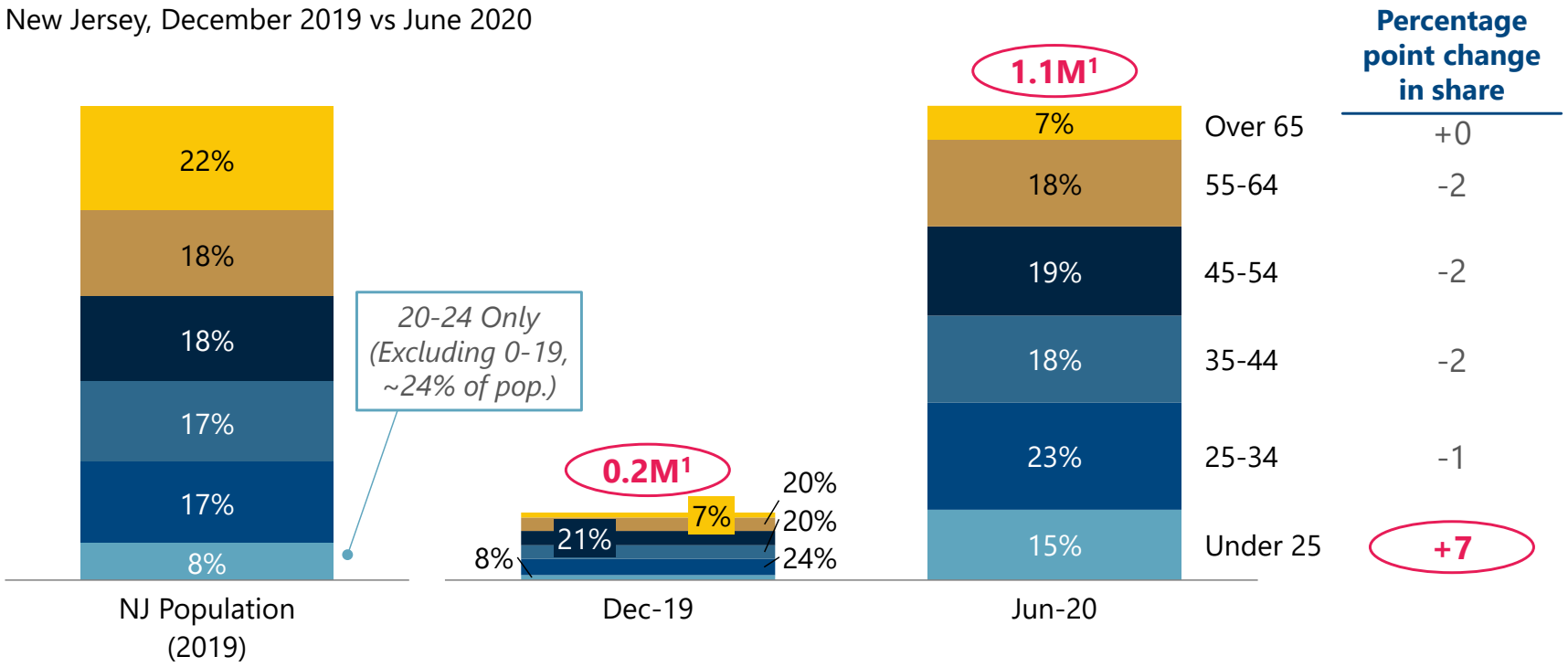


1. Excludes beneficiaries with no known ethnicity (11% Dec-19, 10% Jun-20);
Note: Regular UI Beneficiaries only
Source: NJ Department of Labor and Workforce Development; US Census Bureau

There was little change in the share of UI beneficiaries by ethnicity from December of 2019 to June of 2020.

C-20 New Jersey June 2020 UI Beneficiaries by Age

Share of UI Beneficiaries by Age

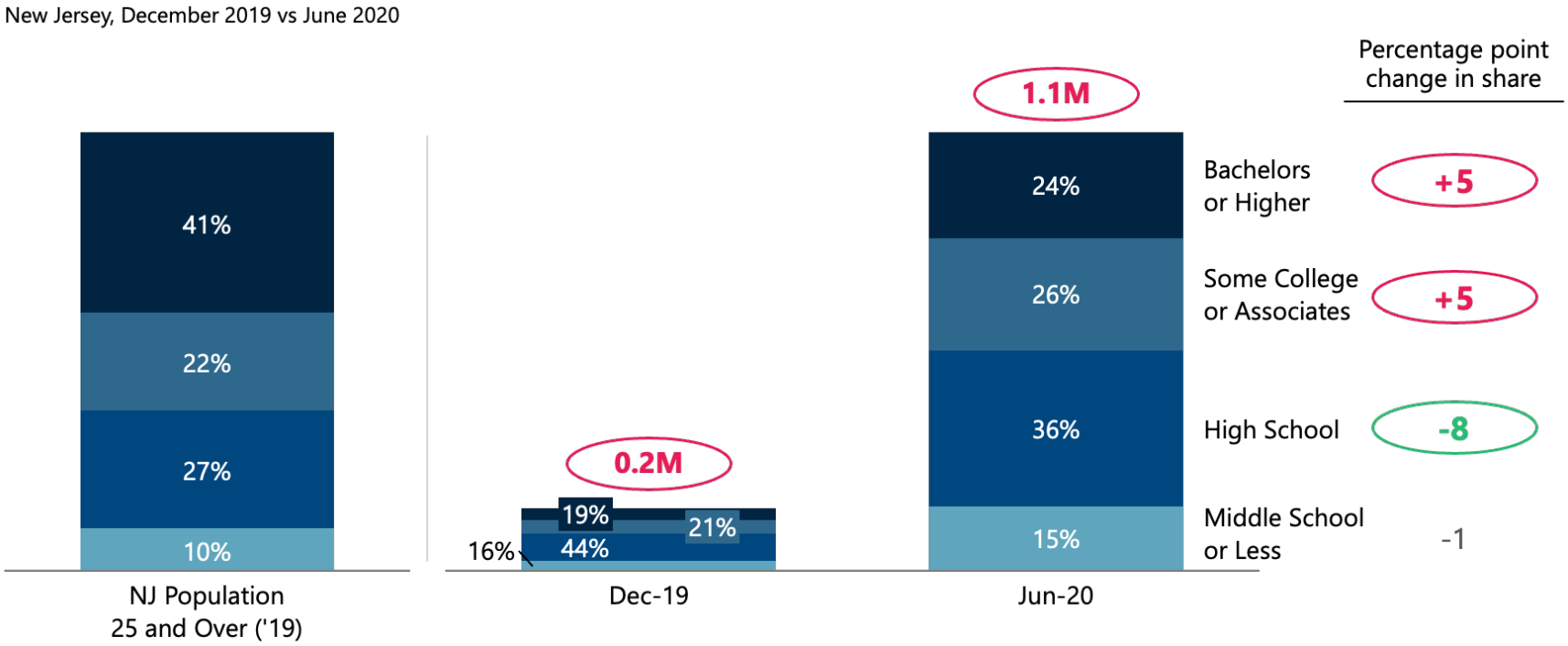


1. Excludes beneficiaries with no known age (1.2% Dec-19, 1.2% Jun-20); Note: Regular UI Beneficiaries only
Source: NJ Department of Labor and Workforce Development; US Census Bureau

In June 2020, a significantly higher percentage of young workers under 25 were receiving UI benefits than in December of 2019.

C-21 New Jersey June 2020 UI Beneficiaries by Educational Attainment

Share of UI Beneficiaries by Educational Attainment



Note: Regular UI Beneficiaries only
Source: NJ Department of Labor and Workforce Development; US Census Bureau

Chapter 5 Decisions and Response

Section 5.01 Introduction

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5.1 Introduction

1. Context and Summary

Responding to the COVID-19 pandemic was a massive undertaking for the State of New Jersey. The pandemic was unprecedented in several ways, and necessitated an emergency response the State was not prepared to launch. Like other states, New Jersey had to consider a wide range of needs in responding to the emergency. The severity of the disease meant that swift public health interventions were needed urgently, while the indefinite duration of the emergency and scale of impact meant that the State needed to create new models of governance to continue to deliver services throughout the pandemic. New Jersey, along with other states, also faced complex circumstances in managing resources, from widespread supply shortages to the monumental amounts of federal aid being disbursed.

The pandemic also challenged nearly every aspect of government. Virtually every state agency's day-to-day operations were made more difficult by COVID-19, particularly in the face of state shutdowns. The health and economic impact of the disease also necessitated state services more than ever. Thus, the breadth of needs facing the State, as well as the operational complexity of governance through a global emergency, meant that New Jersey's response had to be comprehensive and holistic. New Jersey had not created emergency plans addressing these complexities, and in many ways, was unable to do so, given limited knowledge of the novel disease. Chapter 5 fully documents the actions that New Jersey took during the COVID-19 pandemic and serves as a reference for selecting among potential paths of action in future emergencies.

This chapter then evaluates where those actions succeeded, and what the State's biggest challenges were, with the goal of consolidating key learnings for the future. It is vital that the strengths and challenges of the response to the COVID-19 pandemic inform the State's handling of the next emergency, so that what worked is maintained or built upon, and what didn't serve as critical lessons for improvement. These lessons have implications for emergency management of both health and non-health emergencies, as well as for improving non-emergency government operations.

2. Elements of New Jersey's Response

The State needed to consider a wide range of demands in its pandemic response. First, public health interventions directly mitigating COVID-19 were necessary, and included:

- Ensuring sufficient healthcare capacity to treat all individuals in need of care.
- Testing and contact tracing to identify individuals who had tested positive and minimize further spread of the virus.

- Allocating vaccines and therapeutics to protect against and treat the disease. New Jersey also needed to address pressing questions of governance.
- Organizing the State government to operate in an emergency, while continuing to deliver public services like K-12 education, demanded considerable flexibility.
- Finally, New Jersey needed to consider the logistical details in undertaking all these activities – including prudently managing the massive influx of federal funds to finance emergency response and effectively communicating with the public.

Chapter 5 captures the key aspects of New Jersey's response, the rationale behind those actions, and how they were able to implement these decisions. This chapter is organized into 14 sections, each examining a specific element of New Jersey's pandemic response in detail:

- Emergency Response Governance and Coordination: Organizing and leading the State's pandemic response, through cohesive efforts within the New Jersey state government and with external stakeholders.
- Public Communications: Coordinating external communication efforts to ensure that the public had regularly updated information about the pandemic and resources available to support them, and to encourage the public's participation in certain public health interventions.
- Budget and Finance: Identifying funding sources and ensuring that ongoing resources were in place to support the State's COVID-19 response.
- Personal Protective Equipment (PPE): Efforts to ensure PPE availability for critical workers and underserved populations.
- Closures and Guidance to Prevent the Spread of COVID-19: Issuing policy and guidelines to ensure the public's health and safety, including placing restrictions on individual behavior and industry activities using the appropriate legal mechanisms.
- Healthcare Capacity Management: Ensuring sufficient capacity and resource deployment across healthcare providers.
- Testing: Ensuring adequate access and availability of COVID-19 tests, including lab capacity and supplies.
- Contact Tracing: Identifying positive cases of COVID-19 in the state to track the progression of the disease, identify specific clusters of outbreaks, and mitigate the spread of cases.
- Vaccination: Engaging providers and partners to administer COVID-19 vaccines, maintaining broad access, and encouraging uptake.
- Therapeutics: Ensuring access through awareness, allocation and distribution of therapeutic treatments for COVID-19.
- Economic Impact Mitigation: Supporting residents and businesses to contain economic harm caused by the pandemic.
- Education: Ensuring continuity of K-12 and higher education during the pandemic, as well as services like meals on which students rely.
- Continuity of Government Services: Ensuring ongoing delivery of critical public services.

- **Procurement:** Facilitating the process to quickly obtain the materials and personnel necessary to combat the emergency.

Additionally, public health in both emergency and non-emergency times cannot ignore questions of equity. COVID-19 often exacerbated structural inequities, particularly the lack of access to healthcare in underserved communities. The final section of **Chapter 5**, **Section 5.16 on Equity and Access,** summarizes the major issues from the pandemic with relevant equity concerns, as well as areas of inequity in New Jersey in need of continued attention.

3. Structure of Sub-Chapters

Each of these subchapters details the actions New Jersey took and evaluates areas of strength and challenges in the response. The subchapters are organized into the following sections:

- **Context and Summary**, which provides an overview of the challenges New Jersey (and in most cases other states) needed to address through the specific intervention and summarizes how the State did so.
- **New Jersey's Response**, which details, where relevant, the key State agencies involved in delivering the intervention, the major decisions the State made, and how and why those decisions were made. For some interventions (Public Communications, Testing, Vaccination, Therapeutics, Economic Impact Mitigation, and Education), equity was an especially important part of the State's considerations and is thus discussed in greater depth.
- **Comparison to Other States**, which highlights the similarities and differences between New Jersey's actions and that of a set of comparison states (described below).
- **Key Strengths and Challenges**, which summarizes the areas where New Jersey's response was particularly effective and where it faced the biggest challenges. This provides lessons learned that should be considered when preparing for future emergencies, as well as in improving non-emergency government operations. Strengths and challenges may draw from aspects of New Jersey's response that were model examples of intervention for other states, from aspects of other states' responses that New Jersey could learn from, or from areas of New Jersey's response that have been identified as either successful or challenging. The strengths and challenges are built upon in **Chapter 7**, which identifies recommendations for New Jersey going forward.

Like **Chapter 4**, **Chapter 5** uses a set of comparison states to contextualize New Jersey's actions. The goal of using comparison states is to identify what New Jersey did especially well in comparison to other states, highlight alternative actions that New Jersey did not take, and identify ways that the State could improve for the next public emergency.

In **Chapter 4**, states with similar characteristics were identified to provide context for certain quantitative outcomes (e.g., how states performed on health, economic, and vaccination metrics).

In Chapter 5, a seven-state benchmarking set (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) was used. It contains states with important similarities and differences to New Jersey. The comparison states used in Chapter 5 are similar in the disease pattern of how COVID-19 hit New Jersey, which is important, given that the states with the first outbreaks in the country had less time to react. The comparison states are also similar in geographic and demographic characteristics, which impacted how emergency response was carried out in each state. Additionally, to showcase a range of potential actions for states facing similar circumstances of disease pattern and geographic and demographic characteristics, states were also selected to have a variety of political orientations. For greater detail on how the comparison states in Chapter 5 were selected, see the Appendix.

While this chapter identifies several areas where New Jersey's pandemic response fell short, it is evident that New Jersey accomplished many herculean tasks in its efforts to weather the pandemic. COVID-19 brought tragedy to New Jersey and presented a staggering challenge for the State to handle. The State mobilized a pandemic response in a short time to a virus the world had never before encountered. Chapter 5 ultimately memorializes how New Jersey responded to these overwhelming circumstances and allows the major lessons learned from the pandemic response to inform the future.

Section 5.02 Emergency Response Governance and Coordination

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List of Exhibits

5.2 Emergency Response Governance and Coordination

1 Context and Summary

COVID-19 was a crisis of a larger scope, scale, and duration than any other emergency that state governments had faced. Unlike other emergencies, such as extreme weather events, chemical fires, or even domestic terrorism, COVID-19 was a crisis of unparalleled levels, impacting the entire state of New Jersey for a much longer time, and across more aspects of daily life, than any other. The New Jersey government's operations needed to transform immediately from its regular operating model to one implementing and coordinating emergency responses, while simultaneously continuing to provide essential governmental services. Responding to COVID-19 required a level of action and degree of coordination that differed from anything current state government leaders had experienced. This crisis went beyond a once-in-a-generation effort—it was one of the most significant crises that New Jersey government leaders had faced in New Jersey's history.

The emergency response was driven by dedicated public servants across state government, many of whom worked seven days a week for months and months on end without reprieve. Three main agencies, the Governor's Office, the New Jersey Department of Health (NJDOH), and the Office of Emergency Management (NJOEM) within the New Jersey State Police (NJSP), led the response. Other agencies were also involved in directing specific aspects of the State's pandemic response, sometimes forming taskforces to advise the Governor.

On January 30, 2020, the World Health Organization (WHO) declared COVID-19 a Global Health Emergency. On that date, there were only seven confirmed cases in the U.S. (See Appendix A1 for a Chronology of Events.) On February 3, 2020, four days later, the Governor formed the Coronavirus Task Force (CTF) per Executive Order (EO) 102. (See Appendix A2 for the full text of EO 102.) The Commissioner of the NJDOH chaired the CTF, which included representatives from the New Jersey Department of Human Services, the New Jersey Department of Law and Public Safety within the Office of the Attorney General (NJOAG), the New Jersey State Police, the New Jersey Department of Education (NJDOE), and the Office of Homeland Security and Preparedness. The Governor tasked the CTF with preparing and responding to the virus, including coordinating with the federal government and hospitals.

On March 2, 2020, the Governor held his first Coronavirus press conference with the Commissioner of NJDOH. At that time, the risk to residents was believed to be low. Two days later, on March 4, New Jersey reported its first confirmed case in Bergen County. On March 9, just five days later, Governor Murphy declared a State of Emergency and, for the first time ever, a Public Health Emergency (EO 103). (See Appendix A3 for the full text of EO 103.) The very next day, New Jersey experienced its first COVID-19 death. Many initially believed the virus would dissipate in a matter of weeks. However, far from what anyone imagined, the Public Health Emergency would last a full 2 years, ending on March 4, 2022. Between March 4, 2020 and March 4, 2022, COVID-19 claimed the lives of 30,808 New Jerseyans.

The federal government's public statements and engagement between the White House and state governments made it clear that state governments were going to be responsible for the majority of operations in the response. For the duration of the Public Health Emergency, New Jersey needed to mobilize state agencies to carry out the complicated and expansive tasks of emergency response. First, to deliver emergency services, New Jersey's emergency response leaders needed to carefully direct the flow of information and resources. This required extensive communications with stakeholders, including local authorities, healthcare providers, and constituent groups, to receive timely updates about the impact of the disease and what interventions were needed.

New Jersey then needed to plan and execute the provision of those interventions – for example, ensuring an adequate supply of ventilators, then coordinating the timely delivery of ventilators to hospitals and assuring that there was appropriately-trained staff to use them. This demanded a significant level of coordination, which in turn required New Jersey to redirect some of its non-emergency government operations to focus fully on emergency COVID-19 responses. Along with the Governor's Office, the leaders of the response were NJOEM and the NJDOH, with critical assistance from local health departments (LHDs) and the New Jersey Hospital Association (NJHA).

New Jersey's coordination with other states was also a critical element of emergency response, as the Northeast, particularly New York, was among the first in the United States to be hit with COVID-19. It was easy for the disease to spread across borders, given the states' close proximity to each other. The Governor's Office coordinated with states in the Northeast and other states to ensure that their responses were unified. On March 16, 2020, the governors of Connecticut, New York, and New Jersey announced a regional approach to combating the novel coronavirus throughout the tri-state area, a coalition that Pennsylvania joined on March 18.

When the supply of critical supplies like Personal Protection Equipment (PPE) was insufficient, Governor Murphy asked for assistance from other states. In one instance, the State received ventilators from California and was able to provide them to patients in New Jersey. After using and sanitizing the ventilators, New Jersey returned them to California within two months.

While New Jersey's emergency response was immediate and robust in many respects, there were also areas in which it fell short:

- First, the State did not initially prioritize pandemic planning, which limited the capabilities New Jersey would have in its response capability. While the NJDOH had a pandemic flu plan written in 2015, it did not sufficiently exercise or review the plan, neither sharing it with stakeholders nor training on it.
- Second, the specific roles and responsibilities of the two lead groups of the emergency response, NJOEM and the NJDOH, were not clearly defined, which led to initial uncertainty about who was in charge of what, and where the lines of authority ran. Finally, communications between state agencies and state leadership during the crisis was at times inconsistent and unclear.

These challenges indicated a lack of regular tabletop exercises for health emergencies and other forms of training between agencies and emergency response leaders prior to the pandemic. Though states across the country were unprepared for COVID-19, some were better prepared than others. In 2019, the U.S. Department of Health and Human Services (HHS) conducted a series of emergency training exercises with federal agencies and state and local jurisdictions. The exercises involved a simulation of a hypothetical virus named Crimson Contagion, which had striking similarities to COVID-19: Crimson Contagion originated in China, and its initial outbreak in the United States spread rapidly after an infected person attended a concert, leading states to issue stay-at-home orders.

As government agencies responded to this hypothetical situation, key gaps in federal and state capabilities developed across this exercise that mirrored the common challenges that states would face a year later during COVID-19. Major gaps included[1]:

- HHS lacked clear legal authority or mechanisms to become the leader of the federal government's public health emergency response. Previous health emergency plans had not outlined in detail the organizational structure of the federal government's response in a situation where HHS was the lead federal agency.
- Participants were confused about federal bureaucratic processes. For example, states in need of PPE and other equipment sent requests to several different federal agencies.
- Participants saw widespread supply chain shortages, resulting in limited resources available to states. States did not have detailed prioritization strategies to allocate scarce materials, neither were Continuity of Operations (COOP) Plans prepared.

In addition to federal agencies, 12 states participated in Crimson Contagion exercises, including a few regional peers to New Jersey, such as New York, Pennsylvania, and Massachusetts. New Jersey did not participate. As the learnings of Crimson Contagion were so similar to COVID-19, this may have hindered New Jersey's ability to plan for an emergency like COVID-19, compared to states that did participate. Regardless, the fact that the major challenges identified during Crimson Contagion surfaced during the pandemic suggests that additional state investment in planning for a public health emergency was necessary.

[1] U.S. Department of Health and Human Services. (2020). Department of Health and Human Services (HHS) Crimson Contagion 2019 Functional Exercise After-Action Report, 2020. Retrieved from https://www.governmentattic.org/38docs/HHSaarCrimsonContAAR_2020.pdf

2 New Jersey's Response

2.1 Key Agencies Involved

While many state agencies played critical roles during the COVID-19 pandemic, the Governor, the New Jersey Attorney General (NJOAG), the New Jersey Department of Health (NJDOH), and the Office of Emergency Management (NJOEM) were key players in coordinating New Jersey's pandemic response. Generally speaking, those offices have the following roles, responsibilities, and powers:

- Pursuant to Article V of the New Jersey State Constitution, the Governor oversees the entire executive branch of the state government. The Governor has the power to issue executive orders, call special legislative sessions, and summon the National Guard. The Governor obtains additional emergency powers pursuant to the Disaster Control Act[2] (DCA), and the Emergency Health Powers Act[3], discussed below.
- The NJOAG plays a dual role as New Jersey's chief law enforcement officer and its chief lawyer. The NJOAG oversees the Department of Law and Public Safety, which includes nearly 8,000 employees across 17 divisions (including the State Police), offices, and commissions, as well as New Jersey's 21 county prosecutors' offices and nearly 40,000 law enforcement officers. In addition, the NJOAG provides legal representation to the Governor's Office and state entities through the Division of Law (DOL).[4]
- The NJDOH principally focuses on disease prevention and control, health promotion and education, emergency preparedness, licensing and regulation, health data collection and analysis, health equity and disparities, and health regulation and policy development. The NJDOH operates four psychiatric facilities in New Jersey but does not otherwise provide direct services to New Jersey citizens. The Commissioner of the NJDOH oversees the agency's three primary branches—Public Health Services, Health Systems, and Integrated Health—all of which work collaboratively to strengthen New Jersey's health system. During the pandemic, the NJDOH worked closely with the Governor and the State Police in connection with executive-level decisions in the New Jersey's emergency response, particularly in overseeing the State's health interventions.
- The NJOEM, which is part of the New Jersey State Police (NJSP), is responsible for planning, directing, and coordinating emergency operations that are beyond local control. The NJOEM also helps facilitate the flow of information to and from state entities during an emergency. The Colonel of the NJSP is also a member of the cabinet. New Jersey and Michigan are the only two states in which emergency management falls under State Police. The strength of that organization is that multiple units can rapidly assist in a state of emergency.

[2] N.J.S.A. App.A:9-33, et seq.
[3] N.J.S.A. 26:13-1, et seq.
[4] Florio Executive Order 6 (1990); N.J.S.A. 52:17A-4(e).

- LHDs are normally the front-line forces responsible for essential public health services including disease monitoring and mitigation. The pandemic was no different. LHDs were key players in many aspects of New Jersey's response, including managing contact tracing efforts, helping to stand up testing and other public sites, and collecting data and administering vaccines, among many other roles.[5]

During the COVID-19 pandemic, the Governor, NJOAG, NJOEM, the NJDOH, and LHDs' respective roles in coordinating the State's response were shaped not only by the contours of each office, but by several distinct features of New Jersey's legal landscape. New Jersey's Emergency Health Powers Act (EHPA) gives the Governor the power to declare a public health emergency "with the advice of the Commissioner of [the New Jersey] Department of Health (NJDOH) and the Director of [NJOEM]."[6] Once the Governor exercises this power, the Commissioner of NJDOH is given "primary jurisdiction, responsibility and authority"[7] and tasked with working with NJOEM to arrange "all matters related to New Jersey's public health response to the emergency," including planning and carrying out the State's evaluation, prevention, preparedness, response, and recovery efforts in collaboration with relevant federal, state, and private entities, organizing public information activities about the public health emergency, and coordinating the State's emergency response with "local authorities[.]"[8] Thus, NJOEM and the NJDOH are designated command centers during a public health emergency like COVID-19 and have crucial decision-making roles.

2.2 Key Decisions

2.2.1 Setting Up Emergency Response

The Governor's Office set the tone, priorities, and structure for New Jersey's emergency response to COVID-19. The Governor's key strategy for doing this was to ensure the continued operation and viability of the healthcare delivery system, especially hospitals.

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[5] Another important feature in New Jersey's legal landscape is the Home Rule Act, which gives municipalities significant autonomy and leverage to address local conditions impacting the health of their residents. Because New Jersey is a "home rule" state, its municipal governments have broad authority to advance their public welfare goals by enacting ordinances and regulations, making collaboration between the state and local governments absolutely critical. Executive Order 108 declared that, pursuant to the Disaster Control Act, "no municipality, county, or any agency or political subdivision of this State shall enact or enforce any order, rule, regulation, ordinance, or resolution which will or might in any way conflict with any of the provisions of my Executive Orders, or which will in any way interfere with or impede their achievement."

[6] N.J.S.A. 26:13-3(a).

[7] The EHPA also gives the Governor authority to exercise the same powers that are given to the Commissioner of DOH once a public health emergency is declared pursuant to the New Jersey Civilian Defense and Disaster Control Act (N.J.S.A. App. A:9-33 to -63). N.J.S.A. 26:13-3(f).

[8] N.J.S.A. 26:13-3(c).

In consultation with the NJDOH, federal counterparts, and regional states, the Governor declared a Public Health Emergency and a State of Emergency on March 9, 2020. The Governor's Office coordinated with the federal government and other northeast states, especially Pennsylvania and New York, whose residents frequently cross borders with New Jersey.

At the outset of the health emergency, there was some uncertainty concerning which agency between the NJDOH and the NJOEM should take the primary role in leading the response. This may have been due, at times, to conflicting or imprecise guidance from the Emergency Health Powers Act, the NJDOH Pandemic Influenza Plan, and Executive Order 103.

The Emergency Health Powers Act states that the NJDOH should lead the State's emergency response activities, with the NJOEM providing "the commissioner with all required assistance." On the other hand, the NJDOH Pandemic Influenza Plan states that "externally," the NJDOH should operate under the State Emergency Operations Plan (SEOP) under the leadership of NJOEM as the Emergency Support Function 8[9] lead state agency, but "internally" DOH is to use the Incident Command System (ICS), an emergency management structure which facilitates and streamlines emergency responses. Thus, the Emergency Health Powers Act and the NJDOH Pandemic Influenza Plan both envisioned the NJDOH as the primary and lead role over NJOEM during a health emergency.

However, in EO 103, the Governor designated the NJDOH and the NJOEM as co-leaders to work in conjunction to oversee the implementation of the State Emergency Operations Plan and generally directed New Jersey's emergency response. More specifically, EO 103 stated:

> *"I authorize and empower the State Director of Emergency Management, who is the Superintendent of State Police, in conjunction with the Commissioner of the NJDOH, to take any such emergency measures as the State Director may determine necessary, including the implementation of the State Emergency Operations Plan and directing the activation of county and municipal emergency operations plans, in order to fully and adequately protect the health, safety and welfare of the citizens of the State of New Jersey from any actual or potential threat or danger that may exist from the possible exposure to COVID-19. In conjunction with the Commissioner of the NJDOH, the State Director of Emergency Management is authorized to coordinate the relief effort from this emergency with all governmental agencies, volunteer organizations, and the private sector.*

[9] Emergency Support Functions (ESFs) are categories of services provided during an emergency (e.g., Transportation, Energy). Government agencies and certain private sector parties that provide the service are grouped under the same ESF, which provides the organizational structure to receive funding or governance structure during an emergency. ESF 8 is "Public Health and Medical Services". During health emergencies like the COVID-19 pandemic, for example, the ESF provides the mechanism to receive federal emergency funding designated for public health and organize the state's emergency leadership structure (as states usually designate before an emergency which agency would be the ESF 8 lead). Source: U.S. Department of Health & Human Services. *Emergency Support Functions*. Administration for Strategic Preparedness & Response. https://aspr.hhs.gov/legal/Pages/Emergency-Support-Functions.aspx#:~:text=Emergency%20Support%20Functions%20(ESFs)%20is,environment%2C%20restore%20essential%20services%20and

...

The State Director of Emergency Management, in conjunction with the Commissioner of the NJDOH, shall also supervise and coordinate activities of all State, regional, and local political bodies and agencies to ensure the most effective and expeditious implementation of this order and, to this end, may call upon all such agencies and political subdivisions for any assistance necessary."
Initially, NJDOH wanted the Command Center of the response to be located at NJDOH, in part because it was a "health-related" emergency and in part because there were technical incongruities that made it challenging for NJDOH personnel to work away from their own facilities and labs.

The Governor ultimately made the decision to physically house New Jersey's emergency response operations in the Regional Operations and Intelligence Center (ROIC), an advanced facility run by the NJSP and used for coordinating the response to state emergencies. Key decision makers moved from their usual offices to work out of the ROIC, which enabled rapid decision making. For agencies other than the NJDOH and the NJOEM, the Governor's Office maintained strict oversight of agency actions related to COVID-19. These other agencies were less included in the day-to-day cadence of central decision-making led by the Governor's Office, NJOEM, and the NJDOH.

As the pandemic progressed beyond Spring 2020, the Governor's Office had to strike an increasingly difficult balance between competing public health, economic, educational, and other priorities. Overall, state leadership committed to following public health advice above other considerations.

2.2.2 Legal Mechanisms for Response

The State relied primarily on the following legal bases to provide the authority to act during the emergency:

1. A formal declaration of a state of emergency[10] authorized the Governor to:

- Use and employ "all resources of state and local government."
- Enter into agreements with the federal government to obtain available emergency or defense assistance.
- Make, amend, and rescind orders, rules, and regulations, and assume control of all emergency management operations.
- Temporarily take, use, or employ the personal services or property of citizens, residents, and organizations of the State to protect or promote public health, safety, or welfare.
- Waive certain procurement procedures to expedite the delivery of goods and services necessary for Coronavirus preparedness and response efforts.
- Exercise the powers granted to the Commissioner of the NJDOH under the New Jersey Emergency Health Powers Act.

[10] N.J.S.A. App.A.:9-33, et seq.

2. Emergency Health Powers Act (EHPA)[11], under which the NJDOH was authorized to:

- Oversee activities in health care facilities for emergency public health uses, including identifying health centers or directing LINCS agencies to identify health centers to designate as points of emergency care, and requiring in-state health care providers to assist in the performance of vaccination, treatment, examination, or testing of any individual.
- Take safety measures such as closing or decontaminating facilities when there is reasonable belief the facilities may endanger the public, identifying areas that may be dangerous to the public health, and recommending to the Governor and the Attorney General that movement of persons within that area be restricted.
- Protect the general population by issuing and enforcing orders for individuals to submit specimens for diagnostic tests, get vaccinated, receive treatment for the disease, and isolate or quarantine.
- Enforce these powers through the issuance of Executive Orders.

2.2.3 Structure of Response Leadership

Defining Roles in New Jersey's Response

In an emergency, when swift decision-making and delivery of interventions was necessary, it was crucial for each response leaders' authority and jurisdiction to be defined early. While the Governor led the Statewide COVID-19 response as the final decision-maker, he also needed to organize the many parties under him leading more specific aspects of emergency response.

In the daily cadence of decision-making and coordination of the response, the Governor relied heavily on his Chief of Staff, who was deployed to the ROIC and was the visible face of the response at the ROIC. Commissioner Persichilli and the NJDOH became the policy and subject matter leads, guiding strategic priorities for health topics and providing input on the health perspective for policy overall. The NJOEM, in turn, served as the operational lead, ensuring that NJDOH decisions were implemented in practice. NJOEM was the sole designated entity for acquiring PPE across the state, and helped distribute PPE, create additional bed capacity at hospitals and through field medical stations (FMSs), and helped identify and stand up testing and vaccine sites, among many other priorities. Together, Commissioner Persichilli and Colonel Callahan served as the co-leaders of the Public Health Emergency.

This model diverged from what was typically considered an emergency management best practice, which is to generally involve only one incident commander, as having two or more leads can slow or prevent an effective response. However, the Commissioner and the Colonel quickly developed a productive working relationship and effectively co-led the charge. Observers attribute this to the collaborative personalities of the two leaders, rather than institutionalized and practiced teaming,

[11] N.J.S.A. 26:13-1, et seq.

as the two offices had not worked extensively together prior to the emergency. The two leaders also learned and deferred to the respective strengths of their offices: NJDOH was the subject matter expert lead, coordinating pandemic response to be most effective from a public health perspective, while NJOEM had the resources and experience to operationalize the response.

Because the EHPA did not designate the NJDOH and the NJOEM as co-leaders of the response, there had been no plan to integrate command structures into a single Table of Organization for how the leadership of the NJDOH and the NJOEM would work together. Thus, the two organizations had to integrate tables of organization while also learning about and responding to COVID-19.

Outside the core team of the Governor's Office, the NJOEM, and the NJDOH, agencies were responsible for managing aspects of the response within their mandate. They received expert input from the NJDOH, select operational support from the NJOEM, and oversight/approval from the Governor's Office. Many agencies managed unique crises stemming from COVID-19. For example, the Department of Labor and Workforce Development (DOL) managed a 10-fold increase in unemployment claims, and the Department of Children and Families (DCF) had to ensure that children cared for in congregate settings were safe and that families served by the Department had continued access to services. To manage these types of crises, agencies set up their internal response structures. DOL's 'Strike Team' and DCF's 'Red Team' structures allowed the agencies to work rapidly and adaptively to quickly changing situations.

All agencies, including the NJDOH and the NJOEM, required Governor's Office approval to issue any COVID-19-related guidance, including answers to Frequently Asked Questions (FAQs) and changes to administrative processes (e.g., extending deadlines for recertifications). These guidelines were reviewed by a Governor's Office policy lead and the counsel assigned to that agency and then reviewed by the COVID-19 legal team. Guidelines were often referred to others for further input, including the NJDOH's Communicable Disease Service, other agencies for subject matter expertise, or the Governor's communications team for tone review. Regardless, agencies often had difficulty understanding exact timelines or which processes to use for approvals and this slowed the agencies' ability to act. For example, DOH reported that delays in obtaining approvals in rule waivers had to be reviewed on several different levels, delaying the time that such waivers could be put into effect.

Centralizing Authority

New Jersey's pandemic response was commanded from two locations, DOH and the ROIC. At the ROIC, key personnel from across the State, including from the NJOEM, the Governor's Office, the NJOAG, the New Jersey Hospital Association, and some individuals from the NJDOH were collocated. Co-location was extremely effective in ensuring that all teams had direct access to key people and information, and so could contribute to and act on decisions as they were made.

The NJDOH sent emergency response personnel to the ROIC, namely from Public Health Infrastructure, Laboratories & Emergency Preparedness (PHILEP), but the Commissioner and most

of her staff operated in the NJDOH building, where they set up their own Emergency Operations Center (EOC). No one from other agencies collocated with the NJDOH in its EOC at the beginning of the pandemic, although the Governor's Office sent a Health Policy Advisor to collocate with the NJDOH later.

Outside of the two EOCs, decision-making and communication processes were less efficient, especially when agencies other than the NJDOH and the NJOEM had to coordinate with the Governor's Office or with one another. At the beginning, the main way that the response leads communicated with other state agencies was through the Coronavirus Taskforce, which was created in February 2020 via Executive Order 102. The Taskforce was composed largely of State Cabinet members and their delegates. It was initially meant to be a collaborative decision-making body, but quickly became a principal method for the NJDOH to provide updates to other agencies.

Thus, many agencies felt that they were not sufficiently consulted on aspects of the response falling within their jurisdictions. At several points, agencies found that they were unaware of decisions that affected their services until after the decisions had been made – occasionally, by hearing the decisions announced during the daily COVID-19 press conference. While communications between the emergency response leaders (the Governor's Office, the NJDOH, and NJOEM) went smoothly, and improved as the pandemic continued, disconnects still occurred. For example, some members of NJOEM initially assessed that they likely did not have the capabilities to manage PPE donations, then learned through the Governor's press briefing that they were tasked with performing this work.[12]

Agencies, including NJDCF, NJDHS, and NJDOC, which were responsible for congregate care (other than LTCFs), felt they had limited opportunity to provide input on the guidelines that applied to their populations. This feeling was shared by LHDs, as well as parts of the New Jersey healthcare system—aside from the largest hospitals—such as nurses, home healthcare workers and other skilled care providers. It is integral that these agencies be part of the decision-making process in the future.

Agencies also had limited time to implement mandates coming from the Governor's Office. For example, some were surprised by the short time they were given to prepare for vaccine mandates for their workers or implement other emergency guidelines. In some cases, they learned of tasks assigned to them via the Governor's daily press conferences. However, in the early pandemic, decisions were being made so fast that there may have been no time to focus on individual agency communications.

2.2.4 Delivery of Emergency Services

Besides planning the emergency interventions and services in New Jersey's pandemic response, leaders also needed to direct a myriad of parties in providing emergency services. As previously

[12] Thereafter, the members of NJOEM answered their call to duty and worked tirelessly to activate and improve the donations portal.

discussed, NJOEM took the lead in coordinating the logistics of many health interventions on the ground, most notably in setting field medical stations (FMSs) and mass testing and vaccination sites and delivering PPE and other supplies.

To do so, NJOEM relied heavily on officials at the local level. This primarily included NJOEM county coordinators and LHDs. Since New Jersey is a 'home-rule state,' LHDs were the primary parties responsible for organizing the State's pandemic response in their jurisdictions.

During COVID-19, Local Information Network and Communication System (LINCS) offices coordinated the LHDs. There are 22 LINCS offices in the State; during emergencies, those offices coordinate public health agencies in their jurisdiction. During the pandemic, the LINCS agencies were in charge of leading COVID-19 activities, being the primary channel through which NJDOH communicated to LHDs what interventions they were assigned to complete. The NJDOH shared 564 messages with LINCS agencies over the course of the pandemic and through mid-December 2023. These included public health alerts, advisories, updates, and information. Most of these messages were to ensure health care providers across New Jersey had the latest information about the disease, treatment options, vaccines, resources, regulations, and other guidance.

Local Authorities in New Jersey

New Jersey relies on its network of more than 90 LHDs to deliver public health services, including non-COVID-19 contact tracing and health inspections. To govern schools, they rely on nearly 700 Local Education Agencies (the general term for school districts, charters, and private schools). During the pandemic, these local bodies retained much of their authority and responsibility for coordinating the activities within their jurisdictions.

Though coordinated through LINCS agencies, the LHDs were at the front line of delivering services, offering support to grieving families, managing contact tracing efforts, helping to stand up testing and other public sites, collecting data and administering vaccines. County NJOEM coordinators worked closely with LHDs to support the logistical elements of these activities. They also operated PPE clearinghouses in each county, which accepted donations of PPE and redistributed them where need was greatest.

Other state agencies also delivered the non-health aspects of emergency services. For example, the New Jersey Department of Agriculture (NJDOA) was tasked with maintaining food insecurity programs like school lunches even after the State shut down. Each agency designated an employee to be the department's emergency management liaison, which was a practice started after Hurricane Sandy. These department emergency managers were the agency's main point of contact for NJOEM.

To deliver emergency services, the State also used multiple partners outside of state and local government, which fell into two categories: 1) partners that the State normally relied on, and 2) those that the State used to fill gaps created by the pandemic.

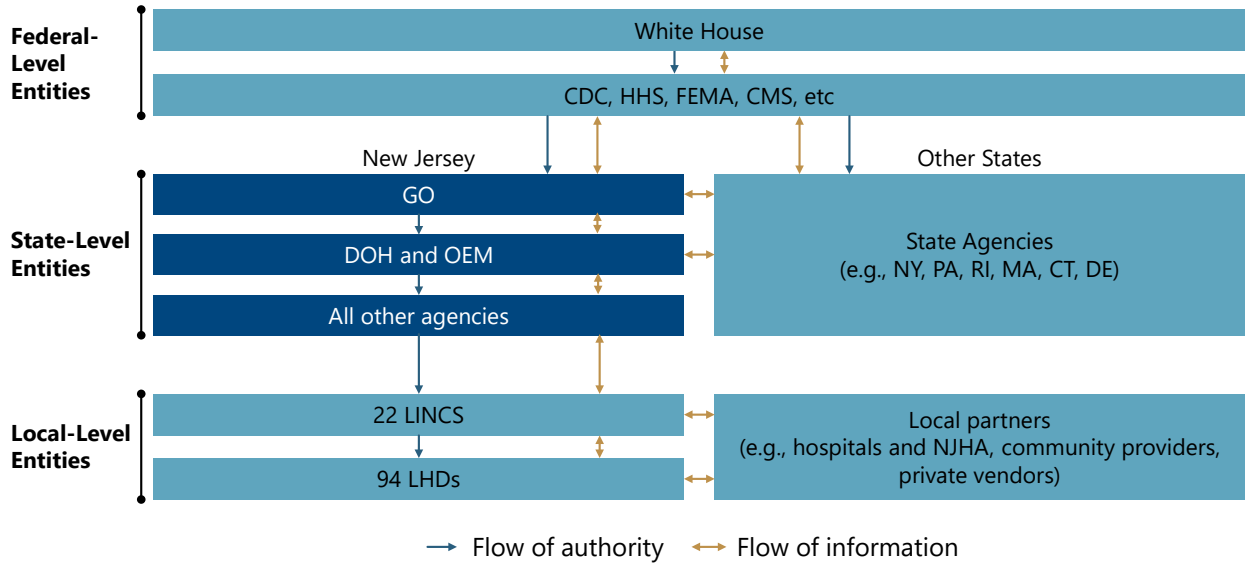
The first category consisted of community partners and contracted providers who provided services and communications to populations, including disabled communities, refugees, people experiencing homelessness, and communities of color, and many others.

The second category consisted of partners the State used to fill critical capability gaps during this emergency, and included:

- The New Jersey Hospital Association, which provided critical data collection on hospital bed capacity and COVID-19 case counts in their facilities.
- McKinsey & Co., which provided consulting services concerning healthcare capacity management, data analysis and visualization, support for frequent senior level updates and briefings, options regarding supplies (testing, PPE, and ventilators), input regarding vaccination plans, situational awareness from other states and countries regarding disease progress, treatment options and re-opening preparations, and specialized staff augmentation.
- Regional hospital collaborators, which provided several emergency services including managing hospital capacity by setting up field medical stations or alternative sites of hospital beds, redistributing PPE, and administering tests and vaccines.
- Other states and the federal government, which provided critical support, like donating or lending donating, or providing staff, supplies, funding, and labor to set up FMSs and mass testing and vaccination sites.

Agencies themselves coordinated with peers in other states and with their federal counterparts to find creative solutions to continue service delivery. In particular, the Federal Emergency Management Agency (FEMA) was a major collaborator with NJOEM in operationalizing the State's pandemic interventions, and disbursed necessary federal emergency funding. Moreover, the Governor's Office coordinated closely with the White House and other emergency response leaders at the federal level to secure the necessary support for New Jersey. Governor Murphy wrote the first letter to the White House requesting funding for State and local responses and worked closely with the White House to secure ventilators and other necessary supplies. The Governor regularly communicated with the White House to receive and relay updates about the progression of the disease within the State, and ask for federal support, particularly during supply shortages when New Jersey needed external support to obtain equipment like ventilators and PPE.

Exhibit 1: The organization of New Jersey's pandemic response involved several tiers of authority and partners from multiple jurisdictions



3 Comparison to Other States[13]

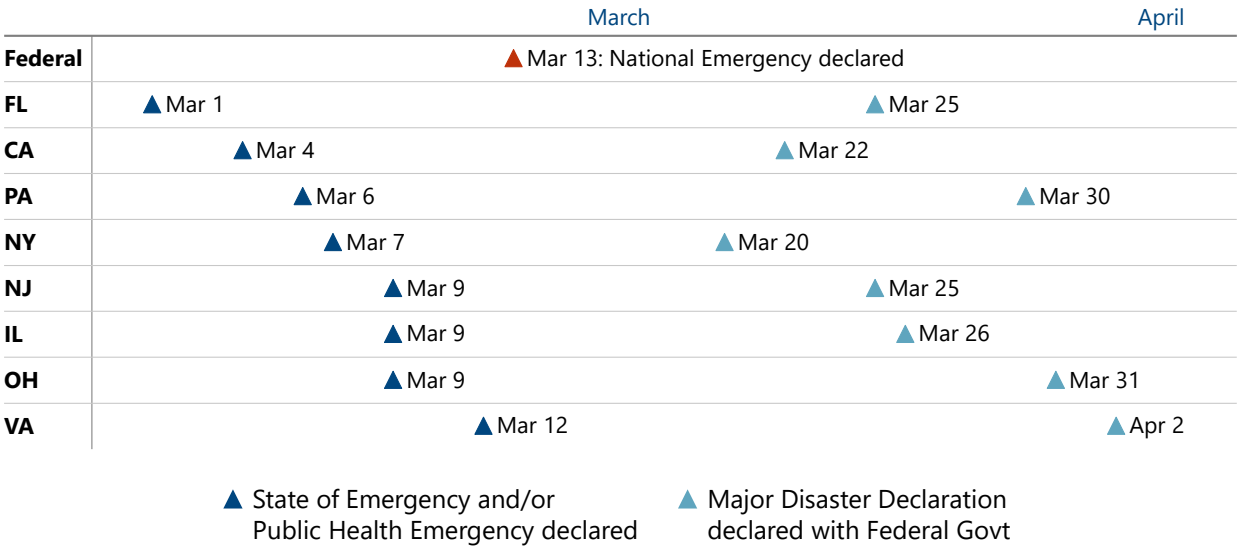
As COVID-19 cases arrived in early March, all comparison states (California, Florida, Illinois, New York, Pennsylvania, Ohio, and Virginia) declared a State of Emergency and/or Public Health Emergency to grant broader powers to their respective Governors and Departments of Health. All the comparison states had declared a State of Emergency before the President declared a National Emergency on March 13.

Many states encountered the same challenges as New Jersey in struggling to delineate the operational responsibilities between their departments of health and emergency management agencies. In past emergencies, emergency management agencies were generally responsible for directing and operationalizing their states' responses. With COVID-19, all State departments of health took on larger roles in directing the response. This was a new role, as no state had ever faced a large-scale public health emergency before COVID-19 in the past 100 years.

[13] Benchmark states for Chapter 5 (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in Appendix.

State governors also requested Presidential Major Disaster Declarations through FEMA. A major disaster declaration provides a range of federal assistance programs for individuals and public infrastructure, including funds for both emergency and permanent work.

Exhibit 2: New Jersey was among the earliest states to issue a FEMA major disaster declaration



Some states, such as Florida, California, and New York, declared both a State of Emergency and Major Disaster Declaration with FEMA early in the Initial Surge. Florida was the first to declare a State of Emergency on March 1, while New York was the first to secure approval for its Major Disaster Declaration request on March 20. Virginia did not receive approval for a Major Disaster Declaration request until April 2.

Other states (Pennsylvania, in this peer set) declared a State of Emergency early, but declared a FEMA Major Disaster Declaration relatively later. Finally, other states (Illinois, Ohio, and Virginia), declared both a State of Emergency and Major Disaster Declaration relatively later. Virginia was the last to declare a State of Emergency on March 12 – making the declaration nearly two weeks after Florida did.

Learnings Across States

In examining the structures of state emergency responses, themes common to several or most states emerge, which should be considered in the case of a future emergency. They are:

- The COVID-19 responses in all states were led by a combination of the Governor's Office, the particular state's public health department, and the state's emergency response team. The structure of authority varied, but usually a single agency (either the state health department or emergency management agency) was designated as the incident

commander, which coordinated the actions of other agencies in the state's emergency response. The Governor was then the final decision-maker.

- Health departments were typically in charge of data and public health expertise, but were not set up to run the operational aspect of a response. This meant that the state needed to rely on other agencies (usually the emergency management agency) for operational implementation of the state's pandemic response.
- In general, states had never conducted pandemic planning outside of the health department, leaving governors' offices, emergency management agencies, and other agencies without a clear baseline understanding of infectious disease emergencies, and without a clear playbook for how to respond in a 'whole-of-government' response
- The leadership organization and respective responsibilities of the Governor, health department, emergency management agency, or other state agencies leading emergency response were often not clearly delineated or codified. In some states, these points of organizational confusion were exacerbated if individual agency leaders did not have strong relationships prior to the pandemic. Conversely, in other states, personal relationships helped overcome the lack of a codified organizational structure.
- In some states, the National Guard, human services, homeland security, or even budget/treasury departments took more prominent roles in managing the emergency response, based on the types of responsibilities which they had prior to the outbreak of the pandemic. This was usually the case when those agencies had taken roles in coordinating other cross-government efforts prior to COVID-19.

4 Key Strengths and Challenges

New Jersey's success in coordinating its emergency response can be credited to the personalities leading the response and wise crisis decision-making more than advance planning or preparation for a health emergency. The State must invest further in creating institutionalized leadership and decision-making structures for emergency response governance and coordination during a health emergency.

Strength Collocation of key personnel in the ROIC was critical to coordination and allowed those collocated to collaborate on quick tactical decision-making within the EOC at the ROIC.

Strength NJDOH Commissioner Persichilli and Colonel Callahan of the NJOEM quickly developed a strong working relationship, allowing them to effectively leverage their teams' strengths and negotiate leadership roles. This meant that despite some lack of clarity on roles, the two were able to respond effectively.

Strength State leadership found a regular cadence of communication through daily calls that was effective for coordination across teams, helping leadership work through challenges posed by COVID-19 and lack of planning in real-time.

Strength New Jersey maintained productive working relationships with other states and the federal overnment through the Governor's Office and national associations. This allowed the State to learn from others' experiences, receive material support, and harmonize policies with others.

Strength Some agencies stood up innovative and extremely effective ways to manage their internal operations during the pandemic. Examples include DCF and the DOL. DCF Red Teams and DOL Strike Teams OIT and Innovation allowed for effective collaboration, delegation, and prioritization of work.

Challenge Neither NJDOH leadership nor leadership in the Governor's Office used the 2015 Influenza/Flu Plan for guidance. Further, the State had not updated its pandemic/flu plan or its State Continuity of Operations Plan to reflect the lessons learned from the COVID-19 pandemic. As employees leave State roles over time, they take the critical emergency response knowledge and experience with them, to the extent that it has not been codified into a plan.

Challenge The Emergency Health Powers Act was interpreted by the State as meaning that NJOEM and the NJDOH would co-lead the response; however, the Act, as written, designates the NJDOH as the primary lead. Although the co-lead approach worked well, many credit this to the two leaders' "force of personality." There were also many instances where there was a lack of clarity over which agency was responsible for which elements of the response. For a co-lead approach to work well in future health emergencies, changes would be required of the EHPA to ensure what worked well during the COVID-19 response is codified and to provide clarity on agency responsibilities. For example, the statute could specifically lay out that NJOEM will lead on supply procurement, DOH will lead on medicinal or vaccination efforts, and public health communication will be streamlined through the Governor's Office. Further, the EHPA has no enforcement mechanisms for those who violate rules made under its power. Some State law enforcement representatives expressed their desire to have more robust criminal and civil enforcement power built into the EHPA.

Challenge The NJDOH maintained an emergency operations center separate from the State EOC at the ROIC. This led to a split in the work being done at the NJDOH's EOC and the ROIC/State EOC, and fractured clarity on who was leading the response in its early stages. Though each team and its EOC developed clear roles and responsibilities as the pandemic response progressed, this duplication and separation created a challenge in the initial stages.

Challenge External communications management was more effective than internal communications management. Announcements about policies frequently reached agencies and the public at the same time. As a result, multiple agencies could not prepare to respond to the public on newly announced policies, nor implement those policies so that they were in place upon announcement to the public. For example, updates to guidelines and information would reach the public before vaccine hotline workers had received that information or received updated scripts.

Challenge Agencies struggled to communicate with one another or identify contacts within other agencies to get support. This prevented public-facing agencies from obtaining the support they needed from 'service' agencies and from working collaboratively to solve issues for residents.

Challenge The COVID-19 Taskforce could have been an avenue for input from agencies or for making decisions across agencies, but its primary actual use was as platform for the NJDOH to provide updates to others.

New Jersey was able to swiftly organize its emergency response, with the two leads: Commissioner Persichilli and Colonel Callahan, collaborating successfully and reflecting their respective strengths. However, it may be a concern for the future that this cooperation was not extensively institutionalized prior to the pandemic and owed much of its success to the two leads' force of personalities. There was uncertainty about the specific authorities and responsibilities of each leader, which NJDOH and NJOEM needed to define in real time as the pandemic unfolded. To prepare for the next emergency, the roles of different emergency leaders should be comprehensively delineated and codified. Decisions such as New Jersey's EOC specific role and authority should be made beforehand, and a single EOC would foster smoother communications. Furthermore, while the leaders of the pandemic response in NJDOH and NJOEM communicated smoothly with each other, agencies, and parties outside of central leaders reported that more communications and solicitations of input would be helpful in responding to the next emergency.

For detailed discussion on recommendations to address these concerns, see Recommendations 1-4 and 6-8 in **Chapter 7**.

5 Appendix

A-1 Chronology of Events

- January 30, 2020: The World Health Organization declared on 2019-nCoV is a "Public Health Emergency of International Concern."
- February 2, 2020: The United States Department of Homeland Security begins regulating the travel of persons and aircraft to the United States to facilitate the orderly medical screening and, where appropriate, quarantine of individuals entering the United States who may have been exposed to the virus.
- February 3, 2020: Coronavirus Task Force (CTF) established. The CTF met regularly after it was first formed to discuss what was happening overseas and when COVID-19 began to spread within the United States. After New Jersey had its first confirmed case, the CTF began to meet daily.
- March 4, 2020: The first confirmed case of COVID-19 of a New Jersey resident.
- March 9, 2020: The Governor declared a State of Emergency and a Public Health Emergency.
- March 10, 2020: New Jersey reported its first COVID-19 death.
- March 16, 2020: The Governors of Connecticut, New York and New Jersey announced a regional approach to combatting the novel coronavirus throughout the tri-state area.
- March 18, 2020: The Governors of Connecticut, New York and New Jersey announced that the Governor of Pennsylvania is joining their coalition to implement a regional approach to combating COVID-19.
- March 31, 2020: The NJDOH COVID-19 Professional Advisory Committee convened to provide guidance to the NJDOH to ensure that New Jersey's response to COVID-19 is based on the latest scientific, medical, ethical, and public health evidence.
- April 13, 2020: Governor Murphy announces that New Jersey will join six other northeastern states to plan how to best scale back the unprecedented restrictions put in place in the region, to rebound from the Coronavirus outbreak.
- May 3, 2020: The Governor, in partnership with other states in the Northeast Pact, announced a joint multi-state agreement to develop a regional supply chain for personal protective equipment, other medical equipment, and testing.
- March 4, 2022: Governor Murphy lifts the COVID-19 public health emergency.

A-2 Executive Order 102

EXECUTIVE ORDER NO. 102[14]

WHEREAS, the novel coronavirus identified as "2019-nCoV" ("the virus"), first discovered in the city of Wuhan, Hubei Province, People's Republic of China ("China"), is a severe, potentially fatal respiratory illness that can result in pneumonia, acute respiratory distress syndrome, septic shock, and multi-organ failure; and

WHEREAS, since the discovery of the virus in December 2019, more than 10,000 cases have been confirmed in China, with more than 100 additional cases confirmed across 22 other countries, including the United States; and

WHEREAS, the spread of the virus indicates that is it being transmitted through human-to-human contact; and

WHEREAS, outbreaks of the virus in the United States and in other countries across the world are being addressed through a combination of quarantining, medical monitoring, and community engagement; and

WHEREAS, the World Health Organization declared on January 30, 2020, that 2019-nCoV is a "Public Health Emergency of International Concern;" and

WHEREAS, in response to the outbreak, the Centers for Disease Control and Prevention determined that the virus presents a serious public health threat requiring enhanced entry screening at select airports in the United States, including Newark Liberty International in New Jersey, as well as others including Los Angeles International (California), San Francisco International (California), John F. Kennedy International (New York), Hartsfield-Jackson Atlanta International (Georgia), Honolulu International (Hawai'i), Chicago's O'Hare International (Illinois), Seattle-Tacoma International (Washington), Dulles International Airport (Virginia), Detroit Metropolitan Airport (Michigan), and Dallas-Fort Worth International Airport (Texas), for travelers from China; and

WHEREAS, effective February 2, 2020, the United States Department of Homeland Security is regulating the travel of persons and aircraft to the United States to facilitate the orderly medical screening and, where appropriate, quarantine of individuals entering the United States who may have been exposed to the virus; and

WHEREAS, preparation for public health hazards such as 2019 nCoV must involve a coordinated effort across federal, state, county, and local governments, first responders, private organizations, and the entire healthcare industry in New Jersey; and

WHEREAS, the rapidly evolving outbreak of coronavirus requires State officials to continuously monitor developments in the United States and around the world in order to take necessary and appropriate actions to ensure that residents of New Jersey remain safe and secure; and

[14] Murphy, P. (2020, February 3). *Executive Order No. 102*. State of New Jersey.

WHEREAS, as Governor, it is my duty and responsibility to protect the health and well-being of our residents by taking all necessary preparatory measures in response to the threats posed to the public health by the virus;

NOW, THEREFORE, I, PHILIP D. MURPHY, Governor of the State of New Jersey, by virtue of the authority vested in me by the Constitution and by the Statutes of this State, do hereby ORDER and DIRECT:

1. There is hereby created a "Coronavirus Task Force" ("CTF") that will report directly to the Office of the Governor.
2. The CTF shall be chaired by the Commissioner of the New Jersey Department of Health ("DOH").
3. In addition to the DOH, the CTF shall consist of the Commissioners or other agency heads of the following Executive Branch departments and agencies, or their designees:
    - The Department of Human Services;
    - The Department of Law & Public Safety;
    - The New Jersey State Police;
    - The Department of Education; and
    - The Office of Homeland Security and Preparedness.
4. The Governor may, as determined to be appropriate, appoint additional members to the CTF. All members of the Task Force shall serve without compensation and at the pleasure of the Governor.
5. The CTF shall meet on an as-needed basis as determined by the Chairperson.
6. The CTF is charged with coordinating all State efforts to appropriately prepare for and respond to the public health hazard posed by the virus. The Task Force will coordinate with and, where necessary, call upon other departments and agencies, including representatives from the Port Authority of New York & New Jersey, the Department of Children and Families, the Department of Environmental Protection, the Department of Labor and Workforce Development, the Department of Military and Veterans Affairs, the Department of Transportation, and New Jersey Transit, and any other department, office, division, or agency deemed necessary for consultation and advice.
7. The CTF is empowered to create any special advisory panel necessary to develop and deploy the State's preparation and response to the virus, including medical professionals with knowledge and expertise in the areas of public health, medicine, infectious disease, and related areas.
8. The CTF shall coordinate the State's partnership with the Federal Government and ensure effective communications and dissemination of information with all relevant State departments and agencies.
9. The CTF shall work with hospitals and other health care facilities to manage preparations for the possible treatment of patients demonstrating coronavirus symptoms or risks.

10. The CTF shall coordinate with local health departments to assess readiness for the management of patients demonstrating symptoms of the virus and to develop consistent protocols for monitoring and treatment.
11. The DOH shall provide staff to support the CTF. The Task Force shall be authorized to call upon any department, office, division, or agency of this State to supply it with any information, personnel, or other assistance necessary to discharge its duties under this Order.
12. Each department, office, division, and agency of this State is hereby required, to the extent consistent with law, to cooperate fully with the CTF within the limits of its statutory authority and to furnish the CTF with such assistance on as timely a basis as is necessary to accomplish the purposes of this Order.
13. The CTF may consult with experts or other knowledgeable individuals in the public or private sector on any aspect of its mission.
14. The CTF shall be purely advisory in nature and shall periodically report to the Governor to provide specific recommendations related to this Order.
15. This Order shall take effect immediately.

GIVEN, under my hand and seal this
3rd day of February,
Two Thousand and Twenty, and of
the Independence of the United
States, the Two Hundred and
Forty-Fourth.

[seal]

/s/ Philip D. Murphy
Governor

Attest:
/s/ Robert L. Garrenger III
Acting Chief Counsel to the Governor

A-3 Executive Order 103

EXECUTIVE ORDER NO. 103[15]

WHEREAS, Coronavirus disease 2019 ("COVID-19") is a contagious, and at times fatal, respiratory disease caused by the SARS-CoV-2 virus; and

WHEREAS, COVID-19 is responsible for the 2019 novel coronavirus outbreak, which was first identified in Wuhan, the People's Republic of China in December 2019 and quickly spread to the Hubei Province and multiple other countries; and

WHEREAS, symptoms of the COVID-19 illness include fever, cough, and shortness of breath, which may appear in as few as two or as long as 14 days after exposure, and can spread from person to person via respiratory droplets produced when an infected person coughs or sneezes; and

WHEREAS, on January 30, 2020, the International Health Regulations Emergency Committee of the World Health Organization declared the outbreak a "public health emergency of international concern," which means "an extraordinary event which is determined to constitute a public health risk to other States through the international spread of disease and to potentially require a coordinated international response," and thereafter raised its global risk assessment of COVID-19 from "high" to "very high"; and

WHEREAS, on January 31, 2020, the United States Department of Health and Human Services Secretary declared a public health emergency for the United States to aid the nation's healthcare community in responding to COVID-19; and

WHEREAS, as of March 9, 2020, according to the Centers for Disease Control and Prevention ("CDC"), there were more than 114,000 confirmed cases of COVID-19 worldwide, with over 4,000 of those cases having resulted in death; and

WHEREAS, as of March 9, 2020, there were more than 500 confirmed cases of COVID-19 in the United States, with 22 of those cases having resulted in death; and

WHEREAS, as of March 9, 2020, there were 11 presumed positive cases of COVID-19 in New Jersey, with 24 additional "Persons Under Investigation" spread across the counties of Bergen, Camden, Cumberland, Essex, Hunterdon, Middlesex, Monmouth, Passaic, Union, and Sussex; and

WHEREAS, as of March 9, 2020, there were 142 positive cases of COVID-19 in the State of New York and seven presumptive positive cases in the Commonwealth of Pennsylvania; and

WHEREAS, the CDC expects that additional cases of COVID-19 will be identified in the coming days, including more cases in the United States, and that person-to-person spread is likely to continue to occur; and

[15] Murphy, P. (2020, March 9). *Executive Order No. 103*. State of New Jersey.

WHEREAS, if COVID-19 spreads in New Jersey at a rate comparable to the rate of spread in other affected areas, it will greatly strain the resources and capabilities of county and municipal governments, including public health agencies, that provide essential services for containing and mitigating the spread of contagious diseases, such as COVID-19, and the situation may become too large in scope to be handled in its entirety by the normal county and municipal operating services in some parts of this State, and this situation may spread to other parts of the State; and

WHEREAS, the spread of COVID-19 may make it difficult or impossible for citizens to obtain consumer goods and other necessities of life due to supply chain disruption and price increases, as well as hamper the delivery of essential services such as police, fire, and first aid; and

WHEREAS, the State's public bidding act, N.J.S.A. 52:34-6 et seq., provides a public exigency exemption, N.J.S.A. 52:34-10(b), that in the event of a threat to the life, health, or safety to the public, advertised bidding is not required to obtain those goods and services necessary to address the public exigency where the Division of Purchase of Property provides preapproval in accordance with Treasury Circular 18-14-DPP; and

WHEREAS, in the event of a declared emergency pursuant to Treasury Circular 19-10-DPP, the threshold for delegated purchasing by individual State Departments is raised to $100,000 such that purchases at or below that amount do not require prior approval or action by DPP; and

WHEREAS, the spread of COVID-19 may disrupt the timely delivery of State contracted goods or services, the immediate delivery and fulfillment of which is necessary for the life, safety, or health of the public; and

WHEREAS, the State of New Jersey has been working closely with the CDC, local health departments, and healthcare facilities to monitor, plan for and mitigate the spread of COVID-19 within the State; and

WHEREAS, through Executive Order No. 102, which I signed on February 3, 2020, I created the State's Coronavirus Task Force, chaired by the Commissioner of the New Jersey Department of Health ("DOH"), in order to coordinate the State's efforts to appropriately prepare for and respond to the public health hazard posed by COVID-19; and

WHEREAS, it is critical to prepare for and respond to suspected or confirmed COVID-19 cases in New Jersey, to implement appropriate measures to mitigate the spread of COVID-19, and to prepare in the event of an increasing number of individuals requiring medical care or hospitalization; and

WHEREAS, the State of New Jersey also acts as an employer with tens of thousands of employees, and the spread of COVID-19 requires preparedness for staffing shortages and flexibility in work rules to ensure that its employees can fully comply with all medically appropriate measures while also ensuring the continuous delivery of State services performed by Executive branch agencies; and

WHEREAS, the continuous delivery of services at the county and municipal level performed by those governments and their employees is also essential; and

WHEREAS, the spread of COVID-19 within New Jersey constitutes an imminent public health hazard that threatens and presently endangers the health, safety, and welfare of the residents of one or more municipalities or counties of the State; and

WHEREAS, it is necessary and appropriate to take action against this public health hazard to protect and maintain the health, safety, and welfare of New Jersey residents and visitors; and

WHEREAS, the facts as set forth above and consultation with the Commissioner of DOH confirms that there exists a public health emergency in the State; and

WHEREAS, New Jersey's Consumer Fraud Act, N.J.S.A. 56:8-107 et seq., prohibits excessive price increases during a declared state of emergency, or for 30 days after the termination of the state of emergency; and

WHEREAS, the Constitution and statutes of the State of New Jersey, particularly the provisions of N.J.S.A. 26:13-1 et seq., N.J.S.A. App. A: 9-33 et seq., N.J.S.A. 38A:3-6.1, and N.J.S.A. 38A:2-4 and all amendments and supplements thereto, confer upon the Governor of the State of New Jersey certain emergency powers;

NOW, THEREFORE, I, PHILIP D. MURPHY, Governor of the State of New Jersey, in order to protect the health, safety and welfare of the people of the State of New Jersey, DO DECLARE and PROCLAIM that a Public Health Emergency and State of Emergency exist in the State of New Jersey, and I hereby ORDER and DIRECT the following:

16. I authorize and empower the State Director of Emergency Management, who is the Superintendent of State Police, in conjunction with the Commissioner of DOH, to take any such emergency measures as the State Director may determine necessary, including the implementation of the State Emergency Operations Plan and directing the activation of county and municipal emergency operations plans, in order to fully and adequately protect the health, safety and welfare of the citizens of the State of New Jersey from any actual or potential threat or danger that may exist from the possible exposure to COVID-19. The State Director of Emergency Management, in conjunction with the Commissioner of DOH, is authorized to coordinate the relief effort from this emergency with all governmental agencies, volunteer organizations, and the private sector.
17. The State Director of Emergency Management, in conjunction with the Commissioner of DOH, shall also supervise and coordinate all activities of all State, regional and local political bodies and agencies in order to ensure the most effective and expeditious implementation of this order, and, to this end, may call upon all such agencies and political subdivisions for any assistance necessary.
18. Given the concurrent invocation of both a State of Emergency pursuant to N.J.S.A. App.A.:9-33 et seq. and a Public Health Emergency as contemplated by N.J.S.A. 26:13-1 et seq., I reserve the right as specifically contemplated by N.J.S.A. 26:13 3 to exercise the authority and powers specific to the Emergency Health Powers Act as I deem necessary and appropriate to ensure the public health for New Jersey’s residents.

19. It shall be the duty of every person or entity in this State or doing business in this State and of the members of the governing body and every official, employee, or agent of every political subdivision in this State and of each member of all other governmental bodies, agencies, and authorities in this State of any nature whatsoever, to cooperate fully with the State Director of Emergency Management and the Commissioner of DOH in all matters concerning this state of emergency.
20. The Coronavirus Task Force established under Executive Order No. 102 is continued with the Commissioner of DOH as the chair, and shall provide assistance on the State's efforts preparing for and responding to the public health hazard posed by COVID-19.
21. I authorize and empower the executive head of any agency or instrumentality of the State government with authority to promulgate rules to waive, suspend, or modify any existing rule, where the enforcement of which would be detrimental to the public welfare during this emergency, notwithstanding the provisions of the Administrative Procedure Act or any law to the contrary for the duration of this Executive Order, subject to my prior approval and in consultation with the State Director of Emergency Management and the Commissioner of DOH. Any such waiver, modification, or suspension shall be promulgated in accordance with N.J.S.A. App. A:9-45.
22. All state agencies, and specifically the Departments of Banking and Insurance, Health, Human Services, Education, and the Civil Service Commission are authorized to take appropriate steps to address the public health hazard of COVID-19, including increasing access and eliminating barriers to medical care, protecting the health and well-being of students, and protecting the health and well-being of State, county, and municipal employees while ensuring the continuous delivery of State, county, and municipal services.
23. I authorize and empower the State Director of Emergency Management, in conjunction with the Commissioner of DOH, to order the evacuation of all persons, except for those emergency and governmental personnel whose presence the State Director deems necessary, from any area where their continued presence would present a danger to their health, safety, or welfare because of the conditions created by this emergency.
24. I authorize and empower the State Director of Emergency Management, in conjunction with the Commissioner of DOH, to utilize all property, equipment, and facilities owned, rented, operated, and maintained by the State of New Jersey to house and shelter persons who may need to be evacuated from a residence, dwelling, building, structure, or vehicle during the course of this emergency.
25. I authorize and empower the Adjutant General, in accordance with N.J.S.A. 38 A:2-4 and N.J.S.A. 38 A:3-6.1, to order to active duty such members of the New Jersey National Guard who, in the Adjutant General's judgment, are necessary to provide aid to those localities where there is a threat or danger to the public health, safety, and welfare and to authorize the employment of any supporting vehicles, equipment, communications, or supplies as may be necessary to support the members so ordered.
26. In accordance with the N.J.S.A. App. A:9-34 and N.J.S.A. App. A:9-51, I reserve the right to utilize and employ all available resources of the State government and of each and every political subdivision of the State, whether of persons, properties, or instrumentalities, and to

commandeer and utilize any personal services and any privately-owned property necessary to protect against this emergency.

27. In accordance with N.J.S.A. App. A:9 40, no municipality, county, or any other agency or political subdivision of this State shall enact or enforce any order, rule, regulation, ordinance, or resolution which will or might in any way conflict with any of the provisions of this Order, or which will in any way interfere with or impede the achievement of the purposes of this Order.
28. In accordance with N.J.S.A. App. A:9-34, N.J.S.A. App. A:9-40.6, and N.J.S.A. 40A:14-156.4, no municipality or public or semipublic agency shall send public works, fire, police, emergency medical, or other personnel or equipment into any non-contiguous impacted municipality within this State, nor to any impacted municipality outside this State, unless and until such aid has been directed by the county emergency management coordinator or his or her deputies in consultation with the State Director of Emergency Management in conjunction with the Commissioner of DOH.
29. This Order shall take effect immediately and shall remain in effect until such time as it is determined by me that an emergency no longer exists.

GIVEN, under my hand and seal this
9th day of March,
Two Thousand and Twenty, and of
the Independence of the United
States, the Two Hundred and
Forty-Fourth.

[seal]

/s/ Philip D. Murphy
Governor

Attest:
/s/ Matthew J. Platkin
Chief Counsel to the Governor

Section 5.03 Public Communications

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5.3 Public Communications

1. Context and Summary

Effective public communications was an essential goal of every state's pandemic response. In the early days of the pandemic, information about the disease was limited and public concern was high. On the national level, the Centers for Disease Control and Prevention (CDC) and the White House gave frequently changing and inconsistent guidance. In addition, communications during the pandemic presented several unique challenges:

- First, what was known about the virus changed over time. This meant that leaders had to continuously educate the public as additional information became available.
- Second, New Jersey had to combat pervasive misinformation and disinformation about the virus and the safety and efficacy of the vaccine. This meant the State had to monitor information circulating not only in traditional mediums, such as the press, but also newer mediums such as social media.
- Third, all New Jerseyans do not consume information the same way and different communities trust various sources.

To meet these challenges, state leaders used a variety of communications platforms to educate the public about the grave threat posed by the virus, what the State was doing to protect them, and actions New Jerseyans could take to protect themselves.

Informing the Public During COVID-19

In New Jersey, the State's most regular communications came through the Governor's televised and streamed Coronavirus press conferences. The first press conference took place on March 2, 2020. At the time, only eight New Jerseyans had been tested for COVID-19, and all eight tests were negative.

As the New Jersey Department of Health (NJDOH) Commissioner expressed during this conference:

> *"Although this novel virus is understandably a cause for concern, it is important for New Jersey residents to know that the risk to the general public is still low. We are working closely with the CDC and our public health and healthcare partners to ensure our preparedness levels for this novel virus."*

The State Infectious Disease Epidemiology Program Coordinator added:

> *"CDC is not recommending the routine use of facemasks or respiratory respirators outside of the workplace setting, meaning in the community; these are reserved for our healthcare providers. Most often, the spread of respiratory viruses from person-to-person happens among close contacts, meaning about within six feet, and with prolonged contact… You should only be wearing a mask if a healthcare professional recommends it, and this may*

happen when an individual is sick and is being evaluated in the healthcare setting, and again, this is to help protect others from getting infected from that individual that is ill."

Two days after this first press conference, the first presumptive case of COVID-19 in a New Jersey resident was announced. The numbers would increase exponentially over the coming months. On March 7, Governor Murphy increased the frequency of his press conferences to every weekday, most lasting for hours at a time.

By April 2020, the messaging from the Governor's Office had come a long way from the virus being of "low risk." On April 4, 2020, during a press conference, Governor Murphy conveyed that the risk to residents was now known to be high:

"*Since yesterday, we have been notified that another 4,331 residents have tested positive for the coronavirus. That brings our statewide total to 34,124…it's fair to say with all the challenges we have on ventilators where we're short, PPE where we're short, beds where we're short… We need all the help we can get. So, please keep raising your hand and add your name to the many thousands who have come forward and say that you're willing to help."*

The Governor's daily briefings were important because scientific understanding regarding how the virus spread evolved over time. For example, in February 2020, the Director-General of the World Health Organization (WHO) said that COVID-19 spread only through droplets or respiratory transmission.[1] Even in late March 2020, the WHO tweeted:

"*FACT: COVID-19 is NOT airborne. The coronavirus is mainly transmitted through droplets generated when an infected person coughs, sneezes or speaks*."[2]

On July 6, 2020, a group of scientists signed an open letter asking the WHO to update its guidance to warn about airborne transmission.[3] The CDC did not update its guidance until October 5, 2020.[4]

The public health consensus on masking also evolved over time. On February 29, 2020, U.S. Surgeon General Dr. Jerome Adams tweeted (and later deleted the post) that masks were not

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[1] World Health Organization. (2020). WHO audio emergencies coronavirus full press conference - 11 February 2020 [Transcript]. https://www.who.int/docs/default-source/coronaviruse/transcripts/who-audio-emergencies-coronavirus-full-press-conference-11feb2020-final.pdf

[2]World Health Organization. @WHO (2020, March 29). The coronavirus is mainly transmitted through droplets generated when an infected person coughs, sneezes or speaks. *Tweet.* https://twitter.com/WHO/status/1243972193169616898

[3] Centers for Disease Control and Prevention. (n.d.). "COVID-19 timeline" David J. Sencer CDC Museum. https://www.cdc.gov/museum/timeline/covid19.html#Early-2020

Lidia Morawska, Donald K Milton, It Is Time to Address Airborne Transmission of Coronavirus Disease 2019 (COVID-19), Clinical Infectious Diseases, Volume 71, Issue 9, 1 November 2020, Pages 2311–2313, https://doi.org/10.1093/cid/ciaa939

[4] Centers for Disease Control and Prevention, "COVID-19 timeline," David J. Sencer CDC Museum, accessed February 27, 2024, https://www.cdc.gov/museum/timeline/covid19.html#Early-2020

effective in preventing the general public from contracting COVID-19.[5] Even in late March 2020, the CDC was still advising that masks should be saved for caregivers, and that healthy people not working in the healthcare sector and not taking care of an infected person at home did not need to wear masks.

On April 2, 2020, the following exchange regarding masks occurred during a daily Coronavirus press conference:

> Governor Phil Murphy: "*How about masks, any comments on masks*?"
>
> Commissioner of Health Judith Persichilli: "*Well, we did mandate universal masking for employees going into long-term care facilities. Based on the experience of Washington State and as I have reported, I spoke with the Department of Health in Washington State and they identified the spread of COVID-19 coming into the facility by the employees. We believe that is the same situation here in New Jersey, so to protect that most vulnerable population that we have, we are mandating that the employees mask when they come into the facility*[.]"
>
> Brent Johnson, Star-Ledger: "*But nothing for the general public yet*?"
>
> Commissioner of Health Judith Persichilli: "*Not for the general public yet*."
>
> Governor Phil Murphy: "*By the way, Brent, I do not want to overstate this – again, we are short ventilators, we are short PPE, we are short beds, we are short workers. If we flipped the switch and said, "General public, you need to wear masks," we don't have the masks. And that's a federal reality, right? So, you've seen articles today saying the federal stockpile is diminishing with that extraordinary outpouring of donations and manufacturing. But fair to say we're not remotely close to being able to mask everybody.*
>
> Brent Johnson, Star-Ledger: "*Is it a bad idea for people to do that if they can use a scarf or something else?*"
>
> Commissioner of Health Judith Persichilli: "*I'll let Dr. Tan talk about scarves. We have to understand that if you're taking care of a COVID-19 patient you should be wearing an N95. They're in very, very short supply.*
>
> *Masks are generally to protect people from you, not necessarily to protect you from what's around you. So, it doesn't take the place of social distancing; it doesn't take the place of staying at home. The mask protects other individuals. There's some level of protection, you can read about that in general newspapers but at the end of the day it's more to protect others. And it can be cloth or it can be flat-face, surgical.*

[5] @Surgeon_General Twitter. 2020. Feb 29, Seriously people - stop buying masks! They are not effective in preventing general public from catching #Coronavirus, but if healthcare providers can't get them to care for sick patients, it puts them and our communities at risk! http://bit.ly/37Ay6Cm; https://twitter.com/Surgeon_General/status/1233725785283932160. See also https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7252198/#ref19.

The next day, on April 3, 2020, the White House Coronavirus Task Force and CDC changed course and for the first time recommended the individual use of cloth masks to slow the spread of COVID-19 for the general public.[6] Once state leaders had better information regarding the efficacy of masking, they had the difficult job of recommending that individuals use cloth masks to slow the spread for the general public while struggling to supply frontline workers with appropriate Personal Protective Equipment (PPE).

By April 30, 2020, when the global supply chain began to recover and more PPE was available for use outside of hospitals, Governor Murphy stated during a press conference:

> "*Personal request, please put a mask or face covering on, in addition to keeping social distancing. Do the right things. Don't let a few knuckleheads ruin it for the rest of us*."

Given the pace at which the public health situation was changing during the early months of the pandemic, frequent communication was critically important to keep residents current with the latest and best information in the fight against the virus. Several state agencies played important roles in delivering comprehensive yet understandable medical information to residents.

2. New Jersey's Response

2.1. Key Agencies Involved

All state agencies played important roles in public communications during the pandemic. Their involvement varied, depending on the type of information being shared. Each also leveraged a different combination of channels to share that information.

The Governor's Office took responsibility for communicating the most important and broadly relevant information about COVID-19, including education about the virus itself, its impact in New Jersey, and statewide policy changes.

The types of information that Governor Murphy provided, often with the NJDOH and the Office of Emergency Management (NJOEM) in joint press conferences, generally fell into one of three categories:

- Education about COVID-19 as a disease (e.g., how it spreads, how to avoid becoming infected, symptoms, and risks of contraction).
- Impact of COVID-19 on a state level (e.g., case, hospitalization, and death counts).

[6] Centers for Disease Control and Prevention. (n.d.). Use of cloth face coverings to help slow the spread of COVID-19., from https://archive.cdc.gov/#/details?q=https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover.html&start=0&rows=10&url=https://www.cdc.gov/coronavirus/2019-ncov/community/homeless-shelters/infection-control-inventory-planning-tool.pdf

- High-level policy, especially those enacted via Executive Order (EO) such as business closures, and statewide mask mandates.

The Governor's Office communications were released through five channels: press conferences, social media, press releases, the Office of Innovation's (Innovation) COVID-19 Information Hub website, and opt-in email programs.

The NJDOH, through Commissioner Persichilli, focused its COVID-19 messaging on education about the disease and its impact on the State. However, the messaging was significantly more technical than the Governor's communications. The NJDOH also communicated about public health-specific resources and conducted much more targeted outreach, including outreach to some underserved communities. It also supported the Governor's Office in crafting more technical communications about health and public safety information.

In addition to its presence at daily press conferences, the NJDOH used its own website to present detailed information about the disease and dashboards that reflected the disease's impact on New Jersey. The NJDOH website also hosted information resources for the general public, public health providers, businesses, and schools. The information included the latest CDC guidance, infographics, and messaging written by trained health educators. The NJDOH also used paid media ad campaigns to publicize resources.

NJOEM, like the NJDOH, was present at the daily press conferences. Outside of those press conferences, OEM managed communications about policy and state resources, especially as it pertained to public safety and in-person services such as testing and vaccination. OEM also used its expertise to combat disinformation through its Public Information Officers (PIOs), who frequently used social media to publicly "debunk" false health information.

For additional information on how state agencies communicated internally and externally, see **Section 5.14 Continuity of Government Services.**

2.2. Key Decisions[7]

2.2.1. New Jersey's Overall Approach to Public Communications

The State's overall approach to public communications was shaped by the Governor's guiding principle that in a crisis, "overcommunication" is essential. The Governor prioritized communicating frequently and fostering communications with as many parties as possible, including numerous stakeholders and community members. This principle was reflected by the Governor holding press conferences every weekday, with more press conferences than most other states in the country, and setting a tone of transparency and empathy to convey the State's willingness to engage the media and constituents. This overall "overcommunication" strategy, which came up in interviews

[7] Communications around vaccination efforts, including the public campaigns to encourage people to get vaccinated, are covered in the **Section 5.10 Vaccinations**.

with multiple senior government officials, set clear expectations for state leaders involved in responding to the pandemic on how frequently to speak to the public, even if there was no added information.

2.2.2. Visibility of NJOEM and the NJDOH in Public Communications

While Governor Murphy remained the public face of New Jersey's COVID-19 response throughout the pandemic, the State's communications strategy placed NJDOH Commissioner Persichilli and NJSP Superintendent Colonel Callahan in visible positions as well. The Commissioner and the Colonel presented with the Governor in every press conference. Their presence conveyed that the State's pandemic response was a team effort that was following a whole-of-government approach.

Press conferences usually followed a consistent format. While the Governor opened his briefings by sharing updated metrics on the progression of the disease (e.g., the number of cases, hospitalizations, and deaths), Commissioner Persichilli supplemented these summarized metrics with additional detail, such as the racial and ethnic breakdown of total cases and deaths. The Governor usually deferred to the Commissioner to discuss the State's health guidance and policy, including calls to wash hands and social distance and updates on business shutdowns and reopening restrictions. In allowing the Commissioner to take the lead on explaining health guidance, the State conveyed the message that New Jersey's pandemic response was based on public health expertise.

Colonel Callahan's reports focused on compliance with EOs and updates on NJOEM's activities, such as the status of field medical stations and morgue capacity. At each briefing, the Colonel listed the EO violations that had occurred since the last briefing. These near-daily reports served as a reminder of the repercussions of violating EOs and provided an opportunity for the State to remind the public to comply.

2.2.3. Channels of Public Communications

Press conferences and releases

More than 250 press conferences were held from the first reported case on March 4, 2020. Throughout the pandemic, Governor Murphy held among the most press conferences of any governor across the United States. At the peak of the pandemic, tens of thousands of people watched the daily press conferences. Initially, briefings were carried live on major news networks, including broadcast local affiliates like *NJ Spotlight News* and major cable news channels such as CNN and NBC.

A second key part of the State's communications strategy was the frequent use of press releases, which often complemented information shared during press conferences. For example, in his August 26, 2020 Coronavirus Briefing, Governor Murphy announced that New Jersey would be applying for the Federal Emergency Management Agency (FEMA) Lost Wages Program, a federal unemployment benefits program. A press release made available the same day shared the same

information in a more condensed way.[8,9] Full transcripts of every COVID-19 briefing were also uploaded online along with other press releases.[10]

Online resources on state websites

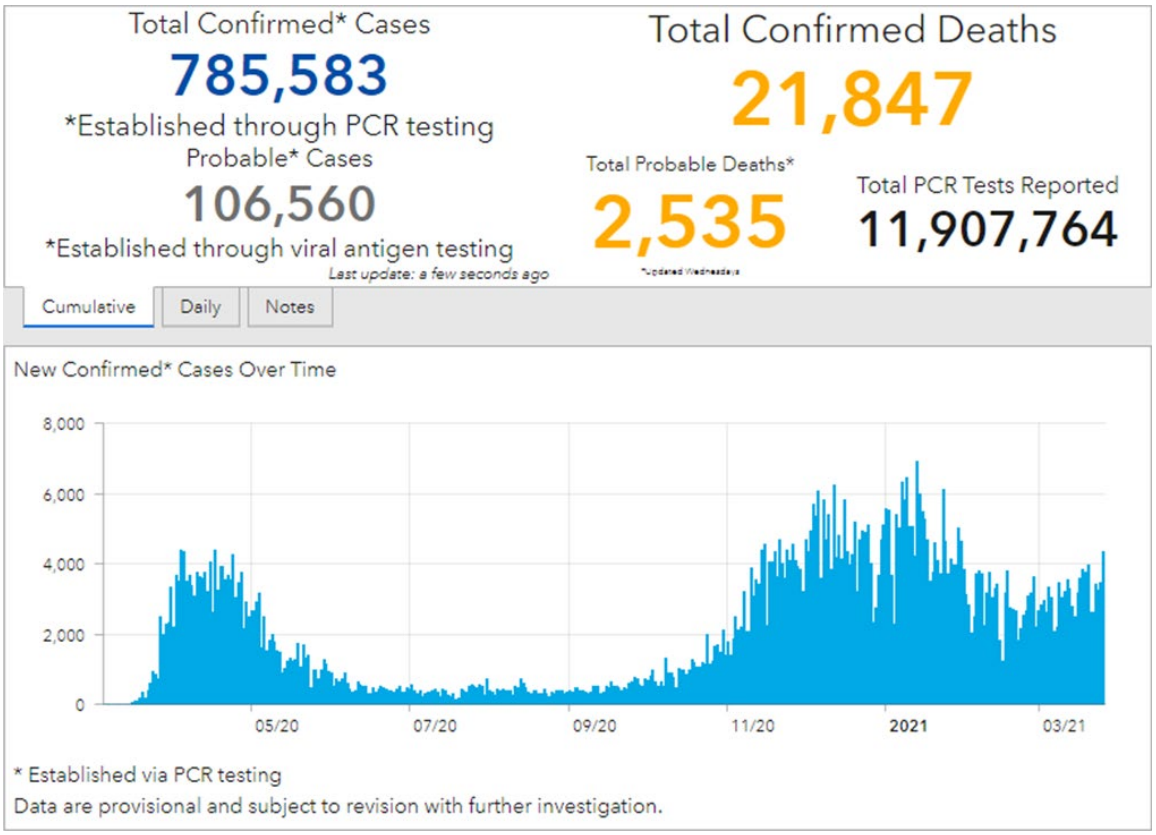
To manage the large volume of updates issued during the pandemic, the State created websites to centralize information. With the assistance of Innovation, the Governor's Office launched the COVID-19 Information Hub on March 21, 2020. The COVID-19 Information Hub contained the most up-to-date information on reopening, testing, contact tracing, therapeutics, public assistance and benefits, travel guidance, business assistance, and resources available statewide.

After Governor Murphy enacted EOs, directives, or waivers, the Governor's Office contacted Innovation to update the COVID-19 Information Hub. The COVID-19 Information Hub also provided detailed health information about the virus and how it is spread, and included a data dashboard that reported cases, hospitalizations, deaths, testing, contact tracing, vaccination data, and outbreaks in long-term care facilities (LTCFs) and schools.

[8] Office of the Governor. (2020, August 26). Transcript: August 26th, 2020 Coronavirus Briefing Media. Retrieved from https://www.nj.gov/governor/news/news/562020/approved/20200826c.shtml
[9] Office of the Governor. (2020, August 26). New Jersey applies for lost wages assistance funds. State of New Jersey. Retrieved from https://www.nj.gov/governor/news/news/562020/approved/20200826b.shtml
[10] Office of the Governor. (n.d.). Press releases. State of New Jersey. Retrieved from https://www.nj.gov/governor/news/news/562020/approved/news_archive.shtml

Exhibit 1: The COVID-19 Information Hub consolidated data and updates for the public

(view from May 15, 2021)[11]



Once vaccines became available, the website also offered vaccine-focused information, including vaccination mandates and eligibility categories. Innovation used website analytics, search data, 211 call center traffic, Google search trends, and other sources of data to anticipate questions the public had about the virus and related resources.

Traditional and social media

To make the public aware of New Jersey's pandemic initiatives, state agencies relied on a mix of traditional media (including billboards, TV, and radio) and social media. For example, Governor Murphy used social media to amplify information shared via press conferences in two ways:

- First, the Governor's communications team live-tweeted information shared during press conferences on Twitter and livestreamed the conferences on YouTube to reach those who

[11] New Jersey Department of Health. (2021, May 15). Data Dashboard. Retrieved from https://web.archive.org/web/20210515022017/https://covid19.nj.gov/forms/datadashboard

did not or could not watch each briefing on television. This also allowed the communications team to track public engagement directly through views, likes, and shares.

- Second, Governor Murphy's communications team used social media for more targeted outreach to communities that did not regularly tune in to network television, including non-English speakers. These channels largely included WhatsApp and Facebook.

The NJDOH Communications Team also used social media in its communications strategy. The NJDOH organized Facebook Live events and participated in virtual town halls to raise awareness of the disease, deliver timely public health information, and build trust with New Jerseyans. They also used media channels including billboards, TV, and radio for public awareness campaigns. The NJDOH worked with outside firms to assess the reach and impact of each advertisement and adjust its communications strategy as needed.

Direct outreach to constituents

Innovation created the Statewide Update email program to which New Jersey residents could opt in. Innovation then facilitated the distribution of issue-specific emails and partnered with the NJDOH to execute a multi-month email campaign aimed at overcoming vaccine hesitancy. Innovation sent 42 million emails to 5.4 million unique email addresses, resulting in 18.7 million impressions (opens), and driving more than 132,000 visits to the Vaccine Appointment Finder. This campaign also resulted in more than 200,000 additional visits to the COVID-19 Information Hub.

2.2.4. Tone and Format of Regular Communications

Governor Murphy and his communications team relayed health information and data in a consistent and objective manner (e.g., focusing on facts and medical findings, rather than editorializing) to communicate trustworthiness and stability. The Governor's communications team focused on:

- Regular format and cadence of press conferences.
- Relying on Commissioner Persichilli and NJDOH doctors to explain medical information.
- Presenting data to the public. For example, New Jersey's Chief Epidemiologist was able to extrapolate how many deaths were probable and decided to share these projections with the public.

Governor Murphy did not, however, let projections and data eclipse the human impact of the pandemic. During press conferences, he also highlighted the lives of New Jerseyans who had passed away due to COVID-19.[12]

[12] See, for example, the December 8, 2021 briefing, which shows that this practice was maintained throughout the pandemic. Office of the Governor of New Jersey. (2021, December 8). December 8th, 2021 Coronavirus Briefing Media. State of New Jersey. https://www.nj.gov/governor/news/news/562021/approved/20211208c.shtml

2.2.5. Internal Coordination of Public Communications

Throughout the pandemic, state agencies had to coordinate public communications while working remotely. As soon as Governor Murphy issued the stay-at-home order, agencies adapted their methods of working and communication, often holding daily internal meetings to discuss problems and coordinate their emergency response.

The patterns of communication between agencies and stakeholders also changed with the need to work remotely. Many of the State's agencies already worked closely together and with community groups before the pandemic hit. The uncertainty brought about by COVID-19 made these relationships even more critical, as agencies served as resources and guides for each other and for the communities they serve. Agency heads sought to coordinate with major stakeholders, providing interpretations of policies and EOs. For example, the Board of Public Utilities (BPU) president was in constant communications with utilities leaders to ensure that their workers had access to PPE and the resources they needed to safely perform their jobs. Other agencies, such as NJDCA's Department of Housing and Community Resources, Department of Labor (DOL), Department of State (NJDOS), and the Department of Banking and Insurance (NJDOBI) communicated with their concerned constituents through call centers.

Local health departments (LHDs) also played a vital role in disseminating information from the State. The NJDOH sent messages to Local Information Network and Communications System (LINCS) agencies about vaccines, resources, regulations, and other guidance, which LINCS and LHDs could then use to shape their communications with the public.

2.2.6. Combating False Information and Prioritizing Fact-Based Communications

Misinformation and disinformation
Misinformation refers to false or inaccurate information, while disinformation means false information that is intentionally spread to mislead.

The pandemic also brought the wide circulation of misinformation (false or inaccurate information) and disinformation (false information that is intentionally spread to mislead).[13] Examples include theories that 5G cell phone technology caused the coronavirus, drinking bleach was an effective way to treat it, vaccine trial participants died after taking a candidate COVID-19 vaccine, and the pandemic was a conspiracy or a bioweapon. States took a variety of approaches to combat misinformation and disinformation. New Jersey, for example, set up an online portal to address Frequently Asked Questions (FAQs), and posted fact-checks that debunked false information on social media and state websites.

[13] Himelein-Wachowiak, M., Giorgi, S., Devoto, A., Rahman, M., Ungar, L., Schwartz, H. A., Epstein, D. H., Leggio, L., & Curtis, B. (2021). Bots and misinformation spread on social media: Implications for COVID-19. *Journal of Medical Internet Research,* 23(5), e26933. https://doi.org/10.2196/26933

To combat misinformation[14] and disinformation and assure that it did not creep into information disseminated by New Jersey, Governor Murphy mandated two levels of approval for all communications issued from the State:

- First, agencies were required to obtain approval for responses to COVID-19-related media requests. These were vetted by the communications, legal, and policy teams.
- Second, any pandemic-related guidance or information issued by agencies and communicated to the public (including answers to FAQs) had to be approved by counsel and policy teams in advance, though not by the communications team. Sometimes, the approval process for more technical content involved soliciting the NJDOH's assistance to verify, interpret, and approve content.

To correct misinformation regarding the virus, vaccine, and related issues, NJOEM's PIOs coordinated with state and federal agencies to ensure that COVID-19-related information was verified before releasing it to the public. The State Police also worked with trusted community leaders, such as the NJDOH's Community Ambassadors, to combat misinformation on the ground.

NJOEM partnered with NJOHSP to create a Disinformation Page on its website, where NJOEM posted infographics with false information on one side and correct information on the other. These infographics were also posted on NJOEM's social media sites and were sometimes passed to Governor Murphy to discuss during daily press conferences.

[14]American Psychological Association. (n.d.). Misinformation and disinformation. Retrieved February 12, 2024, from https://www.apa.org/topics/journalism-facts/misinformation-disinformation

Exhibit 2: This NJOHSP social media uses credible sources to correct incorrect information

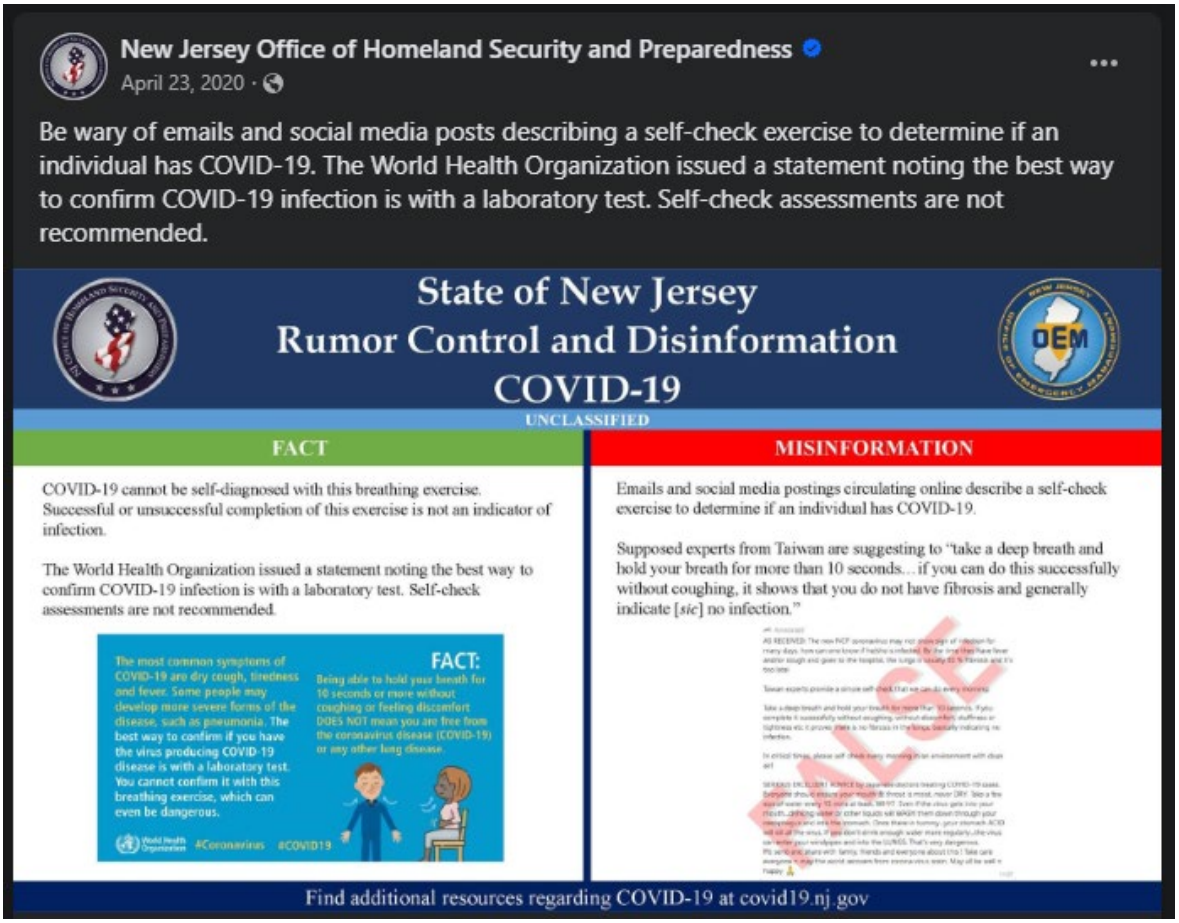
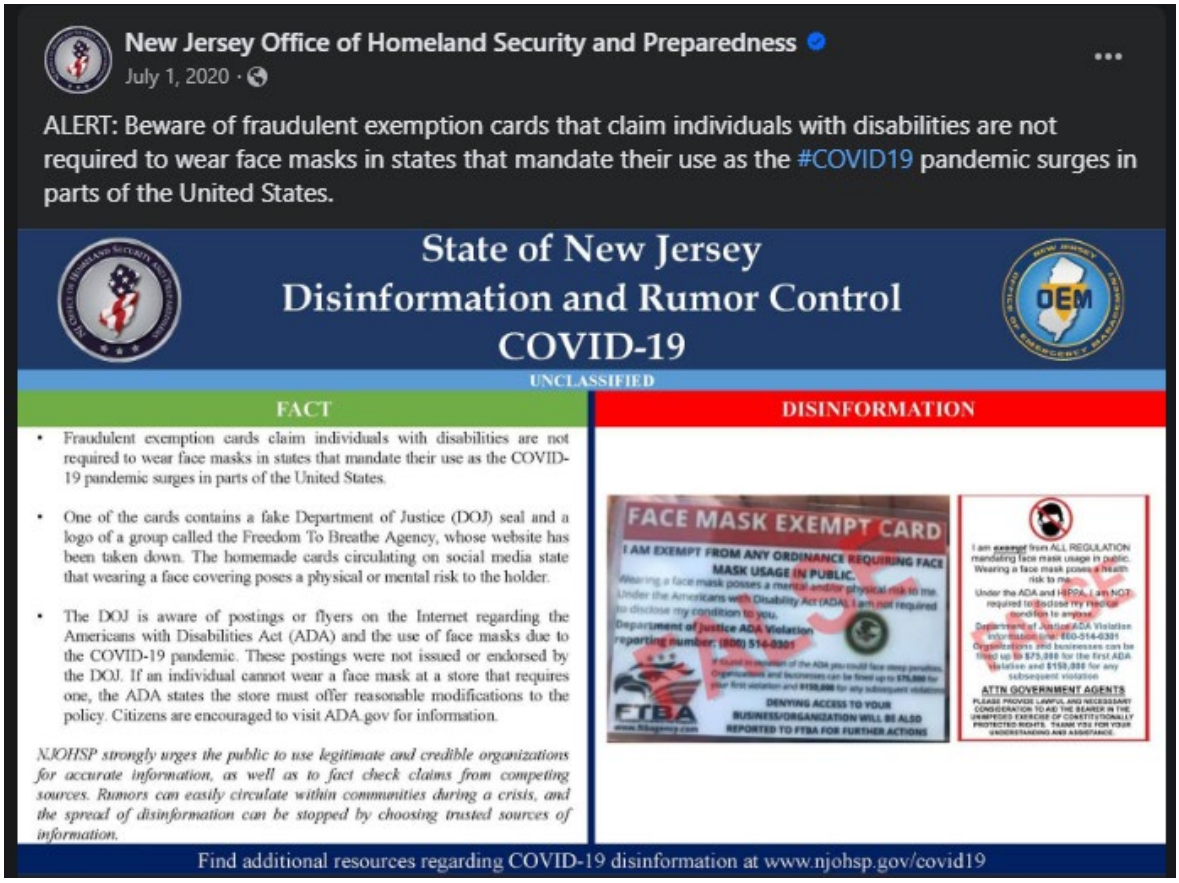


Exhibit 3: This NJOHSP post against disinformation uses stronger language



Governor Murphy's communications team assessed whether misinformation and disinformation needed to be addressed during the daily press briefings on a case-by-case basis, considering the level of risk presented by a given false narrative as well as its source. For example, without referring to President Trump by name, Governor Murphy directly addressed his dangerous and inaccurate suggestion that the Coronavirus could be treated by injecting disinfectant into the body.[15]

An additional communications challenge for the State was that some immigrants did not look to domestic authorities for guidance. Rather, they looked to their home countries, which meant that New Jersey also needed to combat international misinformation and disinformation.

[15] Office of the Governor. (2020, April 24). Transcript: April 24th, 2020 Coronavirus Briefing Media. State of New Jersey. https://www.nj.gov/governor/news/news/562020/approved/20200424f.shtml

2.2.7. Community Outreach

The Governor's Office also communicated with specific stakeholder groups in targeted ways, engaging with public sector unions, farmworkers, stadium-operators, small business owners, and others to answer sector-specific questions about workplace health and safety.

Relationships with stakeholders were essential to the success of the State's health interventions. The Governor's Office, NJOEM, and the NJDOH worked collaboratively with Community Ambassadors to educate stakeholders about vaccines, testing, and contact tracing. The Governor's Office also worked with local advocacy organizations, religious leaders, labor leaders, and mayors to identify community needs and promote local events like vaccination or testing pop-ups. The NJDOH also created informational flyers, which NJOEM helped distribute at pop-up sites.

For more detail, see **Section 5.10** for the role of stakeholder communications in increasing demand for vaccinations, and **Section 5.12** for how relationships with constituent groups helped to identify and administer economic assistance.

2.3. Equity and Access

There were special challenges associated with ensuring that accurate information about public health and various public assistance programs reached underserved communities during the pandemic. The State sought to overcome these hurdles by establishing a task force focused on COVID-19's disproportionate impact on racial minority groups and other underserved populations, and by launching communications campaigns that sought to meet New Jerseyans in their own communities, address language barriers, combat misinformation and disinformation, and account for the needs of constituents with disabilities.

2.3.8. Establishing the Racial Disparities Task Force

Mindful that the pandemic hit some New Jersey communities harder than others, on June 11, 2021, the Senate and General Assembly enacted New Jersey Session Law Chapter 106 (Assembly 4004), which established the Coronavirus Disease 2019 (COVID-19) Pandemic Task Force on Racial and Health Disparities (Racial Disparities Task Force).[16] The purpose of the Racial Disparities Task Force was to conduct a thorough and comprehensive study on the ways in which, and the reasons why, COVID-19 disproportionately affected the State's minority and underserved communities.

The Racial Disparities Task Force – consisting of 23 government officials and members of the public with relevant expertise and experience – convened five public hearings: four in person in different parts of the State and one virtual meeting.[17] At these hearings, members of the State's disadvantaged communities were invited to give testimony based on their experiences during the

[16] 2021 NJ Sess. Law Serv. Ch. 106 (Assembly 4004).

[17] New Jersey Department of Health. (n.d.). NJ COVID-19 Task Force on Racial and Health Disparities. Retrieved February 27, 2024, from https://www.nj.gov/health/njcdtf/

pandemic. Many spoke about the need for New Jersey to do a better job of conveying critical public health information to their communities in a timely, reliable fashion.

2.3.9. Attending to New Jersey's Racial, Linguistic, and Cultural Diversity

"Meeting People Where They Are"

Stakeholders and state officials emphasized the importance of conveying critical information to underserved communities by "meeting people where they are." Community health workers reported success in contacting disadvantaged communities at schools, places of worship, community centers, barber shops, and hair and nail salons. Many members of these communities work during the day in jobs where they do not have access to their phones for personal use. Many attend classes at night or on the weekends to learn English or progress towards a degree. While it was not always easy to contact members of these communities, the State often found creative ways to do so.

To make sure public health information was getting to these harder-to-reach communities, the NJDOH launched the COVID Community Corps in March 2021 to meet underserved communities in their own neighborhoods, help educate them about the vaccine, and assist with testing and scheduling vaccination appointments. The Governor's Office and the NJDOH also targeted media markets across New Jersey, buying advertising space in the greater New York and Philadelphia areas, as well as in smaller urban, suburban, and rural markets. Moreover, the Governor's Office and the NJDOH participated in conversations carried on radio stations with a traditionally Black listenership. Despite these efforts, many New Jerseyans who testified before the Racial Disparities Task Force felt the State's outreach to underserved groups did not go far enough. Differences in infection and vaccination rates also suggested that critical public health messages were penetrating some groups more effectively than others.

The State failed to persuade all of its communities to take stay-at-home orders and social distancing guidelines seriously, and these failures of communication had deadly consequences. For example, Lakewood's ultra-Orthodox Jewish community continued to congregate in large groups during the pandemic, and accordingly suffered high rates of infection and many preventable deaths from COVID-19.[18]

State officials acknowledged in interviews, however, that there are times when a government entity is not going to be the best messenger for particular messages directed to particular communities.

[18] Anastasia Tsioulcas, *At Least 5 Rabbis From Ultra-Orthodox N.J. Community Have Died From Coronavirus*, NPR (Mar. 31, 2020), https://www.npr.org/sections/coronavirus-live-updates/2020/03/31/824701633/at-least-5-rabbis-from-ultra-orthodox-n-j-community-have-died-from-coronavirus; Sam Sutton and Samantha Maldonado, *Spike in Covid cases within New Jersey's Orthodox communities raises concern*, Politico (Sep. 25, 2020), https://www.politico.com/states/new-jersey/story/2020/09/25/uptick-in-covid-19-cases-within-new-jerseys-orthodox-jewish-communities-raise-concern-1318593

While sending a government employee door-to-door might be an effective strategy for reaching many elderly New Jerseyans, that same knock on the door might be terrifying to an undocumented immigrant family. Legacies of violence and oppression have left some groups understandably fearful or distrustful of government.[19]

To be sensitive to these tensions, stakeholders and state officials emphasized the importance of partnering with trusted community members to convey critical public health information. Stakeholders testifying before the Racial Disparities Task Force explained that the State was more likely to get buy-in from the Black community for a public health initiative if that initiative is associated with a "Black face" and from the Latino community if the initiative is associated with a "Latino face."[20] Without this representation, members of these communities may be less inclined to trust the message being conveyed. Members of the clergy and other faith leaders may be particularly effective messengers for these communities. In interviews, state officials recognized the importance of partnering not only with the community leaders who were most easily accessible and friendliest to government, but also with leaders who made it their business to be something of a "thorn in the side" of government in zealously advocating for their communities.

During interviews, representatives of LHDs expressed some frustration that the State did not make better use of their existing community networks, a valuable resource they said went untapped during the pandemic. LHDs also reported that they already had strong connections to trusted community leaders when the pandemic hit, but that New Jersey's government did not make effective use of them. The LHDs saw this as a missed opportunity that hampered efforts to educate the public about masking, testing, and vaccination.

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[19] See, e.g., Giles R. Wright, Afro-Americans in New Jersey: A Short History, NEW JERSEY HISTORICAL COMMISSION, DEPARTMENT OF STATE (1988) https://nj.gov/state/historical/assets/pdf/topical/afro-americans-in-nj-short-history.pdf (chronicling the state's long history of sanctioning the enslavement, segregation, and disenfranchisement of Black New Jerseyans); Immigrant Advocates Protest Against ICE Raids, NJ SPOTLIGHT NEWS (Jan. 7, 2016), https://www.njspotlightnews.org/video/immigrant-advocates-protest-against-ice-raids/ (describing law enforcement spreading fear in immigrant communities after breaking down doors of "terrorized" Latino families during raids).

[20] A word on language and identity: The reader will note that the authors of this report do not always use the same words to refer to the same racial or ethnic group. In describing the way in which an individual member of a particular group refers to her own racial or ethnic identity, we have elected to the individual's choice of language is used. When reporting on categories of data maintained by state agencies, we adopt the language used internally by the agency to avoid confusion. When neither of these considerations apply, we use "Latino/a" to refer to people of Latin-American origin living in the United States. The alternative "Hispanic" has colonialist connotations and the more recent, gender-neutral additions to the lexicon "Latinx" and "Latine" have not been broadly adopted by members of the community these words purport to describe. We have elected to capitalize both Black and White, as both are historically created racial identities, not natural categories based on skin color alone.

Language access

During the pandemic, the NJDHS Office of New Americans worked with various state agencies to emphasize the importance of language access for New Jerseyans who do not speak English. The NJDOH organized a series of multilingual public awareness campaigns and used social media to make sure critical public health messages were reaching the broadest possible audience. NJOEM partnered with FEMA to translate EOs into the top seven foreign languages spoken in New Jersey. NJDOL developed targeted, plain-language, digital and print materials in more than 12 languages to assist New Jerseyans with accessing cash benefits and job protection programs. Despite these efforts, however, stakeholders have criticized the State for not doing enough to expand access to up-to-date public health information for the full range of non-English-speaking New Jerseyans, noting that members of New Jersey's Mexican community, for example, speak many different indigenous languages and dialects, not only Spanish.

When the pandemic hit, the Office of New Americans conducted an initial assessment to determine how to best reach immigrant communities that do not regularly consult mainstream news sources. The Office determined that these communities primarily rely on community groups and social media platforms such as Facebook and WhatsApp for their information. The Office worked with various state agencies to make them aware of these alternate modes of communication. The Governor's Office and the NJDOH successfully adjusted their outreach strategy: for example, they hosted a Facebook Live event with a Haitian doctor who spoke in Creole to convey public health messages, rather than relying on Governor Murphy's press conferences to reach Haitian communities.

Combatting misinformation and disinformation

According to state officials interviewed during the course of this review, many of the social media channels that immigrant communities relied on were rife with misinformation and disinformation. Some of this misinformation and disinformation came from immigrants' countries of origin in non-English languages, making it particularly difficult to identify and mitigate.

Stakeholders pointed out that, as useful as the Internet is for disseminating information, not everyone is equipped to sift through the misinformation that abounds on social media. In some communities, it may be more effective to print out hard copies of up-to-date public health literature and make them available in frequented community spaces. With hard copies, of course, it is important to promptly dispose of out-of-date literature and replace it with literature reflecting the most current public health guidance.

As described above, the Governor's Office and the Office of New Americans in the NJDHS actively monitored misinformation being consumed by New Jersey's disadvantaged communities on social media during the pandemic. They intervened in online discussions to offer real-time context and corrections.

The NJDOH mobilized the Office of Minority and Multicultural Health and used social media and television advertising in different languages to target misinformation. The NJDOH also relied on strong, established church and community leaders to serve as trusted messengers for accurate public health information in minority communities.

Attending to New Jersey's ability diversity

State agencies worked to ensure that critical public health information being communicated via live press briefings and in writing was accessible to New Jerseyans with disabilities during the pandemic.

The Governor's Office, with support from NJDHS's Division of the Deaf and Hard of Hearing, arranged for American Sign Language (ASL) interpreters to contemporaneously translate each of Governor Murphy's COVID-19 press briefings. NJOEM worked with an Access and Functional Needs Coordinator and the Association for the Blind to ensure that information regarding pandemic-related EOs was communicated to the public in ways with which New Jerseyans with disabilities could identify.

3. Comparison to Other States[21]

States took different approaches to public communications during the pandemic.

Frequency of governors' press conferences

In the initial months of the pandemic, from March 1, 2020 to May 31, 2020, most governors (including Governor Murphy) in the set of benchmark states consistently held daily weekday press conferences.[22] All states except New York and Florida held between 71 and 75 press conferences in the Initial Surge. Governor Cuomo of New York was an exception, holding 92 daily press conferences, including on weekends. Governor DeSantis of Florida held 48 press conferences – the fewest of comparison state governors.

Thus, during the Initial Surge, New Jersey held roughly the same number of press conferences as most of its peers, but fewer than New York.

[21] Benchmark states for **Chapter 5** (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in **Appendix.**

[22] It should be noted that in early March 2020, Governor Murphy had kidney surgery and was hospitalized for a short period of time. During this time Gov. Sheila Oliver initially filled his role in press briefings.

4. Key Strength and Challenges

Overall, New Jersey state agencies were individually effective in disseminating COVID-19-related information and resources to their respective stakeholders. Nonetheless, agencies faced internal and external challenges, such as coordinating inter-agency communications and combating misinformation and disinformation.

The following section highlights both the strengths of and gaps in New Jersey's COVID-19 communications response.

Strength Governor Murphy's frequent communications kept the public well-informed, at a high level, about the State's pandemic policies. In a poll taken at the height of the Initial Surge, in April 2020 – a time when the State had been active in issuing EOs[23] – respondents were given a list of executive actions, and asked whether it was true that the actions had been taken. The majority of respondents answered correctly for every listed action.[24]

Strength Governor Murphy aimed to "overcommunicate" information to the public by holding daily press conferences for most of the pandemic. By including both the Commissioner of the Department of Health and the Superintendent of the State Police, the Governor conveyed that the State's pandemic response was a team effort and that the State was following a whole-of-government approach. The press conferences projected empathy and stability, promoted transparency, and shared science-based decisions with the public.

Strength The Governor's Office and state agencies were creative in developing tailored channels and content to reach different populations. There was a significant and concerted effort to target hard-to-reach groups through social media channels and community partners on the ground. Each agency developed an approach customized to the populations most likely to be impacted by the interventions it managed. Furthermore, the State's partners also found innovative solutions to reach different populations – for example, Inspira used its translation software to bridge communication gaps with non-English speaking migrant farmworkers to obtain informed consent for vaccines.

Strength Officials were faced with disinformation on all fronts, including international disinformation being consumed by New Jersey's diverse immigrant population. The State and its agencies took a coordinated, effective approach to combating disinformation.

Challenge Approval processes for public-facing communications were slow and deliberate, which led to delays in information reaching the public. To ensure accurate and aligned messaging across agencies, the Governor's Office required agencies to submit all pandemic-related communications for approval before they were released, sometimes requiring the approval of the NJDOH and the

[23] See **Section 5.6 on Closures and Guidance to Prevent the Spread of COVID-19** for more details.
[24]Monmouth University. (2020, April 21). New Jersey: Broad support for social distancing. Retrieved from https://www.monmouth.edu/polling-institute/documents/monmouthpoll_nj_042120.pdf/

Office of the Attorney General as well. High volumes of requests and limited staff capacity often resulted in communications being delayed.

Challenge Agencies set translation standards and processes independently of one another. Had there been a standardized list of languages, shared criteria for what types of information needed to be translated, and potentially one statewide translation service, agencies could have achieved greater consistency in their outreach to non-English speakers.

Challenge There was no cohesive outreach strategy for hard-to-reach populations across agencies. Each agency developed its own strategy for communicating with disadvantaged or hard-to-reach populations. In some cases, this created duplicative work and left gaps in outreach to certain groups.

Overall, New Jersey was successful in executing a thorough and consistent public communications strategy. Governor Murphy's "overcommunication" strategy proved effective. The State was also reasonably successful in countering misinformation and disinformation. However, New Jersey's internal coordination of communications, particularly between different agencies, was at times disjointed and slow. The State also struggled to reach some of its more insular, underserved groups during the pandemic.

Recommendations on how to address these gaps are explored in **Chapter 7**, particularly in **Recommendations 15** and **25**.

Section 5.04 Budget and Finance

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5.4 Budget and Finance

1. Context and Summary

During the COVID-19 pandemic, states faced challenges in budgeting and financing government services. Not only did states face extreme fiscal uncertainty and revenue losses, but they also needed to quickly collect, budget, and spend unprecedented amounts of relief funding after the federal government made it available. As businesses shut down at the beginning of the pandemic, states quickly experienced significant losses in tax revenue and needed to identify solutions to remain solvent and continue providing essential services. Moreover, the health impact of COVID-19 meant that states needed to quickly finance the demand for immediate emergency needs, such as expanding healthcare capacity.

COVID-19 struck when New Jersey was nearing the end of its 2020 fiscal year (FY20); typically, the fiscal year end in the State is June 30. The State needed to create a plan to reallocate funds originally budgeted for the remainder of FY20, to finance the cost of COVID-19 between March and June 2020. This created a complex situation for states from a budgeting perspective, as they had to both reduce revenue losses (i.e., by identifying areas to reduce spending or tap into reserves while maintaining essential services) and support additional spending on emergency needs for their populations (e.g., financing the demand for increased government services, whether for public health needs or economic support from programs like moratoria on taxes, rent, utilities, and debt).

States also faced high uncertainty about the revenue levels they could expect to receive to balance in the next fiscal year's budget. Further, they needed to update their revenue projections based on frequently changing information about the pandemic's economic impact. Most states, including New Jersey, are required to pass a balanced budget – meaning the State's spending plan must equal its revenue projections for the fiscal year. The uncertainty associated with COVID-19 meant it was difficult for states to gauge how much tax revenue to expect, particularly after New Jersey shut down and businesses closed. Furthermore, at the beginning of the pandemic, it was unclear whether federal aid legislation would be passed, and therefore, how much the State could afford to spend in the next fiscal year.

States like New Jersey needed to develop updated budgets that considered both of these concerns, often on a more accelerated timeline than their budgeting infrastructure could accommodate. Some strategies states took included:

- Writing a temporary or modified budget (often in the form of supplemental appropriations bills) to create spending plans for immediate health needs in 2020 and be more responsive to changing economic information.
- Moving money from reserve funds into the General Fund.

- Scaling down public programs to reduce spending. Early on, New Jersey took steps to create and implement a temporary budget for FY20.

On April 14, 2020, Governor Murphy signed the COVID-19 Fiscal Mitigation Act into law, extending FY20 to end on September 30 rather than on June 30 and allowed the State to create a temporary budget for the months of July through September 2020. A month later, on May 28, 2020, Treasury testified before the New Jersey Assembly Budget Committee (the legislative subcommittee that debates and votes on budget proposals from the Executive Branch), presenting its revised budget projections and a spending plan for the temporary 3-month budget period. Thereafter, on July 30, 2020, Governor Murphy signed the 3-month budget for the extended 2020 fiscal year.

New Jersey had difficulties managing the State's budget deficit, even before the COVID-19 pandemic. Thus, the budgeting demands of COVID-19 introduced additional dimensions to challenges that existed before the pandemic. One of Governor Murphy's priorities before the onset of the pandemic was to reform New Jersey's approach to government spending, including bolstering the State's Surplus Revenue Fund (also called the "Rainy-Day Fund"),[1] which had been empty since the Great Recession of 2008.[2] This limited surplus fund meant that during COVID-19, New Jersey needed to rely on other sources of funding to respond to the costs of the emergency. Further, the State borrowed approximately $4B through the municipal bond market to meet revenue losses.

Pandemic relief packages from the Federal Government distributed an unprecedented amount of funding to state and local governments. Legislation, including the CARES Act, American Rescue Plan, and various appropriations packages, provided more than $4T total in federal pandemic aid to states and individuals. New Jersey received more than $100B[3] in total federal aid during the pandemic, with some paid directly to individuals and some going to the State.

States needed to allocate the federal funds they received to balance their immediate needs with longer term priorities while ensuring that they remain within the federal requirements for how those funds could be used.[4] Jurisdictions that received American Rescue Plan Act (ARPA) funds were required to obligate their funds by December 31, 2024, and liquidate them by December 31,

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[1] New Jersey Office of the Governor. (2019, June 21). Governor Murphy Underscores the Need for Responsible Budget Practices Lacking in Legislature's Spending Bill, Retrieved from https://www.nj.gov/governor/news/news/562019/20190621c.shtml

[2] New Jersey Department of the Treasury. (2019, May 13). Murphy Administration Poised to Make First Deposit in Rainy Day Fund Since Great Recession Dried it up More Than a Decade Ago, Retrieved from https://www.nj.gov/treasury/news/2019/05132019a.shtml

[3] New Jersey Governor's Disaster Recovery Office. (2023, December 31). COVID-19 Oversight Financial Summary. Retrieved from https://gdro.nj.gov/tp/en/financial-analysis/financial-summary

[4] For example, funds from the American Rescue Plan Act's State and Local Fiscal Relief Fund had defined categories of acceptable emergency relief and recovery spending, which included spending related directly to public health impacts, economic recovery, or others related to the impact of the pandemic.

2026. According to the U.S. Government Accountability Office (GAO), as of March 2023, more than half of the total funds given to ARPA recipients was not spent.[5] Part of state decision-making involved designating federal funds for immediate and more long-term needs. States were also given certain requirements or guidelines regarding how federal funds were allowed to be spent. This further informed state decisions on how to budget federal relief.

2. New Jersey's Response

2.1. Key Agencies Involved

The New Jersey Department of Treasury's (Treasury) general mission is to formulate and manage New Jersey's budget, generate and collect revenues, disburse the appropriations used to operate state government, manage the State's physical and financial assets and provide statewide support services to state and local government agencies as well as to the citizens of New Jersey. As such, it was the primary state agency involved with budget and finance during the pandemic. It was also tasked with ensuring that New Jersey remained solvent during the pandemic. In response, Treasury provided regularly updated revenue forecasts and modified the State's budgets in anticipation of changing revenue expectations and spending needs.

The Governor's Office coordinated state and federal spending proposals and issued EOs aiming to ensure greater oversight and accountability of the State's administration of federal funding. The Governor's Office also worked with Treasury on preparing and updating budgets and with the legislature to pass bills related to specific budget priorities. The Governor's Disaster Recovery Office (GDRO) also oversaw the disbursement of federal aid to agencies, ensuring compliance with federal requirements. GDRO ensured that proposed appropriations projects were eligible for federal funding.

The Office of the State Comptroller (OSC) serves as an advisory and oversight entity for all government spending and compliance in the realm of contract requirements, procurement, and investigations into possible fraud, abuse, and mismanagement. As such, Governor Murphy tasked it with overseeing spending of government funds during the pandemic, including both state and federal funds. OSC was also empowered to work with the Governor's COVID-19 Compliance and Oversight Taskforce and develop programs for oversight and monitoring of government funds.

Other New Jersey agencies were involved in proposing and implementing programs to spend the federal funding they had received. Notably, this included the Economic Development Authority (NJEDA), which was responsible for distributing millions of dollars of relief for small businesses. For more detail, see Section 5.12 Economic Impact Mitigation.

[5] U.S. Government Accountability Office. (2023, October 11). COVID-19 Relief: States' and Localities' Fiscal Recovery Funds Spending as of March 31, 2023. Retrieved from https://www.gao.gov/assets/d24106753.pdf

2.2. Key Decisions in New Jersey

2.2.1. Easing Fiscal Impact of the Pandemic

New Jersey's typical fiscal year runs from July 1 to June 30. The Governor usually releases the initial budget proposal for the next fiscal year in February, after which the Legislature writes and debates the budget bill. The Governor then approves the final budget bill in late June.

Because COVID-19 hit states in March 2020, Governor Murphy had already released his budget proposal for FY2021, which was created on the basis of the State's estimates for revenues collected by fiscal year-end 2020 made before the pandemic first struck. Thus, COVID-19 rendered those prior revenue estimates out-of-date. By March 2020, the State was close to three-fourths of the way through its 2020 fiscal year, and had used approximately two-thirds of its FY2020 budget. As New Jersey shut down and businesses closed, the State began to see tax revenue plummet as quickly as late March and early April 2020. This decline in revenues spurred the agency to enact emergency budgeting measures meant to respond to short-term losses.

Treasury took several measures designed to maintain liquidity and manage potential liabilities, particularly in anticipation of New Jersey's expected revenue losses from decreased economic activity as the pandemic continued.

2.2.2. Immediate Fiscal Actions in 2020

After New Jersey shut down in March 2020, the State's revenue losses posed a significant threat to its ability to fund programs at the same level as previously budgeted.

To balance state spending with its projected revenue decreases, Treasury froze $900M of appropriations and placed the funds in reserves as an immediate measure before Governor Murphy finalized and released a full updated spending plan. Treasury focused on freezing FY20 appropriations with funds that were still uncommitted in the budget. Specifically:

- 50% of all uncommitted non-salary operating funds, excluding funding necessary to provide 24/7 care at State institutions.
- 50% of all uncommitted revolving and dedicated funding.
- 100% of all non-entitlement, discretionary grants-in-aid and State aid funding.

Examples of these appropriations included 50% of college operating aid and other tuition assistance programs.

For the State to quickly identify sources of available revenue to meet its projected losses, it needed to make accurate estimates of losses in the first place. However, this was difficult, given the extreme uncertainty of COVID-19. New Jersey was uncertain how severe and long the pandemic was expected to be, and what the economic impacts would be as a result. Legislation in April had extended FY20 to end on September 30, instead of the usual fiscal year end date of June 30, to

allow New Jersey more time to assess its revenues during a period of uncertainty and evolving conditions and modify its spending plan accordingly. This gave Treasury a longer period to receive information about the State's expected revenues for FY21, particularly as tax filing deadlines had been postponed and the amount of federal aid New Jersey could expect had yet to be confirmed.

In May 2020, Treasury testified in legislative budget hearings about the initial steps it had taken to maintain solvency. Treasury reported that its projected revenues for FY21 would be 22% lower than what the State had budgeted for in the Governor's FY21 budget proposal. Combining revenue losses for the remainder of FY20 and the projected losses for FY21, Treasury estimated a total shortfall of nearly $10B between FY20 and FY21. This shortfall estimate informed Treasury's subsequent budget decisions.

In May 2020, Treasury also announced its spending plan for the remainder of FY20, as well as the months of July – September 2020. Governor Murphy's initial FY21 budget proposal, released in February 2020, had anticipated that the State would end the FY20 fiscal year with a closing surplus of $1.5B. Treasury's May update of the FY21 proposal estimated revenue losses of $2.7B through June 30, 2020, meaning that New Jersey would begin FY21 with a negative balance. Thus, Treasury's temporary spending plan needed to:

- Reduce agency spending in the remainder of FY20 to soften its losses.
- Free up enough cash between July and September to ensure a positive fund balance at the revised October start of FY21.
- Gain sufficient time to receive additional information so the FY21 budget reflected accurate expected revenues.

New Jersey had additional considerations: the uncertainty around federal aid, and ambiguous federal requirements for spending. First, it was unclear at the beginning of the pandemic whether federal aid would be made available. Thus, New Jersey needed to budget under the assumption that federal aid would not be provided, preparing for the worst-case scenario. By May, CRF funds, as well as other federal grant aid (e.g., FEMA emergency funds), had been distributed. However, the funds were disbursed with guidelines that were often vague, making it difficult for Treasury to create accurate spending plans. For example, the full guidelines were only about a page long and could be open to loose interpretation. Given the lack of clarity about what federal funds could be used for, federal funds during this period were mostly used for specific emergency spending, such as procuring PPE or ventilators. State revenues were to be used for more general purposes, such as addressing revenue loss.

Treasury's actions to change New Jersey's spending before and up to June 30 ultimately included:

- Transferring the entirety $421M of its Surplus Revenue Fund (also referred to as the Rainy-Day Fund) into its undesignated General Fund balance.
- Implementing a statewide hiring freeze.
- The $900M appropriations freeze announced in March.

- Deferring other planned FY20 spending.
- $1.3B in de-appropriations (or reversals in originally planned appropriations).
- Holding all other operating reserves not currently considered for de-appropriation.
- Authorizing the New Jersey Treasury's Office of Management and Budget (OMB) to engage in "ongoing review and approval" of department spending.

Treasury's spending plan for the supplemental budget between July and September 2020 then included:

- Scaling down the Governor's initially proposed spending priorities for FY21 by $849.7M.
- Cutting or delaying $3.2B in appropriations originally planned for Q1 FY21.

When Treasury unveiled its proposed spending plan in May, it also stressed that although the plan would result in a positive fund balance for FY21, it was insufficient during an emergency. Treasury cited a number of scenarios that could quickly necessitate additional liquidity, including continued or increased economic volatility, more public health costs to mitigate the effects of the disease, and claw-backs of CRF grants, should the State fail to follow federal guidelines, which were incomplete and unclear at that time (in other words, the grant could be taken back by the Federal Government because of misuse).[6] Furthermore, the CARES Act could not be used for revenue replacement, which was the most pressing fiscal matter at the time for New Jersey. Thus, Treasury called for borrowing and increased federal aid to obtain additional cash.

In July 2020, New Jersey passed the COVID-19 Emergency Bond Act, which authorized Governor Murphy to borrow more than $9B in emergency funding from the Federal Government.[7] The State was unsure what revenue losses to expect during the remainder of 2020 and sought funds to cover Treasury's initial projections of revenue loss. New Jersey planned to borrow around the same amount that Treasury had projected to be the total combined revenue loss in the remainder of FY20 and in FY21 (approximately $10B). With little information available regarding economic conditions and what the State could expect for its collected revenues, New Jersey became one of the first states to initiate the use of federal emergency borrowing.

2.2.3. Creating an Updated Budget for FY21

After the 3-month budget had been approved, Treasury and the Governor's Office began preparing the updated budget for a 9-month FY21. After taxes had been filed by the extended

[6] New Jersey Department of the Treasury. (2020, May 28). Treasurer Muoio Testifies Before Assembly Budget Committee on Revised Fiscal Plan to Weather COVID-19 Crisis. Retrieved from https://www.nj.gov/treasury/news/2020/05282020.shtml

[7] New Jersey Office of the Governor. (2010. July 16). Governor Murphy Signs COVID-19 Emergency Bond Act. Retrieved from https://www.nj.gov/governor/news/news/562020/20200716b.shtml#:~:text=%E2%80%9CThe%20'New%20Jersey%20COVID%2D,is%20unpredictable%20and%20changing%20rapidly

deadline in July, revenue collections for FY21 were significantly higher than Treasury had initially projected in May. This gave the State much more flexibility in its planned spending. New Jersey's revenue shortfall now amounted to $5.7B instead of the projected $10B.

The State discovered that this improved fiscal outlook after the COVID-19 Emergency Bond Act was challenged as an unconstitutional overreach of the Governor's powers. The State appeared in the New Jersey Supreme Court, and as part of its argument that emergency borrowing was necessary, was required to issue a revenue certification relaying updated shortfall projections. As filed tax information had become available, analysis for the revenue certification showed that the State's tax revenues were higher than initially expected[8]. Further, the tax information indicated that the pandemic's negative economic impacts were concentrated on lower-income earners. A large part of New Jersey's total tax revenue relied on the General Income Tax (GIT). High earners, by virtue of having larger taxable incomes, contributed more to the total GIT; therefore, when higher income individuals lost earnings, it created a larger negative impact for the State than when lower-income individuals lost earnings.

Since the negative impact was concentrated on low-income workers, the total revenue losses were not as severe as expected. Thus, New Jersey had greater flexibility to spend in FY21 than initially anticipated, but still needed to address the revenue loss. Furthermore, it could not ignore the possibility of additional pandemic surges, which would lead to even more economic and health costs. The State enacted spending cuts to decrease revenue loss and free up liquidity in anticipation of potential future losses. In July 2020, Treasury asked each state agency to identify 10% of its state-funded, non-personnel budget to cut. For example, the Department of Children and Families (DCF) identified $50M in total spending reductions. This exercise provided New Jersey with greater information about what Department functions would be impacted by cuts in the FY21 budget.

The FY21 budget ultimately implemented spending cuts totaling $1.25B, which included Medicaid appropriations for the NJDHS, the NJDOC inmate population initiative, and DCF investment in Children's System of Care. However, the State's 2020 fiscal actions helped prevent steeper spending cuts, which in turn allowed the State to prioritize and invest in equity initiatives. For example, the FY21 budget preserved programs like K-12 and operating aid for public colleges and universities. It restored funding for the previously frozen appropriations, like the Homestead Benefit (a recurring state program providing property tax relief), and included a statewide Baby Bonds initiative for low- and middle-income families (which deposited $1,000 into a state account for every child born to a household with an income under 500% of the Federal Poverty Line, to be withdrawn after the child turned 18).

To increase revenues, the State relied on a mixture of borrowing and targeted taxes. The FY21 budget also authorized the State to borrow $4.3B in General Obligation bonds (municipal bonds

[8] New Jersey Department of the Treasury. (2020, November 6). Certification Required by New Jersey Republican State Committee v. Murphy. Retrieved from https://www.nj.gov/treasury/pdf/GovernorRevenueCertification11-6-20.pdf

issued by New Jersey), using the state bond market instead of $9B from the Federal Municipal Liquidity Fund, like previously planned in the COVID-19 Emergency Bond Act. The FY21 budget also included more revenue-raising measures concentrating on high earners, such as tax increases on high-income individuals and additional sales tax on non-essential goods (e.g., luxury goods such as boats and limousines).

Finally, the budget emphasized rebuilding New Jersey's surplus budget reserves after it had been emptied earlier in the year. The State deposited $2.2B into its Rainy-Day Fund. This was to prepare for the possibility of another COVID-19 surge, and to underscore the importance of having reserves funds in the case of a general emergency, which would alleviate pressure to cut spending or borrow.

2.2.4. Budgeting for FY22 and Beyond

While Treasury had projected combined revenue losses of $10B in FY20 and FY21, actual revenue loss was not as sustained and long-term as the State had expected. By the beginning of FY21, data indicated to Treasury that New Jersey's revenue shortfalls would be less severe than initially feared. By June 2021, Treasury saw higher revenues in almost every tax category and higher total revenues than it had projected in the State's initial FY22 budget proposal.

New Jersey's budgeting considerations shifted from mitigating a worst-case scenario of revenue losses to assessing the State's losses relative to its pre-COVID-19 circumstances. The State also still had to plan for its expenditures immediately related to the pandemic, such as testing employees. Treasury adjusted its state spending plans for FY22[9] in response to these two considerations by:

- Increasing the funds retained in the Surplus Revenue Fund, rather than transferring reserves into the General Fund, like the State had initially proposed for FY22.
- Increasing the State's planned appropriations from the Governor's initial proposal in February 2021.

The final budget included spending increases such as:

- Increases to funding for both K-12 and higher education.
- Increases to New Jersey's pension fund.
- Further expansions of tax relief programs like the Homestead Rebate Program and EITC.
- These increases were paired with actions to manage government debt, including setting aside $2.5B to retire state debt and replacing current or future debt issuances with $1.2B for capital construction.

[9] New Jersey Office of the Governor. (2021, June 29). Governor Murphy Signs Fiscal Year 2022 Appropriations Act into Law. Retrieved from https://www.nj.gov/governor/news/news/562021/20210629b.shtml

The State's ability to make appropriations for more long-term investment reflected its significantly improved fiscal outlook, as there was no longer a critical need for direct revenue replacement. Moreover, the revenue uncertainty of 2020 had emphasized the need to invest in structurally balanced budgets for the future and to strengthen New Jersey's preparedness for times of uncertainty. These key findings led to the billions of dollars invested in a debt defeasance fund, a fund aimed to help New Jersey pay off its existing debt, including general obligation bonds, as well as to fund future capital projects (which would otherwise have been funded through state bonds).

At the end of FY22, the State once again collected higher revenues than expected. Compared to a FY20 baseline, New Jersey saw a 38% growth in revenues. Treasury took advantage of the unexpected revenue boom to support programs that had fallen below the statutory requirements for funding during COVID-19, such as pensions and education.

The extreme uncertainty during COVID-19 pushed the State to prioritize budget decisions that promoted long-term fiscal responsibility, such as budgeting large revenue surpluses and making continued increases to the debt defeasance fund. Both the FY23 and FY24 annual budgets included historically large surpluses. The FY23 budget planned for a record $6.8B surplus[10], which was surpassed the following year by a $8.3B surplus in the FY24 budget[11]. This exceeded Treasury's own surplus goal for FY24; it had aimed for a revenue surplus equal to 10% of annual appropriations, but the total $8.3B amounted to 15%. Having robust surplus funds was thus one of the major learnings from the pandemic, as the flexibility of a large surplus would have meaningfully alleviated fiscal pressures from revenue loss and allowed New Jersey to spend more freely on emergency interventions.

2.3. Appropriating Federal Funds for Emergency Response and Recovery

2.3.1. Allocating CARES Act Funds in New Jersey

When the New Jersey Treasurer testified to the Assembly Budget Committee on May 28, 2020,[12] Treasurer Muoio noted that the U.S. Treasury had not yet released guidance for spending CRF money. Since the State did not fully know what uses of CRF money would be allowed, it could not finalize its spending plan yet at that point. Thus, New Jersey's spending plan was preliminary at that point.

[10] New Jersey Office of the Governor. (2022, June 30). Governor Murphy Signs Fiscal Year 2023 Appropriations Act into Law. Retrieved from https://www.nj.gov/governor/news/news/562022/20220630a.shtml

[11] New Jersey Office of the Governor. (2023, June 30). Governor Murphy Signs Fiscal Year 2024 Budget into Law. Retrieved from https://www.nj.gov/governor/news/news/562023/approved/20230630f.shtml#:~:text=The%20%2454.5%20billion%20budget%20for,surplus%20inherited%20five%20years%20ago

[12] New Jersey Department of the Treasury. (2020, May 28). Treasurer Muoio Testifies Before Assembly Budget Committee on Revised Fiscal Plan to Weather COVID-19 Crisis. Retrieved from https://www.nj.gov/treasury/news/2020/05282020.shtml

Most of the $2.4B New Jersey received in CRF funding targeted economic recovery. The State did not have a pre-existing formulaic process to allocate the total amount of funds, and based their decisions on assessments of which industries would be most affected (e.g., retail), as well as ensuring that enough funding would be used for the State's health response. The State's Office of Management and Budget (OMB) within Treasury was responsible for ensuring that the full $2.4B that New Jersey received in CRF funds were spent by the deadline.

The State also needed to fund emergency needs in counties that weren't eligible for CRF money. Smaller counties within New Jersey did not receive CRF money directly, as only local jurisdictions with a population exceeding 500,000 were large enough to be eligible for direct payment from the Federal Government. This meant that the State itself needed to allocate federal funds to some counties. It based its decisions on health needs, particularly to support or expand testing and contact tracing within local health departments.

2.3.2. New Jersey's Budget Appropriations Using American Rescue Plan Act Funds

The American Rescue Plan Act (ARPA) distributed additional federal aid to states in early 2021. One key fund from the Plan was the State Fiscal Relief Fund (SFRF). In New Jersey, planned spending of SFRF money became part of the State's FY22 budgeting cycle. Appropriations made using federal funds in the state budget also needed to first be approved by GDRO as eligible for federal funding.

The State's FY22 budget,[13] signed at the end of June 2021, appropriated $2.4B of New Jersey's $6.2B in total SFRF money. The State's uses of SFRF funds for immediate responses focused on mitigating the pandemic's economic impact. SFRF appropriations for more long-term investments were focused on public health and other infrastructure. To prioritize SFRF spending, the Governor's Office identified the most urgent COVID-19 response and recovery needs by speaking to state agencies and partners in the legislature, and by creating public "listening" sessions in which he received feedback from hundreds of individuals and community organizations, and from an online portal for comments. Notably, New Jersey's decision to invest SFRF funds in its hospitals added to its preparedness for future emergencies.

One way to identify how states prioritized allocating their ARPA funding is to look at how SFRF funds were divided among Expenditure Categories (ECs). The U.S. Treasury had delineated in its guidelines for spending federal funds[14] several ECs of acceptable SFRF uses, under which states needed to classify and report their SFRF-funded projects. New Jersey consistently committed the biggest percentage of its SFRF funds to the Economic Impacts EC, which included more immediate

[13] New Jersey Office of the Treasury. (2021, June 29). P.L. 2021, Chapter 133, Anticipated Resources for the Fiscal Year 2021-2022. Retrieved from https://www.nj.gov/treasury/omb/publications/22bill/AppropriationsActFY22.pdf

[14] U.S. Department of the Treasury. (2023, December 14). Compliance and Reporting Guidance – State and Local Fiscal Recovery Funds. Retrieved from https://home.treasury.gov/system/files/136/SLFRF-Compliance-and-Reporting-Guidance.pdf

economic assistance and more long-term economic recovery projects. With reference to these ECs, New Jersey's FY22 budget appropriated SFRF funds[15] in the following ways:

- The largest share (41%) of the State's FY22 SFRF appropriations fell under the Negative Economic Impacts EC. This included funding rental and utilities assistance (see Section 5.12 Economic Impact Mitigation for greater detail).
- 30% of FY22 SFRF appropriations fell under the Services to Disproportionately Impacted Communities EC, including special education services and a Child Care Revitalization Fund, while 27% went to public health investments in emergency preparedness infrastructure and HVAC and water systems.
- Unlike some states, New Jersey did not allocate SFRF funds under the Revenue Replacement EC. The Revenue Replacement EC was a broad category that allowed states to use SFRF money to fund state services which would otherwise be funded by lost state revenue. States could use SFRF to fund day-to-day agency functions, including operating costs like staff salaries, up to the amount of revenue the state lost as the result of the pandemic. As the result of the State's immediate budget decisions in 2020, which was able to balance the shortfall Treasury had projected for FY20 and FY21, the need for immediate revenue replacement had decreased. New Jersey instead prioritized targeted, direct impact, particularly focusing on economic development.

Another of New Jersey's key considerations in allocating SFRF funds was to ensure that SFRF appropriations would not create long-term funding obligations. In recognizing that the federal aid was a one-time influx of dollars, the State identified investments that would be impactful for the long-term economic future but would not weaken New Jersey's structural fiscal sustainability.

New Jersey had written into its FY22 budget bill that SFRF appropriations exceeding a certain amount needed approval from the Joint Budget and Oversight Committee, thus handing budgeting authority to the legislature rather than allowing executive offices complete control over federal funds. Through this mechanism, the State was able to make appropriations using SFRF funds beyond what was specified in the annual budget. By the end of FY23, New Jersey had appropriated $5B and deployed $1B of its total $6.2B SFRF funds.

Note that ARPA funds had a longer deadline than CRF funds. States are required to appropriate their funds by December 2024 and spend them by December 2026. Because New Jersey's fiscal conditions had improved by 2021, it did not rely on SFRF funds for immediate revenue replacement, and could afford to appropriate its SFRF funds on a longer timeline.

[15] New Jersey Office of the Governor. (2021, August 31). State of New Jersey 2021 Recovery Plan Performance Report. Retrieved from https://gdro.nj.gov/tpbackend/documents/FINAL%20NJ%20Recovery%20Plan%208.31.21.pdf

Mitigating economic impacts continued to be the State's top priority with SFRF funds. Of the total $5B New Jersey has appropriated thus far (as of the end of FY23),[16] the Negative Economic Impacts Expenditure Category remains the largest category of total appropriations.[17] The State's SFRF projects categorized under Negative Economic Impacts made up 49% of total SFRF appropriations. This suggests that New Jersey's needs were less concentrated on Revenue Replacement, and that it had sufficiently secured other sources of funding to meet its full funding needs for public health interventions.

Public Health EC appropriations were the second largest category, at 22% of total SFRF appropriations. These continued to include long-term investment in hospital and county health department infrastructure.

2.3.3. Effectively Spending Federal Funds

The State's role in budgeting its federal funds did not end with making fiscal appropriations. After federal funds were allocated to agencies or local jurisdictions, the State then needed to ensure that the funds were spent appropriately. Federal funds generally came with restrictions on how they could be spent, and if agencies violated federal guidelines, then they risked not being able to receive reimbursements for purchases made using federal funds. Part of the State's budgeting decisions had to consider how to stay apprised of which agencies received federal money, how those agencies used their funds, and what remaining federal funds could be utilized.

2.3.4. Spending CRF Funds

When CARES Act funds were distributed to states in 2020, the Federal Government was still in the process of developing guidelines for using the funds. This created confusion over how states could use CRF funds appropriately. Because CRF guidelines were not robust and often unclear to decipher, the risk of benefits duplication was high. Eliminating fiscal waste was key to ensuring the State had sufficient funds at their disposal for emergency response and recovery. New Jersey put several compliance mechanisms in place to ensure that funds were monitored for appropriate use and tracked for the status of their spending. These included:

- The establishment of the GDRO to oversee federal funds compliance. The GDRO resumed the activities of the previous Governor's Office of Recovery and Rebuilding, which coordinated recovery programs from Hurricane Sandy.

[16] New Jersey Office of the Governor. (2023, July 31). New Jersey Recovery Plan – State and Local Fiscal Recovery Funds 2023 Report. Retrieved from https://gdro.nj.gov/tpbackend/documents/New_Jersey_2023_Recovery_Plan_Performance_Report_7_31_23_FINAL.pdf

[17] Note: in 2022, the U.S. Treasury changed its guidelines under the assumption that appropriations under the Public Health and Economic Impacts ECs would reach a broad swath of populations who had been "impacted" or "disproportionately impacted" by the pandemic, and thus stopped separately delineating a "Services to Disproportionately Impacted Communities" category.

- The creation of the COVID-19 Compliance and Oversight Taskforce, to advise agencies on the proper use of federal funds.
- Using Integrity Monitors (IMs) and Accountability Officers (AOs) to audit agency projects for fraud.
    - AOs were senior staff members of State agencies who acted as the agency's liaison to GDRO and OSC. AOs conducted internal reviews of agency spending to ensure responsible spending of COVID-19 recovery funds.
    - IMs were independent auditors who, over the course of 6 – 9 months, reviewed program spending as agencies administered them.

The GDRO was responsible for ensuring that appropriations and projects fell within the eligibility requirements of all the federal funding sources available. This was a critical role because of the claw-back provision of CRF funds, which was more difficult to comply with, given the vague federal guidelines for CRF usage. Furthermore, CRF funds had a shorter timeline to be spent than SFRF funds, meaning that more proactive fund management was important in preventing waste.

Less restrictive guidance around CRF usage meant there was a high potential for benefits duplication. Thus, an important responsibility of GDRO was to keep track of all existing State programs using federal funding to avoid overlap. Given that GDRO was the main entity in charge of approving and tracking the use of CRF funds, it was able to centrally take stock of all State programs and verify that they were not duplicative.

GDRO leveraged its knowledge of the diverse types of federal funds and their restrictions, working with State agencies to identify the most suitable source and most efficient use of federal funding for their projects. The GDRO coordinated agency spending such that the most restricted federal money was allocated and spent first, thereby allowing the use of funds with more flexible restrictions at a later time. For example, when state agencies came to the GDRO to verify the eligibility of a project for federal grant funding, GDRO could identify whether the project was eligible for FEMA or CDC grants made for specific purposes, which would be more efficient to exhaust before turning to the more flexible CRF funds.

2.3.5. Spending SFRF Funds

In contrast to CRF funds, ARPA had stringent requirements regarding what states were allowed to use funds for. GDRO and the Department of Community Affairs Division of Disaster Recovery and Mitigation (DRM) were responsible for standing up SFRF-funded programs appropriated in the annual State budget. GDRO leadership and DRM had experience navigating complex federal fund requirements, and managed recovery programs or emergency funds during Hurricane Sandy.

DRM became the fund manager for SFRF, tracking the current spending status of state agency and county programs using SFRF funds. While this prior expertise predisposed DRM to handle the high number of guidelines that came with SFRF, SFRF funds were still more complex and broader in

scope than what DRM had previously handled (which was mostly DEP-related projects during Hurricane Sandy).

DRM administered SFRF grants to agencies in increments, in order to monitor compliance throughout the length of the funded project and minimize wasting funds. Agencies were provided with 25% of the total appropriation upfront, then received additional 25% after proof of correct spending. Local jurisdictions were also required to submit spending plans and reports to DRM to further ensure proper use of funds.

DRM's grant-managing capabilities were significantly increased as the result of its responsibilities during COVID-19. Spending on emergency health needs, like vaccine and testing sites, was mostly funded with CRF and FEMA funds, in the form of New Jersey Emergency Management grants made to state agencies and counties.

CRF and FEMA funding was made directly to NJOEM and State Police, which then managed disbursement to agencies and counties. Emergency grants were reimbursement-based. State agencies and counties fronted the cost of their emergency projects, then submitted documentation to the State Police for reimbursement. Importantly, state agencies and counties needed to follow federal guidelines to be able to receive reimbursement for their costs. GDRO acted as a resource to answer questions from agencies about federal requirements.

Through EO 166, the Governor Murphy established the COVID-19 Compliance and Oversight Taskforce, led by the Office of the State Comptroller and including GDRO, to audit agency spending during the pandemic and whether they followed state and federal requirements. The Taskforce led trainings to educate State agencies on federal requirements and released reports of state spending using federal funds.

3. Comparison to Other States

During the pandemic, states' budget decisions related mostly to how they responded to immediate fiscal uncertainty in the beginning of the pandemic and allocated federal funds in 2021 and beyond. These decisions impacted the speed of states' recovery as well as their post-pandemic fiscal health. Benchmark states, which include California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia,[18] are thus compared based on the actions they took when it came to 2020 fiscal strategies, as well as how they spent their SFRF funds.

In summary, benchmark states generally fell into three broad categories of budgeters:

[18] Benchmark states for **Chapter 5** (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in **Appendix.**

- States that budgeted conservatively early in the pandemic: New Jersey, Ohio, and Florida.
  - Both New Jersey and Ohio decreased their planned appropriations and did not spend more than they cut. In contrast to New Jersey, however, Ohio was a more cautious emergency borrower, while New Jersey depended on emergency borrowing to respond to immediate revenue shortfalls in 2020. Budgetary caution early in the pandemic allowed both these states to later prioritize economic recovery projects with their SFRF funds, many of which were long-term investments for the state's economic future.
  - Florida, while budgeting conservatively, took a different path later in the pandemic with its SFRF funds. Instead of prioritizing new economic recovery projects, like New Jersey and Ohio, Florida used most of its SFRF money for revenue replacement.

- States that made limited budgetary changes: Pennsylvania, Virginia, and Illinois.
  - Pennsylvania maintained its total state funding levels in the temporary budget it passed in 2020; later in the pandemic, the state prioritized revenue replacement with SFRF funds.
  - Virginia and Illinois also mostly maintained their budgets in the beginning of the pandemic. Neither state made significant changes to their surplus revenue funds and avoided significant budget cuts. Unlike Pennsylvania, however these states later spent the biggest portion of their SFRF funds on economic impact projects , rather than revenue replacement.

- States that were initial emergency spenders: California and New York.
  - Early in the pandemic, California and New York focused on spending to address immediate health emergency needs. This initial spending may have factored into their later prioritization of SFRF funds for revenue replacement rather than economic recovery projects, as their spending needed to be balanced with more revenue.

3.1. Immediate Fiscal Strategies in 2020

During the Initial Surge in early 2020, all states experienced high economic uncertainty. They generally expected tax revenues to decline significantly because of the pandemic, and thus acted quickly to increase liquidity and remain solvent between March and June 2020. This was especially difficult, as many states, including New Jersey, were at the end of their annual or biennial budget cycle.

Despite their limited resources, these states had to take immediate action and revise their budgets on a shorter timeline than usual. These revised or temporary budgets then employed a variety of budgeting tools to quickly respond to lost revenues, including drawing on Rainy Day Funds,

decreasing expenditures through spending cuts or freezes, and utilizing external sources of funding.

Modifications to the Fiscal Year Schedule

In early 2020, when COVID-19 first reached the United States, nearly all states had already released a budget proposal for FY21. In response to the economic uncertainty of the first half of 2020, states modified their FY21 budget plans, often through supplemental appropriations, to respond to the emergent needs caused by the pandemic, outside the fiscal cycle. This allowed states to take actions like using surplus reserve funds, enacting spending cuts, or budgeting for external funding beyond what was specified in their FY21 budget plan. However, states differed in how they created this budget cycle flexibility, and on which priorities to focus their supplemental appropriations.

Like New Jersey, both New York and Pennsylvania enacted a more flexible budget timeline, and were therefore able to receive more economic information before planning their state's expenditures. Pennsylvania introduced a temporary 5-month spending plan,[19] which was similar to New Jersey's approach of extending the fiscal year. New York specified in its FY21-enacted budget mechanisms[20] to determine a more dynamic budget modification process that involved constant monitoring of state revenues and expenditures and collaborations with the legislature to allow for periodic adjustments to the State's fiscal plan outside of its annual budget cycle.

Unlike New Jersey, California's modification of the fiscal cycle was mostly intended to allow for increased spending on emergency needs. In March 2020, California passed legislation allowing the Governor to spend up to a $1B for "any purpose related to his coronavirus emergency declaration."[21] Subsequent supplemental appropriations were mostly used to purchase medical supplies and care for COVID-19 patients.

Availability and Use of Surplus Reserve Funds

Generally, when states were able, they drew on their surplus reserves funds first as a means of meeting budget shortfalls caused by the pandemic in 2020. If states had enough surplus reserve funds available, they had less need to utilize other budget strategies, such as steeper cuts or greater borrowing. New Jersey had relatively less reserves available at the start of the pandemic than other states.

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[19] National Association of State Budget Officers. (2020, June 26). State Work to Finalize Fiscal 2021 Budgets (Updated October 1). Retrieved from https://budgetblog.nasbo.org/budgetblogs/blogs/brian-sigritz/2020/06/26/states-work-to-finalize-fiscal-2021-budgets-update

[20] New York State Division of the Budget. (2021). FY 2021 Budget Publications. Retrieved from https://www.budget.ny.gov/pubs/archive/fy21/index.html

[21] KCRA. (2020, March 16). California Legislature OKs $1 billion for coronavirus. Retrieved from https://www.kcra.com/article/california-legislature-oks-dollar1-billion-for-coronavirus/31683858

Exhibit 1: New Jersey's Rainy-Day fund before the pandemic was low compared to benchmark states[22]

State	Rainy Day Fund ($)	Days State Can Operate On Rainy Day Fund	Rainy Day Fund as % of General Expenditure Fund in FY 2019
CA	23.0B	59.8	16.4%
OH	2.69B	29.4	8.0%
FL	1.48B	16.3	4.5%
VA	0.79B	13.5	3.7%
NY	2.05B	10.3	2.8%
NJ	**0.42B**	**4.0**	**1.1%**
PA	22.0M	0.2	0.1%
IL	3.6M	0.0	0.0%

Source: Pew Research Center "Fiscal Survey of the States"

Depending on factors like the size of states' existing surplus reserve funds ("Rainy Day Funds"), and their expectations of the amount of federal aid they would receive and when it became available, states either emptied their surplus reserve fund entirely, withdrew a relatively small portion of it, avoided using surplus reserve funds, or made deposits into their surplus reserve funds in anticipation of prolonged uncertainty later in the pandemic.

New Jersey used its Rainy-Day Fund, transferring the entire $421M from the Surplus Revenue Fund, to address budget shortfalls in FY 2020. However, even before the pandemic, its Rainy-Day Fund had been small relative to total appropriations.

Other states withdrew a smaller portion of their surplus reserve funds. For example, Florida exercised caution and focused more on budget cuts rather than extensively tapping into its reserve

[22] Data in graph taken from the Pew. (2013, November 27). Fiscal 50: State Trends and Analysis, Retrieved from https://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2014/fiscal-50#ind5 which collected data from the National Association of State Budget Officers. (n.d.) Archive of Fiscal Survey of the States. Retrieved from https://www.nasbo.org/mainsite/reports-data/fiscal-survey-of-states/fiscal-survey-archives. This may differ from budget data used in other sections of this report, which are taken directly from state budget documents, due to reporting differences (particularly if data are reported at different points in time, and supplemental appropriations have been enacted throughout the year).

fund, committing a larger amount of funding into its total reserves in the FY21 budget[23] than FY20 ($6.3B vs $5.4B, respectively). California had significant portions in combined reserves, including its Rainy-Day Fund, Safety Net Reserve, and Public School System Stabilization Account.[24] California utilized $8.8B for its budget needs, including $7.2B primarily from the Rainy-Day Fund. However, this was minor compared to its total reserves levels, which was more than $23B in 2019.

New York, Virginia, Ohio, and Illinois preserved their surplus reserve funds. New York made no deposits or withdrawals into its $2.5B emergency reserves fund in 2020. Virginia made nominal changes to its budget reserves,[25] choosing to mostly preserve reserves levels. Ohio chose to meet its budget shortfall through spending reductions, making no withdrawals from its Budget Stabilization Fund.[26] Illinois, like New Jersey, had one of the smallest surplus reserve funds and would not derive significant value from the fund, so did not withdraw from it. It deposited 10% of cannabis sales into the fund.[27]

Spending Cuts or Freezes

To free liquidity for projected revenue shortfalls, many states reduced spending on state programs. These often included cutting appropriations that had been made earlier in the year for FY21. New Jersey implemented significant budget cuts in early 2020 to address its budget shortfall (except for COVID-19 related needs), along with a state-wide hiring freeze and deferrals in planned department spending. Its temporary spending plan for 2020 was cautious and did not include increased spending. States either similarly made cuts, maintained funding levels, or balanced spending cuts with increased spending on other services, often related directly to pandemic emergency needs.

[23] Florida Office of the Governor. (2020). Statewide Overview and Taxes. Retrieved from https://www.flgov.com/wp-content/uploads/2020/06/2020-Budget-Highlights.pdf
[24] California Office of the Governor. (2020, June 29). Governor Newsom Signs 2020 Budget Act. Retrieved from https://www.gov.ca.gov/2020/06/29/governor-newsom-signs-2020-budget-act/
[25] Virginia Office of the Governor. (2020). Resources. Retrieved from https://budget.lis.virginia.gov/sessionreport/2020/1/2210/
[26] Ohio Office of the Governor. (2020, May 5). COVID-19 Update: State Budget Impact. Retrieved from https://governor.ohio.gov/media/news-and-media/covid19-update-may-5-2020
[27] Medium. (2022, March 28). Reviving the Rainy Day Fund. Retrieved from https://medium.com/gdgf/reviving-the-rainy-day-fund-ca83841b4148

Like New Jersey, Florida, and Ohio both decreased planned spending levels for FY21 appropriations. Florida vetoed $1.5B of the FY21 state budget it had proposed earlier in the year, opting for spending cuts.[28] [29] [30] [31]

Other states balanced spending decreases with increased spending in other areas. New York, facing significant budget shortfalls, made reductions in state support for school districts and Medicaid funding. However, unlike New Jersey's more conservative approach, it also enacted the largest budget in the State's history for FY21, with high spending on education, relief programs, and other sectors impacted by the pandemic to prioritize recovery. California also froze certain programs as part of its financial strategy. This decision was to address both its budget shortfall and its increased spending on emergency response, public health, and economic recovery.

Reliance on External Sources of Funding

For states that did not utilize their Rainy-Day Fund reserves to cover projected revenue shortfalls, external sources of revenue – often from the Federal Government – were key to remaining solvent. Some states enacted emergency borrowing, either from the Federal Government or through a statewide bond measure, while others relied on federal relief aid.

Like New Jersey, Illinois and New York utilized emergency borrowing. Illinois secured loans totaling $3.2B,[32] while New York borrowed $11B, with $8B in short-term and $3B in long-term borrowing.

Ohio also borrowed from the Federal Government, but on a smaller scale and in a more targeted manner. It borrowed $1.5B to pay unemployment benefits,[33] rather than for broad revenue replacement.

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[28] Florida Office of the Governor. (2020). 2020 Veto List. Retrieved from https://www.flgov.com/wp-content/uploads/2020/06/2020-Veto-List.pdf

[29] Ohio Office of the Governor. (2020, May 5). COVID-19 Update: State Budget Impact. Retrieved from https://governor.ohio.gov/media/news-and-media/covid19-update-may-5-2020#:~:text=Due%20to%20the%20economic%20impact,which%20ends%20on%20June%2030

[30] Spotlight PA. (2020, May 26). Facing Nearly $5 billion shortfall, Pa. lawmakers plan to pass short-term budget. Retrieved from https://www.spotlightpa.org/news/2020/05/pennsylvania-short-term-budget-revenue-shortfall-coronavirus/

[31] Spotlight PA. (2020, May 26). Facing Nearly $5 billion shortfall, Pa. lawmakers plan to pass short-term budget. Retrieved from https://www.spotlightpa.org/news/2020/05/pennsylvania-short-term-budget-revenue-shortfall-coronavirus/

[32] Illinois Office of the Governor. (2021, May 20). Illinois Leaders Agree to Early Deby Repayment Plan. Retrieved from https://www.illinois.gov/news/press-release.23339.html#:~:text=The%20State%20borrowed%20%243.2%20billion,of%20the%20COVID%2D19%20pandemic

[33] Ohio Office of the Governor. (2021, September 1). Ohio Pays Off Federal Unemployment Loan, Saving Employers from Unemployment Tax Increase. Retrieved from https://governor.ohio.gov/media/news-and-media/Ohio-Pays-Off-Federal-Unemployment-Loan-Saving-Employers-from-Unemployment-Tax-Increase-09012021#:~:text=(COLUMBUS%2C%20Ohio)%20%2D%2D%20Ohio,eligible%20Ohioans%20during%20the%20pandemic

Pennsylvania, Florida, California, and Virginia avoided emergency borrowing. Pennsylvania's strategy centered on leveraging federal aid, particularly from the CARES Act and coronavirus relief aid, without resorting to major new taxes or emergency borrowing. Florida's fiscal management did not involve emergency borrowing, as it relied on federal assistance and stable revenue streams. California relied on a mix of reserves, federal funds, new revenues, and other financial mechanisms. Virginia also relied on federal aid and effective reserves management.

3.2. Appropriating SFRF Funds

By the time SFRF funds became available from ARPA, states had passed the immediate budget actions they took in 2020 to remain solvent, and many saw greater revenue collections than initially projected. States' budget actions in 2020 and fiscal outlooks in 2021 informed how they allocated SFRF funds; the flexibility of SFRF funds meant that states could tailor federal funding to their priorities and meet their short- or long-term needs. States had three key considerations regarding how they would allocate their SFRF funds:

- Whether their appropriations would create long-term funding obligations, thereby increasing risk of fiscal cliffs
- When they would appropriate SFRF funds, keeping in mind the deadline to do so
- What funding priorities to fund with SFRF

Risk of Fiscal Cliff

States increased their risk of future budgetary shortfalls (referred to as a "fiscal cliff") if they used SFRF funds for recurring costs,[34] such as increases to the rates which they paid for Medicaid services rather than for one-time projects, including capital investment and temporary bonus/relief programs. Part of New Jersey's fund allocation decisions included using SFRF funds for projects receiving one-time funding to avoid on-going dependence on finite federal funds. Some other states, however, used SFRF funds for recurring government operations or services.

California, Illinois, New York, and Pennsylvania used SFRF funds to cover recurring costs equivalent to 2.5% or more of their FY22 general fund expenditures, incurring a moderate to elevated risk of a fiscal cliff. Ohio, Virginia, and Florida, along with New Jersey, were at lower risk of a fiscal cliff, as their lump-sum allocation of SFRF funds to the general fund or to public health and safety operations was less than 2.5% of their FY22 general fund expenditures.

[34] The Volcker Alliance. (2023, September 26). On the Edge. Retrieved from https://www.volckeralliance.org/resources/on-the-edge-0

Amount of SFRF Funds States Have Used

SFRF funds must be obligated by December 31, 2024. As of July 2022, New Jersey had appropriated 83% of their total SFRF funds.

By July 2022, New York, Ohio, and Virginia had appropriated less of their total SFRF funds than New Jersey. They had respectively appropriated 36%, 65%, and 82%.

Other benchmark states had appropriated more of their total SFRF funds than New Jersey. Florida had appropriated 96% by July 2022, while Illinois, California, and Pennsylvania had appropriated 100% of their SFRF.

Though states varied in their use of SFRF funds, all benchmark states appropriated the largest share of their total SFRF funds for either the Negative Economic Impacts or Revenue Replacement Expenditure Categories (*Expenditure Categories defined in "Key Decisions"*).

New Jersey, Ohio,[35] Virginia,[36] and Illinois[37] appropriated the largest share of their SFRF funds for Negative Economic Impacts, which included projects such as unemployment insurance or tax credits.

California,[38] Florida,[39] New York,[40] and Pennsylvania[41] appropriated the largest share of their SFRF funds for Revenue Replacement, a broad category of spending that states can use to fill in funding gaps from the pandemic, such as state salaries or operating expenses.

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[35] Ohio Office of the Governor. (2023). State of Ohio Recovery Plan – State and Local Fiscal Recovery Funds 2023 Report. Retrieved from https://archives.obm.ohio.gov/Files/Budget_and_Planning/Ohio_Recovery_Plan/SFY_2023_Recovery_Plan.pdf

[36] Virginia Office of the Governor. (2023, July 31). Commonwealth of Virginia American Rescue Plan Act - State and Local Fiscal Recovery Funds Recovery Plan Performance Report. Retrieved from https://www.doa.virginia.gov/reports/AmericanRescue/Virginia-Recovery-Plan-Performance-Report-July-2023.pdf

[37] Illinois Office of the Governor. (2023, June 30). State of Illinois Recovery Plan – State and Local Fiscal Recovery Fund Governor's Office of Management and Budget 2023 Report. Retrieved from https://budget.illinois.gov/content/dam/soi/en/web/budget/documents/arpa/Final%202023%20IL%20Annual%20Recovery%20Plan%20Performance%20Report%208.3.23.pdf

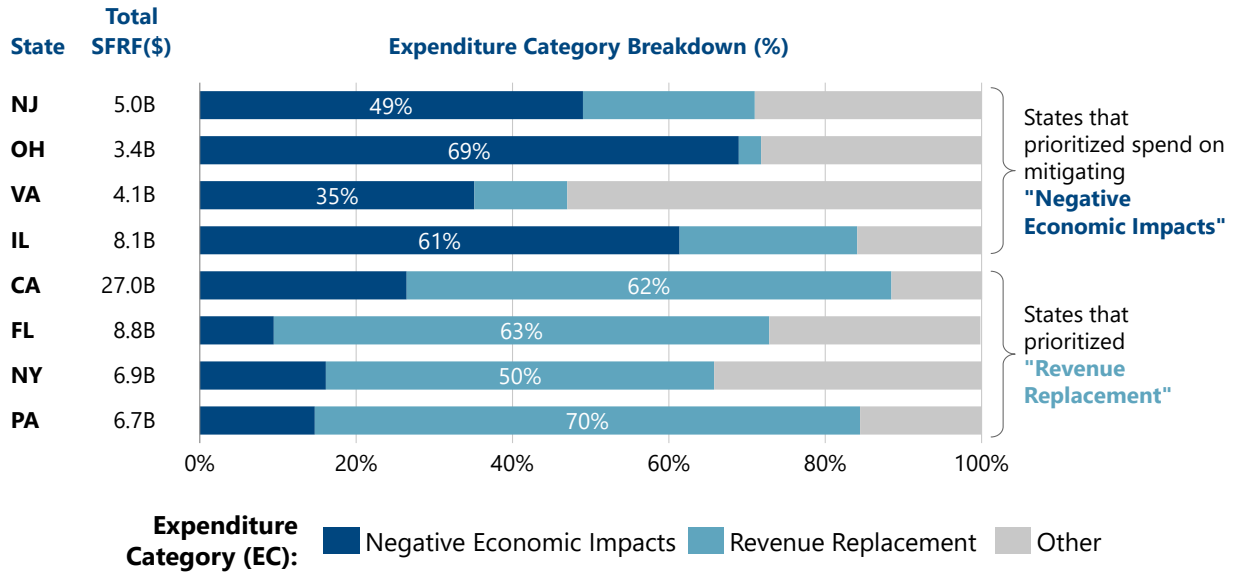
[38] California Office of the Governor. (2023). California Recovery Plan – State and Local Fiscal Recovery Funds 2023 Report. Retrieved from https://dof.ca.gov/wp-content/uploads/sites/352/2023/07/2023-Recovery-Plan-FINAL-2022-07-29.pdf

[39] Florida Office of the Governor. (2022, July 31). State of Florida Recovery Plan – State and Local Fiscal Recovery Funds 2022 Report. Retrieved from https://www.floridadisaster.org/contentassets/021d63b30a604432a77d8905d14c1989/fl-slfrf-recovery-plan-performance-report-final-07292022.pdf

[40] New York Office of the Governor. (n.d.). State and Local Fiscal Recovery Funds. Retrieved from https://openbudget.ny.gov/covid-funding/slfrf.html

[41] Pennsylvania Office of the Governor. (2023, July 31). Commonwealth of Pennsylvania Recovery Plan – State and Local Fiscal Recovery Funds 2023 Report. Retrieved from https://www.budget.pa.gov/Publications%20and%20Reports/ARPA/Documents/SLFRF-Recovery-Plan-Performance-Report-07-31-23.pdf

Exhibit 2: Benchmark states either prioritized mitigating Negative Economic Impacts (like New Jersey) or Revenue Replacement



4. Key Strengths and Challenges

The key decisions New Jersey took to manage its budget and spending during COVID-19 (easing fiscal impact of the pandemic, appropriating federal funds, and spending federal funds) were implemented with varying degrees of success.

Overall, New Jersey exhibited resourcefulness in maximizing available liquidity in 2020 (e.g., creating a temporary budget, decreasing spending, and using emergency borrowing), and leveraging its improved fiscal health in 2021 and beyond. It was successfully able to leverage the federal funds it received to both target and meet its short-term needs and make investments in its economic future.

Strength Treasury exhibited flexibility in creating a 3-month budget, despite the significant constraints of existing infrastructure; Treasury was not equipped with a budget system that allowed for a short timeline. Creating a temporary budget so quickly was an accomplishment, even if the economic conditions remained uncertain through multiple budget cycles.

Strength Treasury, particularly OMB, was also successful in quickly identifying and then budgeting the $900M of appropriations initially frozen in 2020, without having had the precedent of "standard" areas of spending to cut.

Strength The State's borrowing measures freed enough liquidity for immediate revenue replacement that the state was able to avoid steeper budget cuts in FY21 and beyond. New Jersey successfully defended this decision before the Supreme Court.

Strength Decisions made at the beginning of the pandemic allowed New Jersey to take measures for future fiscal resilience and preparedness in FY22 and beyond. Later fiscal measures included investing in State reserves and adding provisions to reduce public debt.

Strength By the time ARPA funds were disbursed to states, New Jersey had less need for immediate revenue replacement and was therefore able to utilize the flexibility of SFRF funds for targeted investments, primarily in economic recovery.

Strength The State was careful to appropriate SFRF funds for one-time funding obligations to avoid long-term funding dependence on the recovery funds.

Strength While the federal requirements regarding appropriate spending of federal funds were challenging to follow, the State was generally able to establish mechanisms to effectively spend federal aid. New Jersey was able to effectively disburse and spend the entire amount of CRF funds it received, despite the short timeline to do so and vague federal requirements.

Strength New Jersey set up GDRO and DCA DDRM such that it effectively incorporated lessons learned and capabilities from Hurricane Sandy. The two agencies' experiences in managing recovery funds from Hurricane Sandy made them well-positioned to interpret the robust set of federal requirements associated with SFRF funds.

Strength New Jersey successfully made improvements to Integrity Monitors and other compliance programs after Hurricane Sandy. For example, the amount of time IMs were obligated to review spending was shortened to either 6 or 9 months; it was possible for IMs to conduct reviews indefinitely for Sandy programs. Furthermore, the use of IMs was a general success in ensuring that departments were compliant, particularly as some departments lacked the capacity to manage the influx of federal funds. IMs helped to ensure that funds were allocated and spent appropriately.

Challenge The absence of robust emergency reserve funds meant that New Jersey had limited options to address sudden revenue declines in the face of an emergency. Other means of increasing liquidity, like tax increases or spending cuts, do not show immediate results in an emergency. It would not have been possible to raise revenues through higher taxes in time to respond to the first wave of the pandemic. The State's spending cuts were not drastic enough to fully cover projected revenue losses from economic disruption, nor could they be without significantly impacting government services. Furthermore, New Jersey's reliance on the gross income tax for its revenues meant that economic uncertainty presented heightened volatility for the State's liquidity.

Challenge Although Treasury was flexible in creating a top-down state plan to cut spending (in both the $900M appropriations freeze and cuts for the subsequent FY21 budget), agencies found it difficult to follow Treasury's direction to choose further program cuts on the timeline provided. Some agencies, for example, support most of their programs with federal funds, meaning they

have limited options to save state funds. Given the short timeline, agencies found it challenging to shift their operations to meet spending cuts.

Challenge The State's emergency grant management capabilities prior to the pandemic were not extensive and demanded expansion during COVID-19. While the State had prior experience managing emergency funds during Hurricane Sandy, there was confusion about which state agency would act as the grant manager during COVID-19, and approve and track the use of federal emergency relief and recovery funding. While the DCA's DDRM had managed FEMA recovery funds during Sandy, this was not institutionalized. When CARES Act funds first became available, the responsibility initially fell to Treasury although it did not have the necessary infrastructure to act as a grants manager. Even after DCA's DDRM and GDRO were designated federal funds managers, the State's recovery fund management infrastructure could have been expanded with more staff, particularly with individuals well-experienced in grant processes.

Despite the chaos of economic uncertainty and significant revenue loss in the Initial Surge, the State was ultimately able to overcome its fiscal challenges. While most states made short-term modifications to their budgeting processes to respond to immediate revenue loss in 2020, doing so was taxing in New Jersey, as the State did not have the existing infrastructure to make shorter temporary budgets. New Jersey's lack of a robust Surplus Revenue Fund in 2020 significantly limited its options to respond to economic and fiscal uncertainty, pushing it to instead rely on emergency borrowing. By 2021, its revenue losses were much less severe than initially anticipated, which allowed the State more flexibility to make longer-term investments, prioritizing economic recovery and equity with SFRF funds to a greater extent than some other states using SFRF funds for more immediate revenue losses.

For further discussion on how to respond to these issues, see Recommendation 33 in Chapter 7.

5. Appendix

A-1 Chronology of Events in New Jersey

The following is a chronology of events related to New Jersey's budgeting during the COVID-19 pandemic.

Initial Surge (March 2020 to June 2020)

- February 25, 2020: The first State budget for FY21 was introduced.
- March 16, 2020: Treasury reported that February revenue collections for major taxes were up 9.4% compared to February 2019, and 6.4% year-to-date (YTD) compared to the same period the prior year. Treasury monitored closely the evolving situation surrounding COVID-19 and sharp declines in the stock market.
- March 23, 2020: Treasury provided its first "voluntary disclosure" update about the State of New Jersey's fiscal health and spending plan. It announced that it would freeze $900M of appropriations to place into reserves. As a result, various state programs, including college tuition assistance and the Homestead Benefit Program, stopped operating.
- March 25, 2020: Congress passed the Coronavirus Aid, Relief, and Economic Security (CARES) Act, providing fast and direct economic assistance for American workers, facilities, small businesses, and industries. The CARES Act implemented a variety of programs to address pandemic-related issues. Among the full breadth of funds established, the CARES Act created the $150B Coronavirus Relief Fund (CRF), which made federal aid payments to states. New Jersey received $2.4B in federal CRF funds. The Treasury Office of Management and Budget was tasked with overseeing and fully expending the entire $2.4B of CRF aid awarded by the Federal Government.
- April 14, 2020: Governor Murphy signed the COVID-19 Fiscal Mitigation Act into law, extending FY20 to end on September 30 rather than on June 30. This extension allowed the State to create a temporary budget for the months of July through September 2020. It also pushed back tax filing deadlines.
- April 15, 2020: Treasury reported that March revenue collections for major taxes were 3.6% higher than those of the previous March, and 3.2% YTD compared to the same period the year prior. Treasury expected that the impact of COVID-19 on the State's finances would likely start to materialize the following month, as many major revenues report with a 1-month lag. The Governor and Legislature agreed to extend the April 15 tax filings and payments to July 15 to mirror the federal extension, which would likely postpone billions of dollars in tax collections.
- May 13, 2020: Treasury reported that April revenue collections for major taxes were down an unprecedented 59.7% below the previous April and down 8.1% YTD, compared to the same period the year prior. April revenue collections largely reflected March economic behavior

and the social and commercial restrictions implemented due to COVID-19, as well as the extension of the tax filing and payment deadline from April 15 to July 15.

- May 13, 2020: Treasury provided an update on projected revenue, estimating a combined $10.104B revenue shortfall over the remaining months of FY20 through the end of FY21. FY20 budget revenues of $36.708B were projected to be $2.757B, or 7%, lower than previously announced. FY21 budget revenues of $33.815B were projected to be $7.346B, or 17.8%, lower than previously announced.
- May 22, 2020: Treasury announced that it had taken initial steps to ensure that the State would remain in a solvent financial position. These steps included a review of State spending, placement of approximately $1B into reserve, transfer of the entire $421M Surplus Revenue Fund into the General Fund, and implementing a statewide hiring freeze. The administration also proposed to decrease planned spending by more than $5B.
- May 28, 2020: Treasury testified before the New Jersey Assembly Budget Committee (the legislative subcommittee that debates and votes on budget proposals from the Executive Branch). Treasury presented its revised budget projections and a spending plan for the temporary 3-month budget period. Without federal guidance on how CARES Act funds could be spent, the spending plan was preliminary at that time.
- June 12, 2020: Treasury reported that May revenue collections were down 13.5% below the previous May and down 8.5% YTD compared to the same period the year prior. Treasury also reduced the FY 2020 revenue forecast by $2.7B due to fallout from the pandemic.
- June 30, 2020: Governor Murphy signed a 3-month budget for the extended 2020 fiscal year.

Second Surge (July 2020 to May 2021)

- July 16, 2020: Governor Murphy signed the New Jersey COVID-19 Emergency Bond Act, which authorized more than $9B in emergency borrowing from the Federal Government.
- July 17, 2020: Governor Murphy issued EO 166, which aimed to ensure greater oversight and accountability in the State's administration of federal funding. Treasury reported that June revenue collections were down 14.7% below the previous June and down 9.2% YTD compared to the same period in the prior year.
- August 12, 2020: The COVID-19 Emergency Bond Act was contested in the Supreme Court; the Court found it lawful.
- August 13, 2020: Treasury reported that July revenue collections were up 120.1% over the previous July, representing anticipated and inflated growth due to the change in State law that allowed taxpayers to defer certain payments from April to July, given the COVID-19 pandemic. Total collections were down 1.8% YTD compared to the same period in the year prior.
- August 25, 2020: Governor Murphy announced a revised budget proposal for FY 2021, addressing spending for the 9-month period from October 1, 2020 to June 30, 2021. The revised budget included targeted cuts across State government, revenue raisers, an emergency borrowing proposal, and additional plans to invest federal funding. It also

proposed to borrow $4B to help address the massive economic fallout from the pandemic and better position the State to weather future public health and economic uncertainties.

- **September 16, 2020:** Treasury reported that August revenue collections were down 5.7% below the previous August and down 14.9% YTD compared to the same period in the year prior.
- **September 22, 2020:** Treasury announced that the State was authorized to issue up to $4.5B in General Obligation (GO) bonds to help navigate the steep decline in State revenue due to the COVID-19 pandemic.
- **September 29, 2020:** Governor Murphy signed the state budget for FY21, which included revenue-raising measures like tax increases on high-income earners.
- **October 15, 2020:** Treasury reported that September revenue collections were down 4.4% below the previous September and down 8.7% YTD compared to the same period in the year prior.
- **November 6, 2020:** Governor Murphy issued a revenue certification, as required before any General Obligation bonds can be issued. The overall revenue outlook was $398M above the amount certified in the FY 2021 Appropriations Act at the end of September 2020.
- **November 18, 2020:** Treasury reported that October revenue collections were down 5.2% below the previous October and down 7.7% YTD, compared to the same period in the year prior.
- **December 15, 2020:** Treasury reported that November revenue collections were up 5.8% above the previous November and down 5% YTD, compared to the same period the year prior. This November's collections were buoyed by changes to the Gross Income Tax and Petroleum Products Gross Receipts Tax; otherwise, revenues would have declined in November.
- **December 30, 2020:** Initial deadline for spending CRF funds provided through the CARES Act.
- **January 20, 2021:** Treasury reported that December revenue collections were up 44.8% above the previous December and up 5.6% YTD, compared to the same period the year prior. Growth was largely due to the new Pass-Through Business Alternative Income Tax (PT-BAIT) that the state enacted the previous January.
- **February 16, 2021:** Treasury reported that January revenue collections were up 0.3% above the previous January and up 4.4% YTD, compared to the same period the year prior. Treasury also noted that revenue collections continued to be substantially higher than the previous year, primarily because of the new PT-BAIT law.
- **March 12, 2021:** Treasury reported that February revenue collections were up 7.4% above the previous February and up 4.8% YTD, compared to the same period the year prior. YTD FY 2021 revenue growth was in line with the recently revised year-end growth targets that had been released by the Governor in February.
- **April 16, 2021:** Treasury reported that March revenue collections were up 49.4% over the previous March and up 8.6% YTD, compared to the same period the year prior. The new PT-BAIT accounted for nearly three-quarters of the YTD revenue increase. In addition, federal stimulus enacted the previous year and the improved COVID-19 outlook strengthened economic activity and enhanced tax collections.

- March 11, 2021: President Biden signed the American Rescue Plan into law, establishing the Coronavirus State and Local Fiscal Recovery Funds and giving $350B in relief funding to state and local governments.
- May 14, 2021: Treasury reported that April revenue collections were up 90.5% over the previous April, which had been severely impacted by widespread economic shutdown and deferred taxpayer filings. YTD revenue collections were up 16.3%, compared to the same period the year prior.

Delta & Omicron Wave (June 2021 to March 2022)

- June 9, 2021: The New Jersey State Treasurer announced that revenue collections were expected to hit an all-time high, bolstered by economic activity that had recovered more than a year earlier than national forecasters had predicted. Treasury projected that baseline revenues for FY 2021 would reach almost $44B (excluding COVID-19 Emergency Borrowing proceeds), compared to the FY 2019 pre-pandemic peak of $38.3B.
- June 29, 2021: Governor Murphy signed the State's FY22 budget into law.
- August 13, 2021: Treasury reported that July revenue collections were down 51.5% below last July. This decline was anticipated since last July was atypical with heightened collections from the extension of the tax filing deadline from April 15 to July 15. Total revenues YTD were up 16.9% compared to the same period the year prior.
- December 31, 2021: The Consolidated Appropriations Act of 2021 extended the deadline for spending CRF funds to December 31, 2022.
- February 14, 2022: Treasury reported that January revenue collections were up 15.2% above the previous January and up 21.7% YTD, compared to the same period the year prior. Treasury expected revenue growth to slow in second half of FY 2022 due to PT-BAIT credit claims that were due, as well as new or expanded tax relief programs enacted in budget.

Section 5.05 Personal Protective Equipment

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5.5 Personal Protective Equipment

1. Context and Summary

From the onset of the pandemic, it quickly became apparent that COVID-19 was an extremely contagious disease. Coupled with the virus' severity – particularly for the first strains that entered the U.S. – personal protective equipment (PPE), including gloves, gowns, surgical masks, N95 masks, and face shields, was vital in preventing transmission and protecting healthcare workers and the general population. Given the rapid and unexpected spread of COVID-19 within the country, there was an urgent need to secure large quantities of PPE.

Because New Jersey was one of the first states to experience a peak in COVID-19 cases during the Initial Surge period, its hospital systems experienced more significant PPE demand earlier in the pandemic. As a result, the State played a very active role in procuring PPE for its own agencies and the statewide healthcare system, including hospitals, long-term care facilities, and Veterans' homes.

Going into the pandemic, New Jersey's stockpile of PPE was inadequate. As a result, the State took an ad hoc approach in response to the growing demand. On or around March 23, 2020, New Jersey centralized PPE procurement for the State to avoid competition for supply and to allow the New Jersey's Department of Health (NJDOH) and New Jersey's Office of Emergency Management (NJOEM) to direct PPE to where they assessed it was most needed. Shortly thereafter, on March 26, 2020, New Jersey also announced the launch of its PPE donation program, where interested parties could submit donation offers through an online portal from which the State could route the donations to identified recipients. By April 30, 2020, NJOEM secured a decontamination system to assist with the decontamination and preservation of N95 respirators statewide.

State and Federal Supply Chain Breakdowns

Before the pandemic, the U.S. had relied heavily on global supply chains for most materials related to PPE. For example, in 2019, more than 70% of PPE came from China. However, existing supply chains had limited capacity to keep up with a simultaneous and rapid increase in global demand for PPE. In addition, as COVID-19 spread globally, outbreaks occurred in the regions where much of the world's PPE was manufactured. Almost immediately, global supply chains collapsed as manufacturing facilities abroad shuttered.

Existing emergency PPE supplies stockpiled by the U.S. federal government, individual states, and healthcare facilities were inadequate for the sheer spread and duration of the COVID-19 pandemic. Pre-COVID-19, the acute healthcare community would use roughly 25 million N-95 masks annually.

By July 2020, 4 months into the COVID-19 pandemic, the healthcare community had gone through more than 300 million.[1]

The urgency to secure an adequate PPE supply became a top priority as the world grappled with the unprecedented challenges posed by the pandemic. In New Jersey, at the forefront of COVID-19's entry into the U.S., reports emerged that healthcare workers were wearing trash bags as gowns, trying to disinfect and reuse single-use equipment, and using masks and gloves after they no longer were effective. Despite the lack of adequate protection, healthcare workers were treating sick patients and put at significantly heightened risk of contracting COVID-19. During the height of the Initial Surge in New Jersey, when thousands of people were dying weekly, healthcare workers were putting their own lives at risk to treat a disease that even the CDC knew little about. The lack of PPE had a direct impact on the number of people who contracted COVID-19, and as a result, meant that shortages led to higher death rates.

According to a survey conducted by the Health Professionals and Allied Employees (HPAE) union, the majority of New Jersey healthcare workers surveyed reported providing direct patient care to COVID-19 patients without appropriate PPE during the initial stages of COVID-19, with 63% reporting using their own PPE at work to stay safe, and 78% percent reusing their N95 respirators (against protocol and safety standards). The HPAE survey results further revealed that some healthcare workers were required to return to work before the federal guidelines for quarantine were announced. They were discouraged from using protective masks in the early days of the pandemic due to it sending the "wrong message" and scaring people. According to the President of the HPAE:

> "*The critical failure to develop standard pandemic plans and keep supplies stockpiled, along with a defunded system, left us, the front-line caregivers, unprotected and exposed.*"[2]

As discussed in more detail in Chapter 6 Congregate Settings, the lack of PPE and inconsistent policies regarding its usage also became prominent issues for the State's Veterans homes and other long-term care facilities (LTCFs) early in the pandemic. For example, in March 2020, the CEO of New Jersey Veterans Memorial Home at Menlo Park advised staff not to wear masks. This contradicted emerging public health advice but reflected concerns about the limited supply of masks in the facility. Although the State prioritized LTCFs in its allocation of PPE, the amount distributed was not enough to prevent the high number of deaths in these high-risk settings, and New Jersey ultimately faced criticism and challenges for prioritizing hospitals over LTCFs for PPE distribution.

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[1] King, R. (2020, July 10). Hospitals turn to reprocessing to shore up PPE stockpile as COVID-19 cases rise. *FierceHealthcare*. Retrieved from https://www.fiercehealthcare.com/hospitals/hospitals-turn-to-reprocessing-to-shore-up-ppe-stockpile-as-covid-19-cases-rise

[2] Health Professionals and Allied Employees. (2020, October). *COVID-19 White Paper*. Retrieved from https://www.hpae.org/wp-content/uploads/2020/10/HPAE-COVID-19-White-Paper_FINAL_Rev1.pdf

Increasing Access to PPE Amid Shortages

In March 2020, because of the shortage of PPE, the Trump Administration issued a ban on PPE exports to preserve domestic supply. The federal government also offered economic incentives for firms to produce PPE, including increasing production through the Defense Production Act and partnering with private companies that committed to producing PPE. However, these measures did not resolve the nationwide PPE shortage during the pandemic's initial stages. As a result, governments, hospitals, and the public began competing for limited supply. The widespread shortages of PPE included masks, gloves, gowns, coveralls/protective suits, and face shields.

Like many other states, New Jersey did not have an adequate PPE stockpile before COVID-19, and much of the available PPE in those already limited stockpiles had expired and was unusable.[3] While the State had disaster response contracts in place in the wake of Hurricane Sandy,[4] these contracts[5] were no match for the massive increase in demand for PPE in New Jersey during the first wave of the pandemic. New Jersey received PPE directly from the federal government.[6] However, the supply was insufficient to meet the influx of PPE demand the State faced. With limited federal support, states often had to compete with one another (and occasionally the federal government) to secure the PPE they all required.

During this phase, states did everything and anything they could to secure PPE – they worked with established suppliers and sourced new ones. They also incentivized local PPE production, solicited donations, and requisitioned supplies statewide. States also developed guidance about extending the life of PPE via reuse, sanitization, and other emergency measures. States developed many ad hoc solutions as they raced to meet urgent demand. In New Jersey, the state government coordinated with other Northeast states to align messaging on PPE mandates and recommendations.

Inevitably, when that demand could not be fully met, there was also a need to prioritize allocating available equipment. This necessitated developing guidelines and protocols for equitable distribution and to ensure that PPE reached those in urgent need. New Jersey initially prioritized healthcare workers, first responders, and other frontline workers at higher risk of exposure to COVID-19.

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[3] At present, the NJOEM is estimated to hold approximately six months' worth of PPE in inventory. Some other agencies continue to maintain their own stockpiles as well, including New Jersey Transit, DEP (6 months' worth), and DHS' Division of Developmental Disabilities (3 months' worth).

[4] These disaster response contracts were put in place by DPP. Additional information can be found in **Section 5.15 Procurement**.

[5] Several State departments were regular purchasers of PPE, and there were facility-specific stockpiles. However, this differed greatly; for example, the Department of Children and Families (DCF) had approximately two hundred and four (204) N95s in total, and the NJOEM maintained a modest inventory of specialized PPE for chemical and biological hazard threats for its own staff, while the Department of Human Services (DHS) had dispersed supplies and their own contractual arrangements with vendors.

[6] By May 15, 2020, the federal government had provided the State with approximately 3.5 million N95 respirators, 7.1 million gloves, 0.5 million face shields, 1.3 million surgical masks, and over 1,000 ventilators.

At the same time, in an attempt to help preserve the PPE supply for healthcare and frontline workers, the federal government issued guidance discouraging the public from purchasing N95 and surgical masks. This resulted in conflicting guidance from the federal government on whether wearing masks was effective.

Ensuring Continued Access to PPE

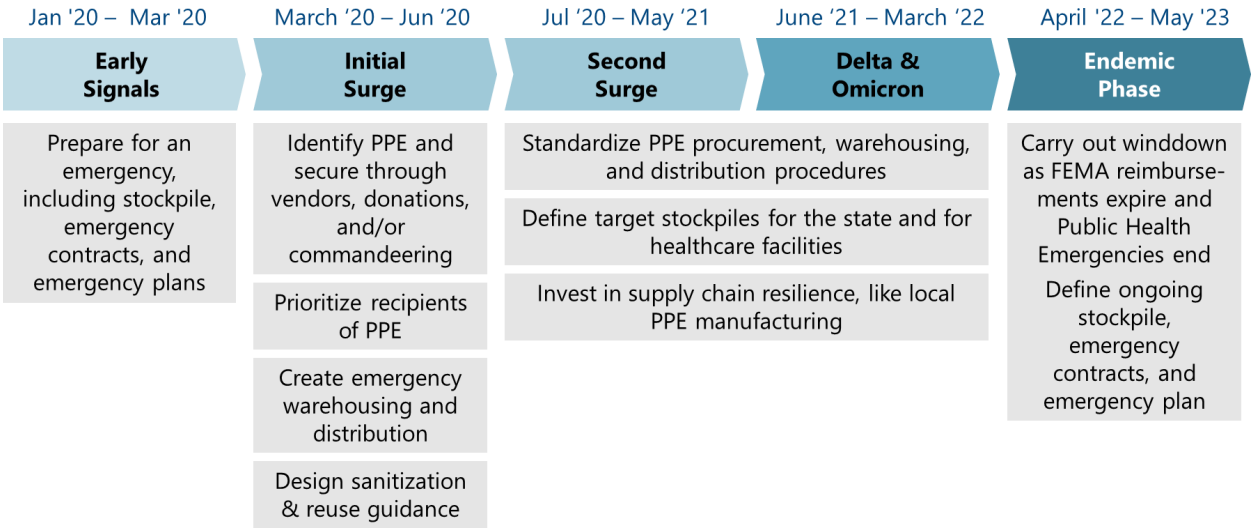
In summer 2020, as cases decreased, states had an opportunity to formalize a system that could reliably provide PPE in the face of future COVID-19 surges or global supply chain collapses. They defined stockpile goals for government agencies, healthcare systems, and other state-run facilities, formalized warehousing contracts and operations, and optimized distribution. In addition to their strategic stockpiles, most states, including New Jersey, required healthcare providers to maintain a minimum operational inventory of PPE and report the levels in their stock regularly. These regulations were designed to ensure that healthcare providers had adequate supplies of PPE to protect themselves and their patients.

As global PPE supply chains recovered through the summer and autumn of 2020, states turned their attention from securing scarce items to orchestrating large-scale distribution in areas, like schools, that needed a large and consistent supply of PPE. When the federal government's declared Public Health Emergency ended, states also had to grapple with the significant costs of maintaining and warehousing large stockpiles that would no longer be eligible for federal funding.

These distinct phases of response and associated decision-making are captured in the following sections. They reflect the phased nature of the response and how decision-making had to be cyclical. The procurement, warehousing, and distribution of PPE placed significant operational burdens on states that had to manage large and complex inventories.

The various response phases and necessary decisions and actions are presented below.

Exhibit 1: States had different PPE challenges between different pandemic periods



2. New Jersey's Response

2.1. Key Agencies Involved

New Jersey's Office of Emergency Management (NJOEM), within the New Jersey State Police (NJSP), led the effort on PPE and took the lead on procurement, warehousing, donations, and distribution.

The Department of Treasury's Division of Purchase and Property (DPP) is the procurement arm of the Executive Branch. It serves as the State's central goods and services procurement (contracting rather than purchasing) agency. The goods and services procured and contracted by DPP are used by state agencies (and can be utilized by quasi-agencies and local government agencies) to issue procurement-based purchase orders. Through Waivers of Advertising—one of DPP's contracting methods—state agencies could quickly obtain goods and services based on the State of Emergency and Public Health Emergency declared under Executive Order (EO) No. 103. Critically, the use of Waivers allowed NJOEM to quickly locate, procure, and purchase PPE for distribution to the hospitals, field medical stations, and first responders throughout New Jersey. DPP also proactively extended contracts as needed to respond to pandemic episodes and mitigate potential supply chain disruptions. Additionally, DPP helped vet vendors offering to sell PPE products to the State.

The NJDOH provided guidance on the types of PPE necessary and how/where to prioritize distribution. The NJDOH also offered guidance to the public and healthcare facilities about best practices for PPE use/re-use.

The Governor's Office staff helped screen calls coming to the Governor and others in the Office offering either to donate or to sell PPE to the State.

The New Jersey Department of Labor and Workforce Development (NJDOL) performed inspections of PPE to verify quality and determine whether items were counterfeits.

The New Jersey's Economic Development Authority (NJEDA) was tasked with creating an incentive program to develop local PPE manufacturing through the Economic Recovery Act of 2020 (ERA). NJEDA also set up grant programs to help businesses purchase PPE, including: (1) offering up to $5,000 to businesses with fewer than 500 employees to prevent disease spread, including purchasing of PPE and physical adaptation' and (2) offering a 65% discount on PPE purchases for businesses with 100 or fewer employees.

Innovation developed an online portal that enabled New Jersey organizations to donate PPE.

The Office of Homeland Security and Preparedness (NJOHSP) helped allocate critical resources to areas with the greatest need, including facilitating the distribution of PPE, medical supplies, and other essential resources to healthcare facilities, first responders, and affected communities. NJOHSP also assisted NJSP in processing, storing, and managing PPE donations, and coordinated with NJSP to track and accept donations. NJOHSP offered its warehouse as donation storage and its counterintelligence capabilities to vet PPE vendors.

The Office of the State Comptroller collaborated with the NJDOH and NJOHSP to investigate and vet potential vendors.

2.2. Key Decisions

To increase statewide access to PPE, New Jersey took four categories of action:

- Scaling PPE procurement, including centralizing and removing barriers to PPE procurement and seeking new vendors.
- Sourcing PPE donations.
- Promoting PPE production within New Jersey.
- Stockpiling and warehousing PPE to ensure that there was adequate supply for future surges.
- Once PPE was secured – either through contracts or donations – and inventoried in state warehouses, it had to be distributed across New Jersey based on prioritization criteria that the State had to develop.

2.2.1. Scaling PPE Procurement

In the earliest stages of the pandemic, State agencies secured PPE independently. This move created competition between agencies and caused significant supply chain issues. To overcome these challenges, in March 2020, New Jersey centralized PPE procurement for the State through the NJOEM, purchasing and distributing PPE to 71 hospitals, 800+ LTCFs and skilled nursing facilities, 18 State agencies, and 21 counties (e.g., county first responders, schools).

Because New Jersey was officially in a public health emergency, the State's procurement processes were amended to allow agencies to procure goods and services more rapidly than during non-emergency government operations. The NJOEM was able to take advantage of these amended procedures to procure PPE more quickly. Additional details on the procurement process changes can be found in Section 5.15 Procurement.

While the NJOEM led purchasing efforts, multiple agencies across the State contributed to identifying sources of PPE and facilitating its acquisition. For example:

- The NJOEM collaborated with Treasury, NJEDA, the Federal Emergency Management Agency (FEMA), and others to vet sources of PPE, conduct online research, contact vendors to verify quality and availability, and process reimbursements through FEMA and other funding sources.
- The NJDOL performed inspections of PPE to verify quality and determine whether items were counterfeits.

Despite the more streamlined procurement processes during a Public Health Emergency, the NJOEM faced significant challenges acquiring PPE, driven by internal difficulties with the procurement process. The volume of PPE that the NJOEM was attempting to acquire for the entire State within such a short timeframe created a significant administrative burden. The NJOEM collaborated with Treasury to overcome a myriad of waivers, procurement hurdles, and other problems,[7] but significant administrative work was still required to procure PPE. Vendors were reluctant to comply with lengthy paperwork requirements, and there were substantial internal delays in fulfilling orders due to legally required procurement processes.[8] Compounding the problem was the fact that the NJOEM was understaffed for the amount of work necessary to comply with procurement processes. Thus, the State reassigned staff and had current employees work longer hours. For example, the NJOEM reassigned several State Troopers to procurement, and in the Governor's Office, at least one person was reassigned to focus on identifying viable contracts. Some staff worked 12–18-hour days with no overtime pay.

To ensure that this sourcing was as effective as possible and could meet the State's needs, the Governor's Office issued directives, informed by collaboration between the NJDOH and a consultant, to create categories of PPE that the NJOEM would focus on:

- Gloves

[7] For example, to facilitate procurement, the New Jersey Department of Treasury assisted NJOEM in identifying additional PPE vendors that the State did not already have contracts with. This list of "trusted vendors" was circulated with NJOEM daily.

[8] For example, because of the contracting process, there were multiple instances in which NJOEM was unable to re-allocate funds that had been committed to orders, even when vendors were unable to fulfill those orders on time.

- Gowns
- Surgical masks
- N95 masks
- Face shields

Across the State, agencies also relied on unofficial methods to source PPE. For example, staff at the NJDOH contacted university science departments across the State to request PPE like masks, gloves, and gowns. Hospitals also actively attempted to procure supplies, often using funds from sources like the CARES Act or their regular channels.

2.2.2. Sourcing PPE Donations

Early in the pandemic, obtaining accurate information about available supplies and estimated delivery dates was difficult. The NJOEM's regular vendors experienced difficulties securing firm commitments from their suppliers – mainly because most of the needed gloves were produced overseas, and the lockdowns in China and other countries heavily impacted production and shipping.

As a result, the State launched a PPE donation program in March 2020. This program accounted for a sizable portion of all PPE sourced early in New Jersey's COVID-19 response. The program, announced in March 2020 by Governor Murphy, was managed by the NJOEM and FEMA.

The PPE donations program involved a two-step process: 1) Interested parties would submit donation offers through an online portal developed by the Office of Innovation (in collaboration with the NJOEM), and 2) The State would then route the donations to identified recipients.

- **Online portal:** Developed in a collaborative effort between the NJOEM, OHSP, and the Office of Innovation, the online portal enabled New Jersey organizations to donate PPE. This allowed the NJOEM to automate much of the donation process and pre-vet incoming donations to ensure they matched the State's needs.[9]

$ Millions in Donated Goods

Through this program, New Jersey secured more than $24M in donated goods, or 10 million pieces of donated PPE. Most of these donations were surgical masks (5.7 million) and N95 masks (1.4 million).

- **Routing donations:** The PPE donation system also guided companies as to where to make donations, depending on the quantity of PPE they were willing to donate. For example, companies with large quantities of PPE were instructed on how to donate to the State, while

[9] The portal was designed to only allow potential donors to make donations if they fit the criteria of PPE that the State needed. This criteria was based on the same five PPE categories used to prioritize procurement.

companies with smaller quantities were asked to donate directly to counties. Once donations were delivered to a warehouse, NJDOL was tasked with quality control.[10]

2.2.3. Promoting PPE Production within New Jersey

The State also undertook efforts to increase the production of PPE. In January 2021, New Jersey also established the Economic Recovery Act of 2020 (ERA). Through ERA, NJEDA was tasked with creating an incentive program to develop local PPE manufacturing. The program offered up to $10M annually in incentives for New Jersey-based PPE production between 2020 and 2022.

By the end of June 2020, supply shortages had begun to ease. The NJOEM was responsible for allocation across New Jersey until centralized procurement ended, and individual agencies once again became responsible for managing their PPE needs.

2.2.4. Warehousing and Stockpiling PPE

Stockpiling PPE

When supply was scarce, New Jersey attempted to maximize the rate of PPE usage in an effort to make it last longer and invested in systems to enable the reuse of certain types. For example, in April 2020, the NJOEM invested in a Battelle Decontamination System in Meadowlands to enable the reuse of N95 respirators at scale.[11]

To prevent PPE shortages in future surges, the State implemented stockpile requirements for the State, hospitals, and LTC facilities. These requirements ensured that critical elements of New Jersey's healthcare system were prepared for periods of rapid, large surges in COVID-19 cases.

In August 2020, the NJDOH issued administrative orders that required hospitals to maintain a 3-month supply of PPE, while another order specified requirements for LTCFs (1-2 months, depending on size).[12] In addition, the Governor issued an EO mandating that the NJOEM maintain a 3-month supply of PPE. Thus, the State had a 6-month stockpile of PPE.

Certain agencies also decided to collect stockpiles. For example, the NJDHS Division of Developmental Disabilities collected a 6-month supply of PPE and food for developmental centers in early 2020.

Because distinct groups in New Jersey used PPE at different rates, there were variations in the amount of PPE each group needed for their respective stockpiles. In early 2020, the State implemented a periodic automatic replenishment (PAR) level system for its PPE stockpiles. The PAR

[10] Only a small fraction of donated PPE was rejected for reasons of quality. Rejected PPE was destroyed.
[11] Office of the Governor. (2020, April 30). Murphy Administration deploys essential equipment to help meet need for N95 respirators. State of New Jersey. Retrieved from https://www.nj.gov/governor/news/news/562020/20200430a.shtml
[12] New Jersey Department of Health. (2020, August 24). Executive Directive No. 20-027: Hospital PPE Stockpile. Retrieved from https://nj.gov/health/legal/covid19/8-24-20_ExecutiveDirectiveNo20-027_HospitalPPEStockpile.pdf

system calculated the amount of PPE used and informed the levels of PPE inventory that New Jersey required healthcare providers to maintain. These estimates were developed jointly by the NJDOH, NJOEM, and an independent consultant.

Because there was limited visibility into inventory at the beginning of the pandemic, the burn rate calculations were not based on real-time PPE use. Instead, the PPE New Jersey received was "pushed" out based on state-driven allocation rather than reported demand. This made it more difficult to estimate how much PPE each group needed since the State could not track how much PPE was being used.

There was limited visibility into critical data for inventory management, including manufacture and expiration dates, due to a variety of factors that included New Jersey's limited logistics experience. Moreover, some organizations were obtaining PPE independently; it was not accounted for at the NJOEM or the NJDOH. To overcome logistics challenges, the State contracted third-party vendors. The NJDOH and NJHA representatives at the ROIC coordinated with the NJOEM and others to develop and implement a strategy to manage limited inventory.

Warehousing PPE

Before the pandemic, New Jersey had a few warehouses with limited supplies that were inadequate for addressing the scale of PPE needs across the State.[13] In addition, New Jersey had a contract with Hall's Morristown for a warehouse that could receive, sort, and send supplies per CDC guidelines for an emergency outbreak, such as Anthrax. CDC guidelines require states to have these contracts in place in the event of a public health emergency.

In March, the New Jersey National Guard advised the NJOEM to use private services for warehousing operations and PPE distribution. As a result, on March 30, the team approached Hall's for assistance managing the influx of PPE to the State. The next day, the first orders of PPE arrived at the warehouse. That same day, the PPE was promptly distributed to its intended recipients. Hall's proved to be a critical vendor for its ability to receive, store, and distribute PPE, since federal shipments were not always organized. The vast majority of PPE was distributed by the warehouse vendor's trucks, and the NJOEM stored resources in approximately three of the vendor's buildings. In the initial stages of the pandemic, the State did not need to store large quantities of PPE because supplies were rapidly distributed to entities in need. This lasted until November 2020.

Donated PPE was stored and processed in a separate facility. By September 2021, the State had acquired an Asset Management System (AMS) warehouse to ensure the quality and authenticity of donated products, because regulations prevented donated PPE from being kept alongside state

[13] NJOEM had a warehouse that they leveraged occasionally through the Office of Homeland Security and Preparedness, which included limited supplies such as water, toiletries, and few supplies for children. Additionally, NJDOH had a small warehouse with a limited set of supplies such as Theraflu. While the National Guard maintained warehousing facilities for their equipment, the equipment was not relevant during the pandemic.

property. The operational and logistical costs of managing donations were outweighed by the benefit of receiving the PPE, especially early in the pandemic.

To ensure quality control, lab personnel at the AMS warehouse tested products as they were received to verify that they matched the stated specifications. This additional step addressed previous instances of receiving substandard or misrepresented products. The AMS warehouse operated independently from the main working warehouse (Hall's), which handled the distribution of supplies to various recipients.

Once the NJOEM distributed PPE to other state agencies, those agencies became responsible for their warehousing. No agency oversaw overall warehousing operations. Ensuring that there was enough storage space across the State for the levels implied by the PAR system was a driver of warehouse contract negotiations and had critical financial implications.

Before COVID-19, the contingency contract agreement between New Jersey and Hall's Warehouse allowed the State to pay per pallet of storage. However, during the pandemic, the contract quickly became too costly. As a result, the Office of the Attorney General (OAG) negotiated more favorable contract terms, enabling New Jersey to have a primary site to receive PPE, stage materials for shipment, and store inventory. The contracted warehouse was eventually replaced with the AMS warehouse.

In 2021, the State began and completed construction on a 195,000-square-foot warehouse at 380 Scotch Road in Mercer County, New Jersey.[14] Despite the size of the warehouse, PAR levels as of 2023 imply a storage space of about four times this space.

Because of the federal government's declared Public Health Emergency, New Jersey could receive FEMA reimbursements for PPE kept in inventory—the Public Health Emergency declaration ended on May 11, 2023. As a result, maintaining a meaningful stockpile of PPE had a significant financial implication for New Jersey.

2.2.5. Distribution and Allocation of PPE

In the earliest phase of the pandemic, PPE was rationed according to the priorities determined by the Executive Policy Group[15] (e.g., hospitals, LTCFs, home health aides). Given the urgency of getting PPE to those who needed it – hospitals and LTCFs – the State had to quickly understand how much PPE was available and where it needed to reallocate resources based on need. On

[14] Burd, J. (2021, April 7). State agencies to occupy new 195,000 sq. ft. warehouse in Ewing, Mercer Oak says. *Real Estate NJ*. Retrieved from https://re-nj.com/state-agencies-to-occupy-new-195000-sq-ft-warehouse-in-ewing-mercer-oak-says/

[15] Members of the Executive Policy Group had regularly scheduled meetings and conference calls, and ad hoc calls throughout the response, the frequency of which was determined based upon the circumstances of the response. During the early part of the response, calls and meetings were frequent and occurred multiple times throughout the day.

March 23, 2020, Governor Murphy asked hospitals to report PPE inventory (along with ventilators and anesthesia machines).

The specific allocations were determined by the NJDOH, based on guidance and information from the NJHA portal and the McKinsey Group. As supplies of PPE increased, distribution widened to include other stakeholders such as State agencies, local first responders, schools, funeral directors, and temporary morgue personnel. The scale of this distribution was logistically challenging and required the NJOEM to adjust the distribution approach – or "pull system" – it had relied on before COVID-19, which involved:

- An online system where the NJOEM would receive resource requests.[16]
- A process for matching requests to existing resources, including local government, other state agencies, and newly purchased supplies.

Pre-pandemic emergency management processes encouraged municipalities to purchase PPE themselves, use mutual aid agreements, and seek assistance from the county before submitting a resource request to the NJOEM. However, during the early stages of the pandemic, the NJOEM's primary goal was to acquire as much PPE as possible and direct it where demand was urgent. Thus, the NJOEM transitioned from its "pull system"[17] to a "push system," which allocated incoming PPE based on a formula approved by the NJDOH.[18]

The initial formula for allocating PPE was developed after two hospitals, including Robert Wood Johnson Medical Center, conducted a 48-hour study on the turns of PPE required to take care of a single COVID-19 patient. Using that turn rate and the NJDOH's predictive models of hospitalization, the NJDOH estimated the amount of PPE hospitals would need. The initial formula pushed 70% to hospitals, 20% to other healthcare facilities like LTCFs,[19] and 10% to first responders and other

[16] These requests could be for any type of resource, including PPE, personnel, vehicles, etc.
[17] In the beginning stages of COVID, the existing "pull system" became overwhelmed due to the volume of requests coming in from multiple channels. For example, the NJOEM would receive two separate PPE requests for the same hospital—a direct request from the hospital and a separate request from the county health department on behalf of the same hospital. Because New Jersey quickly centralized PPE procurement, the State was briefly outbidding/outcompeting its own hospitals and nursing homes and only redistributing an allocated selection back to them.
[18] The NJDOH, with support from McKinsey & Company, determined the precise amounts of PPE allocated to prioritized recipients. For hospitals, these determinations leveraged data and / or requests collected through the NJ Hospital Association Portal.
[19] At least initially, some facilities with healthcare licenses and / or providing direct care were not considered healthcare facilities for purposes of priority PPE access.

government users.[20] The formula was reviewed weekly, with changes to the allocation methodology agreed upon by a steering group.

By July 2020, the supply chain had stabilized, and the NJOEM reinstated its "pull system" approach for managing distribution of PPE based on the reported need from hospitals and other entities.

As of March 2023, the NJOEM had distributed more than 200 million PPE units to 71 hospitals, 800+ skilled nursing facilities, 18 State agencies, 21 counties, and a large number of other organizations in the healthcare system.

New Jersey was focused on distributing PPE to organizations like hospitals, LTCFs, and State agencies, but other areas were also in need. Small businesses often operated under masking and enhanced sanitation requirements. To address these needs, the State put in place programs to facilitate access to PPE for small businesses. For example, NJEDA set up a grant program that offered up to $5,000 to businesses with fewer than 500 employees to prevent disease spread. The grant included purchasing of PPE and physical adaptation. Likewise, NJEDA set up a grant program funded by the CARES Act that offered a 65% discount on PPE purchases for businesses with 100 or fewer employees. Despite these initiatives, PPE was still scarce, and its lack caused significant problems and challenges for New Jersey during the initial stages of the pandemic.

3. Comparison to Other States[21]

Other states faced many of the same shortages and supply chain challenges with PPE. They addressed them in a similar manner to New Jersey, sourcing PPE from wherever they could and eventually developing their own stockpile while mandating that hospitals build their own reserves. PPE is an intervention that is difficult to benchmark, as there is little publicly available data on total PPE purchased or used.

Approaches to Sourcing PPE

Like New Jersey, other states turned to all sources to secure PPE, including working with regular PPE suppliers to make purchases and securing them from FEMA and the Strategic National Stockpile.

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[20] As the supply increased, State agency employees, local first responders, schools, funeral directors, and morgue personnel started to become eligible. At the same time, an earnest effort to begin stockpiling began in preparation for a fall surge. Also, during the summer, the NJOEM and NJDOH worked to prioritize who critical 'customers' were and what accurate burn rate assumptions were for each type of customer.

[21] Benchmark states for Chapter 5 (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in Appendix.

Additionally, many states took drastic measures. For example, the Governor of Illinois arranged flights to China[22] to bring millions of masks directly to Illinois out of a fear of seizure by the federal government for its own distribution. Universities across the country, including in Virginia, Pennsylvania, and California, also began 3D-printing masks for donation to public hospitals and the State.

Stockpiling Mandates

States took different approaches to stockpiling and warehousing PPE throughout the pandemic. Internal state mandates for their own stockpiles are often confidential, but between March 2020 and mid-2021, some states made their targets public. Illinois and Pennsylvania targeted a 60-day state stockpile in Spring 2021. In 2021, Pennsylvania stored its stockpile in the Pennsylvania Farm Show complex, highlighting the significant challenges that other states, including New Jersey, faced in storing significant amounts of PPE. Some states mandated that hospitals maintain their own stockpiles. California and New York, like New Jersey, mandated that hospitals maintain 90- and 60-day (respectively) reserves of PPE on hand. These numbers were calculated using historic surge burn rates of PPE. Pennsylvania, Florida, and Illinois declined to issue hospital stockpiling mandates.

4. Key Strengths and Challenges

New Jersey faced several challenges both in acquiring PPE at the beginning of the pandemic and subsequently in stockpiling it for future surges and emergencies. States across the country faced many of the same challenges – for example, supply chain breakdowns impacted the U.S. as a whole. Despite New Jersey's unique challenges, there were numerous successes when the State was able to overcome difficulties to protect workers and healthcare responders. Nonetheless, the inadequate supply of PPE put people at risk of contracting the virus and had fatal consequences.

The following section highlights the strengths and challenges in New Jersey's COVID-19 PPE response.

Challenge The State had an alarmingly small stockpile of PPE before the pandemic and lacked the necessary in-place emergency contracts to serve as a stopgap. This put New Jersey at risk in terms of its ability to secure enough PPE for those who needed it. More importantly, the inadequate supply of PPE had fatal consequences and impeded the State's ability to prevent the spread of the virus, which ultimately claimed the lives of many victims early on.

Challenge Throughout the pandemic, contract management remained a significant hurdle for PPE procurement. The lengthy process was prohibitive for potential vendors, slowed placement of

[22] Main, F. (2020, April 14). Pritzker arranging secret flights from China to bring millions of masks and gloves to Illinois. *Chicago Sun-Times*. Retrieved from https://chicago.suntimes.com/coronavirus/2020/4/14/21221459/pritzker-secret-flights-china-illinois-ppe-trump-coronavirus

orders, and, at times, tied up money in contracts. This delayed delivery of PPE for months. Further, despite the long staff hours, there were not enough staff to handle the volume of procurement needed, preventing timely access to PPE.

Challenge There were gaps in the State's identification of its own first responder and frontline workers, including DCF social workers and Veterans homes, who were not included in PPE distribution but needed to conduct emergency home visits to investigate allegations of child abuse and neglect. Additionally, while other first responders (including NJSP) were on lists to receive PPE, they were not prioritized due to the focus on hospitals. This endangered first responders and home healthcare workers and jeopardized the continuity of critical services.

Challenge Currently, the State maintains a 3-month PPE supply on behalf of the healthcare system (for the State and hospitals). It also mandates that healthcare facilities maintain a 3-month supply of PPE themselves. As a result, there is enough supply for 6 months. This leaves the State responsible for maintaining a PPE supply on behalf of the healthcare system, adding significant warehousing costs and with the likely outcome being that the PPE will expire before it is used.

Strength Based on lessons learned from Hurricane Sandy, the State very quickly centralized PPE procurement for all of New Jersey, including its agencies, hospitals, and LCTFs. This prevented state stakeholders from competing for supply and allowed the NJDOH and NJOEM to funnel PPE where they determined it was most needed.

Strength The PPE donation process, handled by the NJOEM using an online portal set up by Innovation, allowed for the streamlined collection of 8.8 million pieces of PPE. Although this added administrative burden for some staff, the donations process contributed to meeting New Jersey's need for PPE, especially in the early day, when supply chain challenges had caused a global shortage. Donation management in an emergency can be time-intensive; having a centralized channel to process, screen, and accept donations streamlined operations and relieved a burden for other agencies.

Strength In the early days of the pandemic, PPE identification and procurement teams showed impressive adaptability and fortitude, dropping their 'day jobs' in the Governor's Office, State Police, and Treasury to come together at the ROIC to secure PPE.

Strength Throughout the pandemic, the State continued to re-evaluate the financial viability of warehousing needs and renegotiated its pre-existing warehouse contract for more favorable terms. Eventually, New Jersey built its own warehouse in 2021, driving down costs.

New Jersey faced significant challenges due to PPE shortages when the pandemic began. While these shortages could have been significantly alleviated if the State had an up-to-date stockpile or a more robust local supply chain of PPE, the scale of the COVID-19 pandemic was beyond anything the State – or the federal government – had planned for. These shortages had fatal consequences and impeded New Jersey's ability to protect its citizens and prevent the spread of the deadly virus, which ended up claiming the lives of many victims. In that context, the State was able to piece together a quick, flexible response and explored every avenue to assist an overwhelmed healthcare

system. The lessons from the Initial Surge were quickly implemented into the State's forward-looking emergency preparedness measures, like statewide PPE stockpiling requirements. These stockpiling requirements were important for ensuring New Jersey's resiliency against subsequent COVID-19 surges. PPE is also used for many other types of emergencies, including pandemics in general, natural disasters, biological hazards, accidental releases, and terrorism events.[23]

Recommendation 29 within Chapter 7 Recommendations details how New Jersey can improve its access to important emergency response supplies, like PPE, in future emergencies.

[23] Occupational Safety and Health Administration. (2021) PPE for Emergency Response and Recovery Workers OSHA. https://www.osha.gov/sites/default/files/publications/OSHA4117.pdf

5. Appendix

A-1 Chronology of Events in New Jersey

Early Signals (January 2020 to February 2020)

- As of February 1, 2020: The NJSP provided enlisted personnel with limited specialized PPE such as Air Purifying Respirators and Body Substance Isolation kits and tasked Fiscal Control, who are generally responsible for purchasing essential supplies for NJSP, with supporting the purchasing needs for the State's entire cache of PPE and other items needed to support the COVID-19 response.

Initial Surge (March 2020 to June 2020)

- March 9, 2020: Governor Murphy issued EO No. 103 declaring a Public Health Emergency and a State of Emergency throughout New Jersey due to the public health hazard created by COVID-19 and raised the delegating purchasing threshold to $100,000.
- March 2020: With the onset of the pandemic, the State had a massive increase in PPE demand, which could not be satisfied with what New Jersey had been receiving from the federal government. As spring 2020 progressed, the State implemented a PAR levels system for its PPE stockpiles to manage its limited supply. Similarly, to manage limited supplies, the NJDOH approved a new formula in spring 2020 for allocating PPE, which was reviewed weekly with changes to the allocation methodology agreed by a steering group.
- March 23, 2020: The Governor issued EO No. 109 requiring that all businesses and non-hospital healthcare facilities submit to the State an inventory of their PPE that was not required for the provision of critical healthcare services.
- March 23, 2020: Governor Murphy announced that the NJOEM, NJSP, NJDOH, and the New Jersey Hospital Association would be centralizing to manage the State's PPE supplies, and "OEM will be coordinating with the New Jersey Hospital Association to maintain an ongoing inventory of statewide PPE supplies to ensure that the individual needs to hospitals and first responders are being properly and efficiently fulfilled."[24]
- March 24, 2020: Governor Murphy announced that New Jersey would soon be receiving a second shipment of PPE from the national stockpile for frontline medical personnel, including more than 200,000 N95 masks and more than 84,0000 respirators, among other gear.[25]

[24] Office of the Governor. (2020, March 23). March 23rd, 2020 Coronavirus Briefing Media. State of New Jersey. Retrieved from https://www.nj.gov/governor/news/news/562020/20200323h.shtml

[25] Office of the Governor. (2020, March 24). March 24th, 2020 coronavirus Briefing Media. State of New Jersey. Retrieved from https://www.nj.gov/governor/news/news/562020/20200324c.shtml

- March 26, 2020: Governor Murphy announced a state website for reporting and donating PPE.[26]
- March 28, 2020: Governor Murphy issued EO No. 111 requiring daily reporting from licensed acute hospitals, LTCFs, hospital systems, and all emergency modular field treatment and other facilities established during the State of Emergency concerning capacity supplies, including bed capacity, ventilators, and PPE.[27]
- April 2, 2020: Governor Murphy issued EO No. 113 authorizing the New Jersey State Director of Emergency Management to use the Governor's full authority under the Disaster Control Act to commandeer personal services and / or real or personal property, including PPE from private companies and institutions.
- April 7, 2020: Pursuant to the Defense Production Act and other authorities, FEMA issued a temporary final rule banning the export of certain PPE, including certain respirators, surgical masks, and medical gloves, without FEMA's explicit approval.[28]
- April 8, 2020: The Treasurer raised the delegating purchasing threshold from $100,000 to $250,000.[29]
- April 17, 2020: The NJOEM issued its COVID-19 Event Situation Report #38, providing for the creation of a Critical Resource Unit under the Resource Management Section for purposes of accommodating the increased procurement and the need to receive warehousing and shipping of PPE.[30]
- April 30, 2020: Governor Murphy announced that NJOEM had secured the Battelle Critical Care Decontamination System to assist with the decontamination and preservation of N95 respirators statewide.[31]
- May 3, 2020: The governors of New York, New Jersey, Connecticut, Pennsylvania, Delaware, Rhode Island, and Massachusetts announced a joint multi-state agreement to develop a regional supply chain for PPE.[32]

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[26] Office of the Governor. (2020, March 26). *Governor Murphy Announces New Website for Reporting or Donating PPE Inventory*. Retrieved from https://nj.gov/governor/news/news/562020/approved/20200326c.shtml

[27] Murphy, P. (2020). Executive Order No. 111. State of New Jersey

[28] Congressional Research Service. (2021, April 23). *IF11551* (Version 5, Updated, p.1). https://crsreports.congress.gov/product/pdf/IF/IF11551

[29] New Jersey Office of the Comptroller. (2020, August). Ensuring a transparent recovery from COVID-19 New Jersey: Internal controls and procurement compliant resources (p. 9). Retrieved from https://nj.gov/comptroller/news/docs/osc_webinar_resources.pdf

[30] New Jersey Office of Emergency Management. (2020, April 17). COVID-19 event situation report #38. State Emergency Operations Center. Retrieved from https://www.srsd.net/OCHD/docs/NJ%20Covid%20Sit%20Rep%20num38%204-17-20%201200hrs.pdf

[31] Office of the Governor. (2020, April 30). *Murphy Administration Deploys Essential Equipment to Help Meet Need For N95 Respirators*. Retrieved from https://www.nj.gov/governor/news/news/562020/20200430a.shtml

[32] New York Governor's Office. (2020, May 3). Amid ongoing COVID-19 pandemic, Governor Cuomo, Governor Murphy, Governor Lamont, Governor Wolf, Governor Carney, Governor Raimondo & Governor Baker announce

- **As of May 14, 2020,** FEMA obligated more than $437.3M in federal support to New Jersey.[33]
- **As of May 15, 2020,** The State received PPE directly from the federal government, including 3.5 million N95 respirators, 7.1 million gloves, 0.5 million face shields, 1.3 million surgical masks, and more than 1,000 ventilators.
- **May 22, 2020:** Governor Murphy launched the PPE Supplier Registry to connect suppliers of PPE with potential buyers.[34]

Second Surge (July 2020 to May 2021)

- **July 17, 2020:** Governor Murphy issued EO No. 166 reframing the Governor's Office of Recovery & Rebuilding by formally establishing the Governor's Disaster Recovery Office (GDRO), which took full responsibility for coordinating the use of COVID-19 Recovery Funds, administering COVID-19 Recovery Programs, and ensuring that all emergency costs, including PPE, were put through the FEMA reimbursement process.
- **July 2020**: Earlier in spring 2020, NJOEM had transitioned from a "pull system" to a "push system," which allocated incoming PPE based on the new formula approved by the NJDOH. Under the "push system," NJOEM allocated PPE based on urgent demand, pushing 70% to hospitals, 20% to other care facilities, and 10% to first responders and other government users, rather than allocating PPE based on the reported need from entities as it did under the "pull system." By July 2020, the supply chain had stabilized, and the NJOEM reverted to its "pull system" approach for managing distribution of PPE based on the reported need from hospitals and other entities.
- **August 24, 2020:** The NJDOH issued Executive Directive No. 20-027 requiring hospitals to have a 90-day stockpile of the following PPE: (1) surgical masks, (2) N95 masks, (3) face shields, (4) gloves, and (5) gowns.[35]
- **January 7, 2021:** Governor Murphy signed the New Jersey Economic Recovery Act of 2020 into law. This Act offered up to $10M annually in incentives for New Jersey-based PPE production between 2020 and 2022.[36]

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joint multi-state agreement to develop regional supply chain for PPE and medical equipment. Retrieved from https://www.governor.ny.gov/news/amid-ongoing-covid-19-pandemic-governor-cuomo-governor-murphy-governor-lamont-governor-wolf

[33] Federal Emergency Management Agency. (2020, May 15). FEMA releases state-by-state PPE data. Retrieved from https://www.fema.gov/news-release/20200727/fema-releases-state-state-ppe-data

[34] Office of the Governor. (2020, May 22). New Jersey launches PPE supplier registry to facilitate access to COVID-19 protective gear. State of New Jersey. Retrieved from https://nj.gov/governor/news/news/562020/approved/20200522b.shtml

[35] New Jersey Department of Health. (2020, August 24). Executive Directive No. 20-027: Hospital PPE Stockpile. Retrieved from https://nj.gov/health/legal/covid19/8-24-20_ExecutiveDirectiveNo20-027_HospitalPPEStockpile.pdf

[36] New Jersey Economic Development Authority. (n.d.). *New Jersey Economic Recovery Act*. Retrieved from https://nj.gov/health/legal/covid19/8-24-20_ExecutiveDirectiveNo20-027_HospitalPPEStockpile.pdf

Section 5.06 Closures and Guidance to Prevent the Spread of COVID-19

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5.6 Closures and Guidance to Prevent the Spread of COVID-19

1. Context and Summary

When COVID-19 first hit New Jersey, very little was known about the virus. Neither the State nor most of the world knew its highly contagious nature, let alone that it could be spread by people who were not displaying symptoms. Yet, based on what health officials had seen in previous infectious respiratory illnesses, coupled with what they were learning about the impact from other countries, New Jersey recognized that containing its spread was a top priority.

Taking a page from history, the State applied what had been learned more than 100 years before, during the 1918 Influenza pandemic – that it was vital to act quickly and decisively to dramatically limit opportunities and occasions for potential contagion. With no vaccine or known therapeutic, New Jersey and many other federal, state, and local governments quickly imposed restrictions that were unprecedented-in-non-emergency situations on individuals and businesses. The most prevalent of those restrictions were statewide stay-at-home orders, bans on gatherings, and business closures. These orders affected every New Jerseyan – even those who did not directly suffer the health consequences of the disease – and caused significant disruption to people's daily lives.

To protect its residents from a little-understood and dangerous new disease, New Jersey invoked extensive statutory and administrative authority to issue orders and guidelines aimed at changing the behavior of businesses and individuals in an effort to minimize the infection's spread. On March 16, 2020, Governor Murphy issued the first COVID-19 Executive Order (EO) implementing social distancing measures. EO 104 included instructions for businesses to close operations, residents to stay home when possible, and everyone to socially distance while out of the home[1]. In addition, state health authorities urged everyone to follow basic hygiene practices such as hand-washing and covering coughs.

This initial set of government actions had far-reaching social and economic effects and contributed to hundreds of thousands of New Jerseyans losing their jobs. In establishing these rules, the State prioritized public health while recognizing the enormous impact they would have on people's lives and livelihoods. New Jersey's decision to take these extraordinary actions in an effort to save lives and minimize disease was further complicated by uncertainty over how long the pandemic would last, or its final impact.

Governor Murphy's actions were driven by the strategy that, by preventing the spread of COVID-19 through shutdowns or other restrictions, disease transmission would be significantly reduced. Fewer people would require hospitalization, thus protecting the healthcare system from becoming overwhelmed and failing. Further, the State considered that these measures would improve public

[1] Murphy, P. (2020, March 16). *Executive Order No. 104*. State of New Jersey.

confidence and result in a better public health foundation for re-opening and restoring "normal" life, as well as allowing the economy to rebound more quickly.

New Jersey's actions were similar to those of other states hit early by COVID-19. Large-scale shutdowns began in March and April 2020, when states rapidly closed public spaces and limited economic activity and available services, including schools. Decisions to impose shutdowns required states to assess which services were "essential" and which spaces were "high-risk," even though those terms were not well-defined. In addition, states were forced to rapidly evaluate and mitigate direct impacts to businesses (including remote office work), employees, and students, and devise ways to mitigate the damage. Those mitigating actions are addressed in detail in Section 5.12 Economic Impact Mitigation, Section 5.13 Education, and 5.14 Continuity of Government Services.

As more reliable scientific information became available on the causes of COVID-19's spread, states incorporated the learnings into their guidelines. For example, over the course of 2020, it became increasingly clear that outdoor activities posed a significantly lower risk for disease transmission than initially believed. This led New Jersey, throughout late spring and summer 2020, to prioritize re-opening outdoor activities and promote moving some indoor activities (e.g., dining) to the outdoors where possible. In the same way, once medical science understood how the virus was spread, and that it was being spread even by those who were not displaying symptoms, on April 8, 2020, New Jersey implemented mask mandates for both healthcare workers and throughout the State in EO 122.

In late April and early May 2020, states began to develop and implement re-opening plans designed to minimize disease spread while allowing life to 'return to normal' where possible. On May 18, 2020, New Jersey announced its phased re-opening plan, "The Road Back: Moving Forward Cautiously," first opening the lowest-risk activities, then imposing curfews, capacity limits, and gathering limits on higher-risk activities and venues. Implementing such reopening plans was guided by daily tracking of disease progression patterns and often required adjustment when the data showed rising cases and increased hospital admissions, particularly during surges like the Delta & Omicron wave. Throughout its phased reopening strategy, New Jersey prioritized public health, electing to follow the lead of CDC guidelines.

States also took different approaches to the pace and scale of reopening, as explained in detail below. For various reasons, different states gave different weight to the key considerations in how and when to reopen, partly motivated by policy tradeoffs between public health considerations and the negative economic consequences, equity, and impacts of continued restrictions on social activities. At times, public health and socioeconomic impacts conflicted. While public health remained the priority for New Jersey, each reopening decision required an assessment of the costs and benefits, which often were unclear. For example, decisions such as the following led to significant learning loss:

- Closing schools (as of March 18, 2020)
- Keeping schools closed for the remainder of the year (May 4, 2020)
- Allowing schools to reopen but continuing to enable remote student learning (August 13, 2020) while prioritizing the potential health impacts for students, families, and school staff

As the pandemic progressed into 2021, even with the introduction of highly effective vaccines, it became clear that "normal" would not return immediately. States began to focus on how to open and stay open safely. During this period, many governments used additional policy tools, including vaccination, testing, and masking mandates, to minimize the spread of COVID-19 and decrease the need for further shutdowns. In doing so, they sought to encourage widespread acceptance of the vaccine and the use of masks as the primary protection against the Delta & Omicron variants. They also sought to avoid re-imposing more restrictive interventions that would risk closing whole sections of the economy again.

As the pandemic progressed into 2021, even with the introduction of highly effective vaccines, it became clear that "normal" would not return immediately. States began to focus on how to open and stay open safely. During this period, many governments used additional policy tools, including vaccination, testing, and masking mandates, to minimize the spread of COVID-19 and decrease the need for further shutdowns. In doing so, they sought to encourage widespread acceptance of the vaccine and the use of masks as the primary protection against the Delta & Omicron variants. They also sought to avoid re-imposing more restrictive interventions that would risk closing whole sections of the economy again.

As noted, states varied in their approach to enforcement of regulations. Strategies ranged from no enforcement, selective enforcement (e.g., making an example of egregious violators), and systematic policy enforcement. Data are still being analyzed to understand which policies and guidelines were most (and least) effective, and the answers will no doubt vary depending on the specific factual situations each state faced. However, evidence suggests that closures and other policies were broadly effective at mitigating the spread of COVID-19. For example, stay-at-home orders in 2020 reduced both the number of COVID-19 cases and deaths, particularly in urban centers[2,3]. Masking mandates[4] and restricting indoor dining at restaurants have also been associated with decreasing COVID-19 cases and deaths.[5]

Thus, these types of state actions both saved lives and caused economic harm[6]. Policies such as social distancing, mask mandates, and vaccination and testing mandates played a role in preventing the wider

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[2] Jiang, D. H., Roy, D. J., Pollock, B. D., Shah, N. D., & McCoy, R. G. (2022). Association of stay-at-home orders and covid-19 incidence and mortality in rural and Urban United States: A population-based study. *BMJ Open*, *12*(4). https://doi.org/10.1136/bmjopen-2021-055791

[3] Fowler, J. H., Hill, S. J., Levin, R., & Obradovich, N. (2021). Stay-at-home orders associate with subsequent decreases in COVID-19 cases and fatalities in the United States. *PLOS ONE*, *16*(6). https://doi.org/10.1371/journal.pone.0248849

[4] Hansen, N.-J. H., & Mano, R. C. (2023). Mask mandates save lives. *Journal of Health Economics*, *88*. https://doi.org/10.1016/j.jhealeco.2022.102721

[5] Guy, G. P., Lee, F. C., Sunshine, G., McCord, R., Howard-Williams, M., Kompaniyets, L., Dunphy, C., Gakh, M., Weber, R., Sauber-Schatz, E., Omura, J. D., Massetti, G. M., Bailey, M., Brown, A., Cramer, R., Clodfelter, C., Davison, R., Dugmeoglu, S., Fitts, A., … Shelburne, J. (2021). Association of state-issued mask mandates and allowing on-premises restaurant dining with county-level covid-19 case and death growth rates — United States, March 1–December 31, 2020. *MMWR. Morbidity and Mortality Weekly Report*, *70*(10), 350–354. https://doi.org/10.15585/mmwr.mm7010e3

[6] Walmsley, T., Rose, A., John, R., Wei, D., Hlávka, J. P., Machado, J., & Byrd, K. (2023). Macroeconomic consequences of the COVID-19 pandemic. *Economic Modelling*, *120*. https://doi.org/10.1016/j.econmod.2022.106147

spread of COVID-19, but restricted individual freedoms. States weighed these tradeoffs differently, leading to a patchwork of experiences across the United States and the world. New Jersey's actions are compared with other states in Section 3 below.

2. New Jersey's Response

2.1. Key Agencies Involved

The primary decision-maker regarding policies and guidance was Governor Murphy, working in close collaboration with the New Jersey Department of Health (NJDOH). The Governor's Office set the policies through the issuance of EOs. When the Governor declared the State of Emergency and Public Health Emergency, the Emergency Health Powers Act and the New Jersey Civilian Defense and Disaster Act conferred on him the authority to issue EOs to reduce the spread of COVID-19. In addition to providing substantial input to the Governor's Office, the NJDOH also issued Executive Directives providing instructions on how entities could comply with the EOs and created guidelines to clarify vague guidance from federal authorities. The New Jersey Office of Emergency Management (NJOEM) and the New Jersey State Police (NJSP) played key roles by monitoring compliance with EOs pertaining to social distancing, limitations on gatherings, and restrictions on businesses.

2.2. Chronology of Events in New Jersey

Shutdown

New Jersey declared a Public Health Emergency and a State of Emergency on March 9, 2020. Between March 13 and March 16, the New Jersey Department of Human Services (NJDHS) closed congregate day programs for individuals with developmental disabilities, and the NJDOH suspended visitation to long-term care facilities. In addition, the New Jersey Department of Corrections (NJDOC) suspended visitation for incarcerated persons.

Governor Murphy signed EO 104 on March 16, 2020, closing schools, casinos, racetracks, gyms, entertainment centers, and restaurants that only accommodated in-person dining. Additionally, the businesses not mandated to close could only operate between 5 AM and 8 PM. The same day, the White House released national guidelines, including a recommendation to stay at home and limit non-essential travel.

A string of shutdown orders followed. Between March 9, when Governor Murphy declared a Public Health Emergency and a State of Emergency, and April 29, when the first reopening guidance was issued, Governor Murphy issued 28 EOs. The frequency and detail of EOs required substantial efforts by the Governor's Office and the Office of the Attorney General (OAG) and near constant dialog with the NJDOH and NJOEM about the disease and its unfolding impact on New Jerseyans. The fast pace of new EOs was itself a challenge, as it proved difficult to manage from a communications perspective, not only with the public but even within state agencies. There were repeated reports about the difficulty of

keeping track of which mandates were in effect, which parts of prior mandates had been superseded, and in getting timely guidance for agencies to issue their own complementary policies.

Reopening

On April 29, Governor Murphy issued the first set of reopening guidelines, which allowed outdoor parks, forests, and golf courses to reopen. On the same day, the Governor issued EO 131 establishing the Restart & Recovery Commission. To support efforts to reopen, the NJDOH, NJDHS, and other agencies issued guidance on the safe operation of facilities, including—for the first time—directives requiring staff and residents in congregate care to test regularly. Soon thereafter, another series of EOs were issued governing the reopening of key industries such as construction, dining, and higher education.

Some adjustments in the reopening plans were implemented when COVID-19 cases surged. However, New Jersey never reverted to the shutdowns that were ordered during the first few months of the pandemic. This was a substantial accomplishment, and was due at least in part to Governor Murphy's decision to prioritize public safety and err on the side of caution before implementing changes in protocols that could present increased health risks.

2.3. Key Decisions

2.3.1. Initial Restrictive Shutdown During the First Wave

In the initial stages of the pandemic, the states hit early by COVID-19 – like New Jersey – shut down substantial portions of their economies in quick succession. From the onset of the pandemic and through later phases, New Jersey prioritized protecting public health, focusingon preventing the spread of COVID-19 despite the economic cost. This approach was calculated to save lives. Unfortunately, the approach also resulted in more restrictive policies that impacted businesses and individuals.

Governor Murphy initially shut down New Jersey on March 16, 2020, with EO 104—a decision driven by the State's public health goals and guidance from health experts and authorities. EO 104 was drafted less than 36 hours after Executive leadership, including the Governor's Chief of Staff, Chief Counsel, and Commissioner of Health, first began discussing shutting down the State. The Governor's Office looked to the NJDOH, the White House, the CDC, and other states that were similarly affected, especially New York, to guide the shutdown decision. Discussions on whether to shut down New Jersey relied heavily on disease progression data tracked by the NJDOH's Communicable Disease Service, recommendations from the NJDOH, and CDC guidelines.

The Governor and senior leadership, including the Commissioner of Health, recognized that, given the severity of spread in New Jersey compared to the rest of the country, mandates were required to enforce the federal guidelines. Thus, on March 21, 2020, the State announced a stay-at-home order, through EO 107, which was developed through the same rapid drafting process as EO 104.

In drafting these guidelines, New Jersey needed to identify essential businesses that would be exempted from the stay-at-home order. The State did so through discussion with stakeholders concerning which goods or services were necessary to daily life. The State's decision to enact these EOs also involved consideration of federal guidelines and consultation with nearby states. In early March 2020, COVID-19 was more prevalent in the New York City (NYC) area than anywhere else in the country. Given its proximity to NYC, New Jersey planned its statewide guidelines in alignment with the Federal Government's recommendations against discretionary travel. In addition, to create an effective and enforceable shutdown order, New Jersey coordinated with neighboring states – New York, Pennsylvania, and Connecticut – to harmonize guidelines and avoid inconsistencies that would allow individuals to travel across state lines to the less restrictive sides of a border.

Furthermore, in drafting EO 104 and subsequent restrictive orders, Governor Murphy's counsel and COVID-19 legal team focused explicitly on ensuring the protection of First Amendment rights of assembly and allowed for exceptions as necessary, including for religious and political assembly. Ultimately, EO 104 shut down schools and prevented unnecessary travel, including to non-essential places of business. While there were numerous legal challenges to these EOs, courts ruled in favor of the State of New Jersey on each one.

2.3.2. Phased Re-Opening

Once closures began, the Governor immediately assembled a team to begin developing reopening plans. On April 29, 2020, Governor Murphy announced that he had signed EO 131, creating the Governor's Restart and Recovery Commission. Some two weeks later, on May 8, 2020, the Governor announced that he had signed an EO creating the Governor's Restart and Recovery Advisory Council. These groups designed a reopening system to gradually loosen requirements, with time built in to monitor whether any change precipitated an increase in disease spread. In other words, the approach to reopening was to think in terms of a "dial, not a light switch." The State also monitored policies in neighboring states and the ever-changing scientific knowledge about the disease (e.g., outdoor activities are less risky than indoor activities).

When the State's leadership began discussing how to reopen the economy, they again committed to designing the reopening based primarily on public health. The consideration of economic effects and particular needs by sector was secondary.

During this process, leadership in the Governor's Office communicated closely with the NJDOH, which relayed CDC guidance and provided feedback on Governor Murphy's proposed policies. The State relied primarily on CDC public health guidance about social distancing, capacity limits, and other recommended restrictions for businesses, to determine how businesses could safely reopen (and stay open). The State also prioritized making data-driven reopening decisions and proactively adapted to changing knowledge of the disease by re-examining actions when scientifically appropriate.

The Governor's Office and the NJDOH relied on health data, such as rates of transmission, deaths, and new infections, as well as economic impacts like unemployment, to make key decisions regarding reopening. In addition, New Jersey remained in close communication with neighboring states to

determine regional trends and to coordinate actions to protect public health and to minimize problems caused by inadvertent inconsistencies in the various states' approaches.

When evaluating reopening plans, the State made its decisions first based on whether plans would be feasible from a health perspective. The Governor's Office regularly received updated public health guidance from the NJDOH. Thus, as the pandemic progressed and more was learned about how to effectively prevent infections, the Governor's Office assessed whether certain types of businesses could safely reopen as long as they complied with the significantly increased safety standards set by the CDC and the State. These assessments required considerations of, for example, the expected volume of customer traffic and length of exposure of the business's services. Only after it addressed the public health considerations did the State turn to the economic considerations of reopening.

The Governor's Office then worked with industry groups and individual business leaders to understand, from an operational perspective, whether restricted reopening would create a meaningful economic benefit for the sector in question and what would be required for those businesses to operate on sound financial footing. These types of considerations required asking questions such as: At what percent capacity would a restaurant break even? Was it possible to distance staff in the kitchen to cook for outdoor diners? Was it possible for a barber shop to have only one barber present at a time, or was someone sweeping hair essential?

After checking with the other agencies, the CDC, affected businesses, and other states, Governor Murphy issued EOs allowing certain types of businesses that could operate safely and profitably to reopen. While reopening policies were carefully drafted and updated frequently, the State used three main guideposts to decide which businesses or sectors could reopen: (i) outdoor activities were safer than indoor ones; (ii) masks were highly effective; and (iii) extended periods of exposure led to the highest risk of transmission.

Between May and July 2020, when the first and largest reopening occurred, the Governor's Office defined a three-wave framework to simplify current federal and state rules for the public and to provide predictability to businesses:

- Always open: Emergency health care, essential construction, manufacturing, essential retail (e.g., grocery stores and pharmacies)
- Stage 1 (low-risk activities): Elective health care, non-essential construction, parks, beaches, curbside retail, and drive-in activities
- Stage 2 (additional activities): Expanded retail, outdoor dining, indoor dining at significantly reduced capacity, limited personal care, museums, and libraries
- Stage 3 (most activities with safeguarding): Expanded dining, critical in-office work, limited entertainment, expanded personal care, bars with limited seating capacity

The Governor's Office designed these stages to mirror the expected public health guidance while providing Governor Murphy the flexibility to roll back openings if cases of COVID-19 rose. The Governor's Office also added extensive new rules for reopening businesses to ensure compliance with CDC and NJDOH health guidelines. For example, to allow businesses that could reopen to do so as

quickly as possible, the State created granular guidance, often releasing multiple EOs per week to open specific types of businesses. This approach sometimes created confusion for businesses and enforcement authorities, as the frequency of updates made it challenging to stay apprised of the most recent policy, and state agencies needed time to digest the legal language of updated policies.

The COVID-19 Legal Team in Governor Murphy's office remained the main body to review the implementation of EOs and guidelines created within specific sectors or by state agencies. If an EO affected specific state agencies or sectors (e.g., closing parks was relevant to the Department of Environmental Protection's purview), agencies could offer feedback to the Governor's policy team and the COVID-19 Legal Team. Furthermore, when agencies or sector leadership released more specific guidance on how businesses could comply with EOs, the COVID-19 Legal Team reviewed the proposed guidance to ensure consistency across sectors and with CDC and NJDOH health guidelines. The COVID-19 Legal Team and the Governor's Office frequently consulted the NJDOH, and particularly CDS, to make sure that agencies interpreted the EOs consistently.

The NJDOH often provided additional guidance regarding the EOs by issuing Executive Directives that provided further instructions on how entities could carry out the EO in line with health guidance. Specific rules differed across industries and depended on related business constraints. For example, because restaurant patrons had to remove their masks to eat, a June 2020 rule set restaurant capacity limits at 25% of pre-pandemic limits. Retail stores, on the other hand, were permitted to operate at 50% capacity since customers and employees could remain masked. Restaurants had stricter cleaning protocols, and patrons had to stay seated rather than ordering while standing at or from a bar.

The rules also changed frequently, as the State updated safety guidelines based on changing CDC and NJDOH guidance. The NJDOH sometimes created more specific guidelines where federal guidance was vague. It further worked collaboratively with industries and businesses to develop tailored reopening plans in line with broader health guidance as circumstances and health data permitted. For example, the NJDOH defined exposure to COVID-19 as contact exceeding 10 minutes, even though the CDC had not provided guidance on the number of minutes that qualified as "contact." The NJDOH also worked with industries on how to maintain distancing under the definitions in the guidelines and given the layout of their businesses. In addition, the NJDOH reviewed or contributed to reopening plans from specific sectors, such as the Road Back Plan from the New Jersey Department of Education (NJDOE) and the Restaurant Association's reopening plans.

By fall 2020, cases began to rise again. Leadership in New Jersey closely watched how the disease spread in warmer states during the summer months. Disease patterns in hot-weather states drive more people indoors, where exposure is more acute, and thus can help predict disease patterns in New Jersey during wintertime, where it is cold weather that often drives people indoors. The situation in the warmer states signaled to New Jersey that appropriately tailored restrictions would have to be re-implemented as the weather changed and cases continued to rise.

However, a new challenge arose in the intervening time: the emergence of organized resistance to these types of government actions. New Jersey had to account for resistance in determining the kinds of actions it could take to prevent the spread of disease. Some political leaders had opposed government initiatives, such as testing and masking, and other states chose to take a less restrictive

approach, often in conflict with CDC and other health guidance.[7] This created a less trusting, more hostile attitude toward medical science and public health authorities in substantial portions of the public.

In the fall of 2020, with a public fatigued of lockdowns and newly available tools to combat the virus—such as more widely available PPE and increased access to testing—New Jersey began to shift from industry-specific shutdowns to broader mandates about masking, social distancing, and capacity limits. However, with new cases rising in accordance with predictions, on November 10, 2020, the State re-imposed restrictions for the highest-risk activities, where masking or distancing was not possible, such as indoor dining and indoor youth sports. Again, New Jersey placed public health concerns at the forefront, rather than acceding to political pressures to do otherwise.

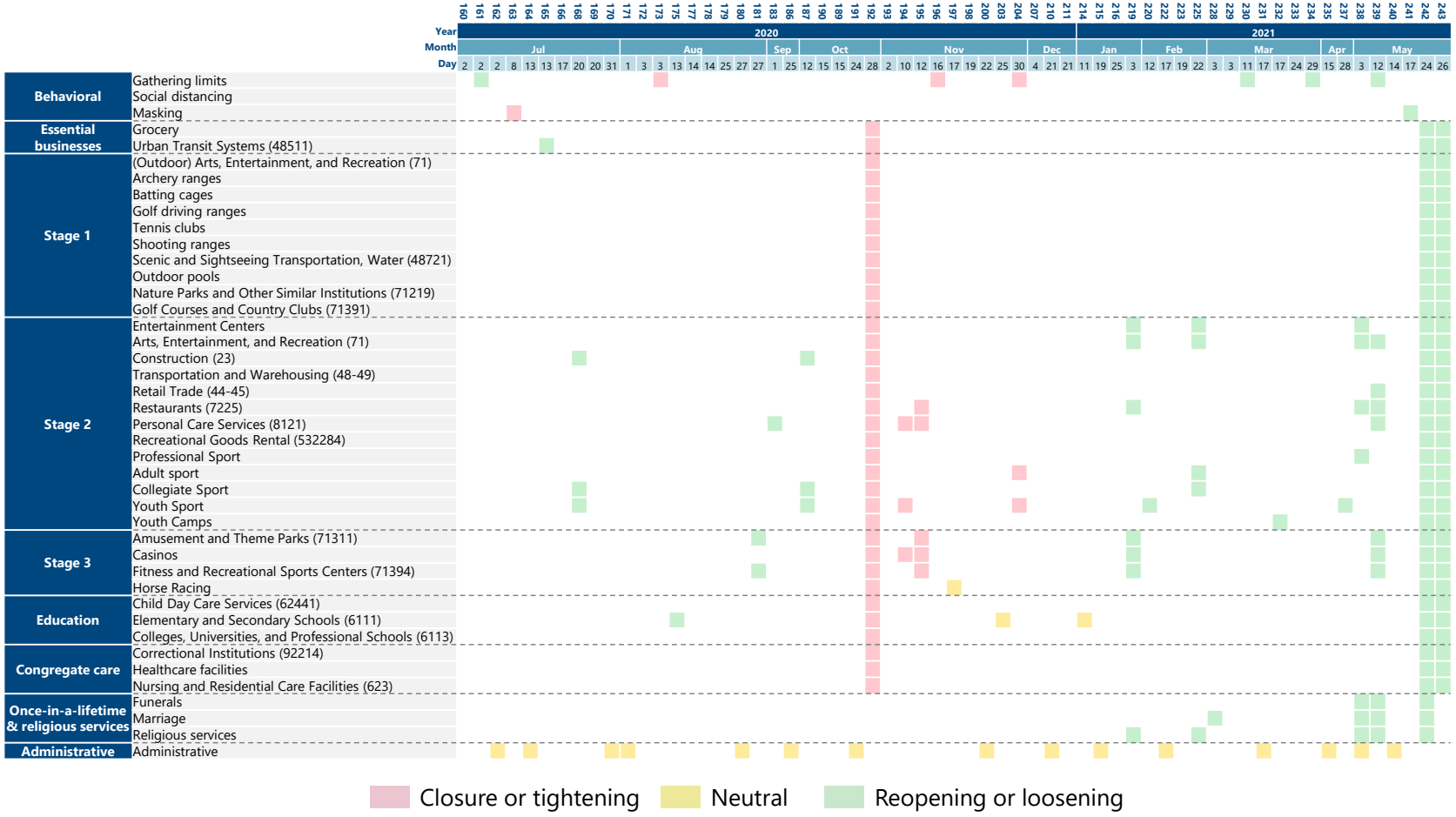
Exhibit 1 on the following pages provides a visualization of the volume of EOs and patterns (rather than specific details). From left to right are all EOs issued between February 2020 and June 2023 enacting behavioral and industry guidelines. This includes all 140 EOs with restrictions and requirements for businesses and the general public. From top to bottom are industries and categories of regulation grouped into behavioral guidelines, essential businesses, Stage 1 businesses, Stage 2, Stage 3, education, congregate care, once-in-a-lifetime and religious services, and administrative orders.

[7] See: Adolph, C., Amano, K., Bang-Jensen, B., Fullman, N., & Wilkerson, J. (2021). Pandemic politics: Timing state-level social distancing responses to covid-19. *Journal of Health Politics, Policy and Law*, *46*(2), 211–233. https://doi.org/10.1215/03616878-8802162

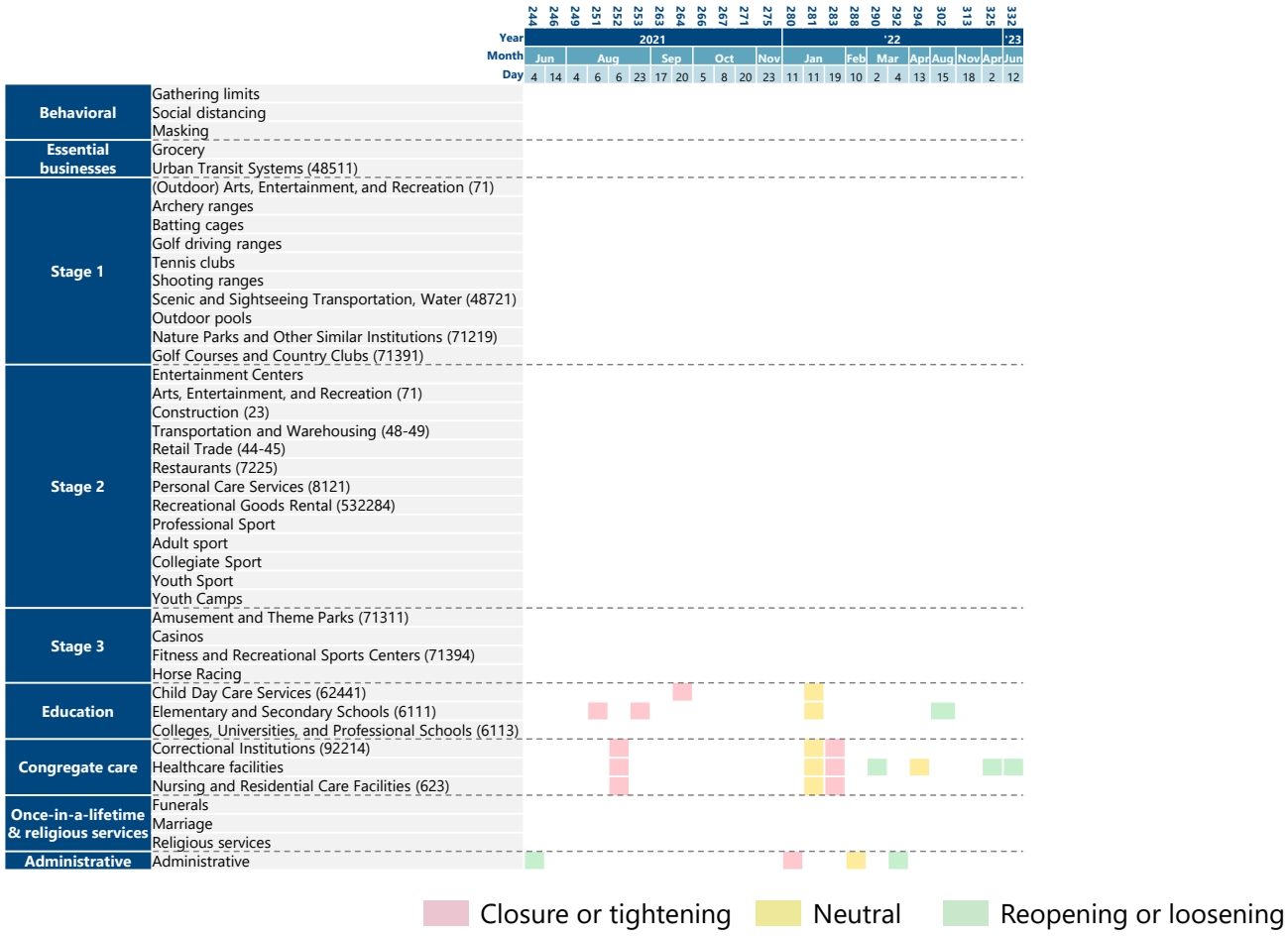
Exhibit 1: Visualization of Executive Orders Across Industry Over Time

Initial Surge (March 2020 – June 2020) I/III

Second Surge (July 2020 – May 2021) II/III



Delta & Omicron Wave (June 2021 – March 2022) III/III



Note that Stage 1 businesses generally opened early and completely. Meanwhile, Stage 2 and 3 businesses opened later and with more stops and starts.

2.3.3. Communications with the Business Community

In fall 2020 and winter 2021, as New Jersey again began to allow certain businesses to reopen (conditioned on meeting increased health and safety requirements), the demands on communication with businesses increased significantly. Rather than simply reminding businesses to remain closed, the State had to communicate which types of businesses were explicitly allowed to reopen and under which conditions. This guidance changed frequently; therefore, to make sure the communications were effective, New Jersey took several approaches:

- Governor Murphy discussed changes to EOs during statewide press conferences so businesses and their customers understood updates as early as possible.
- The State worked directly with trade associations and individual business owners, such as barbers, restaurateurs, and others, to ensure that they were up to date on the rules for their industry.
- The Governor's Office and the Office of Innovation (Innovation) collaborated to create the COVID-19 INFO Hub and the COVID-19 Business Info Hub, which served as one-stop-shops for the State's latest guidance on COVID-19. The relevant New Jersey agency provided information about decisions that were in its jurisdiction on the sites, and information issued by the Governor's Office was analyzed to ensure the sites contained the most accurate information. Although the information was comprehensive, feedback often indicated that it was overly 'legalistic' and could be difficult for a layperson to understand.

2.3.4. Later Behavioral Mandates

Later in the pandemic, New Jersey moved away from ordering business closures, and guidance shifted to mandating health interventions, such as vaccinations, masking, and testing. The State's vaccine rollout was a significant milestone in the transition to re-opening. NJDOH Commissioner Persichilli spoke publicly about the State's goal of reaching 70% vaccination within six months of the vaccine becoming available – an aggressive target that many doubted could be achieved. Governor Murphy also publicly endorsed this goal. As vaccine supply expanded in early 2021, the Governor began to loosen restrictions such as capacity and gathering limits as increasing vaccination rates had lowered the risk of large-scale gatherings. When the State reached the 70% goal on June 18, 2021 - ahead of schedule - Governor Murphy relaxed nearly all restrictions then in place and ended the Public Health Emergency at about the same time.

The State again declared a Public Health Emergency when the Delta & Omicron variants surged in fall 2021. However, it never re-implemented limitations on the number of people who could be in a particular space or other business restrictions. Rather, New Jersey implemented select masking and vaccine-or-test requirements. After the March 2020 shutdowns, these orders proved to be some of the

most controversial of the COVID-19 era.[8] Schools imposed mask requirements in circumstances where students were in close quarters but not yet eligible to be vaccinated. At the same time, critics argued that students were harmed by masking, which distracted from learning and socializing (see **Section 5.13 Education** for more detail).

The State mandated vaccine-or-test requirements for its employees, as well as for healthcare workers and educators. These requirements were enforced by employers. Employers who opposed vaccines on principle did not want to get the shots themselves and worried that vaccine mandates would be a breaking point in the health and education fields, where staff members were already stretched. In addition, some residents could not be safely vaccinated due to particular medical issues. To avoid conflict while achieving its objective, New Jersey chose a more flexible version of the rule, offering workers the option to either test regularly or be vaccinated. This approach proved to be acceptable and effective.

2.3.5. Enforcing COVID-19 Regulations

In a Public Health Emergency, the State derives its power from the Emergency Health Powers Act (see **Section 5.2 Emergency Response Governance and Coordination** for further discussion on the EHPA). Unlike the Disaster Control Act, the equivalent act for non-health States of Emergencies, the EHPA does not criminalize violation of EOs or other rules passed during the emergency. Instead, the State relies on authorities already in place – such as state-issued licenses for services like daycare, which provides alternative enforcement mechanisms. Therefore, during the COVID-19 emergency, it was impossible to issue citations or fines to individuals or non-licensed entities. For example, at least one gym in South Jersey refused to close, and the State could do little about it.

Further, Governor Murphy and state agencies worked to create social pressure for compliance by modeling compliance with rules during press conferences (e.g., wearing masks) and calling out improper behavior. Throughout the pandemic, one of Governor Murphy's most memorable labels was "knucklehead," which he used to describe people he perceived to be making poor decisions related to the spread of the virus.

The NJOEM also served as a liaison for local law enforcement, which often had to interpret the details of the various EOs. The New Jersey Office of Homeland Security and Preparedness (NJOHSP) also played a role in interpreting and explaining EOs by posting FAQs on an online portal to combat misinformation. NJOHSP leveraged the Homeland Security Information Network (HSIN), an information-sharing channel created by the U.S. Department of Homeland Security, to communicate EO updates to local law enforcement. NJOHSP was able to smoothly transition HSIN to a source of relaying COVID-19 information, as local law enforcement officials were accustomed to using HSIN before the pandemic to monitor information on crime and terrorism. State leadership, including the Attorney

[8] Nieto-Munoz, S. (2022, February 7). *Mixed reviews for gov. Murphy lifting schools mask mandate.* New Jersey Monitor. https://newjerseymonitor.com/2022/02/07/mixed-reviews-for-gov-murphy-lifting-schools-mask-mandate/

General and members of the Governor's Office, provided daily updates on HSIN and was able to directly explain EO updates to police chiefs in the State.

3. Comparison to Other States[9]

States took various approaches toward behavioral and industry policies and guidelines, given the differing political landscapes, legislative processes, and levels of disease spread. States varied in how actively they issued executive guidelines and how strict their policies were on business closures, stay-at-home measures, mask mandates, and vaccination requirements.

- New Jersey, New York, California, and Illinois were generally most active in using their executive powers. New Jersey and New York issued the highest number of EOs, and all four states enacted relatively strict policies.
- Pennsylvania, Ohio, Virginia, and Florida used their executive powers less. Ohio and Virginia issued the lowest number of EOs, and, along with Pennsylvania, had relatively lax guidelines. While Florida issued a moderate number of EOs, it also enacted the loosest guidelines of all states, with no mask mandates or vaccine requirements.

3.1. Number of Executive Orders Issued

The number of EOs that governors issued was indicative of the differences in the states' approaches regarding behavioral and industry policy. For example, the number of EOs issued can illustrate how actively governors used their executive authority (as opposed to relying on the legislature), how complex their pandemic policies were, and how often they changed policies in response to revised guidance from the CDC or information on disease progression. Furthermore, the difference in the number of EOs issued could be attributed to factors such as the legislative structure of each state, the level of executive authority allowed to the governor, and the severity of the disease spread.

In total, Governor Murphy issued 95 EOs in 2020—more than any other governor in this comparison set. Governor Cuomo of New York issued the second-most (93), as shown in Exhibit 2. Another view, in

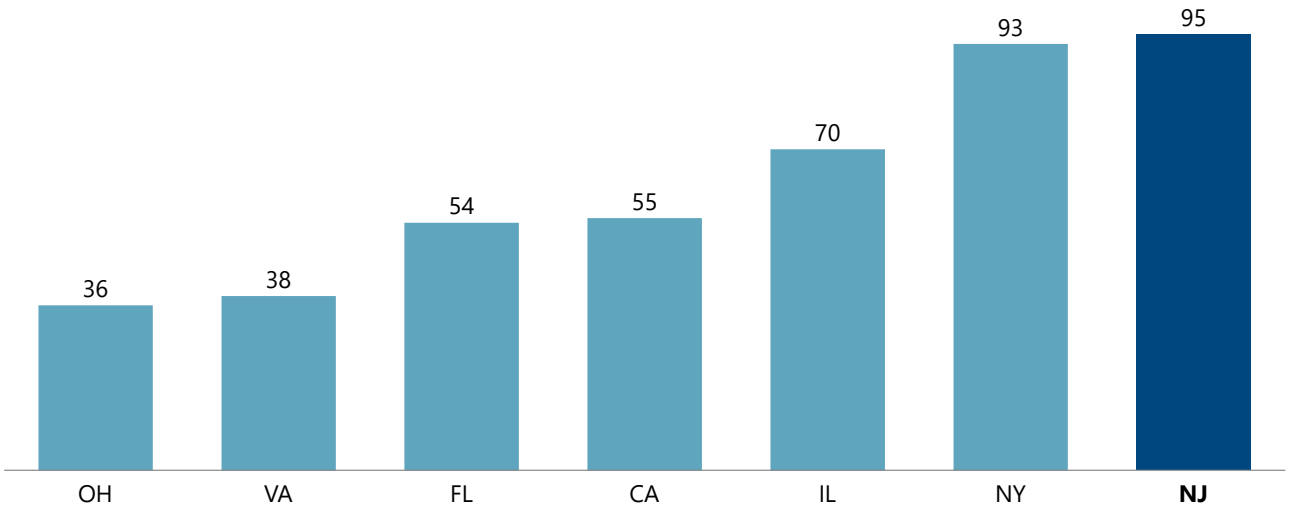
[9] Benchmark states for Chapter 5 (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in the Appendix.

Exhibit 3, shows that on a month-by-month basis, Governor Murphy issued more EOs than other governors in February, April, May, July, August, and November—notably in the initial stages of the pandemic.

California, Illinois, and Florida issued fewer EOs. These states issued some EOs at the beginning of the pandemic, but the number steadily decreased in later months. Governor DeWine of Ohio and Governor Northam of Virginia were the most hands-off, issuing the fewest EOs throughout 2020 (36 and 38, respectively).

Exhibit 2: New Jersey issued the most Executive Orders in 2020 out of the benchmark states

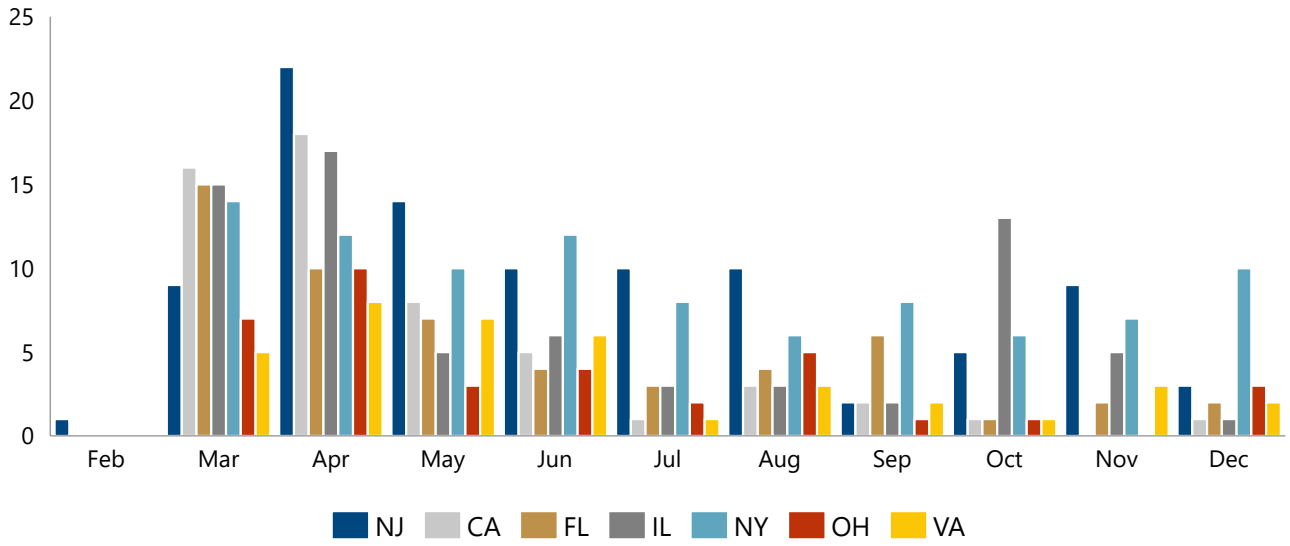
Total number of COVID-19-related EOs issued in 2020 by state



Source: NJ, CA, FL, IL, NY, OH, VA state websites
Note: Pennsylvania does not have complete archives of Governor Wolf's Executive Orders

Exhibit 3: Monthly Executive Orders Issued in 2020 by Benchmark States

Number of monthly COVID-19-related EOs issued in 2020 by state



Source: NJ, CA, FL, IL, NY, OH, VA state websites
Note: Pennsylvania does not have complete archives of Governor Wolf's Executive Orders

3.2. Length and Severity of Business Closures

All comparison states required some level of business closures during the course of the pandemic. Comparisons between the states draw on the COVID-19 Government Response Tracker from Oxford University (OxCGRT), a comprehensive database of COVID-19 policies over time for national and sub-national governments worldwide. This defines four levels of business closures:

- Required closing for non-essential workplaces (Level 1)
- Required closing for some sectors (Level 2)
- Recommended closings (Level 3)
- Lifted measures (full reopening).

Except for Virginia, all states in the comparison set enacted Level 1 closures at the beginning of the pandemic.

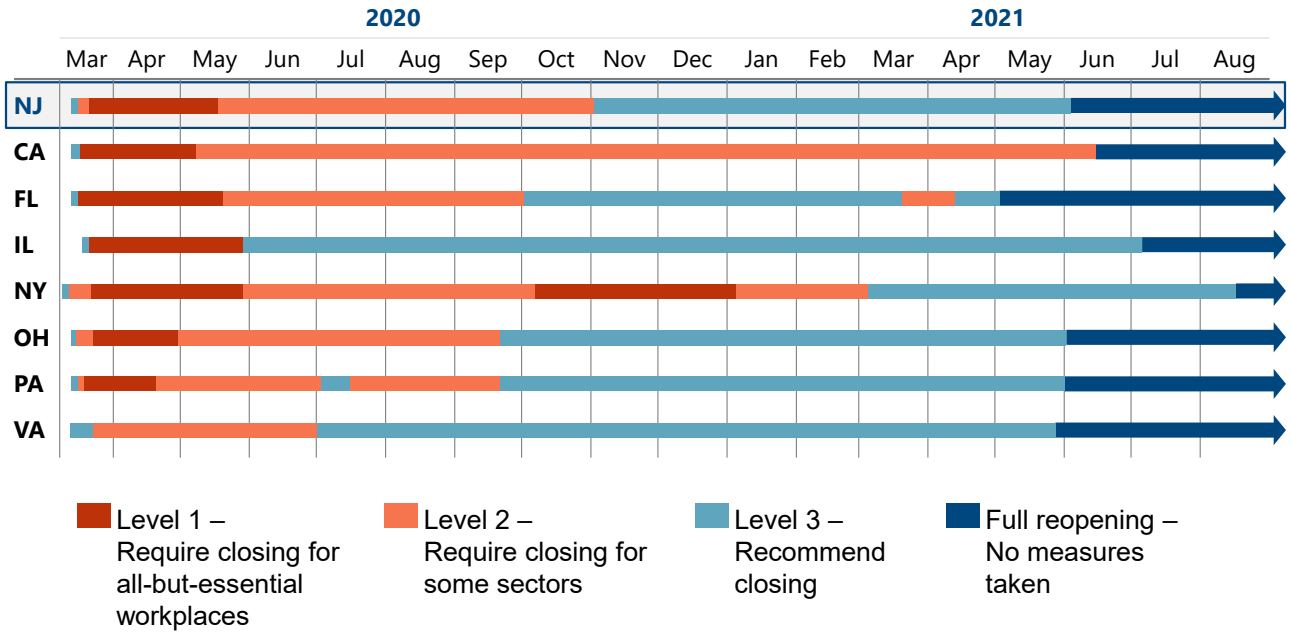
New York had 22 weeks of Level 1 shutdowns—the longest of any comparison state. California had the longest Level 2 closures (57 weeks), New York had the second-longest (27 weeks), and New Jersey had the third-longest (24 weeks).

Ohio and Pennsylvania were the earliest comparison states to move from Level 1 to Level 2, exempting certain non-essential sectors from required closures in late April. New Jersey, California, Florida, and New York shifted from Level 1 to Level 2 in May. Illinois was the only state to move directly from Level 1 to Level 3.

While most comparison states progressed from Level 1 to full reopening in sequential order, New York, Florida, and Pennsylvania re-tightened requirements at various points in response to resurgences of cases. New York was the only state to shift back to Level 1 closure beyond the initial months of the pandemic, in October 2020. Florida and Pennsylvania briefly reverted from Level 3 to Level 2 closures before eventually shifting back to Level 3.

Florida was the first to lift all measures in early May, followed by Virginia, Ohio, and Pennsylvania. New Jersey was the fifth comparison state to lift all measures in early June. New York was the last to do so in mid-August.

Exhibit 4: Length and Severity of Workforce Closures in Benchmark States



Source: OxCGRT, Record Closing of Workplaces

3.3. Length and Severity of Stay-at-Home Orders

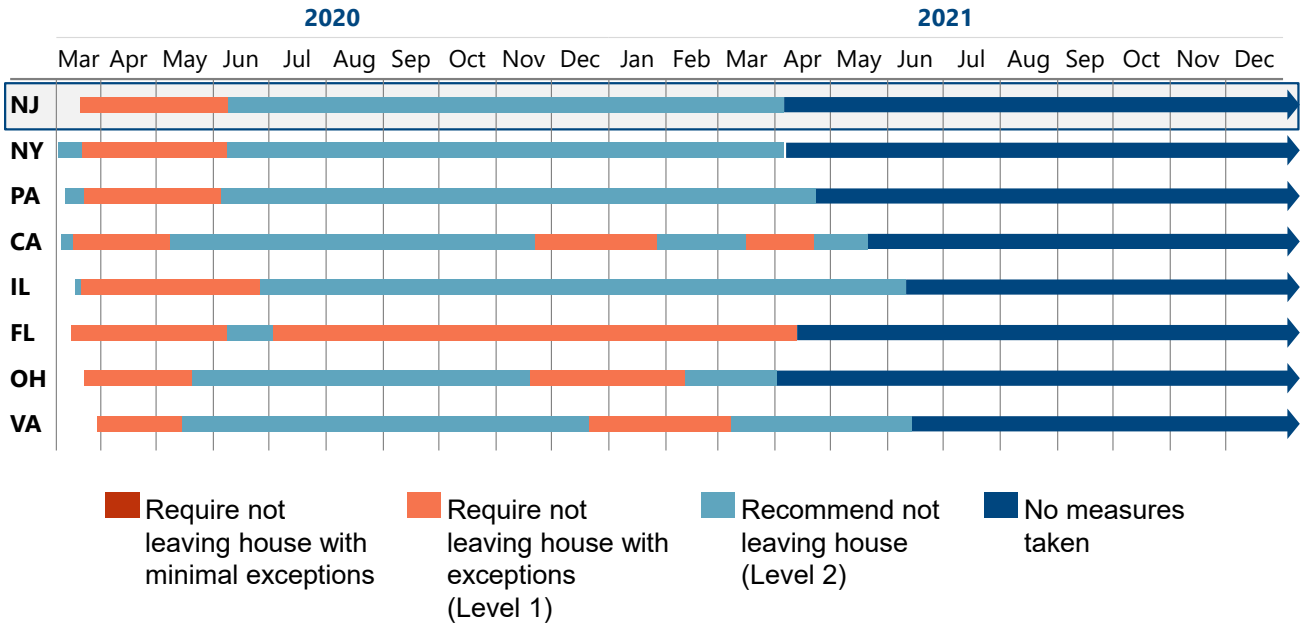
All comparison states enacted varying levels of stay-at-home requirements: required stay-at-home with no or minimal exceptions, required stay-at-home with exceptions (Level 1), recommended stay-at-home (Level 2), and full reopening.

In addition, except for Florida, all comparison states included social distancing requirements of at least 6 feet in their Level 1 and Level 2 stay-at-home directives. While Florida's Governor echoed CDC recommendations for social distancing, distancing was never explicitly required in stay-at-home orders.

Across the board, comparison states required Level 1 measures at the beginning of the pandemic and shifted to Level 2 as the pandemic progressed. Florida was the first state to move from Level 1 to Level 2 at the end of April 2020. New Jersey was the second-to-last benchmark state to lift Level 1 closures on June 9, reflecting its cautious approach and desire to avoid restating restrictions after lifting them. Some comparison states, including California, Ohio, and Virginia, reverted to Level 1 stay-at-home measures as cases increased in late 2020 and early 2021.

New Jersey, Florida, New York, Ohio, and Pennsylvania lifted stay-at-home measures by the end of April 2021, while California, Illinois, and Virginia lifted their measures starting in May. Of the early reopening states, Ohio was the first state to lift all stay-at-home measures on April 2, 2021, and New Jersey and New York were the second-earliest to fully reopen on April 6.

Exhibit 5: Length and Severity of Stay-at-Home Requirements in Benchmark States



Source: Ballotpedia "Documenting America's Path to Recovery", Education Week "Where Has COVID-19 Closed Schools? Where Are They Open?"

3.4. Mask Mandates

Aside from Florida, each comparison state issued various levels of masking requirements between 2020 and 2022. These levels included:

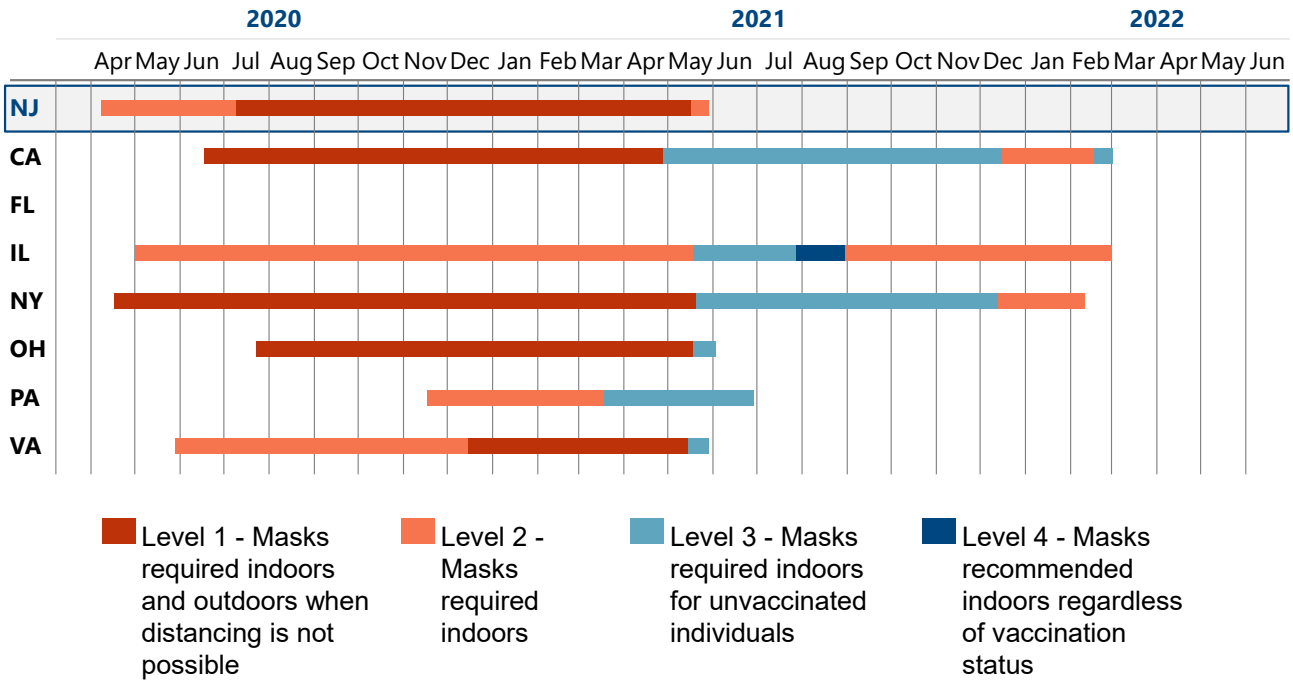
- Masks required indoors and outdoors when distancing was not possible (Level 1)
- Masks required indoors (Level 2)
- Masks required indoors for unvaccinated individuals only (Level 3)
- Masks recommended indoors regardless of vaccination status (Level 4)

New Jersey was the first state to issue any type of mask mandate on April 8, 2020. On April 17, New York followed. All comparison states except Florida required indoor masking in the first year of the pandemic (Levels 1 and 2). Some states – New Jersey, California, New York, Ohio, and Virginia – also required outdoor masking when distancing was not possible (Level 1). By May 2021, all states with mask mandates shifted to Level 3 mandates, exempting vaccinated individuals from initial mask mandates.

Of the states that had issued mask mandates, New Jersey was the only one that did not issue a Level 3, keeping its masking mandates consistent across all vaccination statuses. New Jersey was also the first to lift its mask mandate and did not reinstate masking for the remainder of the pandemic. Ohio, Pennsylvania, and Virginia similarly lifted all mask mandates shortly thereafter.

While most states made indoor masking optional for vaccinated individuals after May 2021, California, Illinois, and New York reinstated Level 2 mandates (masking for all individuals) in 2021 as disease levels rose. These three states were also the last to lift their mandates, in February 2022.

Exhibit 6: Length and Severity of Mask Mandates



Source: US News

3.5. Vaccine-or-Test Requirements

Comparison states varied in whether they issued workforce vaccine-or-test requirements between 2021 and 2022. New Jersey, California, Illinois, and New York were the most stringent in their vaccine-or-test requirements and required state employees, healthcare workers, congregate care employees, and teachers/staff in schools to submit to vaccine-or-test requirements.

Pennsylvania and Virginia had vaccine-or-test requirements for only a few groups of employees. Pennsylvania required only state healthcare workers and congregate care employees to get vaccinated or undergo regular testing, and Virginia required vaccinations or testing only among state employees.

Florida and Ohio never required employees of any type to get vaccinated or tested to continue working.

Exhibit 7: Vaccination Requirements for Employers in Benchmark States

State	State employees	All healthcare workers	State healthcare workers only	Congregate care employees	Teachers/staff in schools
NJ	✓	✓		✓	✓
CA	✓	✓		✓	✓
FL					
IL	✓	✓		✓	✓
NY	✓	✓		✓	✓
OH					
PA			✓	✓	
VA	✓				

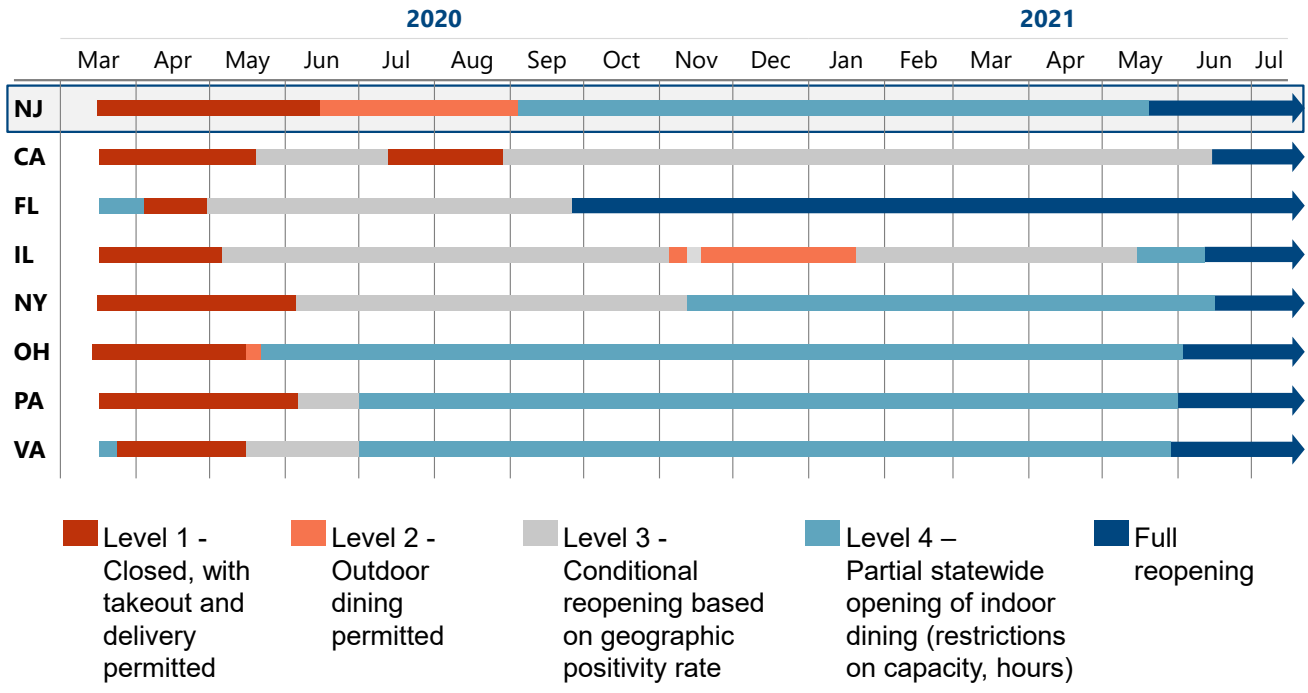
Deep Dive: Reopening Restaurants

As restaurants inherently provide face-to-face services, this sector was often the first to be impacted by state shutdowns and generally suffered significant economic losses. Given this sector's critical role in several states' COVID-19 policies, it was a major focus of attention during pandemic response and recovery. It also provides an illustrative example of how guidelines affected approaches and how they varied by state. Severity of closures ranged from only takeout and delivery permitted (Level 1), only outdoor dining permitted (Level 2), conditional reopening based on geographic positivity rate (Level 3), and partial statewide opening of indoor dining (Level 4).

All comparison states closed restaurants for in-person service at the beginning of the pandemic in mid-March. Florida was the last to enact Level 1 closures in early-April and the first to begin conditional reopening on April 29, 2020.

While most comparison states reopened restaurants in phases, depending on geographic positivity rates, New Jersey and Ohio issued statewide decisions instead; however, as most states progressively loosened restrictions, California and Illinois had to re-tighten restaurant restrictions at various points during in the pandemic to respond to increased case counts. Florida was the first state to reopen restaurants to full capacity in September 2020. The rest of the comparison states fully reopened between May and June 2021. New Jersey was the second state to reopen restaurants, after Florida, on May 19. New York was the last to reopen restaurants on June 16.

Exhibit 8: Restaurant Opening Comparisons in Benchmark States



4. Key Strengths and Challenges

The State's approach to pandemic behavioral and industry policy reflected a notable commitment to science- as well as data-driven policy, and collaboration with stakeholders. However, as more became known about COVID-19, scientific understanding evolved, and several of the messages delivered early in the pandemic turned out to be wrong (e.g., the risk is low, the public should not use masks, the disease spread via droplets on surfaces). This is one reason New Jersey's messaging was met with occasional confusion, in addition to miscommunications that made it more difficult for the public to follow policies.

Strength New Jersey took a science-based approach to issuing and designing guidelines, considering CDC and NJDOH guidance as the main drivers of its actions, even when those actions were unpopular. As more data emerged and science advanced, the State adapted its actions to reflect the most current understanding about measures that would be effective at slowing the spread of the disease.

Strength New Jersey worked well with neighboring states to synchronize guidance so as not to create spill-over effects across borders (e.g., Connecticut opened malls prior to neighboring states and got many out-of-state shoppers).

Strength Governor Murphy's Office and the OAG ensured that EOs were lawful, and not a single court challenge to an EO succeeded.

Challenge The State issued more EOs in the first 6 months of the pandemic than most other comparison states. This frequent change of the ground rules made it difficult for businesses, the public, and other stakeholders to keep track of what was and was not permissible.

Challenge EOs could be difficult to interpret, both for the public and for businesses and state agencies charged with carrying them out.

Challenge The State had no authority to issue appropriate sanctions to individuals or businesses that violated policy or guidelines, making enforcement for non-compliance difficult.

New Jersey's many EOs were indicative of its diligence in staying up-to-date and responsive with the latest CDC guidance and disease developments and showed a commitment to science-based policymaking. However, the fact that science was evolving, and therefore required federal guidance to change, combined with the number of EOs and revisions to state guidance, meant that it was sometimes difficult for agencies and individuals to understand what they were supposed to do or not do. At times, New Jersey could have been more decisive by issuing fewer yet more comprehensive EOs – however, given the unpredictability of the pandemic, it would be unfair criticize the State's efforts to stay current with the constantly evolving level of medical knowledge during the pandemic.

Section 5.07 Healthcare Capacity Management

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5.7 Healthcare Capacity Management

1. Context and Summary

By mid-March 2020, COVID-19 cases were beginning to rise at an alarming rate. Since this was a "novel" virus, there was no vaccine, and no one had any prior exposures that might have resulted in at least some natural resistance to the virus. Between what had happened in one community in the State of Washington and what was happening in certain Western European countries, healthcare experts could anticipate that there would be a very substantial need for additional in-patient hospital care in the extremely near future. In China, there were reports of an entirely new hospital being built in days to respond to the pandemic. New Jersey needed to take aggressive steps to manage healthcare capacity.

The NJDOH's priority became to create staffed bed capacity. In the earliest days, models released by universities for disease progression predicted that New Jersey would need to increase the number of staffed beds in the State from their initial 21,000 to 36,000 by April 15. Leaders in the Governor's Office and NJDOH used multiple strategies to maintain motivation and momentum for the rapid pace of work. For example, leaders:

- Repeatedly cited the number 36,000 in their official communications, driving urgency.
- Stood up field hospitals using extraordinary measures.
- Explored re-opening shuttered facilities and analyzed which ones were best suited to the projected needs (e.g., was hardware in place for delivering oxygen to patients?).
- Helped hospitals expand their physical bed footprint.

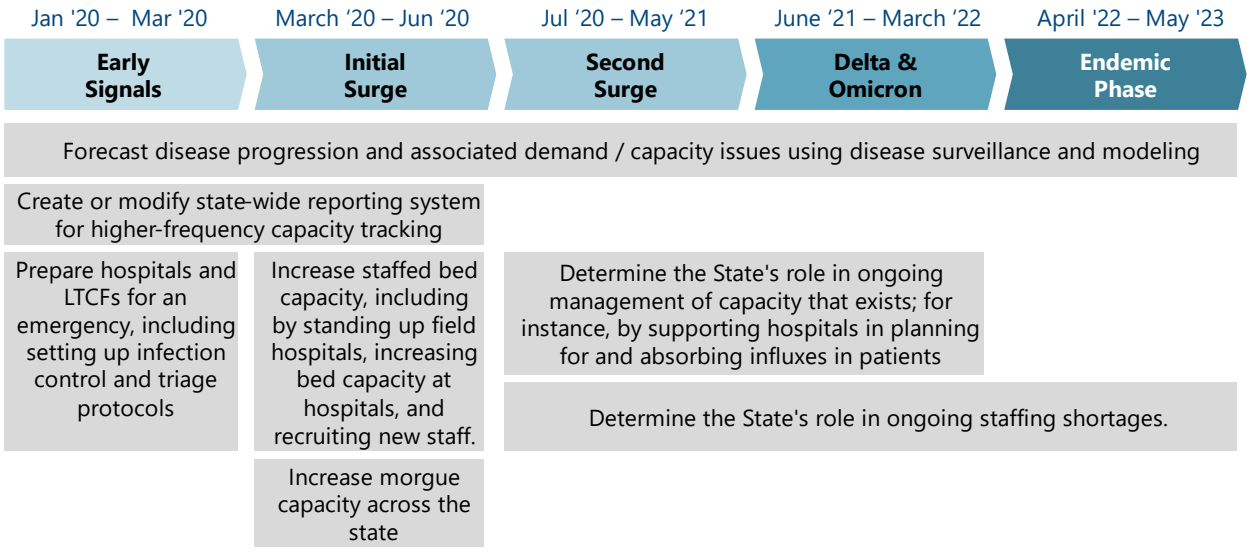
The first step was recognizing that New Jersey's healthcare system was about to be subjected to enormous demands. However, managing capacity across the entire range of healthcare providers depended on maintaining the viability of every link in the chain. Hospitals are only one element of a broader health ecosystem. Other healthcare facilities are equally important in ensuring that hospitals have enough space for patients. For example, a patient might arrive at a hospital via its Emergency Department, be admitted to the ICU if they are especially ill, recover in an in-patient non-ICU bed, and then be released to a rehabilitation facility to receive specialized care for recovery. But if no space is available at a rehabilitation facility, the patient cannot be released from the hospital. Likewise, if no inpatient beds are available, patients cannot be admitted from the Emergency Department. Therefore, to preserve hospital capacity, it is paramount that non-acute facilities be able to receive patients or that alternatives are created.

In addition, the number of new patients that hospitals can accept at any time is impacted by available capacity, or lack thereof, in non-hospital settings. If non-acute facilities (such as urgent care centers and long-term care facilities [LTCF]) also run out of capacity, it increases the demand

on the hospital itself. Expanding healthcare capacity was thus a critical priority of New Jersey's pandemic response.

In non-pandemic emergencies, which are most often local and of much shorter duration, urban and suburban hospitals can adjust their emergency care by having staff work overtime and cooperating with other nearby facilities to redirect ambulances and, if necessary, relocate some patients across area hospitals. During the COVID-19 pandemic, with the nationwide scope of the disease, these measures would be insufficient to accommodate hospital capacity constraints of available beds, staff, and necessary equipment (e.g., ventilators). Instead, states had to take extraordinary measures to manage existing capacity and create additional hospital capacity. Within a few weeks of the first confirmed case in the State, New Jersey used field hospitals, tents, and hospital cafeterias to stand up temporary hospital beds.

Exhibit 1: Different healthcare capacity challenges existed between different pandemic periods



However, hospital beds do not solve the problem unless there is trained staff to go along with them. New Jersey recruited medical personnel wherever possible; the State issued waivers to allow recent graduates and retirees to work and reached out to other parts of the country that had not yet been hit with the virus to borrow qualified workers. While the State considered deploying the National Guard, this would have been self-defeating since the members of the Guard who were trained in healthcare were at work in their normal healthcare positions elsewhere in the State.

The State worked to keep potential patients out of hospitals in multiple ways. As a preventative step, states issued behavioral and industry policies and guidelines to the public to' flatten the curve' or lower the infection rate so that hospitals could handle the most ill at any given moment. To minimize other demands for hospital care, New Jersey temporarily suspended elective medical

procedures, which freed up hospital capacity for the most urgent cases of COVID-19. NJDOH also created emergency crisis standard of care guidelines.

This combination of measures avoided a catastrophic failure of the healthcare system. New Jersey hospitals were pushed to the breaking point but never reached the point of exceeding capacity. This was an especially important accomplishment and even more impressive in light of the brief time to react and the limited amount of information the State had about hospital capacity, patient populations, critical equipment use, and contingency plans.

2. New Jersey's Response

2.1. Key Agencies Involved

Healthcare Capacity Management was initially one of the highest priorities for the New Jersey Department of Health (NJDOH). To better understand what was happening in the hospital system so that it could make informed decisions, NJDOH worked in close coordination with the New Jersey Hospital Association, which compiled and presented data for NJDOH's use. NJDOH utilized predictive modeling to assess the potential impact of COVID-19 on hospitalizations, ICU, and ventilator use, as well as on staff so that the State could provide guidance to hospitals as they planned for upcoming demands. Further, NJDOH directed actions to create healthcare capacity where it did not exist previously, including providing staff and space to make the newly created facilities suitable for patients.

The Office of Emergency Management (NJOEM) was integral in assisting NJDOH during the Initial Surge. When NJDOH sought to determine the number of actual hospital beds in the State, it realized that its data was limited to how many "licensed beds" a given hospital had. A senior member of NJOEM was charged with personally traveling to every one of the State's 71 hospitals to count beds and see for himself what the actual capacity was (often by consulting with the facility's chief engineer, who knew the space best). Over the first few months of the pandemic, NJOEM continued to play a vital role in assisting with the management of healthcare capacity in the State. It coordinated with federal agencies, including the Department of Defense and FEMA, provided planning and operational support, and coordinated buildouts for testing sites, vaccination sites, Field Medical Stations, hospital expansion, and temporary morgues; provided non-congregate sheltering support for individuals and families; and coordinated with and provided guidance to county offices of emergency management.

2.2. Key Decisions

2.2.1. Data Collection and Management

To expand healthcare capacity, the State first needed to receive accurate information about the availability of beds in its hospitals to gauge and plan how to fill the gaps. NJDOH and NJOEM relied on the New Jersey Hospital Association (NJHA) to coordinate hospitals reporting regular data on their capacity, including the number of COVID-19 patients currently at each hospital and the number of beds and ventilators available.

At the start of the pandemic, the State had limited information to gauge the situation and intervene. New Jersey had no real-time data that tracked hospital occupancy or bed availability. The only data available to the State was on maintained beds by facility, given in quarterly or annual reports. Like most other states, New Jersey lacked the ability to track how many total beds existed in the State on a daily or weekly basis, how many beds could be utilized, and how many additional beds were needed as hospitals began to take in more patients. New Jersey had not previously needed this data. Still, as the number of COVID-19 cases increased and more patients were hospitalized, the NJDOH scrambled to establish a system allowing visibility into the state of New Jersey's hospitals.

The NJDOH partnered with the New Jersey Hospital Association (NJHA) because they had close relationships with hospitals within the State. The NJHA is a membership-based advocacy organization comprising all 71 hospitals within the State; relationships and lines of communication between hospitals already existed within the NJHA. During the pandemic, NJHA played a vital role in bridging gaps in communications and coordination between the State and hospitals. NJHA set up COVID-19 data collection and reporting systems to capitalize on its early efforts in this area, and reinforced the need for frequent data reporting from hospitals. By late March 2020, NJHA had launched a capacity-tracking system in the form of a daily survey of all hospitals. As of October 25, 2023, all hospitals still reported daily data.

The NJHA surveys tracked a variety of data fields surrounding patient health, hospital capacity, and hospital workforce, including:

- Case Counts: Number of patients that are COVID-19 positive / Patients Under Investigation (PUI).
- Capacity: Total staffed beds by bed type, total available beds by bed type, COVID-19 positive / PUI patients by bed type, maximum bed availability, COVID-19-positive / PUI patients' ALOS[1] by bed type, COVID-19 positive / PUI patients on ventilators, average number of days on a ventilator.

[1] Refers to average number of days patients spend in hospital.

- **PPE Inventory**: N95s by size, surgical masks, gloves by size, face shields, isolation gowns by size, coveralls by size, ventilators by type (including alt. ventilators), available ventilators by type (including alt. ventilators).
- **Workforce Inventory (weekly)**: Available intensivists, expansion intensivists, critical care physicians, respiratory therapists, RNs, CRNAs, biomedical engineers, and microbiologists.
- **Workforce Shortage**: Total number of needed employees for each role included in the workforce inventory report.
- **Discharge:** COVID-19-positive patients discharged excluding deaths, total patients discharged excluding deaths, COVID-19-positive patients discharged – deaths only, all patients discharged – deaths only.

Today, capacity and staff numbers are still measured, as well as other selected metrics. This is federally mandated until April 30, 2024,[2] at which time the mandates will expire unless either extended by the federal government or issued by the State.

The data measured provides critical information. Day to day, it allows the State to understand the needs of hospitals and increase the health system's resilience. In an emergency, it allows the State to make decisions based on real-time information from hospitals.

Not all healthcare facilities were included in the State's data collection system. For example, the NJHA data tracking system did not cover urgent care centers because not all centers are licensed in New Jersey (meaning NJHA and the State do not have the same interactions with them as they do with hospitals). This poses a potentially significant underreporting of data, as certain urgent care centers in New Jersey are among the largest facilities in the nation in terms of number of patients served. Similar issues on data reporting existed with rehab facilities, ambulatory surgery centers, and LTCFs.

The NJDOH maintained a policy of sharing compilations of data with the hospitals and across government. NJHA verified the data, then sent it to NJDOH, which would further validate before consolidating and sharing it with other NJDOH leaders and stakeholders via "data daily" updates, online COVID-19 data dashboards, and customized visualizations created by McKinsey, a consulting firm hired by the State to assist with data analysis, among other things. The data was used regularly in daily calls among State leaders and in providing current information to computer models, which then predicted the number of cases, hospitalizations, and individuals in need of PPE and other equipment that the State could expect. This informed decision-making and planning for the State or NJHA helped determine how much they needed to intervene to meet these capacity needs. The data also informed decision-making on the part of the State's three regional hospital collaborators (discussed below), who plan for the expected number of COVID-19 patients and

[2] U.S. Department of Health & Human Services. (2020). COVID-19 FAQs for hospitals, hospital laboratory, and acute care facility data reporting. U.S. Department of Health & Human Services. https://www.hhs.gov/sites/default/files/covid-19-faqs-hospitals-hospital-laboratory-acute-care-facility-data-reporting.pdf

prepare the necessary triage capacity, avoid shortages, and relocate patients and staff between hospitals.

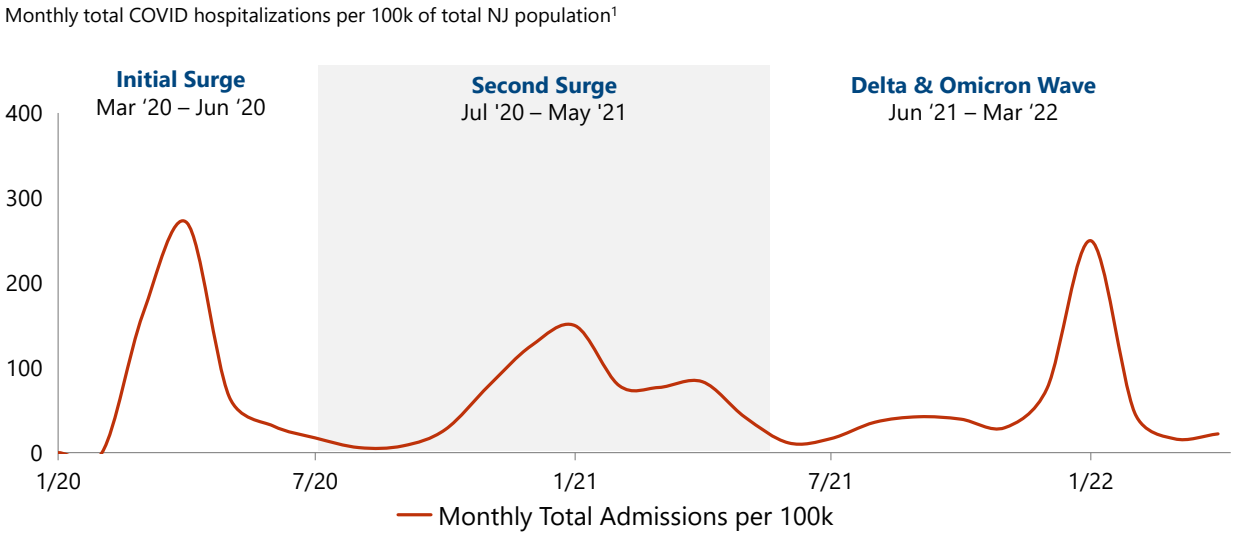
Additionally, in the fall of 2020, the NJDOH created a trigger system requiring hospitals to suspend elective surgeries when bed utilization rose above certain thresholds. This allowed the State to avoid issuing another blanket suspension of elective surgeries (discussed below) and to incentivize improved capacity management. Hospitals did not want to shut down surgeries because of patient preferences and concerns about unutilized capacity.

Overall, hospitals generated and reported significant data during the pandemic. Obtaining that data and thoughtfully analyzing it allowed NJDOH to better understand both existing conditions and the likely future demands on the healthcare system so that necessary preparations could be made for treating patients.

2.2.2. Creating Capacity

During the Initial Surge in early 2020, the number of hospitalizations from COVID-19 quickly grew.

Exhibit 2: Hospitalizations in New Jersey occurred in three distinct phases



1. Total across time range
Note: The CDC COVID Data Tracker, which accounts for all confirmed hospital admissions in the US begins reporting hospital admissions in 08/2020 and was used as the source dataset from that period forward; for 01/2020-07/2020 the CDC Case Surveillance dataset was used, which includes hospitalization data for 36% of cases and accounts for ~50% of all known hospitalizations; hospitalization reporting by state ranges from 0-100% of cases (NJ reported hospitalization data for 90% of cases)
Source: CDC COVID Data Tracker; CDC COVID-19 Case Surveillance Public Use Data with Geography Data Dictionary- Public; CDC Provisional COVID-19 Deaths by Sex and Age- Public

The State recognized the need to expand healthcare capacity early in the pandemic, and set up its first field medical station on April 6, 2020. After New Jersey began to receive robust hospital capacity data from hospitals, the State was able to make more accurate projections of the additional staffed beds required to treat all hospitalized COVID-19 patients in need. The State created hospital capacity by setting up capacity outside of hospitals and expanding existing hospital capacity.

The NJHA was instrumental in working with hospitals to plan for surge capacity. This association was headed by Cathy Bennett, a former New Jersey Commissioner of Health, and the Commissioner under whom the 2015 NJDOH Influenza/Flu plan was developed. Bennett and her organization held a meeting with hospital CEOs on March 3, 2020, to ask CEOs to plan for surge capacity, stand up COVID-19 teams, and update their own structures to collect and update data. During the same call, the NJHA recommended that hospitals track COVID-19 costs in anticipation of reimbursement from the State or federal government.

The USNS Comfort

The USNS Comfort, a U.S. Navy hospital ship with a capacity of 1,000 beds, was deployed to New York City on March 30, 2020, to treat non-COVID-19 patients and ease the pressure on New York hospitals. Governor Murphy and his team lobbied the White House for access to the ship. On April 6, President Donald Trump and Vice President Mike Pence notified Governor Murphy via phone that they had opened bed capacity on the USNS Comfort to New Jersey patients. Despite this initial success, however, the USNS Comfort was not extensively utilized since New Jersey's efforts to expand its healthcare capacity to meet the Initial Surge were sufficient to avoid the overflow of patients who would have needed space on the ship. When the USNS ended its mission some 3.5 weeks after it first docked on the Hudson River, it had only served 182 patients across the two states.

Field Medical Stations

Meanwhile, New Jersey began establishing Field Medical Stations (FMS) with the help of NJOEM and the U.S. Army Corps of Engineers (USACE) to further increase bed capacity. FMSs were the fastest way to increase the number of beds available to serve patients. They were intended primarily as "step-down" facilities for patients who were not in critical condition and no longer needed acute services. In total, the State created an FMS in each of New Jersey's three regions, adding approximately 1,000 additional beds. As part of the State's plan, the FMSs were to be coordinated by regional Level 1 Trauma Centers. They were constructed to mirror the regional spread of the virus, constructing the first FMS in the north, where the virus first hit the State. The field medical stations were as follows:

- First FMS in New Jersey's northern region, supported by University Hospital.
- Second FMS in New Jersey's central region, supported by the Robert Wood Johnson University Hospital.
- Third FMS in New Jersey's southern region, supported by Cooper University Hospital.

Each regional hospital provided local expertise in managing, transporting, and coordinating care capabilities to their respective FMS. To procure the material required to run the sites, including linens, sanitation, and food, New Jersey relied on University Hospital's procurement capabilities, particularly to contract trained healthcare staff for all three FMSs. NJDOH had an existing contract

with a temporary staffing agency, but due to contract limitations, that agency was not able to provide healthcare staff such as nurses, and the process to enter a new contract would have taken too long to meet the urgent need for more staff to respond to COVID-19.

Ultimately, NJDOH relied on University Hospital to contract staff for the FMSs, rather than supply staff directly. In parallel with NJOEM and USACE efforts in standing up FMSs, New Jersey successfully lobbied the federal government for staffing support. In response – and in an unprecedented move – the federal government deployed four DoD medical teams to the State to staff sites. This was necessary because New Jersey could not activate their own NJ National Guard doctors or medics because their 'civilian jobs' were elsewhere in the New Jersey healthcare system.

While federal requirements initially limited FMSs to non-COVID-19 patients, the State approved FMSs for treating COVID-19 patients who no longer suffered from acute needs. This move significantly improved the availability of hospital capacity, as it freed hospitals from the emergency model of serving only non-COVID-19 patients. In other states, hospital systems did not expand capacity as early as New Jersey. The FMSs were shut down in late May 2020, as the first wave of cases ebbed, and the State saw that FMS capacity was not extensively utilized.

Increasing Hospital Capacity

During the initial surge, the NJDOH issued guidance to all hospitals to increase Intensive Care Unit (ICU) capacity by at least 50% and requested that hospitals report their ability to increase other types of beds. As the pandemic continued, the NJDOH and NJOEM worked with hospitals (with assistance from the USACE) to identify spaces where they might be able to add additional beds and address hospital needs in expanding capacity. The State included considerations of refitting non-patient areas, using mothballed facilities, constructing tents, and upgrading unused wings. NJDOH also issued waivers that allowed hospitals to operate additional beds, which would otherwise need certain licensing approvals that normally require a lengthy process to obtain.

To enable hospitals to find the staff they required to operate additional beds, NJDOH issued many waivers to allow for an expansion of the workforce. These waivers included allowing recently retired healthcare staff, nursing and medical school students, and out-of-state staff to report to work.

In addition to simply increasing the number of staffed medical-surgical beds, hospitals needed to expand their ability to treat particularly sick patients. Ventilators and oxygen were in particularly short supply. In response, the NJDOH and NJOEM closely tracked ventilator usage and sourced ventilators, including securing them from the FEMA national stockpile and borrowing surplus equipment from California. The NJDOH and NJOEM worked with regional collaborators to move ventilators and patients as medically necessary. Fortunately, in large part due to the State's extensive projections of ventilator demand and strict management of its supplies, New Jersey never utilized its total inventory of ventilators, although it came remarkably close to doing so.

Hotels

The State contracted with hotels to create further emergency capacity, planning to use them as non-acute step-down and rehabilitation facilities for those who had tested positive for COVID-19 but were no longer at risk. At the beginning of the pandemic, the Governor's Office also discussed with Rutgers University the prospect of its campus dorms being used as hospitals, though they did not have a staffing plan to operationalize that potential additional capacity. These measures were never implemented since the State ultimately did not require all of the additional 36,000 beds that they originally anticipated.

Long Term Care[3]

Hospitals maintain capacity by discharging patients before accepting new ones. Thus, during the pandemic, it was critical to ensure that patients had a place to go. To address this, the New Jersey Department of Health issued a directive in late March, requiring nursing homes to readmit COVID-19-positive patients if they were able to institute proper infection control protocols, including cohorting of COVID-19-positive patients. Only two weeks later, the New Jersey Department of Health would issue an emergency curtailment of its prior directive to nursing homes regarding the admission of COVID-19-positive patients.

In the wake of the Department of Health's issuance and prompt retraction of its directive to nursing homes, there was criticism that the State was putting nursing home residents at further risk. To address this and further protect residents, and after hearing from multiple nursing homes that they were unable to institute the proper infection control protocols, the State contracted with CareOne, Alaris, and Genesis to set up more than 1,000 beds in dedicated wings or entire facilities that had been reserved for COVID-19-positive patients. Further, to help mitigate the especially acute staffing shortage in nursing homes, the State issued waivers for student workers and created an 8-hour program to temporarily license Certified Nursing Assistants. The State eventually deployed non-clinical National Guard staff to nursing homes to support tasks other than direct patient care.

2.2.3. Effectively Managing Capacity

In addition to creating new healthcare capacity, NJDOH focused on effectively managing what capacity there was. In the early days of the pandemic, as outlined previously, the State took severe measures to accomplish this. However, as the pandemic progressed, bed shortages became less acute, and hospitals were better able to manage their capacity. At the height of the Omicron Surge in late 2021, the number of people hospitalized from COVID-19 peaked at approximately 6,000 patients, while the peak was around 8,000 during the Initial Surge. Thus, the overall improvements made by hospitals, the changing nature of the disease, and the introduction of highly effective vaccines required less intervention from the State.

[3] Note: **Chapter 6** of this report is entirely dedicated to congregate care. Here, we only discuss the topic as it relates to protecting healthcare (especially hospital) capacity.

Crisis Standards of Care

Before the pandemic, New Jersey had not adopted State-wide crisis standards of care, despite available federal funding. Crisis standards of care are a standardized guide to prioritize which individuals receive care in the event healthcare resources are too limited to serve all patients. At the onset of the pandemic, the State lacked the necessary crisis standards of care, and it became clear immediately that they would be required.

In response, the NJHA issued recommendations to the members for crisis teams and triage. However, the State quickly took over responsibility and developed two types of crisis standards through an NJDOH Professional Advisory Committee (PAC) composed of doctors, hospital administrators, researchers, and medical ethicists:

- The first type of crisis standard evaluated how to loosen requirements for nurse-to-patient ratios, frequency of patient visits, and other activities that were nearly impossible to accomplish, given the staffing shortages.
- The second type of crisis standard recommended the actions hospitals should take in the event that there were not enough life-saving care capabilities (e.g., ICU or critical care capacity) available to treat those in need.

The NJDOH published the first version of its "standards,"[4] including principles for prioritizing ventilator usage, on April 11, 2020. The guidance was based in large part on standards of triage that transplant organizations use for organs, with further input from the disability community. While the NJDOH originally intended for the triage criteria to prioritize individuals who were likely to survive six months to a year after hospital discharge, ultimately, the NJDOH's directive defined criteria for the most prioritized patients as those who were likely to survive to the point of discharge. This was due to advocacy from the disability community, which argued that the first definition excluded too many in need of post-acute care.

Elective Surgeries

Additionally, New Jersey moved quickly to suspend elective medical procedures to free up capacity to care for COVID-19 patients and non-COVID medical emergencies. Governor Murphy suspended elective procedures via Executive Order (EO) 109[5] beginning March 27th, 2020.

Because elective medical procedures cover a broad range of surgeries, including most scheduled surgeries, their suspension can significantly impact patient health and hospital solvency. Thus, while an effective way to expand hospital capacity, elective procedures needed to be reinstated quickly.

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[4] New Jersey Department of Health. (2020). Allocation memorandum revised. Retrieved from https://www.nj.gov/health/legal/covid19/AllocationMemoRevised.pdf

[5] Murphy, P. (2020, March 23). *Executive Order No. 109.* State of New Jersey.

The suspension was lifted on May 15th, 2020, after the first wave of cases subsided. In the interim, the State provided hospitals with a significant emergency injection of cash to keep them solvent.

In the fall of 2020, as cases slowly increased, NJDOH developed and mandated a trigger system for individual hospitals to suspend elective surgeries if occupancy passed a certain percentage of total capacity. This served a dual purpose of solving acute capacity strain and incentivizing hospitals (which never want to suspend elective surgeries, given they are a source of revenue) to manage capacity in other ways. This trigger system also meant that only the hospitals facing the most capacity pressures needed to suspend elective surgeries, rather than all hospitals being affected.

Redistribution of Patients

During the pandemic, there were two vehicles for regional coordination across hospitals: the Healthcare Coalitions Consortium (HCC), which significantly predates the pandemic, and the three Regional Collaborators, established by the Commissioner at the onset of the pandemic.

The HCC system was established prior to the pandemic to help medical facilities and emergency management response agencies plan for and respond to emergencies. The HCC was the recipient of federal grants for preparedness, and had established relationships with state and local OEMs. Hospitals participated through three regional coalitions in North, Central, and South Jersey; each regional HCC was led by emergency management leaders from different hospitals in the region, rather than a single hospital.

Regional Collaborators were established by NJDOH during the pandemic and were set up independently of the HCC system specifically for the COVID-19 response. Three large hospitals (one Level 1 Trauma Center in each of North, Central, and South Jersey) served as the single Regional Coordinator of each region, and were tasked with facilitating collaboration across hospitals, LHDs, and the FMSs surrounding them. The designated Coordinators were in regular communications with NJDOH leadership and were the primary points of contact for updated data, projections, and plans for how capacity of the systems would be enhanced, as well as coordination of efforts that required a regional perspective.

By organizing in this manner, communications to and from NJDOH were made more efficient, and the hospitals had access to statewide data and were able to help collectively resolve issues across hospital systems. This allowed hospitals to help each other by redistributing patients, staff, and supplies as necessary. Collaboration was smoother if hospitals belonged to an existing data-sharing network, as systems of transferring patient data and electronic medical records were already in place.

Once the State set up the Regional Collaborators, the hospitals themselves established processes and criteria for redistribution. Additionally, to avoid unnecessary hospitalizations, NJDOH issued an Executive Directive that allowed EMS first responders to leave patients at home if the patients were deemed well enough to remain there and if they requested not to be hospitalized. While this was helpful for alleviating hospital capacity constraints, a patient who opted to stay home sometimes

encountered difficulty with homecare and hospice personnel who did not always have sufficient PPE or other equipment.

After the most severe capacity challenges occurred during the initial surge, hospitals improved their ability to manage capacity over time. The State took a much less active role in intervening in later waves of the pandemic but kept hospital bed and staff licensing waivers in place.

2.2.4. Morgue Capacity

In March 2020, the overwhelming number of people hospitalized and passing away from COVID-19 created another challenge. The entire path for the deceased from death to final resting place had reached capacity. Burial grounds and crematoriums faced significant backlogs. In turn, funeral homes reached capacity, as well as morgues in hospitals, nursing homes, and other places of death. The tragedy of losing loved ones to COVID-19 was heightened by the inability to hold funerals or engage in other forms of death planning. Thus, morgue capacity was a pressing concern for the State.

The Office of the Chief State Medical Examiner (OCSME) anticipated the challenge posed by potential excess deaths as early as February 2020, when it began to conduct internal capacity planning based on morgue capacity trends observed in Seattle, WA, and abroad. However, this early planning was not aligned with other state agencies. OCSME issued the first advisory email regarding handling human remains on March 10, 2020, but the Office did not procure refrigerated trucks or additional space until the first official request for assistance from a medical facility was sent to the State Emergency Operations Center (EOC) on March 18. By then, the time between initial discussion and planning and mobilization of mortuary services was too long, and several other facilities also experienced insufficient mortuary capacity in the following weeks. Unfortunately, this often led to the improper storage of remains.

OEM also played a key role in managing the sudden increase in demand for mortuary services. The agency worked with the Funeral Directors' Association, New Jersey State Police, the Office of the Chief State Medical Examiner (OCSME), and the Public Information Office to coordinate the processing of the overflow of deceased persons in the State's morgues. OCSME also issued waivers allowing crematoriums to extend their hours.

Key issues the State addressed related to morgue services included:

- Finding and procuring enough refrigeration to store bodies
- Identity verification of corpses
- Servicing unclaimed remains

The State procured 20 refrigerated trailers and a refrigerated floral warehouse to store bodies when delivery of the trailers was delayed. In total, 699 deceased people were managed through temporary facilities set up by the State. Once deaths began to decline, funeral homes were able to

begin operating normally once again, and emergency morgue services were phased out in May 2020.

Additional Measures to Increase Healthcare Capacity

In January 2022, Governor Murphy reaffirmed the relaxation of licensure requirements and expansion of the scope of practice to continue allowing increased staff supply. In addition, the NJDOH issued regular forecasts on bed occupancy. This enabled the Commissioner to have discussions with hospitals and related associations months before the peak of the Delta/Omicron Wave. She warned them that they should anticipate that 30% of their staff could be sidelined with infections at any given time and that they should plan accordingly.

In August of 2021, the State issued a vaccine-or-test mandate for healthcare workers to help them protect themselves and patients as cases increased.

Other Agency Efforts to Create Emergency Capacity for Congregate Care Settings

Other agencies undertook their own efforts to create surge bed capacity.

- *DHS created 495 non-licensed surge capacity beds for facilities licensed by the Division of Developmental Disabilities.*
- *DCF provisioned the Katzenbach School for the Deaf with additional supplies and equipment to support temporary quarantine housing. In the event that any congregate care setting under DCF purview proved unable to provide a therapeutic and safe environment to the children in its care, DCF wanted the ability to respond appropriately. Additionally, they required all settings to submit to DCF 'go files' for children under care so that support could remain continuous in the event of a further emergency.*

Budget and Funding

Hospitals' efforts to limit capacity, such as suspending elective surgeries and discouraging non-emergency hospital visits, lowered emergency department cases by 23%, hospital admissions by 8%, and outpatient visits by 22%.[6] However, hospitals suffered significant financial impacts as a result of these healthcare capacity management decisions. Between 2019 and 2020, average patient revenues declined by 6.6%, expenses increased by 12%, and operating margins fell from 3.7% to -4%. These declines impacted hospitals' abilities to operate. Although federal funds were issued to provide acute financial relief during the pandemic, they were not enough to address hospitals' long-term losses caused by lingering capacity issues.

[6] New Jersey Hospital Association. (2020, October). *CHART Bulletin Series | VOL.13, October 2020*. https://www.njha.com/media/608961/CHART-COVID-Mid-Year.pdf

3. Comparison to Other States[7]

All comparison states (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) implemented interventions to manage healthcare capacity similar to New Jersey. These interventions included suspending elective surgeries, setting up field medical stations, and increasing staff capacity. These states fell into three broad categories of the healthcare capacity management strategies they prioritized. States expanded healthcare capacity through multiple initiatives, either focusing mainly on increasing bed capacity, and finally, ad hoc programs on a smaller scale.

For example, California, Illinois, and New York had extensive involvement from the state in expanding healthcare capacity, i.e., increasing bed capacity, setting up field medical stations, and expanding staffing. Like New Jersey, Ohio and Pennsylvania played less expansive roles in healthcare capacity, and focused mostly on expanding bed capacity. Florida and Virginia generally took smaller-scale interventions than the other comparison states regarding expanding healthcare capacity.

3.1. Bed Capacity

As discussed above, New Jersey actively monitored available bed capacity, focusing on hospitals, and put in place a variety of interventions to ensure that sufficient capacity was available across the State. Although other states put similar monitoring and some level of intervention in place to ensure available capacity (such as facilitating transfers within or across regions), New Jersey intervened more heavily, particularly during the Initial Surge.

One metric to gauge a state's ability to manage hospital bed capacity is the number of days for which the majority of its beds were filled and thus unavailable for use. More specifically, states are compared based on how many days less than 10% or 20% of its hospital beds were open.

New Jersey was successful in preventing severe shortages of total inpatient bed capacity, a significant achievement considering the extremely high number of infections in the State in the first part of the pandemic. New Jersey, along with Illinois and Virginia, were the only three states in the comparison set that had zero days with less than 20% capacity for available inpatient beds; in order words, the states consistently had at least 20% of their beds available for use. New Jersey was tied for first in the country on this metric. Pennsylvania was the worst-performing state in the comparison set, with 320 days with less than 20% inpatient bed capacity, meaning it consistently saw more than 80% of its available beds filled and endured prolonged stress on its hospital

[7] Benchmark states for **Chapter 5** (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in the **Appendix.**

capacity. No states in the comparison set had any days where only 10% of inpatient bed capacity was available.

Similarly, there were very few days where New Jersey had less than 20% of its ICU capacity available; for nearly all of the pandemic, under 80% of its ICUs were filled. Only Illinois and Virginia in the comparison set had fewer days where less than 20% of their ICU capacity was open; both states never fell below 20% of their available ICU capacity. There were only 3 days where New Jersey's available ICU bed capacity fell below 10%. In the state comparison set, California (at 5 days), and Florida (at 33 days) performed worse on this metric. The other five comparison states – Illinois, New York, Ohio, Pennsylvania, and Virginia – never had less than 10% of its ICU bed capacity available.

Exhibit 3: The number of days comparison states had limited hospital bed capacity varied by bed type

		State with most days of limited capacity	NJ's days with limited capacity	CA's days with limited capacity	FL's days with limited capacity	IL's days with limited capacity	NY's days with limited capacity	OH's days with limited capacity	PA's days with limited capacity	VA's days with limited capacity
Inpatient beds	Days with <20% capacity	650 days Rhode Island	0 days Tied for 1st	46 days 31st	123 days 40th	0 days Tied for 1st	112 days 36th	27 days 29th	320 days 47th	0 days Tied for 1st
Inpatient beds	Days with <10% capacity	205 days Rhode Island	0 days Tied for 1st	0 days Tied for 1st	0 days Tied for 1st	0 days Tied for 1st	0 days Tied for 1st	0 days Tied for 1st	0 days Tied for 1st	0 days Tied for 1st
ICU beds	Days with <20% capacity	558 days Texas	7 days 5th	112 days 27th	214 days 38th	0 days Tied for 1st	18 days 10th	58 days 20th	190 days 36th	0 days Tied for 1st
ICU beds	Days with <10% capacity	165 days Texas	3 days Tied for 34th	5 days Tied for 35th	33 days 43rd	0 days Tied for 1st	0 days Tied for 1st	0 days Tied for 1st	0 days Tied for 1st	0 days Tied for 1st

Challenged (4th quartile) Fair (3rd quartile) Good (2nd quartile) Excellent (1st quartile)

1. Number of ICU beds reported occupied in the state as a percentage of the ICU beds reported in the state. Only includes hos pitals reporting both staffed beds and census.; 2. Number of adult inpatient beds reported occupied in the state as a percentage of the staffed beds reported in the state (Inclusive of I CU beds). Only includes hospitals reporting both staffed beds and census.; Source: HHS COVID -19 Reported Patient Impact and Hospital Capacity By State Timeseries

3.1.1. Staff Capacity

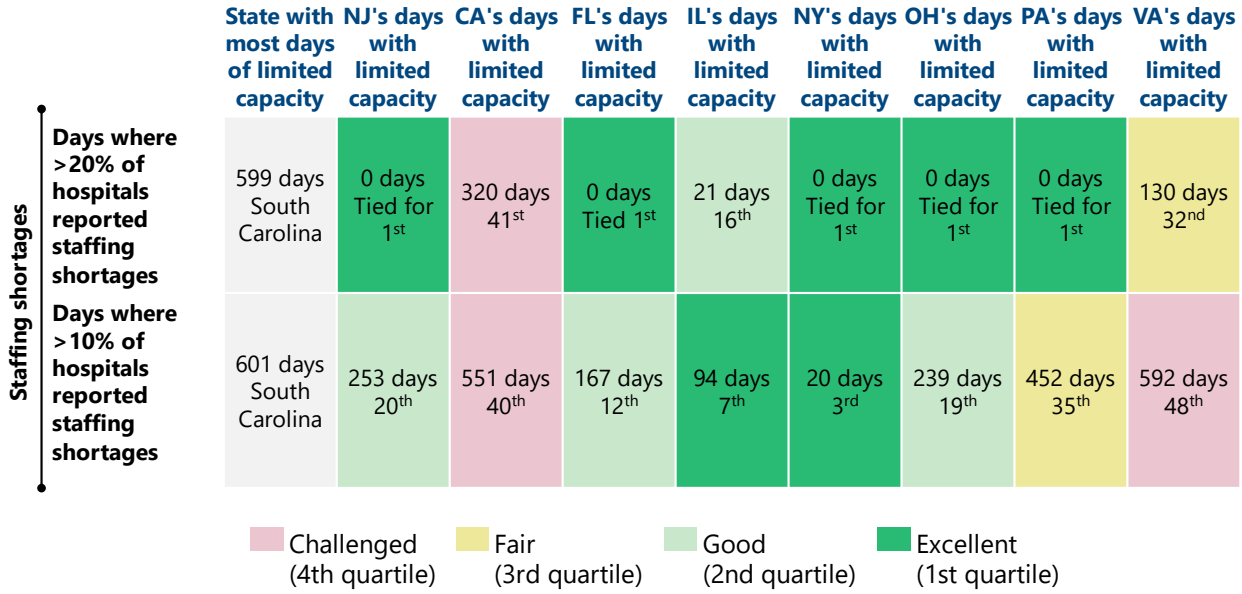
In contrast to its actions to ensure adequate bed capacity, New Jersey took a less direct role in managing the state's healthcare workforce. New Jersey did not directly hire additional nurses and other healthcare staff on behalf of providers, unlike other states like New York. This was in part due to the challenges of New Jersey's procurement process in quickly hiring new staff.

States' staffing capacities are compared based on the number of days where a sizable portion of their hospitals reported staffing shortages. Five states in the comparison set, including New Jersey, experienced zero days where more than 20% of hospitals reported staffing shortages, placing the

State in a tie for 1st place. However, when it came to days where more than 10% of hospitals reported staffing shortages, Illinois, New York, and Florida performed better than New Jersey, which experienced 253 days with more than 10% of hospitals reporting staffing shortages and which was 20th in the country.

For every state in the comparison set, the state experienced hospital staffing shortages at least once. No comparison state experienced zero days of shortages; the best performing on this metric was New York, with 20 days where more than 10% of hospitals reported staffing shortages, placing the State at 3rd in the country.

Exhibit 4: Number of days comparison states had insufficient staff varied by state



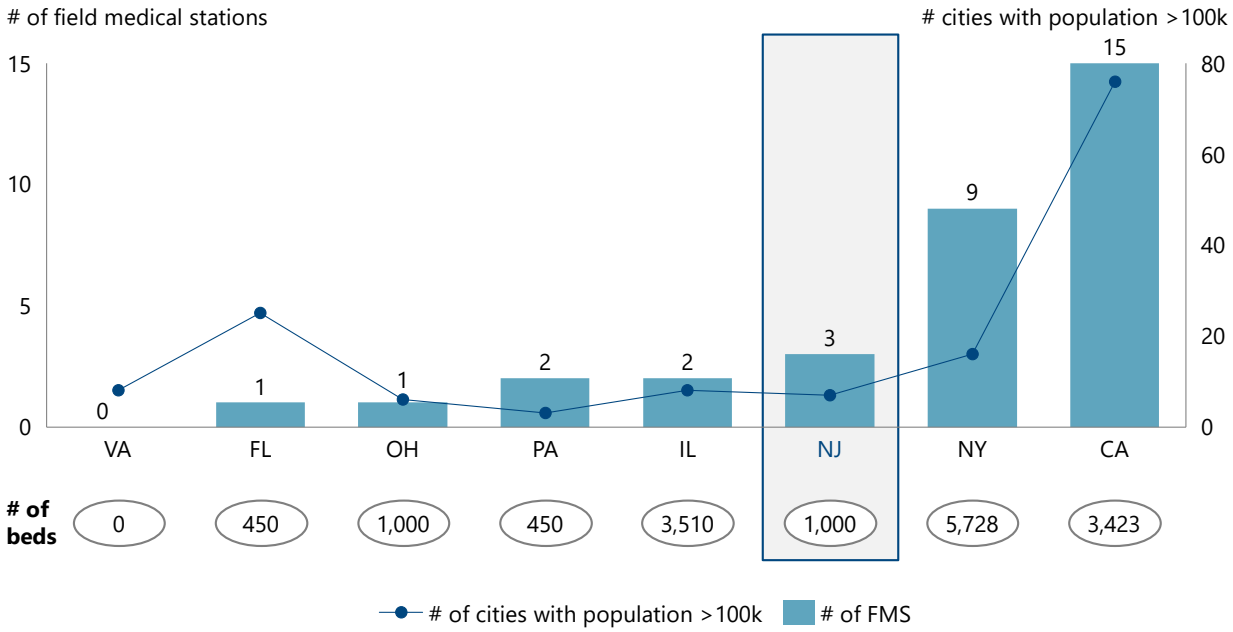
1. Count of times more than 20% of hospitals reported staffing shortages (denominator is hospitals which answered the questio n)
Source: HHS COVID -19 Reported Patient Impact and Hospital Capacity By State Timeseries

3.2. Field Medical Stations

Different states had differing levels of demand for additional beds. For example, California, New York, and Illinois built large field medical stations to expand hospital capacity by thousands of beds, like New Jersey. Virginia, however, did not set up any field medical stations and still did not experience any days where less than 20% of its inpatient bed or ICU bed capacity was free.

States also differed in their approaches toward the sizes of their field medical stations: California and Illinois both created capacity for around 3,500 new beds, but California spread them out across 15 field medical stations, while Illinois concentrated them in just two. New Jersey fell in the middle of the spectrum of the state comparison set, opening three field medical stations to create 1,000 new beds.

Exhibit 5: California led the comparison states with the number of FMSs set up



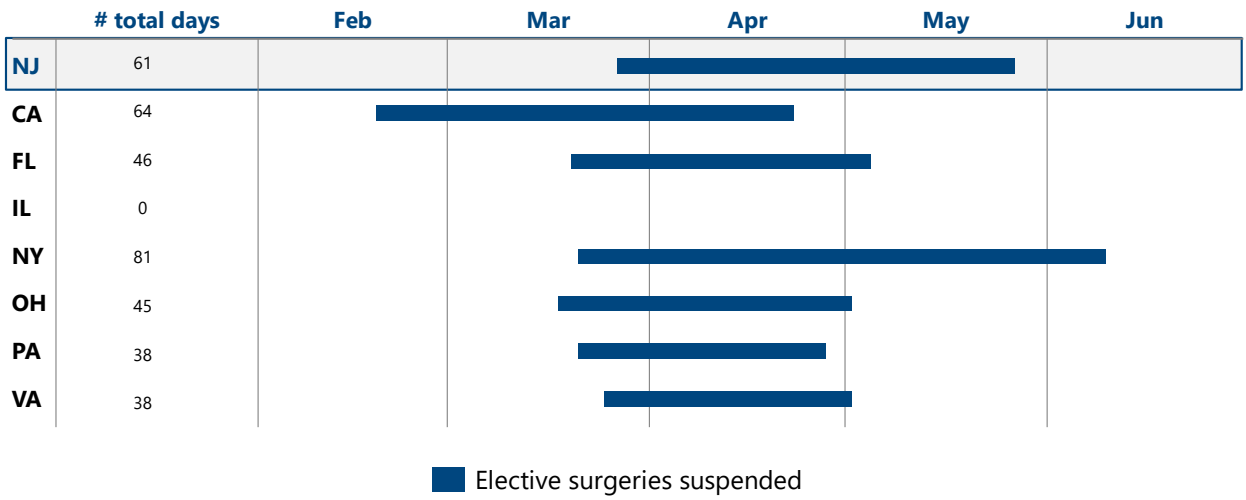
3.3. Elective Surgery

Illinois was the only state in the comparison set to never suspend elective surgeries. The other six comparison states all suspended elective surgeries beginning between March 18 and March 25, 2020. Despite being one of the first states in the country to be hit with COVID-19, New Jersey was the last of the comparison states to suspend its elective surgeries. New Jersey suspended elective surgeries comparatively late, on March 27. The earliest state to do so was California, on February 19, 2020.

New Jersey also reinstated elective surgeries later than most states. New York was the only comparison state to lift its suspension of elective surgeries later than New Jersey. New Jersey lifted its suspension on May 26, 2020, and New York lifted it on June 8.

New Jersey had the third-longest total duration of elective surgery suspension at 61 days, with New York's suspension lasting 81 days and California's lasting 64 days.

Exhibit 6: New Jersey suspended elective surgeries for longer than all comparison states, except New York and California



4. Key Strengths and Challenges

Overall, New Jersey successfully managed healthcare capacity, as demonstrated by the fact that its hospitals never ran out of bed capacity despite challenges with procurement, staffing, and morgue capacity. The State did not have robust emergency preparedness plans for a public health emergency of this scale at the outset of the pandemic. However, the NJHA played an essential role in supporting NJDOH with the response, collecting data, and liaising between hospitals to direct needs.

The data NJHA was able to collect from hospitals was invaluable in epidemiological projections that accurately predicted the amount of capacity New Jersey needed, particularly in later surges like Delta and Omicron. Furthermore, although capacity management on the Statewide level was successful in many aspects, the heroic efforts of individual healthcare staff cannot be understated, particularly when many hospitals were understaffed during the pandemic, resulting in overwork for healthcare workers.

Strength The State of New Jersey, in partnership with the NJHA, effectively set up a system to track hospital capacity. This included data ingestion and management systems to track available beds, equipment, and staff. They used the data collected to make crucial decisions. Hospitals, via regional collaborators and HCCs, regularly made decisions based on the data, including how to adjust capacity and transfer patients. NJDOH, with support from NJHA, also devised policy based on the data, including PPE allocation models and thresholds for suspending elective surgery. Further, they used the data to make accurate projections, providing useful tools to help hospitals and other

facilities understand when to surge. These models and decisions ultimately contributed to New Jersey hospitals never running out of beds.

Strength The State of New Jersey was able to quickly fill a capability and capacity gap around data analysis by bringing in the consulting firm McKinsey. The consultants were able to provide regular data analysis that was needed to inform crucial and time-sensitive decisions around healthcare capacity management, among other decisions. While the need for consultant support in this manner is a reflection that NJDOH and NJOEM did not have this capability in-house, and though NJDOH could benefit from more of this type of capability in-house going forward, the need for this particular depth and frequency of analysis was limited to the early stages of the pandemic, and use of consultants was a flexible way to rapidly increase this capability, versus the slower process of creating new roles and hiring for them.

Strength New Jersey hospitals had highly interoperable systems of keeping electronic health records (EHR) data. New Jersey has several Regional Health Information Organizations (RHIOs), which are health systems or providers that help other providers set up proper EHR technology and exchange EHRs with other providers. These systems made it easier to manage capacity by triaging patients between hospitals during the pandemic, as the patient's health information could be seamlessly transferred.

Strength Despite being one of the states that faced the highest disease burden, especially during the initial outbreak, New Jersey never ran out of hospital beds or ventilators. The State's early focus on increasing its hospital capacity resulted in an increase in staffed bed capacity by as much as 50%. Moreover, support from other states (e.g., ventilators from California) and forward-looking decisions to expand bed capacity in hospitals, stand up FMSs and staff them using DoD personnel, and suspend elective surgeries also contributed to sufficient staffed bed capacity.

Strength Although FMSs were ultimately not extensively utilized, the State was able to set up FMSs in a remarkably brief time. The State moved quickly to meet its projected gap in hospital bed capacity and efficiently expanded capacity with federal support. Furthermore, the State remained responsive to updated capacity data to avoid wasting resources on FMSs. After data showed FMSs were not widely used, the State began closing FMSs as early as the Initial Surge.[8]

Strength As the pandemic progressed, the State was able to take less of a hands-on role in managing healthcare capacity and relied on Regional Collaborators and the NJHA's HCCs to redistribute patients, staff, and equipment as necessary, and by designing policies to trigger for individual hospitals rather than at a state or system level. This protected hospital operations and allowed New Jersey residents to continue receiving COVID-19 and non-COVID-19 care.

Strength The State built consensus and collaboration across hospitals, which led to an unprecedented level of coordination between the state government and the healthcare delivery

[8]Johnson, B. (2020, May). NJ closing one field hospital that was set up to handle coronavirus patients. NJ.com. https://www.nj.com/coronavirus/2020/05/nj-closing-one-field-hospital-that-was-set-up-to-handle-coronavirus-patients.html

system as well as among the State's largest hospitals. This was partly because of Commissioner Persichilli's regular presence on calls, the leadership of the NJHA, and the State's approach to ensuring transparency in its data and regulation.

Challenge Challenging procurement processes proved a significant hurdle to the State in staffing FMSs. Ultimately, NJDOH was unable to use its normal staffing contractor and had to rely on University Hospital to obtain a portion of the equipment and support staff necessary to create FMSs.

Challenge Staffing shortages were ultimately a bigger challenge for New Jersey than hospital bed capacity. While the State was able to obtain additional healthcare staff from external sources, including the Department of Defense, ultimately it was unable to fully address its staffing shortages. This was felt most keenly in long-term care facilities (See Chapter 6 for a more detailed review of long-term care facilities), as hospitals had the funds to hire expensive out-of-state health workers (e.g., traveling nurses). In the early days of the pandemic, had there been as many patients as the 'worst case scenario' model predicted there would be, there would not have been enough staff to cover the additional beds needed to care for patients.

Challenge As in other states that COVID hit hardest in the first wave, New Jersey had a severe morgue capacity shortage, as crematoriums, funeral homes, and hospitals reached capacity for deceased persons. There was insufficient planning or reaction to this, and before State-provided trucks arrived and warehousing was sourced, drastic measures were taken to store deceased persons.

Challenge Like many states, data on available hospital capacity was largely non-existent at the start of the pandemic. Furthermore, the daily data collection initiated by the NJHA was initially time-consuming for hospitals to complete. Data was input manually, and additional types of information were required as the pandemic continued. This underscored the lack of a cohesive hospital data collection system in New Jersey prior to the pandemic.

Challenge As in most other states, New Jersey had not made sufficient investments in emergency preparedness pre-pandemic. Specifically, it had been unable to pass Statewide crisis standard of care guidelines. Because of this, NJDOH had to design crisis standards of care during the first wave, when they were already needed. New Jersey should adopt crisis care standards so that they are in place when the next public health emergency occurs and can be implemented immediately.

Challenge The level of emergency preparedness in the healthcare delivery system (hospitals, congregate care facilities (see Chapter 6 for a more detailed review of congregate care facilities) varied significantly by facility. While some hospitals were able to quickly identify mechanisms to expand capacity and implement them, others were caught ill-prepared.

New Jersey was able to mobilize its resources to meet healthcare capacity constraints quickly and under pressing circumstances. The State and NJHA were able to quickly stand up additional hospital capacity through avenues like FMSs, and proactively organize data reporting mechanisms that did not exist before. However, the fact that New Jersey lacked the preparation to do so is a notable concern.

NJDOH lacked a strong emergency management plan to coordinate the State's hospital systems – the systems to collect hospital capacity data and redistribute patients were largely created during COVID-19, rather than institutionalized before the pandemic. While the HCC model had existed as an emergency management mechanism, it was not sufficiently trained, which was illustrated by the NJDOH establishing Regional Collaborators in its stead. Finally, challenges with procurement hindered the State's ability to expand healthcare capacity, exacerbating issues with staffing shortages and mortuary capacity.

For further details on how to address these issues, see Chapter 7 Recommendations, particularly Recommendation 6, Recommendation 11, Recommendation 13, and Recommendation 17.

5. Appendix

A-1 Chronology of Events in New Jersey

Creating and Managing Capacity

- **March 3, 2020**: Cathy Bennett of the NJHA organizes a meeting of hospital CEOs to ask hospitals to plan for surge capacity, stand up COVID-19 teams, and update their own structures to collect and update data.
- **March 4, 2020**: The first COVID case was identified in New Jersey.
- **March 13, 2020**: NJDOH issued temporary operational waivers for hospitals.
- **March 19, 2020**: The Department of Law and Public Safety's Division of Consumer Affairs issues waivers to allow healthcare providers licensed in other states to obtain New Jersey temporary licensure and provide services to New Jersey patients either through telemedicine or in-person.
- **March 23, 2020**: Governor Murphy issued EO 109, which ordered that as of 5:00 p.m. on Friday, March 27, 2020, all "elective" surgeries performed on adults, whether medical or dental, and all "elective" invasive procedures performed on adults, whether medical or dental, would be suspended in New Jersey.[9]
- **In late March 2020**, NJOEM began work to create 1,000 additional hospital beds with assistance from the US Army Corps of Engineers.
- **March 24, 2020**: Three field hospitals were stood up with a capacity for about 1,000 patients, with staff supplied by FEMA and University Hospital.
- **March 26, 2020**: NJDOH issued waivers for routine third-party inspections.
- **March 27, 2020**: NJDOH issued Executive Directive 20-004, which authorized long-term care facilities to use certified nurse's aides whose certification was in good standing in other states.
- **March 28, 2020**: Per EO 111, Healthcare facilities were required to report daily beds and occupancy as well as inventory of ventilators, respirators, and anesthesia machines (per EO 111).[10]
- **March 30, 2020**: NJDOH established a program to use hotels for discharged COVID patients in need of a safe place to convalesce.
- **March 31, 2020**: NJDOH issued a directive[11] requiring that nursing homes admit patients who had been discharged from the hospital for COVID (admission or readmissions could not be

[9] Murphy, P. (2020, March 23). *Executive Order No. 109*. State of New Jersey.
[10] Murphy, P. (2020, March 28). *Executive Order No. 111*. State of New Jersey.
[11] New Jersey Department of Health. (2020, March). Hospital discharges and admissions to post-acute care settings. https://www.nj.gov/health/healthfacilities/documents/CN/temp_waivers/HospitalDischarges_and Admissions_toPost-AcuteCareSettings.pdf

denied "solely based on a confirmed COVID diagnosis") so long as the facility could comply with COVID-based requirements such as cohorting.

- April 1, 2020: EO 112 further eased staffing requirements, authorizing practice for out-of-state licensed professionals more broadly, as well as the return of staff who had retired within the last 5 years, with limited immunity from liability. EO 112 also expanded the scope of practice for healthcare staff.[12]
- April 3, 2020: The Department of Law and Public Safety's Division of Consumer Affairs issues waivers that permit temporary re-activation of healthcare licenses that lapsed within the last 5 years.
- April 6, 2020: First Field Medical Station opens.
- April 7, 2020: NJ received 100 ventilators from California (that were returned when California infections later reached their peaks).
- April 11, 2020: The NJDOH published the first version of its crisis of care "standards," including principles for prioritizing ventilator usage.[13]
- April 13, 2020: NJDOH issued an emergency curtailment order to prohibit admission and readmissions of individuals to LTCFs if the facilities did not have the ability to appropriately cohort patients and staff following Centers for Disease Control and Prevention (CDC) guidance for infection prevention and control and maintain adequate staffing.
- April 14, 2020: NJDOH issued a rule waiver creating a process for individuals to become temporary nurses' aides and permitted long-term care facilities to use temporary nurses in their facilities.
- April 16, 2020: NJDOH partnered with CareOne to stand up 707 COVID-capable beds for nursing home patients being discharged from hospitals. Contracts were finalized with Alaris on April 24, 2020, and Genesis on May 14, 2020, to designate an additional 522 beds for this purpose as well.
- April 17, 2020: NJDOH sought to further alleviate pressure on healthcare system capacity by expanding the authorized use of telemedicine.[14]
- May 5, 2020: The Department of Law and Public Safety's Division of Consumer Affairs issued a waiver that permitted recent graduates of certain nursing, pharmacy, physician assistant, and respiratory care schools to obtain emergency graduate licenses.
- May 7, 2020: Governor Murphy deployed the NJ National Guard to address staffing shortages in LTCFs.

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[12] Murphy, P. (2020, April 1). *Executive Order No. 112*. State of New Jersey.

[13] New Jersey Department of Health. (2020). Allocation memorandum revised. https://www.nj.gov/health/legal/covid19/AllocationMemoRevised.pdf

[14] New Jersey Department of Health. (2020, April 17). *Telemedicine permitted to replace on-site visits by health care practitioner.* https://www.nj.gov/health/legal/covid19/4-17-2020_TelemedicinePermitted_toReplaceOn-SiteVisit_byHealthCarePractitioner.pdf

- May 15, 2020: Governor signs EO 145 allowing elective surgeries to again resume in the State as of May 26.[15]
- Late May 2020: NJ shuts down its Field Medical Stations.
- July 13, 2020: The Department of Law and Public Safety's Division of Consumer Affairs issued a waiver that permitted recent graduates of certain social work and professional counselor schools to obtain an emergency graduate license.
- July 15, 2020: The Department of Law and Public Safety's Division of Consumer Affairs issued a waiver that granted Alcohol and Drug Counselor Interns working in certain settings a CADC temporary certification, allowing them to perform telehealth and telemedicine.

Morgue, Medical Examiner, and Funeral Home Capacity

- March 10, 2020: OCSME issued guidance to the medical examiner (ME) system to prepare morgues for excess deaths.
- March 18, 2020: The first formal request for surge / emergency mortuary assistance was received from a Bergen County facility.
- April 1, 2020: Mid-May 2020: NJDOH and NJOEM partnered to acquire 20 refrigerated trailers for emergency mortuary services. Trailers were delivered through mid-May 2020.
- April 12, 2020: The first refrigerated trailer was deployed in the North Region.
- April 15, 2020: To provide coverage in Central and South regions, NJDOH signed a lease on a floral warehousing unit for emergency mortuary services as well.
- July 13, 2020: The state first shut down the central morgue emergency services location, then the northern station.
- July 31, 2020: The termination date for emergency morgue services.

[15] Murphy, P. (2020, May 15). *Executive Order No. 145*. State of New Jersey.

Section 5.08 Testing

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5.8 Testing

1. Context and Summary

As a public health strategy, testing is used as a diagnostic, surveillance, and mitigation tool. As a diagnostic tool, testing verifies whether suspected positive individuals are infected, as well as any close contacts they might have exposed to the disease. As a surveillance tool, testing helps to measure the prevalence of the disease among the general population, and thus how high the risk is of disease spread. Finally, as a mitigation tool, testing identifies individuals who must take protective measures, such as quarantining and treatment. As a result, testing was a critical aspect of New Jersey's response to the COVID-19 pandemic.

There are three main categories of tests used to detect COVID-19: PCR (polymerase chain reaction) lab tests, PCR at-home tests, and at-home antigen tests. PCR tests require staff to collect samples from individuals (usually a nasal swab), chemical materials to detect the presence of the virus in the sample (called a reagent), and lab capacity to process the test. PCR lab tests were approved by the Food and Drug Administration (FDA) for emergency use in February 2020, but initially were extremely limited in supply. At-home PCR tests became available in the fall of 2020, but while they could be administered at home, they still required lab processing. Lab processing typically took 1-3 days to return results, which as described below, became a significant limitation. At-home antigen tests became commercially available in early 2021, and did not require lab processing; rather, results are displayed for the test in under one hour. The tests work in diverse ways - PCR tests detect the genetic material of the virus while antigen tests detect proteins called antigens from the virus.

In order for testing to be an effective tool, it must be readily accessible to the general population. Yet, because of the unique characteristics of COVID-19, states were unprepared to provide sufficient levels of testing for general accessibility. These challenges were primarily related to the lack of knowledge about COVID-19 in the beginning of the pandemic, including its high transmissibility rate, which resulted in high volumes of cases that states did not have the resources to process. These challenges were additionally complicated by considerations specific to the separate periods of the pandemic, described below.

1.1. COVID-19 Testing at the Beginning of the Pandemic (PCR Lab Tests)

On January 31, 2020, the World Health Organization (WHO) declared the 2019 Novel Coronavirus outbreak a Public Health Emergency of International Concern. States, including New Jersey, were unprepared to conduct testing for COVID-19. The testing capabilities did not exist for this novel virus and needed to be developed, but states encountered several setbacks in doing so.

In February 2020, the only COVID-19 test was the PCR test developed by the Centers for Disease Control and Prevention (CDC) and state labs were required to obtain CDC approval to conduct

testing. Thus, states depended on the Federal Government for both testing materials and authorization, which resulted in significant delays.[1] These delays were exacerbated in February, when the CDC distributed diagnostic COVID-19 PCR test kits to state labs, including New Jersey's. Unfortunately, these test kits contained a faulty reagent. The reagent is the chemical used to detect the presence of COVID-19 in a sample. As a result, states were not allowed to use the faulty tests, and were required to send their test samples back to the CDC in Atlanta for processing, which was time-consuming and significantly hindered the State's ability to proactively surveil the disease early in the pandemic. Once the tests were sent to the CDC, the process time was more than 48 hours for results. Due to these issues on the federal level, as of March 3, 2020, New Jersey was able to test fewer than 10 state residents.

The Federal Government also drew criticism for its delays in contracting with private labs to develop and mass produce PCR tests, and its lack of transparency in the number of tests available in the national stockpile. These constraints made it difficult for New Jersey to ramp up testing and fully track the spread. It was imperative that all states, including New Jersey, substantially increase their testing capacity. This was especially critical in early 2020, when states lacked sufficient tests or lab capacity available to conduct enough tests to accurately gauge the level of positive cases within their jurisdictions. Information on case prevalence was necessary to inform executive-level decisions, such as when it was safe to reopen after New Jersey shut down in early March. Individuals also needed timely information on whether they were positive for COVID-19, to take necessary precautions and prevent infecting others.

In late April 2020, Governor Murphy set the goal of doubling the number of tests the State conducted per day. To accomplish this goal, New Jersey had to rapidly expand the lab capacity of its commercial labs to meet the high demand for testing, which increased as cases rose. New Jersey also had to increase the number of testing sites throughout the State. New Jersey eventually met this goal, conducting 20,000 tests per day by May 27, 2020.[2]

In addition, New Jersey had to design and implement data systems to capture test results and track the volume of testing, rates of positive results, and outbreak patterns. It needed to quickly expand the load capacity of data systems, which were often insufficient to support the high volume of COVID-19 testing data.

As testing was an essential element of New Jersey's overall strategy in preventing and mitigating the spread of COVID-19, it remained a priority throughout the pandemic to expand access to tests and promote regular testing. However, the location and operating hours of the initial sites that the State selected precluded many New Jerseyans from accessing COVID-19 testing early on. The overwhelming demand for tests was a continuous challenge that strained lab capacity, data

[1] Biesecker, M., Stobbe, M., & Perrone, M. (2020, March 23). Testing blunders crippled US response as coronavirus spread. *Associated Press*. Retrieved from https://apnews.com/article/public-health-united-nations-donald-trump-ap-top-news-virus-outbreak-c335958b1f8f6a37b19b421bc7759722

[2] Murphy, P. (2020, May 27). May 27, 2020 Coronavirus Briefing Transcript. *Office of the Governor*. Retrieved from https://www.nj.gov/governor/news/news/562020/20200527a.shtml

systems, and the State's supply of testing materials. These issues were highlighted during surges—whenever COVID-19 cases increased in the State, more individuals sought tests to protect themselves. New Jersey had to establish new relationships with local leaders and organizations to meet its most susceptible and underserved communities. The State also had to expand the number of testing resources in New Jersey for each surge period to accommodate the high demand, and to ensure that tests were available to residents statewide.

For commercial testing labs, the State continued to provide support throughout the pandemic by allocating testing materials provided by the Federal Emergency Management Agency (FEMA). The New Jersey Department of Health (NJDOH) also distributed funds to hospitals with the intent of expanding hospital testing infrastructure. The extreme capacity constraints of the early pandemic had highlighted to the NJDOH the value of investing in test processing capabilities for the future, particularly in avenues of testing that would decrease reliance on the Public Health and Environmental Lab (PHEL) and commercial labs. This spurred the NJDOH to make 17 grants to hospitals to expand molecular testing labs.

1.2. Meeting Demand for PCR Tests

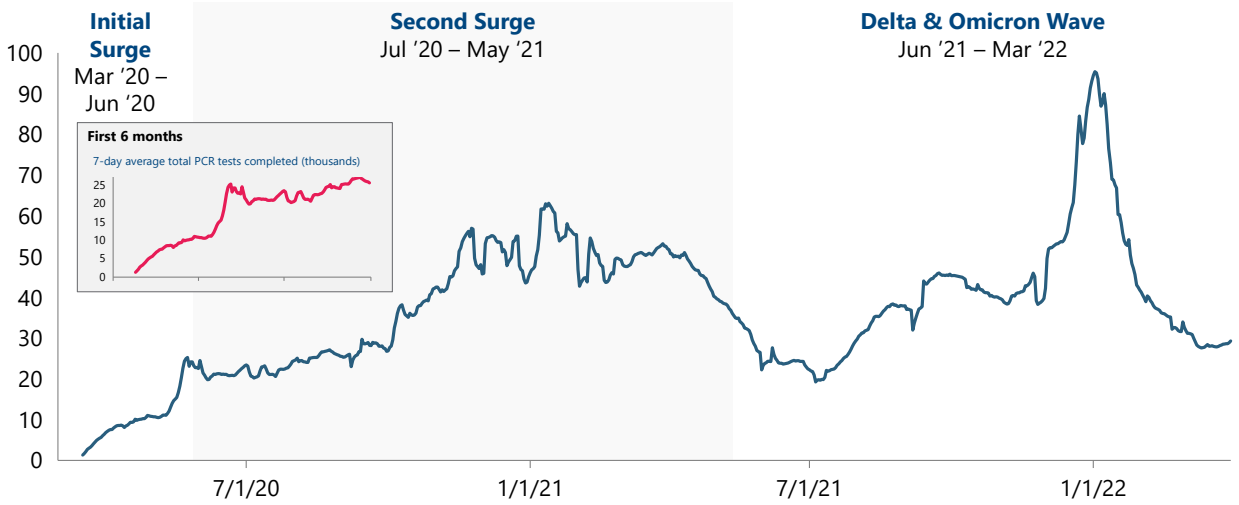
As the Initial Surge unfolded between March and June 2020, demand for COVID-19 testing demand overwhelmed the State's resources. Thus, New Jersey had to rapidly expand the number of tests, testing sites, and lab capacity, all of which often fell short during periods of particularly high cases.

The State also needed to diversify the type, location, and operating hours of its testing sites, as the mass testing sites that opened in suburban areas during business hours were inaccessible to many New Jerseyans, particularly those in urban and rural communities, those who lacked transportation, those with disabilities and other special needs, and those who did not have the flexibility to take off work during weekday business hours when the first mass sites were open.

New Jersey intervened by monitoring its commercial labs and their capacity regularly, and contracting with third-party vendors to set up test sites and deliver test kits. Despite these measures, test sites and labs were still often overrun by demand for tests. Thus, New Jersey initially prioritized testing people with active symptoms to identify and provide treatment to the most severe cases first. This approach was informed by limited understanding of the virus in the first few months of the pandemic, before it was clear that COVID-19 was an airborne disease and could be transmitted by asymptomatic patients.

Exhibit 1: Demand for COVID-19 PCR testing consistently spiked during disease surges

7-day average of total PCR tests completed in New Jersey (in thousands)



Note: Average of total tests completed in 7 days before the date. Source: NJDOH

COVID-19's high transmissibility, even among asymptomatic positive individuals, meant that the processing time of COVID-19 tests had meaningful implications for preventing the disease.

During periods of high cases, labs often received more tests than they had the staff and space to process, which led to longer turnaround times to receive test results. Delays in the time it took to notify an individual of test results could lead to a significantly higher number of infected people. If an individual tests but does not receive a positive result until several days later, the individual may be spreading the virus to others unless they chose to self-quarantine in the interim.

1.3. Meeting Demand for At-Home Tests

New Jersey's testing activities changed in August 2020, when at-home test kits were approved by the Food and Drug Administration (FDA) and became generally available in November 2020. However, the at-home test kits were not widely produced and distributed until early 2021. At-home test kits, such as the Abbott BinaxNOW test, are mostly antigen tests, rather than PCR. Unlike PCR tests, antigen tests can be conducted without trained staff and do not require a lab to process results.[3] In fact, antigen tests are often referred to as "rapid tests," as most are able to display results within 30 minutes. Thus, demand began to shift away from PCR tests, alleviating pressure on

[3] U.S. Food and Drug Administration. (n.d.). *COVID-19 test basics.* Retrieved from https://www.fda.gov/consumers/consumer-updates/covid-19-test-basics

laboratory capacity and sample collection operations. This trend was reinforced by federal policy making at-home test kits widely available to the public.

Demand for at-home tests particularly spiked during later pandemic peak periods, such as during the Delta & Omicron Surge in 2021. As more people became infected, more people needed access to tests, and PCR test sites became overwhelmed. New Jersey's testing plans then shifted to ensuring that enough antigen tests were available in the State to enable everyone who needed a test to receive one. The NJDOH used its third-party vendor to create an at-home test kit delivery program that included delivering antigen tests free of charge.

However, growing reliance on at-home tests also meant that states' ability to reliably monitor disease incidence was impaired, as at-home test results had to be self-reported by residents except in settings where protocols may have been in place to systematically capture results (e.g., congregate care facilities). Moreover, at-home test reliability was not as robust and depended on individuals' proper use, handling, storage, and interpretation, which introduced further variability in their results.

2. New Jersey's Response

2.1. Key Decisions

2.1.1. Coordinating Testing Lab Capacity

Coordinating lab capacity during the pandemic was critical to ensure access to PCR tests. Because lab-processed PCR tests were the only ones available in early 2020, the time it took labs to process PCR tests had a direct impact on how quickly individuals received test results and were informed about which protective measures were necessary. However, labs were often overwhelmed by the amount of tests that needed to be processed, particularly as New Jersey's commercial labs also received specimens from outside the State. New Jersey's coordination of lab capacity was critical to ensure that New Jerseyans had enough tests and received timely results.

Lab Capacity Constraints in the Early Pandemic

During previous virus outbreaks (e.g., H1N1), the NJDOH had used its Public Health and Environmental Lab (PHEL) to identify the origins of an outbreak, or the first people who had been infected and brought the disease into the State. However, for previous diseases that had symptoms health officials already knew, the need for testing as a diagnostic tool decreased after initial cases were identified. This was because the State had the knowledge to diagnose and treat probable positive cases without extensive testing. This approach was ineffective for COVID-19. Information on how to treat the disease was not available in the beginning of the pandemic, and public health officials had too little knowledge to diagnose COVID-19 through symptoms – a challenge exacerbated by the disease's often-asymptomatic presentation.

Thus, even before New Jersey identified its first positive case of COVID-19 on March 4, 2020, the NJDOH sought to test for COVID-19 to identify any possible instances of the disease within the State, thereby proactively working to prevent disease spread before a severe outbreak. However, due to the limitations on testing states faced from the Federal Government, the PHEL was unable to quickly ramp up testing. In addition, the PHEL depended on the CDC to send reagents for COVID-19 tests, needed approval for every test conducted, and faced significant delays when the CDC's test reagents were discovered to be faulty. This severely constrained the number of tests New Jersey could conduct, particularly as the PHEL was the only lab approved to process COVID-19 tests before commercial labs received appropriate approvals in mid-March 2020.

Because capacity was so limited, the public health lab prioritized testing for groups that, at the time, were believed to be the highest risk. These were individuals who had been in hospitals and who had exhibited COVID-19-like symptoms. When the PHEL received samples from healthcare providers, it only processed the test after it had reviewed the accompanying report of the individual's symptoms and determined it worthwhile to test for COVID-19.[4] New Jersey continued to restrict the individuals it tested throughout March 2020, following the CDC criteria of people who were hospitalized, had health risk factors, or who had been in contact with someone infected with COVID-19.[5] Although private labs are not bound by the federal criteria, NJDOH guidance to New Jersey's labs still followed CDC guidelines. This reflected an overall early and incorrect assumption that COVID-19 would behave like viruses such as Ebola, which only spread when a person is experiencing symptoms. Indeed, even as late as June 2020, the WHO made ambiguous statements regarding whether COVID-19 can spread asymptomatically, calling such a transmission "rare."[6]

The NJDOH also relied on federal funding to expand test capacity, but funding was disbursed slowly, creating constraints. The PHEL had set a goal to process 1,000 tests per day. However, by the time it achieved that goal, commercial labs were able to process tests and there was less need for the state lab to conduct high-volume testing for the general population.

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[4] New Jersey Department of Health. (2020, March 4). *Update and Interim Guidance on New CDC Testing Criteria for 2019 Novel Coronavirus (COVID-19)*. Retrieved from https://www.nj.gov/health/cd/documents/topics/NCOV/NCoV_LINCS_Updated_testing_criteria_03042020.pdf

[5] Stanmyre, M. (2020, March 3). Coronavirus testing in NJ has been a mess from the start. Here's what went wrong. *NJ.com.* Retrieved from https://www.nj.com/coronavirus/2020/03/coronavirus-testing-in-nj-has-been-a-mess-from-the-start-heres-what-went-wrong.html

[6] *WHO clarifies comments on asymptomatic transmission of coronavirus*. (2020, June 9). The Wall Street Journal. Retrieved February 10, 2024, from https://www.wsj.com/articles/who-clarifies-comments-on-asymptomatic-transmission-of-coronavirus-11591730489

Coordinating Commercial Lab Capacity

By the time commercial labs gained approval in mid-March 2020, and became equipped to process PCR tests, New Jersey faced high demand for tests. When commercial labs first came online and began to process tests, testing was high throughout the entire country, and commercial labs were receiving PCR samples to process from multiple states. The NJDOH could not forcibly reserve capacity in the labs, given the considerable influence of the biopharmaceutical and biotechnology market in New Jersey. Instead, the NJDOH communicated with commercial labs to convey the level of testing the State needed and monitor the available lab capacity. Some labs offered to give priority to tests from New Jersey, voluntarily reserving some capacity for the State's own public health needs.

As the primary points of contact for testing labs, the NJDOH and PHEL oversaw and coordinated COVID-19 lab activity. The PHEL monitored testing lab metrics daily, including turnaround time for test results, and followed up with labs if any lags occurred. The NJDOH met weekly with commercial labs to discuss available capacity and the State's needs, and align goals.

On June 5, 2020, Commissioner Persichilli enacted an emergency waiver[7] to allow additional specimen collection sites (such as mobile or drive-through sites) to be licensed under the State's Clinical Laboratory Licensing Program (which existed before COVID-19), without having to abide by all the licensing requirements in the New Jersey Administrative Code (N.J.A.C. 8:44-2.14 and N.J.A.C. 8:45-1.3). This enabled New Jersey to expand the number of sites licensed to collect and process COVID-19 test samples, coordinate with the labs, and monitor test results.

In July 2020, the State also contracted Rutgers University, reserving the university's lab capacity to only process tests from New Jersey, in exchange for funding the development of Rutgers's COVID-19 test, which was the first saliva-based PCR test. New Jersey's ability to reserve lab capacity at Rutgers alleviated a portion of the competition with other states for test capacity at commercial labs.

Later Prioritization of Lab Capacity

Testing demand increased throughout 2020 and into the first quarter of 2021. By the latter half of the Delta & Omicron Surge in late 2021 and early 2022, vaccines were widely available, which decreased the demand for regular testing outside of surges. At-home antigen test kits were also widely used and alleviated strain on lab capacity. The PHEL was thus used more to conduct targeted hotspot testing (such as at long-term care facilities [LTCFs]) or case investigation, rather than processing tests for the general public. Usually, Local Health Departments (LHDs) were the first step in identifying clusters of cases occurring within their region. They would then report this

[7] New Jersey Department of Health. (2020, June 12). COVID-19 Collection Stations and Patient Service Centers. New Jersey Department of Health. https://nj.gov/health/legal/covid19/6-12-2020CollectionStations_and PatientServiceCenters.pdf

to the State's Communicable Disease Service (CDS), who would notify PHEL at the NJDOH, which could then conduct hotspot testing in collaboration with the LHD.

2.1.2. Setting Up PCR Testing Sites

In addition to expanding lab capacity, a critical component to the State's involvement in testing was setting up testing sites. The NJDOH worked with LHDs, FEMA, private pharmaceutical companies, and providers to increase points of testing across New Jersey. These sites ranged from FEMA-supported mass testing sites to pop-ups or mobile sites.

Test sites administered PCR lab tests, which were then sent to the State's commercial labs for processing. This meant that high demand for tests at testing sites frequently resulted in strained capacity at labs, which lengthened delays. Particularly during pandemic peaks, the daily demand for testing far outstripped the number of tests that testing sites were able to conduct. As a result, New Jersey had to continuously expand the number of test sites available throughout the pandemic.

The three main categories of sites for testing were FEMA-supported sites, local testing sites, and pharmacies. Each is discussed below, along with the NJDOH's and LHD's roles in supporting each type of site.

FEMA-Supported Sites

In the Initial Surge, the main testing sites in New Jersey were two FEMA community-based mass testing sites in North Bergen and Holmdel. The State submitted the proposal for these locations to FEMA on March 16, 2020, which closely coincided with when New Jersey's commercial labs were approved to begin testing.[8] Both locations opened within a week. In setting up these mass vaccination tests, FEMA typically supplied tests, while the NJDOH contributed personnel and other equipment, such as PPE for staff.

These FEMA sites were among the few testing sites available at the beginning of the pandemic and were quickly overwhelmed. Long lines formed at the test sites every day. Because of limited available testing material, only a few of the people who arrived to be tested could be served. New Jerseyans even began to line up at these FEMA sites the night before and faced extremely long wait times before the New Jersey State Police (NJSP) cut lines off after a certain point and told individuals to go home.[9]

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[8] Goudsward, A. J., McAlpin, J. P., & Cervenka, S. (2020, March 20). Coronavirus in NJ: FEMA testing site planned for PNC Bank Arts Center in Holmdel. *Asbury Park Press*. Retrieved from https://www.app.com/story/news/health/2020/03/16/coronavirus-nj-fema-testing-site-planned-pnc-bank-arts-center/5062551002/

[9] Callimachi, R. (2020, April 13). 3 Vans, 6 Coolers, a Plane, a Storm and 2 Labs: A Nasal Swab's Journey. *The New York Times*. Retrieved from https://www.nytimes.com/2020/04/13/nyregion/coronavirus-testing.html

The State first restricted these FEMA sites to individuals who were symptomatic to prioritize more serious cases, given capacity issues. The FEMA sites also implemented a staggered schedule, which only allowed symptomatic healthcare workers to be tested at certain hours of the day.[10] The FEMA sites were opened to asymptomatic people in May, after demand had slightly decreased.[11] Governor Murphy made this decision only after the test sites stopped running over their maximum capacity each day.[12]

In late June 2020, the two FEMA mass testing sites shut down, as the intent had been only to start testing in New Jersey before the State and private sector had organized their own testing sites.[13] The State's focus then turned toward supporting LHD test sites and private points of testing.

Local Test Sites

Local test sites varied in setting, depending on what locations were best-suited in terms of geography and space size. Test sites were found in locations such as hospitals, places of worship, and community-based organizations. Test materials came from FEMA or the commercial labs performing the diagnostic.

The NJDOH supported LHDs in setting up local test sites with funding. An example of funding support for local testing sites was NJDOH's COVID-19 County Plan. After the CARES Act was passed in March 2020, most New Jersey counties received direct federal funding to expand testing in their jurisdictions. However, some county populations were too small to receive direct federal funding. To support testing in counties that had not received CARES Act funding, the NJDOH issued the COVID-19 County Plan in October 2020.

The County Plan also dealt with the reimbursement structure of federal funds. CARES Act and FEMA funding were usually reimbursement-based – in other words, LHDs paid costs up front and provided receipts to the NJDOH for reimbursement. However, the NJDOH procurement staff had limited capacity to process reimbursements, as they were already committing significant time to processing emergency contracts and other procurement-related issues. Thus, it was more efficient to distribute funds directly to counties.

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[10] Bergen County, New Jersey. (2020, March 26). *Important changes to the FEMA testing site at Bergen Community College, Paramus, NJ*. Retrieved from https://www.co.bergen.nj.us/public-information/press-releases/175-important-changes-to-the-fema-testing-site-at-bergen-community-college-paramus-nj

[11] Kaplan, A. (2020, April 22). New Jersey reverses decision to open two COVID-19 testing sites to people without symptoms. *NBC News*. Retrieved from https://www.nbcnews.com/health/health-care/new-jersey-reverses-decision-open-two-covid-19-testing-sites-n1190016

[12] Zurita, A. (2020, May 11). Asymptomatic NJ residents can now be tested for coronavirus at Paramus and Holmdel sites. *NorthJersey.com*. Retrieved from https://www.northjersey.com/story/news/new-jersey/2020/05/08/coronavirus-nj-paramus-holmdel-testing-sites-open-asymptomatic/3097048001/

[13] WABC. (2020, June 30). Reopening New Jersey: FEMA shuts down 2 testing sites in NJ. *ABC7 New York*. Retrieved from https://abc7ny.com/fema-testing-sites-coronavirus-covid/6284054/

Pharmacies

Test sites at private pharmacies also created a large share of a county's total available test sites. COVID-19 testing in pharmacies increased in May 2020, particularly after New Jersey authorized pharmacies to administer tests without need for the full breadth of licensing, prescription, or contracting requirements.[14] Pharmacy chains that provided testing in New Jersey included Rite Aid, Walgreens, and CVS. Rite Aid was the first to open test sites in May 2020. A few smaller community pharmacies also provided testing services.

2.1.3. NJDOH's and LHD's Role in Operationalizing Test Sites

LHDs were primarily responsible for administering testing in their jurisdictions, taking the lead in setting up test sites or identifying available testing in nonprofit or private settings. On the other hand, part of the NJDOH's role was to communicate CDC or State guidance to the LHDs related to COVID-19 testing.[15] For example, early in the pandemic, the NJDOH advised LHDs to set up at least one testing site per county.

Other than for the FEMA-supported mass testing sites, the NJDOH usually did not take the lead in setting up test sites. Rather, the NJDOH assessed gaps in LHDs' testing capabilities and filled them by setting up additional test sites wherever needed. The NJDOH accomplished this primarily through its partnership with two vendors: Optum and Vault Health.

The NJDOH contracted with Optum in May 2020. Optum supported LHDs in setting up both stationary and pop-up testing clinics, and was responsible for operational responsibilities, including staffing, equipment, and site management on the NJDOH's behalf. LHDs and other state agencies communicated directly with the vendor, as they had a direct point of contact.

Once more tests became available after the Initial Surge, the NJDOH took a "dual approach" to supporting LHD testing activities. In the dual approach, LHDs first identified their needs to the State, then the NJDOH identified potential gaps, offered recommendations, or supplemented with specific resources. The availability of at-home tests meant that testing sites were no longer the only option to provide testing for the general population. When vaccines became available, the need

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[14] New Jersey Department of Law and Public Safety, Division of Consumer Affairs. (2020, May 13). *Administrative Order and Notice of Rule Adoption and Waiver Pursuant to P.L. 2020, c. 18: Pharmacist Participation in COVID-19 Testing*. Retrieved from https://abc7ny.com/fema-testing-sites-coronavirus-covid/6284054/

[15] After the CARES Act was passed in March 2020, most New Jersey counties received direct Federal funding to expand testing in their jurisdictions. However, some county populations were too small to receive direct federal funding. To support testing in counties that had not received CARES Act funding, the NJDOH issued its COVID-19 County Plan in October 2020. The County Plan also dealt with the reimbursement structure of Federal funds. CARES Act and FEMA funding were usually reimbursement-based; i.e., LHDs paid costs up front and provided receipts to the NJDOH for reimbursement. However, the NJDOH procurement staff had limited capacity to process reimbursements, as they were already committing a significant amount of time to processing emergency contracts and other procurement-related issues. Thus, it was more efficient to distribute funds directly to counties.

decreased for regular surveillance testing for the entire population. Thus, New Jersey's dual approach used testing sites for more targeted purposes.

The dual approach included the NJDOH's use of "hot spotting," wherein the NJDOH's Regional Epidemiology Program and Communicable Disease Service teams identified regions where clusters of cases occurred. The NJDOH would then deploy targeted interventions through its Rapid Mobile Response Team, which would provide testing to specific, often under-resourced testing sites. These targeted interventions were made in collaboration with county-level representatives, who could identify sites in need of support, particularly if an outbreak occurred in specific jurisdictions that necessitated additional state resources.

The NJDOH used Vault Health to set up mobile testing popups and discrete mass testing events in addition to more regular testing sites. The NJDOH also deployed Vault Health's mobile testing sites to respond to hotspots, which sometimes serviced the facilities where outbreaks had occurred, such as congregate care facilities or schools.

As the pandemic progressed from mid-2020 into 2021, the need for PCR testing continued. Despite the availability of at-home testing, during periods of surging cases, increased testing capacity across the board was needed. The NJDOH continued to support local jurisdictions and expand the number of PCR test sites by providing funds. The NJDOH continued to act as a coordinating body, issuing guidance to LHDs about how to best approach testing. For example, the NJDOH developed a guide to set up drive-through testing for LHDs, and remained in regular communication with LHDs about local needs and disease updates.

2.1.4. Distributing PCR and Antigen Test Kits Directly to Residents

As previously described, the NJDOH and LHDs worked collaboratively to identify local needs or gaps that demanded greater state support. This meant that LHDs could request support specific to their jurisdiction, including the delivery of testing kits when identified as more beneficial than, for example, setting up another county testing site.

The NJDOH used its sole-source vendor, Vault, to deliver PCR test kits to certain prioritized populations or settings, including frontline workers and LTCFs. These PCR test kits were usually manufactured by commercial labs within New Jersey. Under the NJDOH's direction, Vault delivered test kits to local partners statewide, including to LHDs, community-based organizations, schools, churches, nursing homes, Federally Qualified Health Centers (FQHCs), correctional facilities, public libraries, homeless shelters, and LTCFs. The targeted delivery of these test kits was another component of NJDOH's hot-spotting activities, responding to specific outbreaks identified in local jurisdictions.

New Jersey and Vault also created a program to deliver free at-home PCR saliva test kits, a saliva test developed by Vault itself. Vault processed requests for free at-home test kits and shipped them. Once individuals had prepared their sample, they had to ship the completed test kit back to Vault for lab processing.

In the first week of the at-home test kit program, New Jersey saw extremely high demand, with hundreds of thousands of tests being requested. To manage demand, the NJDOH and Vault limited test requests to 25,000 per day. While a high number of Vault PCR tests continued to be ordered, only 16.8% of them were completed and sent back for lab processing.[16] This was due in part to the number of steps individuals had to complete, which was difficult to enforce. To obtain results, individuals had to schedule a virtual appointment with a Vault representative, who observed the individual to ensure that he or she conducted the test correctly. Individuals then had to mail the sample back to Vault. This created more work than most were willing to do.

Once at-home COVID-19 antigen tests became available in 2021, New Jersey made sure its residents were able to access them by making at-home tests free or low-cost. New Jersey also worked with federal partners to procure at-home tests and allocated them to certain populations or settings. Antigen test kits introduced an alternative method of testing to PCR tests, enabling the State to expand testing access without placing additional burden on test sites. After the production of antigen tests increased, New Jersey procured Abbott BinaxNow tests and created a statewide distribution plan. The Abbott tests were mostly distributed to LHDs to supplement their needs for bulk tests, as well as to settings like LTCFs.

2.1.5. Tracking State Testing Levels

Monitoring test data is useful to track the severity of the disease, as well as where the disease was geographically concentrated. Other health interventions, such as contact tracing, depended on accurate and up-to-date data on the number of cases within the State. However, the disease surveillance and data reporting systems New Jersey used prior to the pandemic did not have the technological capabilities to process the high volume of COVID-19 cases. These considerations required New Jersey to quickly expand its disease reporting systems, as well as ensure regular reporting from the State's testing labs.

Expanding Communicable Disease Reporting and Surveillance System (CDRSS)

Prior to the pandemic, New Jersey used the State's CDRSS, an electronic database, to track testing data, including positive case rates. The NJDOH and LHDs had used CDRSS for more than a decade before COVID-19 to report positive cases of infectious diseases. Thus, users were familiar with the system and could easily access and use it. However, New Jersey had to expand CDRSS's functionality significantly to accommodate the scope of COVID-19.

CDRSS was developed in-house at the NJDOH using federal funds. Given the high demands for COVID-19 reporting, the NJDOH had to expand CDRSS's load capacity. As more New Jersey labs began to collect and process COVID-19 test specimens, the number of labs reporting information

[16] Mueller, K. P. (2023, March 18). N.J. sent out 675K free COVID tests, only 113K were used. It cost the state $75M. *NJ Advance Media for NJ.com*. Retrieved from https://www.nj.com/news/2023/03/nj-sent-out-675k-covid-tests-only-113k-were-used-it-cost-the-state-75m.html

exceeded the CDRSS's server capacity, and some data from electronic lab reports were unable to be processed. Known labs, such as LabCorp, were familiar with CDRSS and reporting in line with HL7 standards (a set of international guidelines for data sharing between healthcare providers, including the language and structure of the data). Other, smaller labs had to learn how to report data in a CDRSS-compatible format.

With the help of federal funding and the assistance of the New Jersey Office of Information Technology (NJOIT), the NJDOH had begun to transition the system to handle testing data from CDRSS to an Amazon Web Services (AWS) Cloud-based system. The AWS system had been intended initially for New Jersey's birth registry – prior to COVID-19 – but had not yet completed the process when the pandemic began. After the transition to AWS was complete, CDRSS was able appropriately track testing data.

The NJDOH also added features to CDRSS to enable necessary information to be documented. For example, at the beginning of the pandemic, the system did not allow negative results to be reported, although negative results were required to be reported by executive directive. The NJDOH partnered with the Office of Homeland Security and Preparedness (OHSP) to add this capability.

Interpreting Lab-Reported data

The high volume of COVID-19 cases made it difficult to track accurate data consistently on testing levels and results. During particularly high-volume periods, the State told sick individuals to simply isolate at home rather than get tested. The availability of at-home test kits, which increased access to testing but did not guarantee accurate reporting, exacerbated data challenges. As a result, positive case numbers were likely underreported throughout the pandemic.

To encourage more accurate reported case counts, New Jersey enforced regular reporting from PCR test labs and promoted self-reporting test data for antigen tests. On March 23, 2020, NJOHSP issued a memorandum mandating labs to report both positive and negative test results from PCR tests.[17] The NJDOH also developed a form using AWS technology for individuals to self-report at-home test data. LHD officials recommended that individuals report positive at-home tests by calling their LHD.[18] While the NJDOH did not urgently promote reporting at-home test results to

[17] New Jersey Department of Health. (2022, April 5). COVID Reporting Guidance. New Jersey Department of Health. https://www.nj.gov/health/cd/documents/topics/NCOV/COVID_Reporting_Guidance.pdf

[18] Noda, S. (2022, January 5). How to report your positive at-home COVID test result to the NJ Health Department. *NorthJersey.com*. Retrieved from https://www.northjersey.com/story/news/health/2022/01/05/report-at-home-covid-test-nj/9084510002/

the State, it stressed the importance of reporting at-home results to employers and close contacts, and taking appropriate precautions such as isolating.[19]

The electronic reporting systems that individual labs used were also overwhelmed by the high volume of cases, which contributed to longer delays in the time to report results. This prompted the NJDOH and the PHEL to monitor data on turnaround times regularly from commercial labs. Rather than use raw testing levels, New Jersey assessed testing labs' turnaround time to deliver results as an indicator of its testing capacity – the longer the turnaround time, particularly during high-volume periods, the less epidemiological value testing level data had for disease surveillance. During particularly high-volume pandemic peaks, turnaround time could be more than 10 days.[20] Thus, during those periods, New Jersey did not rely on testing data to set public health goals or create interventions. Testing data was used more to identify hotspots and contain outbreaks.

The NJDOH did not extensively utilize alternative approaches to testing and surveillance data, such as wastewater surveillance, although the idea had been discussed between the NJDOH and the New Jersey Department of Environmental Protection (NJDEP). By the time the agency had set up the technology to conduct alternative disease surveillance methods, it was too late in the pandemic for these methods to be necessary. New Jersey already had other data (e.g., hospital data) to track COVID-19's progression.

2.2. Equity and Access

2.2.1. Identifying New Jerseyans in Need of Support

The NJDOH first began identifying populations that were especially susceptible or otherwise in need of testing support during spring 2020. The first populations that NJDOH targeted included migrant seasonal farm workers, meat packers, persons with intellectual and developmental disabilities, and members of First Nations, but the list was quickly expanded to include LTCF residents (including residents of intellectual disability facilities and group homes, psychiatric hospitals, Veterans' homes, correctional facilities, county jails, and juvenile corrections centers), users of dialysis centers, person experiencing homelessness and/or domestic violence, senior high rise residents, homebound New Jerseyans, members of disability communities, food manufacturing workers, racial and ethnic minority community members, individuals with substance use disorders, Orthodox Jewish community members, and day laborers.

Each group was assigned at least one NJDOH "point person" with relevant expertise who was responsible for identifying problems and services needed to improve testing access. Many groups

[19] Matthau, D. (2022, May 8). If you do an at-home COVID test in NJ, who should you report results to? *NJ 101.5*. Retrieved from https://nj1015.com/if-you-do-an-at-home-covid-test-in-nj-who-should-you-report-results-to/?utm_source=tsmclip&utm_medium=referral

[20] Yates, R. (2020, August 8). Coronavirus testing delay already 'sucks,' according to Murphy. It could get worse. NJ.com. https://www.nj.com/coronavirus/2020/08/coronavirus-testing-delay-already-sucks-according-to-murphy-it-could-get-worse.html

were assigned multiple point persons. A dashboard with the population group, estimated population size, status, and point person(s) was developed and used to monitor challenges, successes, and barriers to COVID-19 testing for those groups.

2.2.2. Testing Site Accessibility Challenges

Many of the initial testing challenges in late winter 2019 and early spring 2020 were related to accessibility. Transportation, testing site operating hours, concerns about upfront costs and lack of insurance, and the online scheduling tools all posed problems for many susceptible New Jerseyans and those living in underserved communities. Long lines of cars would form each morning in anticipation of opening, such that testing sites often depleted their testing resources within minutes and had to turn away those who came afterward. These testing gaps may help explain the disproportionate share of COVID-19 deaths among minority demographic groups, as those lacking adequate access to testing were deprived of the information needed to make the best choices for their health and the health of those around them.

As discussed above, in May 2020, the State contracted with Optum, a health services innovation company. The NJ DOH and Optum planned pop-up sites designed to reach six urban areas across the State. However, Optum could not deploy resources quickly enough, and it never staffed the urban centers as originally planned. However, Optum did conduct testing for vulnerable seniors; NJDOH and local health departments offered pop-up testing sites in underserved communities. The State also deployed mobile sites and the New Jersey Department of Education (NJDOE) worked with Local Education Agencies (LEAs) and local public health agencies to ensure that testing kits were available to those in need. Lack of insurance and/or valid immigration status did not preclude New Jerseyans from being tested at FQHCs for free.

2.2.3. Leveraging Partnerships and Creating New Tools to Meet New Jerseyans Where They Are

According to the NJDOH employees interviewed, New Jersey was most successful at collecting data and educating constituents about COVID-19 testing when it relied on community partners for information and messaging strategy. Thus, the NJDOH sought to address gaps in testing education and access by meeting at-risk populations in and through their own communities. When data revealed hotspots and rapid spreading among migrant farmworkers and construction workers, for example, the State worked with employers to coordinate on-site testing and education for those groups.

An important part of New Jersey's actions to increase access to PCR testing and meet high demand was to connect individuals with testing resources. The NJDOH compiled information about test site locations and created tools, such as an online testing pop-up calendar, to disseminate the information. These efforts were augmented by the CDC's Increasing Community Access to Testing Program, which created an online locator for no-cost test sites.

The Call Center transmitted important testing information to underserved groups. By fielding incoming calls, the Call Center enabled the State to answer individual questions and respond to specific concerns about testing from individual callers. The telephonic nature of the Call Center enabled New Jerseyans who lacked reliable transportation, lived in remote rural areas, and/or suffered from conditions/disabilities that impacted their mobility or rendered them particularly susceptible to COVID-19 to access information about testing without leaving their homes. The State also leveraged the Call Center's capabilities to proactively reach out to New Jersey residents about critical testing-related information. Call Center representatives contacted elderly New Jerseyans to inform them about test kit expiration dates on tests that were distributed to residents, and to explain how citizens could ensure that the tests they used were valid. In addition, the Call Center offered multi-lingual support services. Some 20% of call center agents were bilingual, and agents who did not speak a caller's preferred language could still communicate in 240+ different languages through the Language Line service.

The coalitions and tools that New Jersey, and particularly NJDOH, built for the first time during the pandemic as part of their efforts to provide equitable access to testing are laudable. However, some efforts were duplicative and failed to take advantage of the relationships and resources that LHDs already had in the very communities that the NJDOH was targeting. By increasing its collaboration, coordination, and information-sharing with LHDs, the State can also increase the speed, efficiency, and efficacy of its response to future health emergencies.

3. Comparison to Other States[21]

Testing was generally a priority for all states' COVID-19 responses. States, or their LHDs, moved to expand testing resources available to their populations, and often benefited from support from FEMA and private pharmacies in offering testing. Furthermore, testing capacity was a challenge for all states, particularly during the Initial Surge. Private labs, many of which are located in New Jersey (such as Quest Diagnostics), processed the majority of COVID-19 tests for the entire country. Thus, high demand for commercial lab capacity resulted in significant backlogs and turnaround times both for New Jersey and other states.[22]

All benchmark states, including New Jersey, set up similar methods of COVID-19 testing to combat the spread of the virus. These strategies included the use of mass-testing sites, mobile testing units,

[21] Benchmark states for **Chapter 5** (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in **Appendix.**

[22] Kaplan, A. (2020, April 22). New Jersey reverses decision to open two COVID-19 testing sites to people without symptoms. *NBC News*. Retrieved from https://www.nbcnews.com/health/health-care/new-jersey-reverses-decision-open-two-covid-19-testing-sites-n1190016

drive-through testing sites, walk-up testing, and home testing kits. These strategies were common elements of all states' pandemic responses.

However, states varied in the levels of PCR tests conducted during different periods of the pandemic. This was due to a number of factors, including availability of and access to test sites, availability of lab capacity, availability of at-home testing kits, public attitudes toward and awareness of testing, and government policies on testing (e.g., whether states mandated testing and reporting).

The following section examines how benchmark states differed in their main strategies of testing that all benchmark states employed during the pandemic and testing levels.

3.1. Testing Strategies Employed During the Pandemic

As mentioned above, states used the same testing strategies to combat the spread of the virus, but tailored them to the characteristics of their own populations. For example, while all states set up mass testing sites, the number of sites they set up and how many people they served depended on individual states' population densities and whether they had large metropolitan centers. On the other hand, community-based test kit distribution sites or a mobile testing unit were more suitable for less dense rural areas in states. New Jersey utilized two mass testing sites in early 2020, then relied on community-based testing sites, NJDOH's mobile testing unit, and a test kit delivery program.

- Mass testing sites: Where PCR samples were collected from a large number of patients (with the large FEMA-supported mass test sites, such as New Jersey's, conducting up to 2,500 tests a day)[23] and sent to a centralized laboratory for testing. States often used this strategy at the beginning of the pandemic, before at-home test kits were available, as well as during later surges.

    - Major cities in California cities, including Los Angeles and San Francisco, set up mass testing sites. Notable examples include one in Doger Stadium in Los Angeles,

[23] Johnson, B. (2020, March 18). 'Robust' coronavirus testing site at N.J. community college to open Friday with FEMA help. *NJ Advance Media for NJ.com*. Updated March 19, 2020. Retrieved from https://www.nj.com/coronavirus/2020/03/mass-coronavirus-testing-site-at-nj-community-college-to-open-friday-with-fema-help.html

which was set up in collaboration with the start-up Curative,[24] as well as a mass testing site in Bakersfield that conducted 5,000 tests per day.[25]

- One notable mass testing site in Florida was a FEMA-supported site in Orange County. [26]
- New York opened 13 mass testing sites across 10 regions during the Delta & Omicron surge in December 2021.
- Ohio opened mass testing sites in major cities like Cleveland (which received staffing support from the National Guard).[27]
- Pennsylvania set up mass testing in various locations, including in Johnstown Galleria[28] and Delaware County,[29] in addition to two FEMA-supported mass testing sites in Philadelphia in early 2020.[30]
- Virginia typically did not operate single mass-testing sites, but rather several mid-sized community testing sites. For example, it opened nine new testing centers in early 2022.[31] Virginia also organized pop-up mass testing sites with support from the National Guard.[32]

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[24] Tapp, T. (2021, November 9). Dodger Stadium testing site reopens for first time since May amid rising Covid cases in L.A. *Deadline*. Retrieved from https://deadline.com/2021/11/dodger-stadium-covid-testing-reopens-1234871143/

[25] California Governor's Office of Emergency Services. (2020, July 29). New testing site with mass testing capabilities opens in Kern County. Retrieved from https://news.caloes.ca.gov/new-testing-site-with-mass-testing-capabilities-opens-in-kern-county/

[26] Speck, E. (2020, March 18). FEMA coronavirus testing site at Orange County Convention Center ready this week. *ClickOrlando*. Retrieved from https://www.clickorlando.com/news/local/2020/03/18/fema-coronavirus-testing-site-at-orange-county-convention-center-ready-this-week/

[27] Spectrum News 1. (2021, December 23). National Guard to continue operating Cleveland mass COVID testing site. *Spectrum News 1*. Retrieved from https://spectrumnews1.com/oh/columbus/news/2021/12/23/national-guard-to-continue-operating-cleveland-mass-covid-testing-site

[28] Griffith, R. (2022, January 7). Free COVID-19 mass testing site opens Tuesday at the Johnstown Galleria. *The Tribune-Democrat*. Retrieved from https://www.tribdem.com/coronavirus/free-covid-19-mass-testing-site-opens-tuesday-at-the-johnstown-galleria/article_37d70326-6fd8-11ec-b16d-cf2ea58446bc.html

[29] O'Connell, C. (2022, January 4). I was here over 3 hours: Hundreds flock to new Delaware County free COVID testing site. *Fox29 Philadelphia*. Retrieved from https://www.fox29.com/news/i-was-here-over-3-hours-hundreds-flock-to-new-delaware-county-free-covid-testing-site

[30] Billy Penn Staff (2020, April 10). City closes South Philly test site despite FEMA reversal, looks for rapid testing instead. Billy Penn. https://billypenn.com/2020/04/10/city-closes-south-philly-test-site-despite-fema-reversal-looks-for-rapid-testing-instead/

[31] Hudson, S., & Crawford, N. (2022, January 5). Mass COVID-19 testing center is in the works for Hampton Roads. *WAVY.com*. Retrieved from https://www.wavy.com/news/health/coronavirus/mass-covid-19-testing-center-is-in-the-works-for-hampton-roads/

[32] Virginia Department of Health. (2020, December 31). *2020 Regional News Releases*. Retrieved from https://www.vdh.virginia.gov/news/2020-regional-news-releases/

- **Mobile testing units** used portable facilities (e.g., trailers) and were set up in various public locations, such as community centers and parking lots, to collect PCR samples from the public. New Jersey's Rapid Response Team fell under this category.

  - Pennsylvania partnered with Latino Connection, Highmark Blue Shield, and the Independence Blue Cross Foundation to create the first COVID-19 Mobile Response Unit to provide testing and education that targeted minority and underserved communities statewide.
  - Illinois also employed a mobile testing team, which was deployed to various locations statewide every week to offer drive-through and walk-up testing services.[33]
  - California contracted with the vendor OptumServe, which provided mobile "minibuses" for testing, in addition to static test sites.[34]

- **Drive-through and walk-up testing sites** were the most usual form of test sites, and could be offered either through LHDs and community centers, or through private healthcare providers and pharmacy locations. **Drive-through** enabled residents to have PCR samples collected without leaving their vehicles. These were especially prevalent early in the pandemic; for example, New Jersey's two FEMA-supported sites in the Initial Surge were drive-through sites. **Walk-up testing sites** are testing sites where individuals can walk (rather than drive) up to the testing area. Test sites based in community centers were often walk-ups.

  - All benchmark states had major pharmacy chains like CVS, Walgreens, or Rite Aid provide drive-through or walk-up test sites, and provided walk-up test sites in community centers such as churches, libraries, or gymnasiums.
  - Pennsylvania partnered with the Pennsylvania Association of Community Health Centers (PACHC) to offer free walk-up or drive-through testing at the state's Federally Qualified Health Centers.[35]
  - In New York City, walk-up testing tents played a critical role in delivering testing in a densely populated urban area. These testing tents typically offered both PCR and rapid antigen tests and were staffed by professionals who conducted the tests while

[33] Illinois Government. (2020, November 23). Free COVID-19 Testing Available at State Mobile Testing Sites in Southern Illinois. Retrieved from https://www.illinois.gov/news/press-release.22387.html
[34] Hwang, K. (2023, January 19). State COVID testing sites begin to close. *CalMatters*. Retrieved from https://calmatters.org/health/coronavirus/2023/01/california-covid-testing/
[35] Pennsylvania Department of Health. (n.d.). *COVID-19 Public Testing Information*. Retrieved from https://www.health.pa.gov/topics/disease/coronavirus/Pages/Public%20Testing.aspx

adhering to safety protocols. The tents were set up in various public spaces, including parks and near community centers.

- Home testing was another strategy adopted by state governments later in the pandemic. State governments often sought to distribute self-administered test kits to underserved communities or communities that were especially susceptible to spread. All benchmark states provided at-home test kits, either through delivery or distribution at community centers.
  - In California, LA County distributed self-testing kits to families who had children returning from school after vacation in an attempt to quell the spread of COVID-19 during the Delta & Omicron Surge in December 2021.
  - Ohio partnered with its public library system to distribute free at-home antigen test kits at its library locations.[36]

3.2. Testing Levels Across States

States varied in their levels of PCR testing during different periods of the pandemic. Through the U.S. Department of Health and Human Services (HHS) database, the total number of PCR tests conducted by each benchmark state was analyzed. This provided an overarching view of PCR testing rates per 100k of population for each of the states across the three stages of the disease progression: the Initial Surge (March 2020 to June 2020), the Second Surge (July 2020 to May 2021) and the Delta & Omicron Surge (June 2021 to March 2022).

PCR testing levels are used because reliable data on at-home antigen tests is rarely available. Furthermore, as state-organized testing sites usually conduct PCR testing, the level of PCR tests is one potential indicator of how much states prioritized setting up points of testing throughout the pandemic. Note that this should be interpreted with caution, as tests conducted in settings that are not state-run (e.g., private health provider settings like hospitals or pharmacies) are also primarily PCR tests.

States fell into three categories of testing:

- States with heavy testing over the pandemic (NY, CA, and IL). New York and Illinois were consistently within the top three states through all periods of disease progression. California, on the other hand, was slow to ramp up its testing compared to Illinois and New York, but eventually caught up during the Delta & Omicron Surge.
- States with moderate levels of testing through the pandemic (NJ and FL). New Jersey had a fairly consistent level of testing throughout the pandemic. On the other hand, Florida did

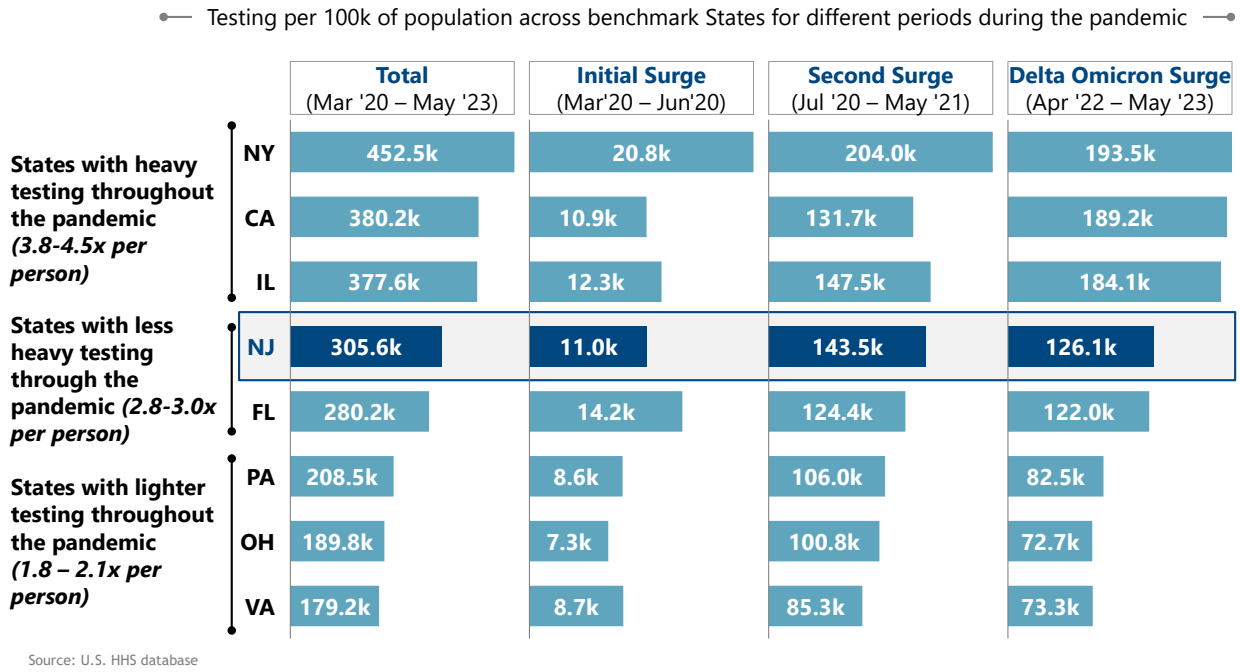
[36] Ohio Department of Health. (2021, September 7). Free Rapid At-Home COVID-19 Tests Available for Ohioans]. Ohio Department of Health. https://odh.ohio.gov/media-center/odh-news-releases/odh-news-release-09-07-21

more testing than any other benchmark state aside from New York in the initial surge, had a testing rate close to California in the second surge, and eventually returned to levels below New Jersey in the Delta and Omicron surge.

- States with lighter testing throughout the pandemic (PA, OH, and VA). All three of these states consistently had the lowest rates of testing throughout the pandemic.

The figure below summarizes findings on PCR testing levels across the states.

Exhibit 2: New Jersey conducted fewer PCR tests than New York, California, and Illinois

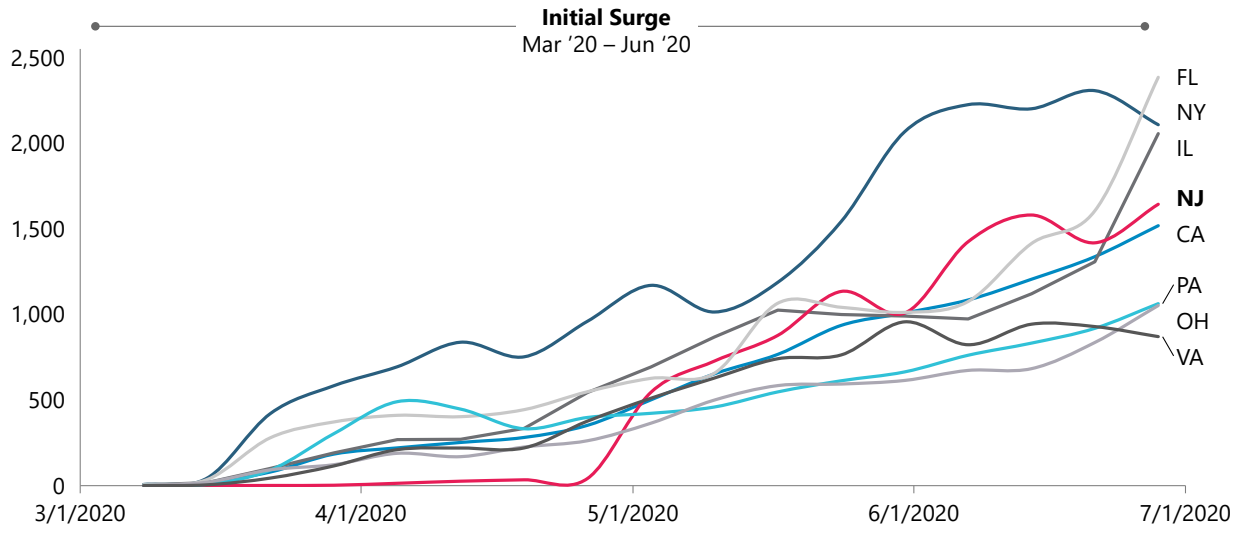


Source: U.S. HHS database

It should be noted that the amount of testing a state needs to conduct depends on the severity of the outbreak within that specific state. States faced different contexts in the Initial Surge; some states saw higher cases of COVID-19 in early 2020, while others were hit more severely later in the Second Surge and beyond. The more positive cases (or suspected positive cases, as people started to experience COVID-19 symptoms) occurred in the State, the more people sought out tests. Although New Jersey was one of the first states to be hit with COVID-19 in 2020, along with New York, it lagged behind the other benchmark states in the number of tests it conducted.

Exhibit 3: New Jersey ramped up Initial Surge PCR testing slower than benchmark states[37]

Weekly PCR tests conducted, per 100k of total population



Source: COVID Diagnostic Laboratory Testing (PCR Testing) Time Series from the U.S. Department of Health & Human Services.

Case Study: New York and Testing Capacity

Being the first in the country to be hit with COVID-19, proactive testing was crucial to New York's disease mitigation strategy. While New York initially had the largest gap in its testing levels among all states, the State significantly increased the level of tests conducted through a number of interventions.

To increase lab capacity, New York directly contracted with 28 private labs on March 11, 2020, to ensure these private labs would process tests for New York residents. Then, in September 2020, NYC opened the Pandemic Response Lab, which would prioritize processing COVID-19 tests for city residents. This substantially alleviated pressure on other commercial labs, allowing them to process tests for the rest of the state.

Throughout the pandemic, New York also continuously opened testing sites. In January 2022, New York City opened more than 100 new COVID-19 testing sites through partnership with NYC Health + Hospitals, the City's public hospital system. NYC Health + Hospitals led the City's testing and contact tracing activities, operating close to 300 test sites and at-home test kit distribution sites within the City.

[37] Note: Reporting of PCR lab results was inconsistently enforced across all states. States reported test data to the federal HHS database, but there could be discrepancies if reporting was not uniformly enforced or data systems were not fully available. Furthermore, states faced different contexts in the Initial Surge; some states were hit more severely by the pandemic in early 2020, while others were hit more severely later.

4. Key Strengths and Challenges

Coordinating COVID-19 testing was difficult and time-consuming, as states were not equipped to conduct widespread mass testing at the appropriate levels. While New Jersey moved quickly and often innovatively to expand testing (by coordinating lab capacity, setting up test sites, distributing test kits, and tracking testing levels), testing continued to be a challenge throughout the pandemic. Particularly during pandemic peaks, the disease was so widespread and the State's systems were not capable of handling and processing and analyzing such substantial amounts of information.

New Jersey faced difficulties in managing lab capacity at several points during the pandemic. It should be noted that the challenges states faced in early 2020, regarding Federal approval to conduct COVID-19 tests were among the most impactful setbacks for states' pandemic response as a whole. Furthermore, demand for testing rose during pandemic peak periods, and New Jersey competed with other states for lab capacity in its commercial labs.

Strength The State was able to maintain communication with commercial labs, which led to some prioritization of tests from New Jersey when states competed against each other for New Jersey's commercial lab capacity. In addition, the NJDOH received regular data from labs on performance metrics like turnaround times for test results.

Strength The State was able to effectively utilize vendors to set up testing sites. In particular, Vault was able to manage the operational elements involved in setting up mobile sites, pop-up sites, or mass testing sites.

Strength Part of LHDs' and the NJDOH's ability to set up sufficient points of testing in the State depended on the funding available to LHDs and counties. Although the State encountered challenges with the reimbursement process of emergency funds distributed to counties (e.g., CARES Act funding or FEMA grants), and the NJDOH lacked the staff capacity to process the high number of reimbursements needed, nonetheless, the State demonstrated its flexibility in creating the COVID-19 County Plan as a workaround.

Strength While widespread disease surveillance was difficult to accomplish with testing data and case positivity rates (due to unreliable data and the high volume of cases), the NJDOH's hot-spotting efforts were successful in identifying outbreaks. Hot-spotting surveillance allowed the NJDOH to identify areas or settings of need in the event of an outbreak, like congregate care, and appropriately respond by delivering test kits. As with mobile pop-up testing, the local perspective of LHDs was invaluable in making targeted interventions.

Challenge Throughout the pandemic, states, including New Jersey, encountered significant challenges with ensuring sufficient supply of tests. In early 2020, test materials (particularly reagents) were scarce nationally, and State test sites saw much higher demand than available supply. This was exacerbated by restrictive CDC guidance regarding the criteria for which individuals should be tested. High demand for tests led to long lines at test sites; at times, the New Jersey State Police needed to count the number of cars waiting in line for COVID-19 testing and

had to send individuals home when tests ran out. Then, in successive surges like Delta and Omicron, the supply of at-home antigen kits was also insufficient to meet demand.

Challenge Federal limitations on testing in the beginning of the pandemic, which included limited and faulty reagents and the time-consuming approval process for state labs to conduct tests, significantly hindered New Jersey's ability identify and contain COVID-19. Persistent CDC limitations on the kinds of people who were allowed to get tested through March 2020 meant that there were far more individuals in need of a COVID-19 test than those who received one.

Challenge The State lacked the ability to quickly ramp up testing in the beginning of the pandemic, due to the resource limitations of the PHEL and competition with other states for testing capacity in New Jersey's own commercial labs. New Jersey did not have contracts in place to reserve capacity in commercial labs, and PHEL was not designed to conduct mass testing for the general population. While it could carry out targeted identification of outbreaks, the PHEL was not able to meaningfully fill testing gaps for the general population when commercial labs were overwhelmed.

Challenge Periods of high demand for tests resulted in severe strains on lab capacity, which led to long turnaround times to receive test results. This decreased the value of test data in tracking the severity of the pandemic and prevented COVID-19-positive individuals from being notified early enough to take necessary precautions.

Challenge While the State was correct in its approach to allow LHDs to lead testing within their jurisdictions, and supplement with additional resources, coordination between NJDOH and LHDs to do so was often frayed. LHDs often did not receive sufficient notice of the latest updates to CDC guidance, and were sometimes told to set up testing sites without being asked or educated about the resources available to do so.

Challenge The State's ability to roll out its testing initiatives would have been enhanced by more flexible procurement processes, particularly when it came to staffing mega sites or procuring equipment like mobile vehicles for mobile test sites.

Challenge The State's at-home test delivery program, in partnership with Vault, was able to meet the need for more tests, at a time of high demand and insufficient test site capacity. However, most people who received an at-home test kit ultimately did not complete it, leading to a large amount of unused and sometimes expired tests.

Challenge As a whole, New Jersey conducted an average amount of COVID-19 tests compared to other states. The State moved commendably to set and meet its goal to double daily testing levels by May 2020, but ultimately conducted fewer tests than many other states. This was a concern considering the State was one of the first and hardest to be hit with the pandemic and would have benefitted from increased testing, particularly in the Initial Surge. New York, the other state first hit, tested a significantly higher amount. Without more testing available, the State was unable to receive accurate data on the level of cases present within New Jersey, when information in disease severity was critical in the Initial Surge to plan health interventions in response. Many New Jerseyans also needed tests in order to protect themselves and their close contacts but were unable to receive one due to limited capacity.

Challenge While the State was ultimately able to expand CDRSS, it was extremely difficult to do so. In particular, part of the challenge was that the State relied on Federal funding to initially set up CDRSS and expand it for COVID-19. Necessary upgrades were delayed due to lack of sustained funding.

Challenge Variations in data reliability and availability throughout the pandemic, particularly during peaks, made it difficult to fully assess the State's needs and make data-driven decisions.

Providing testing to the State remained a challenge throughout the pandemic. The State continuously explored new ways to provide testing, including at-home test delivery and the Rapid Response Team, each successive wave of surging COVID-19 still overwhelmed New Jersey's labs, PCR test sites, and supply of available at-home antigen tests. As seen, New Jersey and other states generally employed the same methods of test site set up and test kit delivery; it is likely that supply of tests available to the State and lab capacity was more impactful on the amount of tests New Jersey conducted. Though some of these challenges were universal to states (many states experienced high demand for tests during pandemic surges), some features of New Jersey exacerbated the State's difficulties with testing, including strict criteria for testing in the Initial Surge, the limitations of the PHEL, technological capabilities of CDRSS, and coordination with LHDs.

Due to the combination of Federal Government limitations and New Jersey-specific challenges, New Jersey did not provide enough testing to meet its needs. This was a significant gap in New Jersey's pandemic response. Testing is a critical part of a state's pandemic plan, particularly at the beginning of an outbreak, and must be expanded aggressively by procuring enough tests to meet need and opening criteria for who could be tested.

For discussion on how to resolve some of these issues, see **Recommendation 1**, **Recommendation 9**, and **Recommendation 17** in **Chapter 7**.

5. Appendix

A-1 Chronology of Events in New Jersey

Early Signals

- January 31, 2020: The WHO's International Health Regulation Emergency Committee declared the 2019 Novel Coronavirus outbreak a Public Health Emergency of International Concern (PHEIC).
- February 4, 2020: The FDA approved an emergency use authorization (EUA) for a CDC-developed PCR testing kit protocol, which would prove ineffective.
- February 5, 2020: The CDC began shipping its laboratory test kit to detect the SARS-CoV-2 virus, "CDC 2019-nCoV Real Time RT-PCR," to select domestic and international laboratories.
- February 8, 2020: Some of the first CDC test kits for detecting the SARS-CoV-2 virus arrived at a public health laboratory in east Manhattan, New York City. The laboratory reported that the tests produced "untrustworthy results."
- February 27, 2020: The New Jersey State Public Health Laboratory began testing directly, sending samples to CDC only in the event of a positive result for confirmation.
- February 29, 2020: To help expediate the availability of diagnostic tests, the FDA permitted certain laboratories to begin to use validated COVID-19 diagnostics before the FDA had completed its review of their Emergency Use Authorization[38] (EUA) requests.

Initial Surge (March 2020 to June 2020)

- March 2, 2020: New Jersey's labs were approved to test for COVID-19. The NJDOH had capacity to process 75 tests per week, and needed approval for each one.
- March 12, 2020: The FDA lifted the requirement for confirmatory testing by the CDC.
- March 13, 2020: The first commercial PCR test was approved by THE FDA.
- March 16, 2020: The White House Coronavirus Task Force gave a briefing on updated COVID-19 guidelines, mentioning the coordination between FEMA and state governments to expand community and drive-through testing sites. The White House advised states to prioritize healthcare workers and the aged 65 and older population in their remote testing locations.
- March 20, 2020: The Governor announces a partnership with commercial labs LabCorp and Bio Reference Laboratories to increase access to testing.

[38] U.S. Food and Drug Administration. (n.d.). Emergency Use Authorization. FDA. Retrieved from https://www.fda.gov/emergency-preparedness-and-response/mcm-legal-regulatory-and-policy-framework/emergency-use-authorization

- March 22, 2020: Governor Murphy announced[39] the opening of the mass testing at the PNC Bank Arts Center in Holmdel following the opening of the Bergen mass testing site.
- March 23, 2020: The New Jersey Office of Homeland Security and Preparedness (NJOHSP) issued a memorandum directing New Jersey commercial laboratories to report all COVID-19 test results, both positive and negative, to the New Jersey Department of Health.
- March 27, 2020: The CARES Act was passed, requiring commercial labs to report positive and negative test results.
- May 8, 2020: The FDA authorized the use of home-collected saliva samples for laboratory-processed tests. Prior to approval of home-collected saliva samples, individuals were required to be tested by a health professional.
- May 11, 2020: The Federal Government lifted all eligibility requirements for testing.
- May 15, 2020: FEMA[40] had provided nearly 200k swabs and ~120k units of media to complement New Jersey's efforts to procure testing materials. By mid-May, New Jersey had processed a total of ~190k PCR tests.
- June 5, 2020: Commissioner Persichilli enacted an emergency waiver[41] to allow additional specimen collection sites (such goals as mobile or drive-through sites) to be licensed under the State's Clinical Laboratory Licensing Program (which existed before COVID-19), without having to abide by all the licensing requirements in the New Jersey Administrative Code in N.J.A.C. 8:44-2.14 and N.J.A.C. 8:45-1.3.
- June 29-30, 2020: The two FEMA mass testing sites were shut down.

Second Surge (July '20 to May '21)

- July 10, 2020: The NJDOH entered into an agreement with Rutgers University for saliva tests.
- July 2020: New Jersey had more than 250 testing sites available to the public across state-run sites, community test sites, and private testing centers.
- August 26, 2020: The FDA issued an EUA for Abbott's BinaxNOW COVID-19 Test Kit— a rapid antigen test that can detect a COVID-19 infection in 15 minutes using the same technology as a flu test.

[39] Office of the Governor of New Jersey. (2020, May 12). Governor Murphy announces expanded testing capacity and robust contact tracing plan for New Jersey. Retrieved from https://www.nj.gov/governor/news/news/562020/20200512a.shtml

[40] Federal Emergency Management Agency. (2020, May 15). FEMA releases state-by-state PPE data. FEMA.gov. https://www.fema.gov/news-release/20200727/fema-releases-state-state-ppe-data

[41] New Jersey Department of Health. (2020, June 12). COVID-19 Collection Stations and Patient Service Centers. New Jersey Department of Health. https://nj.gov/health/legal/covid19/6-12-2020CollectionStations_and PatientServiceCenters.pdf

- **September 30, 2020**: New Jersey received 2.6 million Abbott at-home tests from the Federal Government.[42]
- **December 16, 2020**: The NJDOH entered into a sole-source agreement with Vault to supply testing service for New Jersey. Services included setup and operation of testing sites (including pop-up sites) at designated locations, as well as distribution of test kits to local partners. This vendor also had designated points of contact for each state agency to manage testing requests, which did not flow centrally through the NJDOH.
- **January 21, 2021**: On his first day in office, President Biden enacted a variety of initiatives related to COVID-19 testing, including:
    - Creating the COVID-19 Pandemic Testing Board through Executive Order
    - Outlining testing goals in his National Strategy for the COVID-19 Response and Pandemic Preparedness

Delta/Omicron Wave (June 2021 – March 2022)

- **December 13, 2021**: New Jersey launched at-home testing program via Vault.

[42] Office of the Governor of New Jersey. (2020, May 12). Governor Murphy announces expanded testing capacity and robust contact tracing plan for New Jersey. Retrieved from https://www.nj.gov/governor/news/news/562020/20200512a.shtml

Section 5.09 Contact Tracing

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5.9 Contact Tracing

1. Context and Summary

Contact tracing is the process used to identify individuals who have been exposed to those who have tested positive for and/or contracted infectious and communicable diseases. The goal of contact tracing is to inform close contacts of their risk of infection, provide guidance, offer support, and contain further spread.

In the context of COVID-19, the primary goal of contact tracing was to break the chain of transmission and slow community spread for individuals exposed to COVID-19 patients. By encouraging those with COVID-19 to self-isolate, further spread can be prevented or limited. Contact tracing was also used to track disease progression by investigating the source of outbreaks and monitoring the geographic spread of subsequent infection.

Thus, contact tracing involves two main activities:

- Case investigation, which involves a health official contacting individuals who were confirmed or had probable positive cases of the disease. The health official asks them to provide information about anyone with whom they had interacted closely and, therefore, is at risk of infection. Individuals who test positive are also often asked to provide information, such as the individual's whereabouts and actions during the infectious period, to allow the contact tracer to identify outbreaks.
- Contact tracing involves following up with the contacts listed by the individuals who test positive to gauge if they have symptoms and monitors their health until they are no longer at significant risk of infection.

Prior to COVID-19, public health officials used contact tracing as a tool, although typically for slower-moving disease outbreaks such as tuberculosis, HIV and other sexually transmitted infections (STIs). For influenza, New Jersey had viewed contact tracing as a way to identify and contain the first positive cases of an outbreak. During the COVID-19 pandemic, however, contact tracing was used as a method of widespread disease containment, even after cases had spread far beyond an initial outbreak to reach a large portion of the population.

This approach was complicated by several factors:

- Several COVID-19 characteristics were unknown or novel, making the contact tracing approach that health officials were accustomed to using outdated and insufficient. This was largely due to the unforeseen high transmissibility, exacerbated by the disease's asymptomatic spread and resulting in a large volume of cases that states lacked the technological and resourcing capacity to handle.

- COVID-19's infection period was much shorter than diseases states previously covered in contact tracing. For example, sexually transmitted infections may have an incubation period of about 21 days, while pre-micron variants of COVID-19 had a median incubation period of 5 days, with a range of 2-14 days.
- The Omicron variant, according to studies, had an even shorter estimated incubation period of 2-3 days. The State needed to quickly contact positive individuals and ensure that they were isolated before they infected others but lacked the staff to do so at the volume required. This was further complicated by delays in the time it took for individuals to receive test results, particularly during periods of surging cases, when labs processing tests were overwhelmed by the high volume of tests. The highly transmissible nature of COVID-19 proved to be a challenge for states throughout the entirety of the pandemic.

1.1. Meeting the challenge of contact tracing at the beginning of the pandemic

At the beginning of the pandemic, states needed to rapidly expand their contact tracing capabilities to meet the volume of COVID-19 cases. This had to be done in parallel with increasing New Jersey's testing capacity, as effective contact tracing depended on both potentially infected individuals receiving timely and accurate test results (for more detail, see Section 5.08 Testing). At the time, the consensus from the U.S. Centers for Disease Control and Prevention (CDC) was to conduct universal case investigation and contact tracing – meaning, the goal was to successfully conduct outreach to every single close contact.[1]

The CDC encouraged states to quickly scale their contact tracing capabilities.[2] Conducting universal contact tracing for COVID-19 demanded a large contact tracing workforce and greater technological capabilities than many states' existing digital disease surveillance systems. Furthermore, Local Health Departments (LHDs) had historically handled contact tracing at the local level. However, COVID-19's scope and volume quickly overwhelmed individual LHD resources, leading state health departments like the NJDOH to augment local efforts with resources, including staffing, technological infrastructure, and coordination support.

To scale contact tracing, the NJDOH contracted a vendor to provide staffing support to LHDs and an electronic platform to centralize contact tracing data.[3] The NJDOH contracted the Public Consulting Group (PCG) in August 2020 as a contract tracing vendor. PCG assisted the State in hiring, training, and managing contact tracing staff across all LHDs and was able to meet the NJDOH's request for 200 Spanish-speaking and 50 Portuguese-speaking agents who could speak with New Jerseyans who needed to communicate in one of those languages.

[1] Centers for Disease Control and Prevention (U.S.). (2020, June 11). *Contact tracing – CDC's role and approach*. https://stacks.cdc.gov/view/cdc/89176

[2] Ibid.

[3] On May 12, 2020, Governor Murphy signed Executive Order 141, mandating that all local, county, and regional health departments use a centralized digital platform to support their contact tracing efforts.

The NJDOH also amplified its technological capabilities by adopting a new digital contact tracing software system and a contact tracing notification app. The State launched the CommCare data tracking software for counties to use as a centralized contact tracing digital platform in July 2020. In October 2020, New Jersey launched the COVID Alert App, which used a Bluetooth notification system to alert users (who opted in to that function) of their proximity to infected individuals who had also opted in.

Individual agencies also engaged in their own contact tracing efforts to mitigate spread within the workplace, as described in Section 5.14 Continuity of Government Services.

1.2. Shifting approaches to contact tracing

However, as the pandemic progressed, it became apparent that contact tracing was not an optimal way to track or mitigate COVID-19. The virus's high transmissibility and asymptomatic spread (the extent of which was initially unknown), combined with the high caseload and persistent delays in obtaining test results, meant that contact tracers were often too late in reaching the close contacts of an individual. At that point, the infectious period might have passed, and there was little value in making contact.

Moreover, as the pandemic progressed, NJDOH officials reported that distrust in contact tracers grew and individuals were unwilling to reply to contact tracing calls or volunteer information. This was due in part to the increase in scammers who, posing as contact tracers, called individuals and attempted to steal their personal information. This made it more difficult for states to track the full extent of case positivity and successfully give guidance to protect infected individuals or their contacts.

States needed to decide whether to substantially increase efforts to promote contact tracing or explore other disease prevention and mitigation methods, such as focusing more on expanding vaccine access. Approximately 2 years after the start of pandemic, in early 2022,[4] (February 28, 2022), the CDC released updated guidance: it no longer recommending universal contact tracing. After the CDC released this guidance, many states phased out contact tracing altogether, after having invested significant funds into setting up the infrastructure with varying degrees of success.

Like other states, New Jersey phased out its contact tracing activities. The State retired the COVID-19 Alert NJ app on April 28, 2023, and phased out the PCG workforce in May 2023. Contact tracing was then run again by LHDs, which continued to conduct more targeted case investigation in accordance with updated CDC guidance released in late February 2022.[5]

[4] Miller, K. (2022, March 3). CDC scales back contact tracing recommendations to focus on high-risk settings and groups. *Health.com*. https://www.health.com/condition/infectious-diseases/coronavirus/cdc-contact-tracing

[5] Centers for Disease Control and Prevention (U.S.). (2022, February 28). *Prioritizing case investigation and contact tracing for COVID-19*. https://www.cdc.gov/coronavirus/2019-ncov/php/contact-tracing/contact-tracing-plan/prioritization.html

2. Key Decisions in New Jersey

2.1. Designing Contact Tracing Procedures

While the CDC had recommended that states conduct universal contact tracing, the NJDOH had advised against this approach prior to COVID-19. In New Jersey's 2015 Pandemic Influenza Plan, the NJDOH asserted, "The goal of timely case and contact identification is to limit the spread of the novel influenza in order to buy time before therapies (i.e., vaccine, antivirals) are available and to limit the impact on the health care system." In other words, contact tracing was only to be used at the beginning of a pandemic, until New Jersey was able to promote uptake of vaccines or treatments. This was because contact tracing was a labor-intensive activity that required significant numbers of trained staff. Once the disease had already spread throughout the community beyond the initial cases of an outbreak, transmission occurred too quickly for contact tracing to be an efficient or effective use of the State's resources.

During COVID-19, however, the NJDOH followed CDC guidelines to conduct universal contact tracing. This required New Jersey to significantly revise or expand its previous approach to contact tracing.

2.2. Universal contact tracing

The State's challenge at the beginning of the pandemic was to design procedures to conduct universal contact tracing. This included setting goals and guidelines to guide LHDs in their contact tracing process, as well as the more specific steps local contact tracers would follow. To design contact tracing procedures, New Jersey had to first define both who would be considered a "close contact" and the maximum amount of time that could pass before contacting close contacts would be of no use in preventing disease spread. Both of these considerations impacted how drawn out a single case investigation was and the total number of people the contact tracers needed to call.

New Jersey generally defined these considerations from CDC guidelines. For example, the NJDOH used the CDC definition of "close contact" to determine how many people to call from a single positive case. In early 2020, a close contact had been defined as people being within 6 feet of an infected individual for at least consecutive 15 minutes. However, in October 2020, this changed to 15 minutes *cumulative* over 24 hours.[6] The NJDOH also followed the CDC's recommendations to call every close contact, regardless of how much time had passed.

In other instances, New Jersey tailored its contact tracing procedures based on its learnings throughout the pandemic. For example, at the beginning of the pandemic, the CDC had recommended two distinct roles: those who contacted the positive individual and those who

[6] Centers for Disease Control and Prevention (U.S.). (2022, February 28). *Prioritizing case investigation and contact tracing for COVID-19*. https://www.cdc.gov/coronavirus/2019-ncov/php/contact-tracing/contact-tracing-plan/prioritization.html From archived versions of this source captured on June 3, 2020 and November 1, 2020, using the Wayback Machine.

contacted the individual's close contacts. New Jersey determined that a more efficient approach was to consolidate the roles, such that a single contact tracer called a positive case, obtained information for their close contacts, and called the contacts.

As described above, contact tracing was primarily conducted by LHDs, who received information about infected individuals falling within their jurisdiction and made calls to them and their close contacts. This was an enormous task, given LHDs' already limited resources. The State assisted by providing a standardized contact tracing protocol for LHDs, testing agencies, and other stakeholders. The protocol specified the following broad steps in the contact tracing process:

- Labs processing COVID-19 tests reported positive results to the State's Communicable Disease Reporting and Surveillance System (CDRSS), and the positive result would be shared with the individual's LHD.
- The LHD would contact the affected individual via phone to inquire about their well-being and gather details (e.g., phone numbers and names) about their potential close contacts who might have been exposed to the virus.
- LHD contact tracers would then call close contacts and conduct daily follow-ups (through texts or phone calls) for 14 days to monitor their health.

During the contact tracing process, names of infected persons were not released to close contacts. The COVID-19 status of individuals remained private. Both pieces of information were only known to public health officials and the LHDs of the infected individuals.[7]

When investigating cases involving multiple LHD jurisdictions, such as positive individuals who resided in one county but worked in another, there was no way to transfer cases between LHDs automatically. Contact tracers in different LHDs could only delegate such cases to each other by making direct phone calls. While this fostered personal relationships, it was time-intensive and inefficient.

While the NJDOH designed its contact tracing procedure around universal contact tracing, it communicated with other states and participated in national-level discussions about the feasibility of contacting every single contact, even at the beginning of the pandemic. Ultimately, New Jersey followed CDC guidance on universal contact tracing until that guidance changed in early 2022.

2.3. Communicating and Creating Guidance for Close Contact Management

New Jersey's 94 LHDs assumed primary responsibility for contact tracing within their jurisdiction, managing their own contact tracing staff, and conducting case investigations. While contact tracing is typically done at the local level by LHDs, NJDOH stepped in to assist with staff augmentation because of the extreme volume of COVID-19 cases. Using federal funds, NJDOH contracted a

[7] Note: The authors of this report have also been made aware of rare instances of information leaks due to human error.

vendor, PCG, to hire, train, and deploy 2,500 contact tracers to support LHDs' heavy caseloads state-wide. By December 2020, there were more than 30 contact tracers for every 100K residents, totaling more than 3,500 contact tracers across New Jersey.

The NJDOH also procured a supplementary IT platform to ensure that the large volume of new contact tracers did not overload the NJDOH's primary communicable disease surveillance platform. The resources from the NJDOH were supported by CDC grants, which were awarded to states to expand contact tracing. For example, in June 2021, the CDC awarded New Jersey a $25M grant to expand contact tracing, testing, and other disease mitigation strategies in underserved communities.[8] The NJDOH also provided:

- Additional telephones lines to support the increased call volume.
- A language line service to meet the needs of New Jersey's diverse population.
- Social services support via 2-1-1.
- A mobile app to expand the reach of traditional contact tracing.
- Funding for each county to hire a four-person team to support COVID-19 coordination efforts in each county.

To support engagement with contact tracers, the NJDOH also launched a public awareness campaign, established a New Jersey-wide diverse community advisory board to communicate via trusted entities, and provided additional training for contact tracers. After the vaccine became available, the NJDOH's efforts to reduce disease spread shifted more toward case investigation and identifying outbreaks or superspreader events.

Contact tracers needed guidance, not only on the steps to follow in a case investigation or contact tracing procedure, but also on the guidance they administered to positive individuals and their close contacts. Once close contacts who tested positive for COVID-19 were identified, contact tracers called them and provided information on self-quarantining and resources for getting tested. For entirety of their subsequent isolation periods, positive individual and their close contacts received daily follow-ups through text messaging or phone calls to monitor their health and connect them with the necessary support and resources.

While the health and safety guidelines New Jersey administered for positive individuals were primarily communicated from the CDC, customization to state or local characteristics was needed occasionally. In these instances, the NJDOH worked collaboratively with LHDs and New Jersey Communicable Disease Service to tailor safety guidelines to local needs. Thus, the role of the State was two-fold: communicating federal guidance and coordinating with LHDs to ensure that federal guidance was sufficiently followed; and remaining responsive to findings from LHDs and regional

[8] Centers for Disease Control and Prevention. (2023, September 1). National Initiative to Address COVID-19 Health Disparities Among Populations at High-Risk and Underserved, Including Racial and Ethnic Minority Populations and Rural Communities. https://www.cdc.gov/publichealthgateway/partnerships/COVID-19-Health-Disparities-OT21-2103.html

epidemiologists. The State continued to follow CDC guidelines for the appropriate length of time that positive individuals and their close contacts needed to quarantine, or how often they should test for COVID-19. To ensure that LHDs remained aligned with and informed of changing federal guidance, New Jersey set minimum practice standards for all LHDs and their workforces. The NJDOH had the power to enforce minimum standards by withholding grant funding or suspending licensing, but recognized that it was best not to use those measures during a public health emergency.

The NJDOH used its contact tracing vendor, PCG, to streamline communications with LHDs. LHDs were frustrated by the ever-changing state and federal recommendations, as new guidance meant that contact tracing scripts had to be changed. The State was also limited by its email system, which only allowed a single email to be sent to 500 recipients, while contact tracers across New Jersey numbered more than 2,000. PCG helped to implement a new messaging system to alleviate communication challenges. The NJDOH also created a website for contact tracers to receive updated information.

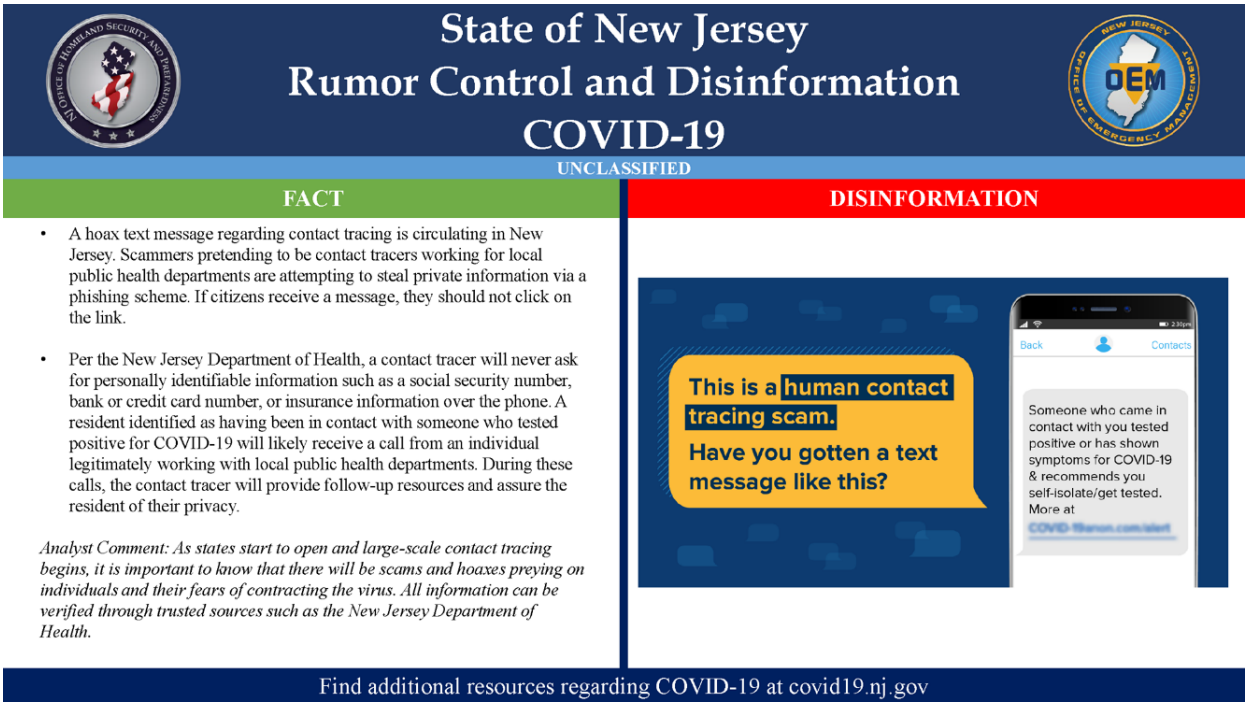
Regional coordinators from the NJDOH held weekly forum discussions with contact tracers to communicate changing guidance. The Department also maintained a central repository of CDC and State guidance documents, including explanations of system changes to CommCare (e.g., changing scripts in response to updated CDC guidance) for LHDs to review.

Ultimately, New Jersey saw its role as providing the necessary information and answers about guidance to augment LHDs' decisions, as LHDs had deeper knowledge about their residents and the resources available in their jurisdictions. LHDs could then tailor the State's general information to residents' specific needs.

2.4. Contact Tracing Campaign

In New Jersey, throughout the pandemic, around 23% of people contacted by contact tracers refused to answer the phone. This was due primarily to distrust in contact tracers and misgivings about volunteering personal information. The public's hesitation was heightened by the increase in scammers attempting to steal personal information by posing as contact tracers.

Exhibit 1: Scammers during COVID-19 prompted the State to debunk wrong information[9]



The NJDOH launched the "Take the Call" public communications campaign to combat misinformation about contact tracing. It published FAQs on the COVID-19 Information Hub website and infographics explaining how to verify a call from an authorized contact tracer (e.g., contact tracers would never ask for an individual's social security number, confidential financial information, or immigration status). The NJDOH also included a section on its website that allowed individuals to check that the phone number of the call they were receiving was an official state number.

[9] New Jersey Office of Homeland Security and Preparedness. (2020, May 20). *Facebook*. https://www.facebook.com/NJOHSP/photos/a.120127964694280/3993835137323524/?paipv=0&eav=Afabz_tczDSBoN1YcUePlgYCGVkjifK7sQgMGxPAJHkM18ogu-uBadwZ8WLmtWurftQ

Exhibit 2: NJDOH's Take the Call campaign encouraged greater trust in contact tracers[10]

The COVID Community Corps also increased awareness of COVID-19 public health measures in underserved communities by educating people about the disease, the resources available to them (e.g., contact tracing), and safety measures to adopt.

2.5. Challenges and Changing Approaches to Contact Tracing

Universal contact tracing quickly proved a difficult endeavor as the pandemic continued, requiring changes to the State's procedures. While the goal of contact tracing is to minimize the spread, it is difficult to measure "number of positive cases prevented" – thus, alternative metrics are used to measure the success of contact tracing, such as the number of new contacts logged in CommCare or the percentage of successful case investigation calls (where the positive individual cooperates with the contact tracer and identifies their close contacts). These metrics showed that New Jersey was far from reaching every positive case and their close contacts.

Once at-home antigen tests became available in August 2020, there were inherent complications in ensuring that individuals reported their positive test results to New Jersey's contact tracing system, as it was difficult to enforce self-reporting. The NJDOH developed a form using AWS Cloud-based technology for individuals to self-report antigen test results, but had limited options to enforce

[10] New Jersey Department of Health. (n.d.). *Home page*. https://www.nj.gov/health/

reporting. This issue was not unique to New Jersey; a representative survey of all 50 states found that official case numbers were likely underreported across the country.[11]

As a result, the positive cases sent to contact tracers for investigation did not reflect a complete picture of the spread of the disease in New Jersey. In turn, the value of contact tracing in mitigating disease spread decreased. Individuals who had self-tested either isolated themselves and alerted close contacts without a need for the State's contact tracers (since at-home tests displayed results almost instantly, versus the time it took for a contact tracer to call), or did not isolate and inform contacts because they had not been told to.

The public's low participation in contact tracing calls also decreased the overall effectiveness of universal contact tracing. In August 2020, approximately 66% of positive cases answered a contact tracer's call and agreed to participate in the interview. Of those, 55% provided information about close contacts. By the end of December 2020, however, contact tracing calls had an extremely low success rate, with only 57% of positive individuals answering the phone and agreeing to participate. Of those, only 22% volunteered information about their close contacts.[12] Many residents hung up, became unresponsive, or refused to disclose the names of close contacts despite the assurance of confidentiality.

State leaders and health officials expressed frustration due to the lack of results in spite of the significant time, money, and resources invested into expanding the contact tracing operation. The NJDOH tracked call success metrics and qualitative feedback from contact tracers to modify the case investigation procedure to increase the number of successful calls. NJDOH regional representatives held weekly calls with LHD contact tracers to hear feedback that contact tracers heard on calls and updated scripts accordingly. The NJDOH employed various tactics to increase contact tracing engagement. However, the rate of people who did not pick up the phone at all – much less agree to participate in the interview – stayed relatively consistent throughout the pandemic. For example, the NJDOH set up an automatic notification text message to contacts before calling them, asking them to pick up. The NJDOH also learned that engagement was higher when contact tracers called from the same area code as the recipient.

The NJDOH also worked with Community Advisory Boards, composed of community leaders and interest groups, to obtain additional feedback about contact tracing procedures. A key contribution from the Community Advisory Board was to change the translation of contact tracing scripts that had been created by a translation services vendor. The Community Advisory Board gave feedback that the Spanish script was not conversational enough, and thus would not be conducive to promoting trust in contact tracers.

In addition to people's reluctance to engage with contact tracers, the State continued to face challenges with the volume of cases to investigate and contact. During times of case surges, the volume of positive cases became so large that the State occasionally needed to shut down the

[11] Lazer, D (2022).The COVID States Project #79: At-Home COVID Tests. OSF Preprints. https://osf.io/preprints/osf/5xyqv

[12] From NJDOH contact tracer performance dashboard.

system for positive cases among those aged 18-64, thus preserving system load for the more susceptible 65+ population. The State did not have extensive data available to prioritize contact tracing in specific populations (thereby preserving limited system capacity for the most important cases). The only information about positive cases available to contact tracers was the information entered into CDRSS when a positive test result was recorded; personal information like race and employment, or factors that would make the individual high-risk, was not available until LHDs contacted a positive case.

The volume of cases made universal contact tracing a difficult goal to meet. With more cases came longer turnaround times from the labs that processed tests, which defeated the purpose of contact tracing when delays were too great to be able to tell individuals to isolate in time. For example, turnaround times for PCR tests usually ranged from 1-3 days, but could exceed 3 days during periods of high demand. Thus, universal contact tracing became an increasingly inefficient use of State resources due to the prevalence of at-home self-tests, rising mistrust in contact tracers, and overwhelming case loads during surges.

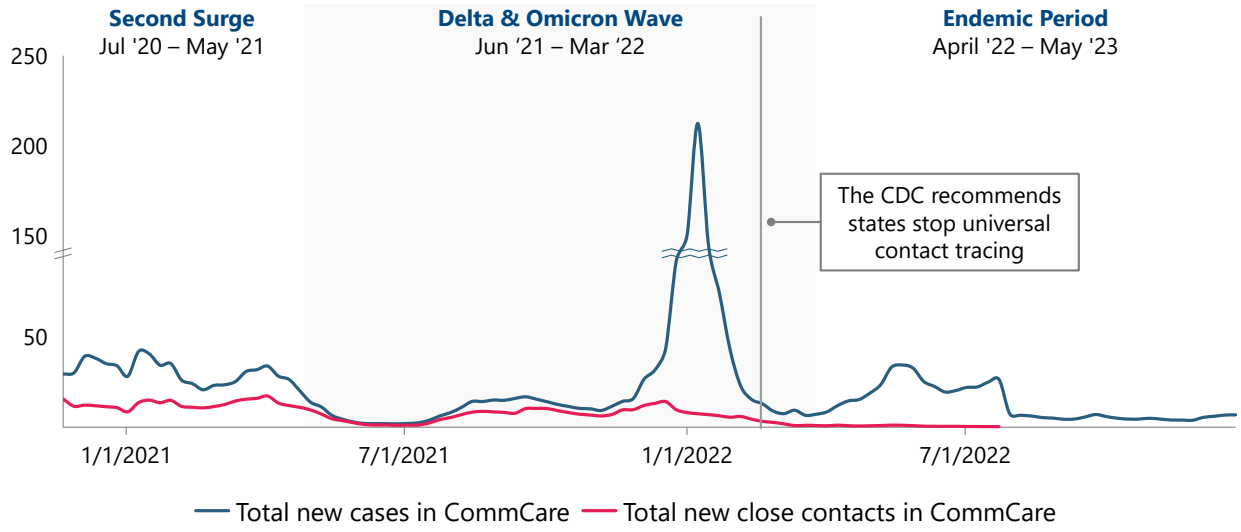
2.6. Phasing out contact tracing

When vaccines became widely available, the State's goal for contact tracing shifted from universal contact tracing to more targeted case investigation. This was because vaccines were understood to be a more effective and efficient method of disease mitigation; thus, the State focused its resources on promoting vaccines. This meant that contact tracers were able to focus on investigating specific outbreaks by gathering information about where outbreaks happened and whether they were due to a superspreader event, particularly in settings with at-risk populations like long-term care facilities. The CDC also stopped encouraging universal contact tracing by March 2022, recommending instead to promote prevention methods like vaccines. For contact tracing, CDC guidelines changed to recommend a time-based approach: contacts were to be followed up with only if they were exposed to the positive individual within 5 days of the start of the infectious period, rather than every single close contact.

By March 2022, the State's contact tracers had stopped monitoring close contacts' symptoms with daily text messages. Case investigators also began to take a more targeted approach in their outreach. Their questions focused more on understanding positive individuals' whereabouts and which individuals they had been close to, and linking positive cases to specific events or outbreaks occurring within local jurisdictions. Much of the guidance the NJDOH gave LHDs continued to come from CDC guidelines, with modifications to local context as needed.

Exhibit 3: Even as more positive cases were entered in CommCare, fewer of their close contacts were recorded

Total weekly new cases and close contacts entered in CommCare (in thousands)



The number of close contacts recorded decreased both as individuals became more hesitant to volunteer information, and as the state changed its contact tracing approach to focus less on comprehensively collecting information about close contacts.

The NJDOH and LHDs continued working with epidemiologists from the regional epidemiological program, who could interpret trends from positive case data in local jurisdictions and advise on where to target case investigation. Eventually, New Jersey stopped contact tracing for the general population but continued to conduct contact tracing for specific settings like congregate care. In situations such as an outbreak at a local employer, a Local Health Alert was sent to LHDs directing them to investigate more closely. Contact tracing procedures to address the outbreaks in certain workforces focused on helping employers "return to normal" and reopen or resume functions safely and quickly, rather than aim for widespread disease surveillance.

3. Comparison to Other States[13]

In early 2020, when public health authorities recommended that states invest heavily in contact tracing, states responded in varying degrees. This section discusses the extent to which states

[13] Benchmark states for **Chapter 5** (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in **Appendix.**

viewed contact tracing as a priority in their pandemic response and the strategies they took to set up a contact tracing program. While contact tracing was ultimately an ineffective method of COVID-19 mitigation, the different approaches benchmark states took illustrate how actively New Jersey's government promoted CDC-recommended public health interventions.

Some states (New Jersey, New York, and California invested significantly in contact tracing in 2020, by rapidly centralizing and expanding their contact tracing workforce. They set high goals for hiring contact tracers and also invested in building centralized digital contact tracing platforms.

Other states, in contrast, did not significantly invest in centralizing contact tracing capabilities (Florida and Ohio). These states avoided the development and utilization of a centralized digital platform, did not roll out an exposure notification app, or did not hire as large of a contact tracing workforce. Instead, contact tracing in these states remained primarily the responsibility of LHDs.

The remaining states (Virginia, Pennsylvania, and Illinois) made minor investments in contact tracing in comparison. While Virginia and Pennsylvania invested in an exposure notification app, their hiring efforts were less ambitious than those in New Jersey, New York, and California. Although Illinois invested in CommCare and made plans to hire at or above the recommended number of contact tracers per 100k people, it did not utilize a contact tracing app.

The following sections further detail contact tracing workforce sizes, hiring strategy, notification systems, and how states coordinated their electronic systems.

3.1. Size of Planned Contact Tracing Workforce

The National Association of County and City Health Officials estimated that states should have 30 contact tracers per 100k people available to conduct contact tracing for the general population during a health emergency. Early in the pandemic, states differed in the size of their contact tracing workforce and the number of contact tracers they planned to hire. States' plans for additional hiring shed light on different assessments of COVID-19 needs and health priorities in the early days of the pandemic.

Exhibit 4: Size of existing contact tracing workforce and planned hiring in the early pandemic[14]

State	Date	Size of contact tracing workforce (as of date listed)	Planned additional hiring (as of date listed)	Planned contact tracers per 100k (after hiring)
NJ[15]	May 12	800-900	1,000	30.4
NY	May 7	575	16,425	87.4
CA	May 7	3,000	17,000	50.6
IL	May 7	Unknown	3,810	30.1
VA[16]	May 21	470	1,300	21
OH	May 7	685	1,065	15
PA	May 7	160	0	1.2
FL	May 7	500	0	2.4

3.2. Contact Tracing Workforce Hiring Strategies

States universally lacked large enough contact tracing workforces to handle the volume of COVID-19 cases and needed to rapidly hire and train contact tracers to meet this need. They either contracted with a third-party vendor to administer hiring, leveraged partnerships with philanthropic or other state organizations, or hired in-house.

New Jersey, Virginia, and Pennsylvania contracted with third-party vendors to assist with hiring contact tracers. Virginia contracted with AM LLC and the Institute for Public Health Innovation (IPHI) to hire and train contact tracers. Pennsylvania contracted with Insight Global to hire and train 1,000 contact tracers. In addition to contracting with PCG, like New Jersey, New York partnered with Bloomberg Philanthropies and its hospital systems to recruit more contact tracers to its state health department.

California and New York partnered with universities or philanthropic organizations to expand their contact tracing workforce. California allocated supplemental state funding directly to LHDs to expand contact tracing and contracted with the University of California, San Francisco and the

[14] Simmons-Duffin, S. (2020, April 28). States nearly doubled plans for contact tracers since NPR surveyed them 10 days ago. *NPR*. Updated May 7, 2020. https://www.npr.org/sections/health-shots/2020/04/28/846736937/we-asked-all-50-states-about-their-contact-tracing-capacity-heres-what-we-learned
Note: this table uses the above NPR survey unless otherwise noted with a footnote. This is because the numbers given the NPR survey have been cross-referenced with State communications like press releases; where there was official state communication given that seemed to contradict the survey results, the state communication was used instead.

[15] Office of the Governor of New Jersey. (2020, May 12). Governor Murphy announces expanded testing capacity and robust contact tracing plan for New Jersey [Press release]. https://www.nj.gov/governor/news/news/562020/20200512a.shtml

[16] Thompson, C. (2020, May 21). How COVID-19 'contact tracing' will work in Virginia. *WTVR*. Updated May 22, 2020. https://www.wtvr.com/news/local-news/how-covid-19-contact-tracing-will-work-in-virginia

University of California, Los Angeles to provide an online training program for contact tracers. California also partnered with Kaiser Permanente, which donated funding to the Public Health Institute (PHI) to support PHI in hiring, training, and deploying contact tracers. PHI contact tracing teams were deployed to community health centers (like federally qualified health centers) or within the Kaiser Permanente system. They were not considered state employees.

Florida and Illinois also used a third party to hire contact tracers, but did not rely extensively on the third-party to spearhead hiring, like New Jersey did. Although Florida engaged Maximus (a vendor) to hire additional contact tracers, it ultimately hired most of its contact tracers in-house or trained and reallocated public health officials to conduct contact tracing. In Illinois, the primary responsibility of increasing the contact tracing workforce was left to LHDs, which received state funding to undertake hiring themselves. Illinois also contracted Partners in Health to provide operational support, but their services primarily involved setting up contact tracing technology and designing the training curriculum.

3.3. Contact tracing notification system

Late in 2020, New Jersey and other states sought to innovate their contact tracing efforts, particularly as engagement remained low. Many states partnered with developers to release contact tracing notification apps. Most of these states chose to use the Bluetooth-based Exposure Notification (EN) system, created from a collaboration between Apple and Google. Apps using the EN system also used the National Key Server, which exchanges data between participating states, enabling individual state apps to interoperate and function across state lines.

New York, Pennsylvania, California, and Virginia used a statewide contact tracing app. These states each released a contact tracing app using the EN system. Virginia's version, COVIDWISE, was the first app to use this system. New York and Pennsylvania had partnered with New Jersey to roll out their states' respective versions of the COVID Alert app. New York and New Jersey jointly announced their app rollout, underscoring the cross-state interoperability of the technology.

Florida, Illinois, and Ohio did not use a contact tracing exposure notification app. Florida initially launched the StrongerThanC-19 app in May 2020. However, it was not an exposure notification app and only prompted individuals to log their symptoms after they had tested positive, rather than notifying close contacts. In November 2020, Florida contracted the developer Twenty Labs to develop a case management app named Healthy Together. If individuals tested positive for COVID-19, they received a text notification that led them to view their test results in the app and obtain additional information about safety measures. Healthy Together stated that over 50% of Florida households used the app throughout the pandemic. Additionally, some counties, such as Palm Beach County, used the app CombatCOVID, which implemented Bluetooth technology to conduct contact tracing, but this was not implemented statewide. Unlike the apps used by the other benchmark states, Florida's apps were not meant for widespread case surveillance or universal contact tracing.

3.4. Coordination of statewide electronic systems

Some states integrated their local contact tracing efforts into a single digital tracking platform, sometimes using executive authority to mandate its use in local jurisdictions. While some states were able to utilize their existing disease surveillance and reporting systems, most of these states needed to build out system capabilities to handle the COVID-19 system load. Other states continued to be decentralized, choosing not to adopt or enforce a statewide digital contact tracing platform.

Like New Jersey, Illinois and New York stood up a contact tracing platform and used CommCare. Virginia utilized its existing disease surveillance platform, VEDSS, but scaled it up with more advanced data functions. In contrast, Florida and Ohio did not enforce a statewide, centralized contact tracing digital platform.

4. Key Strengths and Challenges

As previously noted, states (including New Jersey) faced universal contact tracing challenges. For example, the transmissibility of COVID-19, including through the air, meant that like other states, New Jersey was unprepared at the beginning of the pandemic to handle the massive volume of positive cases. Several factors made contact tracing an insufficient method of precisely tracking the spread of the disease. Low rates of engagement with contact tracers, the increase in at-home tests, and the asymptomatic spread of COVID-19 meant that New Jersey had data on a small percentage of their total positive cases. Furthermore, slow turnaround times to receive test results meant that by the time close contacts or positive individuals were contacted, the infectious period (particularly for later variants like Omicron) was often over. Ultimately, contact tracing was a challenging undertaking for all states.

Strength New Jersey was generally adaptable to the changing conditions of the pandemic in modifying its contact tracing approach, such as its shift in focus from widespread surveillance to more targeted case investigation after vaccines became available and the CDC decreased its emphasis on universal contact tracing.

Strength The State proved the value of contact tracers as a source of social support, encouragement, and information to connect with individuals personally. Many residents were grateful for social interaction during shutdowns in 2020.

Strength The NJDOH's approach to offer resources to supplement local efforts while LHDs remained the lead investigators. This allowed local jurisdictions to focus on their communities and tailor efforts to specific needs. The State's collaborative model with LHDs was successful in having a centralized source of support while allowing local expertise and autonomy. LHDs were tireless "boots on the ground" and stretched their limited resources.

Strength The NJDOH was able to operationalize CommCare in a short time, and was successful in significantly expanding the system's capacity with AWS. The bi-directionality between CommCare

and CDRSS was also a significant advantage for the State. The NJDOH recognized the importance of good communication from the beginning, specifying it as part of the requirements in the platform's RFQ. The ability to communicate back and forth instantly between the two platforms allowed for efficient information transfer, saving time in what was already a long and complicated process.

Strength Despite challenges at the beginning of the pandemic, New Jersey showed flexibility in innovating its process to onboard LHDs to its digital platforms and resolve issues. Also at the beginning of the pandemic, New Jersey quickly realized that onboarding thousands of contact tracers on a new platform (CommCare) would require more support than planned. However, the State maintained regular and open communication by having daily forums with LHDs to take in feedback and answer questions, ultimately improving communication. The State also worked with PCG to expand its mass-messaging system to contact tracers.

Strength The State successfully expanded its contact tracing workforce quickly and leveraged PCG's capabilities to train contact tracers. It also proactively included different language abilities and cultural competencies in its hiring and training goals, meaning that New Jersey considered the needs of its different communities and was able to engage with various sub-populations.

Strength Adopting the COVID-19 Alert contact tracing app was ultimately beneficial in reaching a wider (particularly younger) audience. It was also successfully interoperable with other states.

Strength Through the feedback given by local Community Advisory Boards, the NJDOH was able to modify its contact tracing scripts to be more engaging to particular communities. For example, the State changed its Spanish contact tracing script after feedback that the language used was too formal and would discourage engagement.

Challenge It was often difficult for LHDs to keep apprised of constant updates from the CDC, as changes to guidance were frequent and often complex. Additionally, the State did not initially have a robust communication system with different LHDs (as mentioned above, the number of email recipients was limited by the State's email system, which prevented all contact tracers from receiving communication at once). This improved over the course of the pandemic, particularly after PCG developed its messaging system for all contact tracers, and New Jersey created and maintained a central repository of guidance documents for all contact tracers to access. Still, communication about State guidance ultimately can be improved.

Challenge Due to the highly transmissible nature of COVID-19, contact tracers had an extremely high volume of cases to investigate. During pandemic peaks, the volume of positive cases became so large that the State occasionally needed to close the system for positive cases among those aged 18-64, only investigating cases among the more susceptible 65+ population and thus preserving system overload. A persistent issue was that New Jersey did not have a large enough workforce to handle high case volumes. As the disease spread, all states that invested in contact tracing faced this challenge.

Challenge Despite the State's significant expansion of its digital platform (with the adoption and operationalization of CommCare), the platform still did not enable contact tracers to

instantaneously transmit information between LHDs. A positive case involving multiple jurisdictions meant that contact tracers needed to call each other directly.

Challenge Low engagement with contact tracers from positive individuals or their close contacts was a persistent challenge, and contributed to contact tracing being an inefficient use of resources. All states experienced this issue. In hindsight, alternative methods of large-scale disease mitigation, such as targeted communication through trusted channels and messengers of public health guidance (e.g., broadly encouraging individuals to stay home if sick) would have been more viable.

While New Jersey showed strengths in being proactive in meeting the challenge of contact tracing, contact tracing was ultimately not the optimal method of disease mitigation for COVID-19's specific characteristics. In particular, New Jersey's ability to centralize and expand the State's technological and staffing resources quickly, and its responsiveness in addressing gaps like overly formal Spanish contact tracing scripts, are commendable. New Jersey faced challenges common to other states, such as high case load, low self-test reporting, and distrust in contact tracers. These made universal contact tracing counterintuitive.

Furthermore, the NJDOH had previously issued such warnings against universal contact tracing, as seen in the 2015 Pandemic Influenza Plan. As this guidance suggested, contact tracing ceased to be useful after widespread transmission across the population. A more appropriate approach would have been to cease universal contact tracing after public health authorities were able to understand that COVID-19 spread quickly and asymptomatically, and focus on broad community containment measures (e.g., universal vaccination, treatments, social distancing, closures, and masking). This approach would have been in accordance with the 2015 Plan, which called for the NJDOH to continuously evaluate disease progression to determine when contact tracing would no longer be an efficient method of mitigation. During the COVID-19 pandemic, New Jersey did not follow this guidance – instead, it followed CDC guidance to conduct universal contact tracing, which resulted in an ineffective use of state resources – a challenge that was also shared by other states.

5. Appendix

A-1 Chronology of Events in New Jersey

Initial Surge (March 2020 to June 2020)

- **May 12, 2020:** Governor Murphy signed Executive Order 141 mandating that all local, county, and regional health departments use a centralized digital platform to support their contact tracing efforts.[17]
- **August 2020:** NJDOH contracted the Public Consulting Group in August 2020 as a contact tracing vendor. PCG assisted the State in hiring, training, and managing contact tracing staff across all LHDs.

Second Surge (July 2020 to May 2021)

- **July 5, 2020:** The State created a centralized contact tracing program, CommCare, to serve all counties.
- **August 7, 2020:** The State launched a public contact tracing dashboard as part of the New Jersey website's suite of the COVID-19 data dashboard, as well as an internal dashboard to monitor performance.
- **October 1, 2020:** The COVID Alert NJ app launched jointly with the State of the New York's contact tracing app.
- **December 2020:** There were more than 30 contact tracers for every 100K residents statewide, totaling more than 3,500 contact tracers.
- **March 2021:** The CDC awarded a $53M, 2-year grant to the State to support activities to expand, train, and sustain a response-ready public health workforce, including contact tracers.[18] The grant prioritized school-based health programs and LHDs.

Delta & Omicron Wave (June 2021 to March 2022)

- **April 7, 2021:** New Jersey launched Apple's built-in contact tracing notification system using Bluetooth.
- **June 2021:** The CDC awarded $25M to New Jersey's health department. The 2-year grant aimed to reduce COVID-19-related health disparities and improve and increase contact

[17] Murphy, P. (2020, May 12). *Executive Order No. 141*. State of New Jersey.
[18] CDC Crisis Response Cooperative Agreement: COVID-19 Public Health Workforce Supplemental Funding Guidance. Centers for Disease Control and Prevention. (2021, May 27). Retrieved from https://web.archive.org/web/20210710213453/https://www.cdc.gov/cpr/readiness/funding-ph.htm. Note: archived page accessed through the Wayback Machine.

tracing and testing among people who were at higher risk and underserved (including those living in rural communities).[19]

Endemic Period (April 2022 – May 2023)

- **February 28, 2022:** The CDC released updated guidance, no longer recommending universal contact tracing or case investigation.
- **March 24, 2022:** The NJDOH announced it planned to cut its contact tracing workforce by half, as the CDC no longer recommended following up with every single close contact.
- **May 5, 2023:** PCG's workforce was stood down; contact tracing was reduced back to LHD capacity.
- **April 28, 2023:** The COVID Alert NJ contact tracing app was retired.[20]

[19] Centers for Disease Control and Prevention. (2023, September 1). National Initiative to Address COVID-19 Health Disparities Among Populations at High-Risk and Underserved, Including Racial and Ethnic Minority Populations and Rural Communities. Centers for Disease Control and Prevention. https://www.cdc.gov/publichealthgateway/partnerships/COVID-19-Health-Disparities-OT21-2103.html

[20] New Jersey Department of Health. (2023, April 28). Covid Alert NJ: Overview: FAQ. New Jersey COVID-19 Information Hub. https://covid19.nj.gov/faqs/nj-information/slowing-the-spread/covid-alert-nj:-overview#direct-link

Section 5.10 Vaccinations

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5.10 Vaccinations

1. Context and Summary

The planning and rollout of the COVID-19 vaccine was the largest vaccination campaign in U.S. history. From the discovery of the virus, pharmaceutical companies raced to develop vaccines. The White House launched Operation Warp Speed in April 2020 and funded the development of six promising vaccine candidates, including the Pfizer-BioNTech, Moderna, and Johnson & Johnson vaccines. Once vaccines became available, state governments were responsible for quickly and equitably rolling out a primary series of vaccinations, followed by boosters, to nearly their entire population.

In December 2020, New Jersey publicly announced a goal to vaccinate 70% of its eligible population – corresponding to 4.7 million individuals – within 6 months. This goal was established through coordination between the Governor's Office and the New Jersey Department of Health (NJDOH). Within the NJDOH, the goal was considered ambitious but necessary to mobilize the State and reduce the number of deaths caused by COVID-19. By June 18, 2021, New Jersey hit this goal approximately two weeks ahead of schedule.

1.1. Overview of Vaccine Rollout Timeline

1.1.1. Primary Series Vaccines

Promising results began to emerge from clinical trials in November 2020. On December 11, 2020, the FDA issued an Emergency Use Authorization (EUA) for the Pfizer-BioNTech COVID-19 Vaccine for people aged 16+ for the prevention of COVID-19. About a week later, on December 18, 2020, the FDA issued an EUA for the Moderna COVID-19 vaccine for people aged 18+.[1] The federal government allocated the still-scarce vaccine supply to states in proportion to populations. By December 24, 2020, more than 1 million COVID-19 vaccine doses had been administered across the U.S. to healthcare workers and older adults living in LTCFs. In the following months, state-led efforts across the country were able to vaccinate millions more.

1.1.2. Pediatric and Adolescent Vaccines

While COVID-19 vaccines were initially tested and approved for individuals aged 16+, clinical testing continued to evaluate the safety and efficacy of the vaccines in children and adolescents. In May 2021, the FDA expanded the EUA for the Pfizer-BioNTech vaccine to include all adolescents ages 12-15, and by November 2021, the Pfizer-BioNTech vaccine was recommended for children

[1] U.S. Department of Health & Human Services. (n.d.). COVID-19 vaccines. https://www.hhs.gov/coronavirus/covid-19-vaccines/index.html

aged 5-11. In June 2022, both the Pfizer-BioNTech and Moderna vaccines were recommended for everyone over 6 months of age.[2]

1.1.3. Boosters

With the Delta variant surging during the summer of 2021, the CDC began recommending an additional dose of the mRNA vaccines [3] (Pfizer-BioNTech and Moderna) in August 2021 for certain high-risk populations. Individuals with compromised immune systems were prioritized first for boosters, followed by individuals aged 65+, residents in long-term care settings, and individuals with underlying medical conditions. The recommended populations for booster shots continued to expand throughout the fall of 2021. mRNA booster doses were to be administered at least 6 months after the primary vaccination series. This timeframe was shortened from 6 months to 5 months in January 2022.[4] States were responsible for continuing primary vaccine rollouts while launching a second series of booster vaccinations.

1.1.4. Bivalent Boosters (Updated vaccines that targeted two new strains of COVID-19)

As COVID-19 cases rose throughout 2022 due to the highly transmissible Omicron variants, the FDA called for Omicron-specific updates to vaccine boosters. In September 2022, Pfizer-BioNTech and Moderna released updated bivalent formulations of the COVID-19 vaccines for use as a single booster dose. Bivalent vaccines were to be administered at least 2 months following primary or booster vaccination.[5]

1.2. Overview of Vaccine Logistics

Allocating and distributing the COVID-19 vaccines was an administrative and operational challenge, unlike anything states had ever seen and was subject to a variety of supply, storage, transportation, and administration requirements complicated by the different vaccine types. The efficacy of COVID-19 vaccines (against infection, severe disease, and death) was impacted by several factors,

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[2] U.S. Department of Health & Human Services. (n.d.). COVID-19 vaccines. https://www.hhs.gov/coronavirus/covid-19-vaccines/index.html

[3] mRNA vaccines were a new type of vaccine introduced during the COVID-19 pandemic that offer more targeted immune protection and require two series of shots for full effectiveness. Additional information at CareFirst BlueCross BlueShield. (n.d.). How the new mrna COVID-19 vaccines work. CareFirst BlueCross BlueShield Individual. https://individual.carefirst.com/individuals-families/about-us/coronavirus-how-the-new-mrna-covid-19-vaccines-work.page#:~:text=While%20the%20Pfizer%2FBioNTech%20and,produce%20at%20scale%20once%20developed

[4] COVID-19 Vaccines. U.S. Department of Health and Human Services. (2024, January 29). https://www.hhs.gov/coronavirus/covid-19-vaccines/index.html#:~:text=December%2011%2C%202020,the%20prevention%20of%20COVID%2D19

[5] U.S. Department of Health & Human Services. (n.d.). COVID-19 vaccines. https://www.hhs.gov/coronavirus/covid-19-vaccines/index.html

including the currently circulating strain, the vaccine type, and the time that elapsed since a patient's last vaccination.

Exhibit 1: Approved Vaccines

	Pfizer-BioNTech	Moderna	Johnson & Johnson
Doses and Administration	mRNA vaccine that is administered in two separate doses, given three weeks apart.	mRNA vaccine that is administered in two separate doses, given four weeks apart.	Adenovirus or viral vector vaccine that is administered in a single dose.
Storage	Must be stored at ultra-cold frozen temperatures, between -130 and -76 degrees Fahrenheit and protected from light until the expiration date. For up to 10 weeks, vaccines can be stored at refrigerated temperatures, between 36 and 46 degrees Fahrenheit, and protected from light.	Must be stored at frozen temperatures, between -58 and 5 degrees Fahrenheit, and protected from light until the expiration date. For up to 30 days, the vaccine can be stored at refrigerated temperatures, between 36 and 46 degrees Fahrenheit, and protected from light.	Must be stored at refrigerated temperatures, between 36 and 46 degrees Fahrenheit, and protected from light until the expiration date. Cannot be stored frozen. For up to 12 hours, the vaccine can be stored between 47 and 77 degrees Fahrenheit.
Transportation / Storage	Vaccines should be transported in a portable ultra-cold freezer, refrigerator, or container qualified to maintain the appropriate temperature with a digital data logger to monitor the temperature for up to 12 cumulative hours.	Vaccines should be transported in a portable freezer, refrigerator, or container qualified to maintain the appropriate temperatures with a digital data logger to monitor the temperature for up to 12 cumulative hours.	Vaccines are initially stored frozen by the manufacturer and then shipped at 36° to 46° Fahrenheit.

As discussed in Chapter 4, states' vaccination rates depended on both their operational rollout of vaccines and the levels of vaccine hesitancy within their states. New Jersey had relatively high first dose and primary series vaccination rates, but its rates of booster uptake later in the pandemic were closer to the U.S. average.

1.3. Vaccination Goals

The COVID-19 vaccine rollout was critical in reducing COVID-19 deaths and hospitalizations[6] and required balancing several different goals:

1. Speed: Ensuring that all vaccine supply available was immediately administered to patients as quickly as possible.
2. Equity: Ensuring that populations were able to conveniently access vaccines despite inequities in existing healthcare access or other factors.
3. High-risk populations: Ensuring that those populations most at risk of harmful health effects from COVID-19 received access to the vaccines first (e.g., residents in congregate care facilities).
4. Broad coverage: Ensuring that the broadest possible proportion of the population were vaccinated.

While all four goals were critical throughout the vaccination campaigns, the prioritization of each evolved as the vaccination campaigns matured and new vaccines were introduced.

1.4. Phases of the Vaccination Campaign

The COVID-19 vaccination campaign had three distinct phases, each of which had its own challenges:

1. Supply Constrained Period (December 2020 to April 2021): Vaccines were limited, and there were distinct operational challenges caused by the need to set up state-wide distribution of vaccines for the first time. In addition, prioritization decisions had to be made about who would receive the limited supply of vaccines. Speed of administration to susceptible populations was a primary focus.
2. Demand Constrained Period (May 2021 to July 2021): Vaccine availability was no longer constrained, and states were instead limited by vaccine hesitancy, accessibility, misinformation, and operational capabilities, such as having fewer distribution partners to assist in administering vaccinations. Ensuring broad, equitable uptake was the primary goal.
3. Booster Period (August 2021 to December 2022): Booster shots were approved, and states had to ensure a rapid roll-out to combat waning vaccine coverage levels. They continued to face issues with misinformation and hesitancy.

[6] The COVID-19 vaccines provide sustained protection against severe disease and death. The protection against infection can be moderate and sometimes short-lived, but the vaccines are very effective at protecting against severe illness. Source: Centers for Disease Control and Prevention. (2023, October 13). 5 Things You Should Know about COVID-19 Vaccines. https://www.cdc.gov/respiratory-viruses/whats-new/5-things-you-should-know.html

1.5. Vaccination Challenge

Prior to COVID-19, New Jersey was actively involved in promoting vaccinations and combatting vaccine hesitancy as an integral part of public health efforts. Local health departments (LHDs) regularly coordinated school flu vaccine clinics and worked with communities to ensure that adults and children had up-to-date vaccinations against a variety of illnesses. In addition, New Jersey's Vaccine Preventable Disease Program (VPDP) worked to reduce and eliminate the incidence of vaccine-preventable diseases by raising immunization coverage rates of citizens. The VPDP maintained an immunization information system, directed the Perinatal Hepatitis B Prevention and Vaccines for Children Programs, and worked to monitor communicable diseases.

Even then, the COVID-19 pandemic presented a unique vaccination challenge. New Jersey played multiple different roles, such as:

1. Planner and Provider: Creating and arranging for staffing of vaccination sites (ranging from mega-sites to pop-up clinics) and then directly administering vaccines.
2. Distributor: Facilitating the distribution of vaccines to providers across the State and supporting their rollout.
3. Regulator: Developing policy (particularly on vaccine eligibility).
4. Communicator and Advocate: Providing the public with the latest information on vaccines and encouraging uptake while combatting misinformation.

2. New Jersey's Response

2.1. Key Agencies Involved

The key state agencies involved in New Jersey's unprecedented vaccine effort were NJDOH, the New Jersey Office of Emergency Management (NJOEM), and the Governor's Office.

NJDOH played a key role in advising the Governor's Office in setting policy around vaccines, including which residents could get vaccinated and when. NJDOH's vaccination plan included the input of professional advisors and considered health equity. The Department coordinated the distribution of vaccines across the state and coordinated closely with hospitals, LHDs, and the National Guard to ensure timely and efficient administration of vaccines. To get the most shots into arms as rapidly and as safely as possible, the NJDOH, in conjunction with NJOEM, set up mega vaccination sites.

The NJDOH was tasked with creating new systems and infrastructure to communicate with providers to store vaccines, schedule appointments, bill, and report to the State. The NJDOH was also responsible for onboarding COVID-19 providers to provide vaccines, making allocation decisions when vaccines were scarce, and preparing weekly vaccine orders to the federal government.

The NJDOH led efforts to reduce barriers to getting vaccinated and prioritized person-to-person communication through the call center, the CCC and the Ambassador Program. The call center provided information about the vaccines and assisted individuals in scheduling a vaccine appointment and locating testing facilities. The CCC was comprised of community members to serve as our vaccine educators and to assist the public with vaccine scheduling and testing. The County and Municipal Ambassador Program connected vaccine resources with the community through community vaccination clinics.

NJOEM provided critical planning and operational support and coordinated buildouts for vaccination sites. Once operational, NJOEM provided needed security at many vaccination sites. The NJOEM Public Information Officers also played a key role in disseminating information using their direct reach out to underserved populations.

The Governor's Office made key policy decisions, with the advice and input of the NJDOH, such as determining vaccine eligibility and assuring that equity played a central role in the roll-out. The Governor's Outreach Office leveraged its pre-existing relationships with diverse populations across the state to educate the public and ensure the best locations were selected for vaccination sites.

The Federal Emergency Management Agency (FEMA), also supported three different temporary vaccine sites, including a mega-site in Newark that opened on March 31, 2021. FEMA staff were deployed throughout New Jersey's municipalities and continued to provide operational support. FEMA supplied resources like vaccines, vaccinators, and canvassing support staff for their sites, while operational decisions, such as determining the optimal location for sites, remained the responsibility of the State.

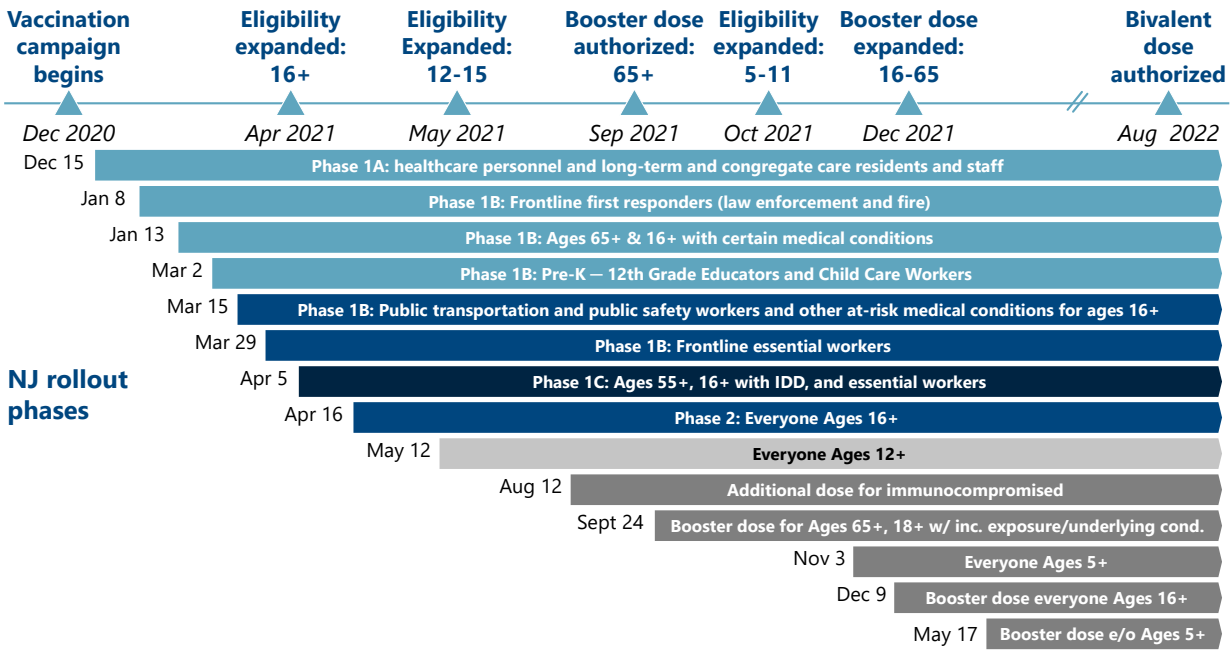
Additionally, stakeholders, including community organizations and LHDs, were integral to communicating to the public about vaccine efficacy and availability. Hospitals, in particular, answered the call to action, and acute care hospitals were the first providers to distribute vaccines when they became available in December 2020 because they had adequate facilities for vaccine storage and administration.

2.2. Key Decisions

2.2.1. Defining Vaccine Eligibility

As vaccines became available in December 2020, states had to manage limited supply by prioritizing certain groups (e.g., individuals living in congregate care facilities) for vaccination earlier than others. For the primary series vaccines, this period of limited, phased eligibility lasted approximately 5 months. By the end of April 2021, the vaccine was available for all adults across all states. Exhibit 2 provides an overview of when different population groups in New Jersey became eligible for vaccination.

Exhibit 2: Timeline of New Jersey Vaccine Eligibility Phases



Note: Pfizer authorizations (first doses + boosters) were for ages 16+ while Moderna was only authorized for 18+
Source: COVID-19 Vaccination Plan New Jersey, December 15, 2020

New Jersey decided at the beginning of its vaccine rollout that anyone who lived, worked, or studied in the State would be able to be vaccinated as long as they met the eligibility criteria. To effectively increase vaccine accessibility, the eligible New Jersey population could be vaccinated anywhere in the State, even if their home and vaccination site zip codes differed.[7]

Vaccines were delivered in vials that contained multiple doses in one container and had to be administered immediately after opening. Because of this, to avoid wasting scarce doses, a limited number of doses were administered to residents who were not part of the eligibility groupings at the time. The State relied on providers to be honest and prioritize doses for residents who were eligible.

[7] The only initial requirement for vaccinations was that residents return to the same vaccination site to receive their second dose. Given the limited supply, this required the State to ensure that there would be enough doses in the future to allocate to those who were completing their primary series.

Phase 1A

In early September 2020, the CDC started issuing guidance about the impending vaccine rollout, recommending that states prioritize healthcare personnel and long-term care facility residents. The first phase of vaccine rollout (1A) began on December 15, 2020.

New Jersey designated healthcare personnel and long-term and congregate care residents and staff as the first group eligible for vaccination during this initial Phase IA rollout. Congregate care included correctional facility residents and staff who were not included in the CDC's initial Phase 1A guidance. This decision was based on guidance from the CDC, the Advisory Committee for Immunization Practices (ACIP), the National Academies of Sciences, Engineering, and Medicine (NASEM), the New Jersey Department of Health COVID-19 Professional Advisory Committee (PAC), the Coronavirus Task Force (CTF), and extensive stakeholder engagement.

The State prioritized these groups because they faced a high risk of COVID-19 exposure and transmission. Long-term and congregate care residents tended to be especially susceptible because of their age, which put them at particularly high risk for infection and severe illness due to COVID-19 and close living arrangements. The nature of healthcare personnel and long-term and congregate care staff's work put these groups at high risk of being exposed to those infected with the virus.[8]

Phase 1B

In December 2020, the CDC issued new eligibility guidance, which suggested that states prioritize frontline essential workers and individuals 75+ for the next phase of the vaccine rollout (1B) starting in January. However, the CDC's guidance on who was classified as an essential worker was very broad; it included firefighters and emergency services, public transportation workers, teachers, childcare workers, grocery store workers, and others. As a result, had most states adopted the CDC's guidance without modification, there would have been more people eligible for vaccination than vaccine supply. This left states with the responsibility to redefine who exactly should be considered an essential worker eligible for vaccination during the 1B phase.

On January 8, 2021, New Jersey announced that during the 1B Phase, frontline essential workers (FEW) in police, fire departments, and EMS would be the first groups to become eligible for vaccination as part of Phase 1B. These groups were included in the CDC's Phase 1B guidance. However, given the limited vaccine supplies at the time, New Jersey immediately expanded eligibility to other CDC-recommended groups, like individuals over 75+ years of age, public transportation workers, educators, support staff, and grocery store workers. These groups were slated to begin vaccinations at an unannounced point in time. The State chose to designate police,

[8] COVID-19 is an airborne, respiratory virus and spreads faster when large groups of individuals are in close proximity (as they are in congregate settings like long-term care or correctional facilities). Healthcare personnel were also at high risk of exposure due to the fact they were directly treating COVID-19 patients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8282103/

fire departments, and EMS for the initial rollout of Phase 1B vaccine eligibility because it traditionally prioritized these groups in other emergency situations. New Jersey had originally intended to include these responders and their families as part of its initial Phase 1A rollout a month earlier, in December 2020, but it lacked the vaccine supplies to prioritize these groups in addition to the CDC-recommended Phase 1A groups.

After New Jersey had announced that frontline essential workers would be the first to be vaccinated, the U.S. federal government directed states to expand eligibility to individuals 65 or older and to individuals under 65 with comorbidities. This announcement was made on January 12th, 2021, and was coupled with the release of an additional set of doses from federal government stockpiles that the U.S. government had previously been withholding to guarantee second doses.[9] Because this was a departure from what the federal government had initially announced, many states were unprepared to open eligibility to a wider group of people, and some lagged in how quickly they were actually able to begin administering vaccines to older adults.[10] In response to the federal government's direction, however, on January 13, 2021, New Jersey announced that adults 65+ and individuals 16-64 with comorbidities would be eligible for vaccinations in the coming days.[11]

As vaccine availability slowly increased, New Jersey also expanded eligibility to other groups who were included in the CDC's Phase 1B guidance, like teachers, childcare workers, grocery store workers, and postal workers. In addition, New Jersey expanded eligibility beyond CDC guidelines to include members of tribal communities, homeless individuals and shelters, and migrant workers.

Phase 2

By mid-April 2021, vaccination rates for Phase 1A and 1B populations were beginning to slow, and vaccine supply continued to increase. New Jersey opened vaccine eligibility to the general population on April 19, 2021, after determining that it had enough vaccine supply (either in hand or in transit) for the wider population. This was also in line with the U.S. federal government's announcement that all Americans would be eligible to be vaccinated by May 1, 2021. On June 18, 2021, just two months after New Jersey opened eligibility to all adults, it hit its goal of vaccinating

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[9] CBS (2021, January 12). Federal government gives states green light to vaccinate anyone over 65.*CBS News*. https://www.cbsnews.com/news/covid-vaccine-age-65-older/

[10] Author's Last Name, First Initial. (2021, January). States plan large-scale coronavirus vaccinations at stadiums and other sites. *Route Fifty*. https://www.route-fifty.com/management/2021/01/states-plan-large-scale-coronavirus-vaccinations-stadiums-and-other-sites/171364/

[11] Individuals 65+ were vaccinated in line with CDC recommended guidance and vaccinations to those 75+ began only a week after vaccinations for essential workers. In addition, New Jersey prioritized LTC during Phase 1A, in line with CDC guidance. As a result, it's not possible to conclude that New Jersey could have reduced additional deaths by prioritizing elderly individuals earlier.

70% of the state's population within six months of 2021.[12]

Adolescent and Pediatric Eligibility

Vaccination guidance for adolescent (12+) and pediatric (5+) vaccinations was not based on limited vaccine supply considerations. Instead, these age groups became eligible for vaccinations in New Jersey in May 2020 and November 2020 (for adolescents and pediatrics, respectively) when the CDC updated guidance that the primary series vaccines were safe to use for these groups.

Booster and Bivalent Booster Eligibility

In later stages of the vaccination campaign, when booster and bivalent boosters were introduced, CDC eligibility guidance was simpler and clearer, and there was little to no variation between states as to who was eligible for vaccinations or when they should be vaccinated. Exhibit 3 outlines the timeline for eligibility expansion for the booster vaccine. New Jersey did not deviate from CDC guidance, and all adults were eligible to receive a booster vaccine by mid-November 2021.

Exhibit 3: Comparison of New Jersey and Select State's Booster Eligibility Guidance

	CDC Guidance[1]	New Jersey	Pennsylvania	California	Florida
9/23: CDC AICP approves booster	• Healthcare personnel • Adults ≥ 75 years	• Healthcare personnel • Adults ≥ 75 years	• Healthcare personnel • Adults ≥ 75 years	• Healthcare personnel • Adults ≥ 75 years	• Healthcare personnel • Adults ≥ 75 years
10/21 CDC expands eligibility to select pop.	• All adults 65-74 years • Adults 18-64 w/ underlying medical condition or in a high-risk setting	• All adults 65-74 years • Adults 18-64 w/ underlying medical condition or in a high-risk setting	• All adults 65-74 years • Adults 18-64 w/ underlying medical condition or in a high-risk setting	• All adults 65-74 years • Adults 18-64 w/ underlying medical condition or in a high-risk setting	• All adults 65-74 years • Adults 18-64 w/ underlying medical condition or in a high-risk setting
11/19: CDC expands eligibility to all adults	• All adults 18-64 years	• All adults 18-64 years	• All adults 18-64 years	• All adults 18-64 years	• All adults 18-64 years

1. CDC guidance from the National Governors Association, based on Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) recommendations
Source: CDC press releases

[12] Office of the Governor. (n.d.). Press releases. State of New Jersey. https://www.nj.gov/governor/news/news/562020/approved/news_archive.shtml

2.2.2. Operational Rollout

In the months prior to the arrival of COVID-19 vaccines, there was widespread uncertainty about the vaccine handling and storage requirements that would be needed. The State, along with its partners, had to make a calculated decision about where to invest funds, resources, and crucial planning time, given the limited information available. For example, some New Jersey LHDs purchased dry ice gloves and special refrigerators in anticipation of a vaccine that would require handling at extremely low temperatures. While the State ultimately did not use dry ice or dry ice gloves, the contracts and sourcing information were in place in case they would be needed.

In November 2020, New Jersey developed its initial plan for the impending rollout of the first COVID-19 vaccinations. Shortly after, the State also developed an allocation plan that set aside a minimum number of doses for mass vaccination sites and acute care hospitals, with the remaining doses allocated to approved providers based on existing inventory and vaccine administration capabilities (the providers who could administer the most vaccines the fastest were allocated more).[13] Vaccinations for LTCFs were allocated separately by the federal government.

Initial Vaccine Providers and Sites

In early December 2020, the State worked to set up a network of healthcare providers who could administer vaccines across the state. The NJDOH began onboarding providers such as retail pharmacies and large provider practices like Summit Medical Group (SMG). The onboarding process involved vetting from the NJDOH and training for providers. All providers had to sign agreements, have the capability to enter information into New Jersey's Immunization Information System (IIS) and ensure that they had the ability to properly store and administer the vaccine. As a result, the State's initial expansion of vaccine rollout was targeted at those who were verified to be ready and able to receive and administer doses. By mid-December 2020, when the first vaccines had begun to be administered by hospitals, the State had already announced plans to launch vaccine mega-sites and establish 200 vaccination sites across hospitals, urgent care centers, and pharmacies.[14]

[13] Pfizer vaccinations were sent primarily to mega-sites and large hospitals. This was because these sites were more likely to be able to store the vaccine in the lower temperatures that it required .[5] Once they became available, Johnson & Johnson (J&J) single-dose vaccine allocations prioritized providers that served harder-to-reach populations that would be more difficult to contact for a two-dose regimen (e.g., providers that served county jails or shelters).

[14] Briggs, R. (2020, December 19). N.J. plans for Mass Vaccinations. WHYY. https://whyy.org/articles/n-j-plans-for-mass-vaccinations/

Hospitals

New Jersey designated acute care hospitals[15] as the first providers to administer the vaccines and worked with them to ensure that they were equipped to receive initial vaccine shipments scheduled to arrive in mid-December. The NJDOH made this decision because hospitals had adequate facilities for vaccine storage and administration and because hospital staff were part of Phase 1A, the first wave of vaccine eligibility that began in December. Hospital partners had to be set up by December 12 before the first shipment of Pfizer vaccines arrived on December 15.

Vaccinations for congregate settings began on December 28.[16] For vaccinations to congregate setting residents and staff, who were also part of Phase 1A, New Jersey relied on a combination of the CDC-supported Pharmacy Partnership for Long-term Care (LTC) program and a partnership with Rutgers. The Pharmacy Partnership for LTC Program was a national program that distributed vaccines to LTCFs through coordination between the CDC and large retail pharmacies CVS, Walgreens, and Managed Health Care Associates.[17] New Jersey contracted correctional facility vaccinations to Rutgers University. Prior to the pandemic, Rutgers had an existing Inmate Health Care Services Agreement with the State and provided certain health services to NJDOC inmates and residents.[18]

As new eligibility phases approached and vaccine supply expanded, New Jersey continued to expand its vaccine provider network.

Mass Vaccination Sites

Early in the vaccination planning process, New Jersey had determined that meeting its goal to vaccinate 70% of the state's eligible population would not be possible without vaccine "mega-sites." This was also informed by the success of the State's community-based mass testing sites during the early months of the pandemic.

In consultation with NJDOH, NJOEM was responsible for selecting eligible venues to launch the mass vaccination sites, and the State subsequently negotiated the leases. By mid-December 2020, New Jersey had announced that six vaccine mega-sites would be opening in Meadowlands Complex in Bergen County, Rockaway Townsquare Mall in Morris County, Moorestown Mall in Burlington County, Rowan College in Gloucester County, the NJ Convention Center in Middlesex

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[15] An acute care hospital as "a hospital that provides inpatient medical care and other related services for surgery, acute medical conditions or injuries (usually for a short-term illness or condition)." (CMS)

[16] Briggs, R. (2020, December 18). N.J. plans for mass vaccinations. WHYY. https://whyy.org/articles/n-j-plans-for-mass-vaccinations/

[17] Gharpure, R (2021). COVID-19 Vaccine Uptake Among Residents and Staff Members of Assisted Living and Residential Care Communities—Pharmacy Partnership for Long-Term Care Program, December 2020–April 2021 .. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8384582/

[18] New Jersey Department of Health. (2021). COVID-19 Vaccination Services. https://nj.gov/covid19oversight/transparency/contracts/pdfs/doc_rutgers.pdf

County, and the Atlantic City Convention Center.[19] [20] The location of these sites accommodated the larger population in the northern part of New Jersey while capitalizing on the State's high population density to vaccinate more people faster. Two of these sites were managed by hospital providers. While New Jersey was ultimately responsible for standing up and administering vaccines at these locations, many hospitals across the state assisted the vaccination effort by volunteering to administer vaccinations and manage mega-sites.

The first two mega-sites opened on January 8, 2021 and had the capacity to vaccinate an estimated 2,000 people per day. All six sites opened by January 22, 2021, reaching an estimated capacity of 6,000 shots a day.[21] At their peak, mega-sites operated 7 days per week with support from approximately 100 New Jersey National Guard members, with NJOEM providing warehousing and logistical support. This effort, led by NJOEM, allowed the State to administer more than two million vaccine doses across these mass vaccination sites.

FEMA also supported three different temporary vaccine sites, including a mega-site in Newark that opened on March 31, 2021.[22] FEMA staff were deployed throughout New Jersey's municipalities and continued to provide operational support. FEMA supplied resources like vaccines, vaccinators, and canvassing support staff for their sites, while operational decisions, such as determining the optimal location for sites, remained the responsibility of the State.

Local Health Departments

In addition to the vaccinations administered by mass vaccination sites, hospitals, and pharmacies, New Jersey also began distributing vaccines to lLHDs. During public health emergencies, New Jersey's health system shifts to a regional model where Local Information Network and Communications System (LINCS) agencies coordinate service delivery on behalf of the LHDs they represent.[23] As a result, LINCS agencies played an important role in coordinating vaccine rollout to counties and LHDs across New Jersey. The NJDOH also allocated vaccines to LINCS agencies, which had varying approaches on how they would coordinate rollout to LHDs. In some counties, LINCS agencies played a very strong coordinating role in receiving, storing, and administering vaccinations on behalf of their LHDs. Other agencies requested vaccines from the State based on

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[19] Hurdle, J. (2021, January 5). N.J. plans for mass vaccinations. *WHYY*. https://whyy.org/articles/n-j-plans-for-mass-vaccinations/

[20] Originally, NJDOH planned for nine mega-sites; when New Jersey hospital providers also volunteered to establish mega-sites, the 9 planned sites were then consolidated to four to accommodate the State's regional approach to coordinating vaccinations across the New Jersey.

[21] Author's Last Name, First Initial. (2021, January). States plan large-scale coronavirus vaccinations at stadiums and other sites. *Route Fifty*. https://www.route-fifty.com/management/2021/01/states-plan-large-scale-coronavirus-vaccinations-stadiums-and-other-sites/171364/

[22] CBS New York. (2021, March 31). New FEMA-Run Mass COVID Vaccination Site Opens In Newark. *CBS News*. https://www.cbsnews.com/newyork/news/newark-covid-vaccine-site/

[23] Additional information on the LINCS agency model can be found in **Section 5.1 Emergency Response Governance and Coordination.**

expressed need from LHDs and would transport the vaccines to them and allow them to run their own administrations. The approach taken was usually a function of the level of coordination between LHDs and county health departments prior to the pandemic (e.g., whether they coordinated for school flu vaccination drives) and the level of resources of individual LHDs.

Where necessary, the NJDOH played a coordinator role, stepping in to assist counties when vaccination rates were low. These counties typically had fewer resources and less coordination experience at the start of the Public Health Emergency. The NJDOH and the Governor's Office held discussions with county representatives to recommend partnerships that could drive a successful rollout.

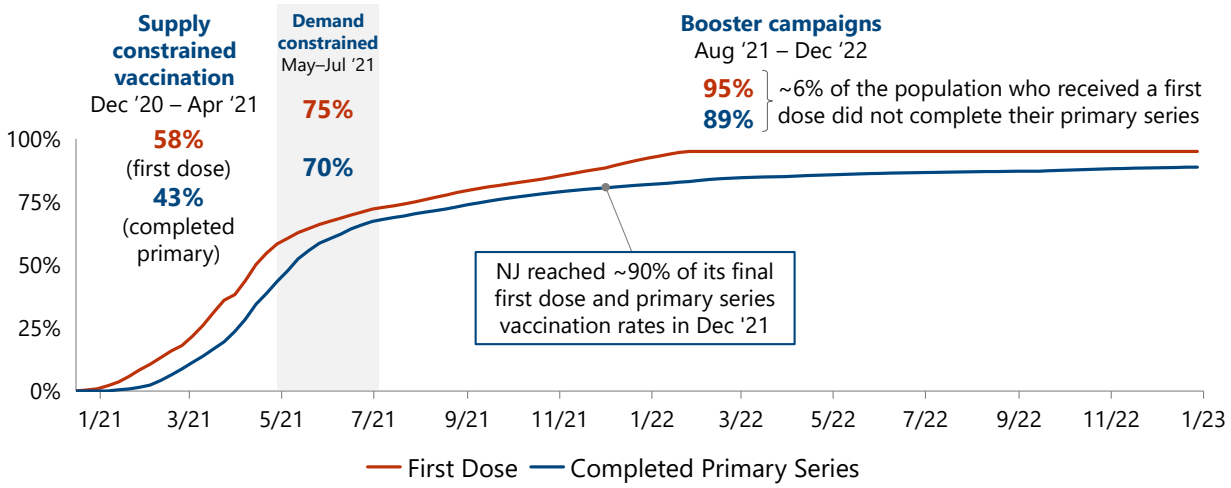
Additional Vaccination Sites

As vaccine supply increased, New Jersey continued to expand the availability of the vaccine across the State to increase resident access. While New Jersey achieved its goal of vaccinating 70% of the eligible population early, on June 18, 2021, the State did not consider the vaccination campaign complete.[24] New Jersey also modified its vaccination targets. In August 2021, two months after the State met its initial goal of 70%, it established a new goal to vaccinate 85% of the state. At the same time, New Jersey also applied its original target of 70% to each age group, county, and municipality in the State. These goals were meant to guide a targeted operational rollout to bring COVID-19 vaccines to the broader population.

[24] Target for reaching 70% vaccination was end of June.

Exhibit 4: Timeline of New Jersey First Dose and Completed Primary Series Vaccination Rates

% of 18+ NJ population vaccinated with first dose and completed primary series, final vaccination rate



Source: CDC COVID-19 Vaccinations in the United States,Jurisdiction

One of the NJDOH's strategies for meeting these targets was to maintain regular communications with and conduct "matchmaking" between communities and vaccine Points of Distribution (PODs), a large range of sites where vaccines were administered that included Federally Qualified Health Centers, pharmacies, and healthcare providers. At one point during the pandemic, the State had more than 3,000 PODs. The NJDOH met with the State's POD network weekly and maintained communication even after the end of the pandemic. The NJDOH also made sure that PODs abided by certain performance standards, operating in line with the State's set eligibility requirements and tracking their throughput metrics, which ultimately informed the State's allocation decisions to PODs.[25] NJDOH assessed the needs of certain regions or populations and identified local providers (e.g., pharmacies, LHDs, or private physicians' offices) that could serve them and become a POD. This allowed the NJDOH to plan where to set up pop-up sites or mobile clinics.

In addition, to increase vaccination rates, the NJDOH focused on establishing community-based sites that stayed in one location. These sites were important because of their regular schedules, and community members got to know where they could go to get vaccines and services. Pop-up sites were also used to bring vaccinations to areas with lower vaccination rates. These sites were scheduled for multiple recurring clinics. Vaccine sites also were open during evening and weekend

[25] New Jersey Department of Health. (2021, January 22). *Expectations for 'Open' COVID-19 Vaccination Points of Dispensing*. https://www.nj.gov/health/legal/covid19/COVID-19_Vaccination_Expectations_ofOpenPoints_ofDispensing.pdf

hours to ensure that the working public had access. The NJDOH coordinated with other agencies and community partners to provide free train access and car services for many clinics.

The NJDOH continued to use its existing distribution network that it developed over time when boosters became available in August 2021, making limited changes as necessary. The performance metrics tracked vaccination rates by county and municipality, and the NJDOH set new goals as new vaccines became available. By the end of the pandemic, the NJDOH was tracking and advising counties and municipalities on their primary series, booster, bivalent, and adolescent and pediatric vaccination rates.

Part of the State's considerations in allocating booster supply was how to verify whether individuals had already received the primary series, particularly if they did not have the documentation to prove it or if they had been vaccinated in a different state. The NJDOH relied on its immunization registry and set up interfaces with immunization registry systems in other states (e.g., New York, Pennsylvania, and Florida), thereby enabling the transfer of information between jurisdictions. However, regardless of where someone lived or worked, the State generally encouraged vaccination sites to vaccinate individuals instead of turning them away, as the guiding goal remained to vaccinate as many people as possible.

2.2.3. Increasing Community Outreach and Reducing Hesitancy

Beyond increasing access to vaccination sites, a key component of increasing vaccination rates across New Jersey was ensuring that residents were willing to be vaccinated. As a result, within the first few months of the vaccine rollout, the State launched various initiatives to drive up vaccination rates, including establishing programs to educate New Jerseyans about vaccines and implementing initiatives designed to combat vaccine hesitancy.

Community Outreach and Education

In March 2021, the NJDOH established the CCC and County Ambassador program, which worked with community partners and sent volunteers to counties with the lowest vaccination rates to drive up vaccinations. Ambassadors set goals, developed operating models, leveraged data, and informed decisions to rapidly increase vaccination rates until all counties reached their coverage goals. The same model was applied to municipal ambassadors later, which involved sending representatives to cities with the most eligible but unvaccinated or un-boosted residents. Additional information on the County Ambassador program and CCC can be found in the Equity section.

Multiple agencies across the State and community groups collaborated to ensure clear and widespread communications designed to combat vaccine hesitancy. This included the CCC, established by the NJDOH in March 2021 and discussed more fully in the Equity and Access section of this section. As part of the State's partnership with FEMA, FEMA workers went door-to-door across the State to ensure that community members were aware of vaccination sites and other

services. They also participated in State Ambassador programs that aimed to bring vaccines and vaccine information to residents directly.

Also in March 2021, the State set up a strategic vaccine call center. Residents could contact the call center for information, receive assistance in scheduling a vaccine appointment, and locating vaccination sites. The call center was an important contact point for many residents who found online scheduling difficult to navigate. To set up the call center, the State contracted with a vendor that could scale capacity up and down, as needed, based on the volume of constituents calling in. Over time, the call center became a key disseminator of information. For example, it:

- Sent out educational text messages, along with information about vaccine pop-up sites.
- Informed the public of static vaccination sites.
- Helped with enrollment in Docket, an application that allowed residents to access their COVID-19 vaccine dose information.
- Contacted high-density senior high-rise facilities to determine if they wanted to set up clinics for their residents.
- Sent text messages encouraging people to get vaccinated. The messages varied, depending on the season and holidays.

In addition to directly helping New Jersey residents access the vaccine, the call center was an important coordination point with other New Jersey efforts to combat vaccine hesitancy. For example, the center could reach out to lists of names identified by community and faith-based partners for community vaccination sites. It also enabled the State to compile commonly asked questions about vaccinations and incorporate answers into State vaccination communications on social media, press conferences, or community outreach. While the call center was established in the Supply Constrained Period, it played an important role in increasing access to vaccines and combating hesitancy in later periods. Additional information about how the call center was employed to increase equitable administration of vaccines can be found in the Equity and Access section of this section.

Vaccine Mandates

New Jersey initially used vaccine mandates in the fall of 2021 to drive up vaccination rates across the State. These mandates, for example, required teachers, school employees, state contractors, and childcare workers to either get vaccinated or tested for COVID-19 before completing work. For residents who were hesitant about receiving the COVID-19 vaccine, these mandates were an unpleasant requirement that they felt was an overstep by the State. As a result, the NJDOH found that mandates led residents to focus more on the nature of the mandate itself rather than on whether vaccinations were a good idea for resident's health needs. The State focused most of its efforts on increasing vaccine education as a method for driving vaccine uptake and ensuring long-lasting trust in vaccinations.

Counteracting Vaccine Hesitancy

To counteract vaccine hesitancy, INNOVATION led a multi-month, data-driven email campaign to counteract vaccine hesitancy. This initiative led to 18.7 million emails opened and more than 130K visits to the vaccine finder web portal. In addition, the Office of New Americans (ONAS) within DHS facilitated coordination between the NJDOH and community-based organizations close to immigrant communities to expand vaccination efforts.

LHDs leveraged years-long experiences with their communities to engage in focused outreach that addressed specific hesitancy concerns. The NJDOH onboarded Certified Health Education Specialists (CHES) Exam CHES-certified Health Educators to work closely with the NJDOH's Communicable Disease Services health educators on developing education materials for outreach and the State Vaccine Call Center. This was meant to incorporate health literacy and education for the State's most marginalized communities. Additional information on where the State focused these efforts and how it did so can be found in the Equity and Access section of this chapter.

The State implemented a proactive community outreach campaign to make information accessible and overcome hesitancy in disadvantaged / underserved communities and the public at large. The NJDOH Communications group worked with several contractors to provide public service announcements, billboards, and print and audio advertisements. They fielded questions from the press and provided subject matter experts as needed to ensure that the public received accurate and current information. As a result of these efforts, NJDOH's communications won multiple awards.

The NJDOH also translated education and outreach education and public awareness materials into more than 40 languages and coordinated their dissemination with community and faith-based leaders. Health educators worked closely with the CCC to ensure that culturally appropriate educational materials were provided to diverse communities.

Social media also played an important part in expanding the State's communication efforts to combat vaccine hesitancy. The NJDOH and NJOEM accounts on Facebook, Twitter, and Instagram leveraged materials resulting from community engagement efforts to expand their reach. For example, the NJDOH enlisted doctors and nurses to participate in Facebook Livestreams, where they would speak (in multiple languages) about their own experiences in getting vaccinated. Social media was a particularly helpful tool, especially given the prohibitive cost of relying only on TV advertising campaigns. New Jersey communications also reached residents of New York and Philadelphia.

Across communities, vaccine hesitancy was also a factor of age: Older populations were often more willing (less hesitant) to get vaccinated than younger adults. Many parents were also more hesitant for their children to receive pediatric and adolescent vaccines. As a result of national messaging about COVID-19 early in the pandemic, many parents did not believe that their children were at high risk for adverse health effects if they contracted COVID-19. The NJDOH developed targeted educational campaigns for parents to encourage them to vaccinate their children, but vaccination rates among children did not reach State targets.

Because of the connection between COVID-19 vaccine hesitancy and wider vaccine hesitancy for the flu, measles, and other viruses, the State has continued its efforts to educate the public about the importance of vaccinations. The NJDOH has also continued its educational campaigns and community efforts to ensure that as much of the State as possible stays up-to-date on their COVID-19 vaccinations. Where possible, the State has attempted to emphasize COVID-19 vaccines as an important part of a regular vaccine schedule, rather than a unique vaccine the State is pushing onto residents. In some communities, LHDs made the decision to de-emphasize further COVID-19 doses – like the booster or pediatric vaccines – because increased COVID-19 vaccine hesitancy was translating to increased vaccine hesitancy for a wider range of recommended vaccines. This represents an ongoing challenge for the public health in New Jersey. Additional information on the equity aspects of vaccine hesitancy and the State's efforts to combat hesitancy across different populations are addressed in the Equity and Access section of this section.

2.2.4. Information Systems

One of the key challenges of rolling out a state-wide vaccination campaign was setting up and maintaining the background data collection infrastructure that would enable New Jersey to track vaccine inventory. The State needed to know the quantity of vaccines requested from the federal government, the number of vaccines being delivered, where those vaccines were across the State geographically, and how many had been administered. This data had to be consolidated for the State to determine when and where there were available vaccine appointments for New Jersey residents to book, who had received a vaccine, and how many doses they had been administered.

To facilitate the rollout, New Jersey had to build an information management system that could obtain and track this data for the entire State population. In the interest of speed and compatibility with existing systems, New Jersey chose to add new capabilities to the existing New Jersey Immunization Information System (NJIIS) that allowed it to track COVID-19 vaccinations. NJIIS had previously been primarily utilized for children's vaccines and built its COVID-19 vaccine system on top. Prior to the onset of the COVID-19 pandemic, New Jersey had modernized NJIIS. In addition, unlike many other states, New Jersey has a single IIS state-wide. As a result, New Jersey was able to track vaccinations more easily.

Providers used NJIIS to order vaccines, and the system served as a vaccine registry, tracking vaccinated individuals. As part of onboarding providers to NJIIS, the State mandated training on how to correctly input data and regular reporting into NJIIS. Many vaccine sites were not accustomed to the mechanisms for logging data and utilizing the registry to check their inventory of doses.

Vaccine Inventory

Vaccine ordering and delivery tracking was managed through a national platform called Tiberius, which was used by all states to request vaccine allocations from the federal government. The State also used its immunization information system to track vaccine inventory. Once vaccines were allocated to the State, vaccine sites placed orders through NJIIS. Providers were also required to input information about their available vaccine storage units after enrolling with NJIIS. NJIIS then tracked each provider's storage unit temperature monitoring data, enabling the State to assess providers' ability to store vaccines in the appropriate temperature conditions.

Appointment Registration

When the vaccination campaign first began, vaccine administration was managed by a healthcare provider in five of the six mega-sites, while the State managed the sixth site itself. Each of these providers utilized its own registration and appointment scheduling system, but the State also had to create its own for the sixth site it operated directly. For this sixth mega-site, NJDOH initially partnered with a vendor to create the New Jersey Vaccination Scheduling System (NJVSS). NJVSS queued individuals based on eligibility and matched them with available appointments. Initially, the system was meant to be the primary way for New Jersey residents to obtain a vaccine appointment.

After the launch of NJVSS, the State faced significant operational problems, including outages and a lack of provider onboarding. The system was originally meant to accommodate pre-registration activities; however, the State abandoned this effort due to significant implementation challenges. The New Jersey Office of Innovation and the NJDOH attempted to stabilize NJVSS after its initial launch, and INNOVATION provided guidance as a means of mitigating future issues. However, the State eventually abandoned NJVSS due to significant operational problems. Some of the challenges associated with launching NJVSS included:

- System crashes: The NJVSS system experienced outages and data loss during its initial launch and did not accommodate changes in eligibility criteria or granular eligibility notifications.
- Lack of provider buy-in: Using NJVSS was not mandatory for healthcare providers who were administering vaccines. Not all providers participated. As a result, while there was tremendous demand from New Jersey residents for NJVSS, not enough appointments were listed on the platform. Even had it been mandatory, NJVSS was not designed to be interoperable with provider appointment and billing systems, making it unappealing or impractical for many of the largest providers.

Because of these challenges, the State decided to build its own system. However, due to rigid contracting rules, the State incurred significant costs.

- The Office of Innovation (INNOVATION) rapidly designed and launched a vaccine appointment-finder aggregator to help residents find and secure appointments across State- and provider-operated sites in March 2021. The Vaccine Appointment Finder (VAF) compiled information in an easily searchable format from more than 1,000 vaccination sites run by the State and LHDs, pharmacies, and other health providers, and residents were able to find and book open vaccine appointments at locations near them.

The tool indexed 1,669 unique vaccine provider locations and maintained 100% uptime throughout its operations, with more than 80% coverage of known appointments in the State. This functionality extended significantly beyond the availability of appointment inventory in NJVSS. VAF served 4,053,365 unique web users.

INNOVATION relied on the GoogleAd grant program to use Google Search ads to drive traffic to the COVID Information Hub and the VAF. By the end of 2021, these efforts achieved more than 16 million impressions and drove hundreds of thousands of users to the VAF.

Tracking Completed Vaccinations

On December 4, 2020, in order to monitor vaccination rates, Governor Murphy issued Executive Order 207, which automatically enrolled all residents in NJIIS. Prior to the Executive Order, individuals born before 1998 had to affirmatively opt into the system for the State to have access to their immunization records. To register with the State to administer vaccinations, New Jersey required that providers administering vaccines track age, gender, and race/ethnicity demographics.

In addition to tracking vaccinations for the public, the State also had to track vaccinations of staff in State-managed and assisted facilities that worked with higher-risk congregate settings, such as LTCFs, developmental centers, and psychiatric hospitals.[26][27]

Because New Jersey vaccinations were available to individuals who worked or studied in the State but were not residents, the State quickly became aware of the need to share vaccination information with other states. New Jersey also needed to collect information on residents who were vaccinated out of state. As a result, New Jersey worked closely with the governments of Pennsylvania and New York to set up an information-sharing system that would allow the three states more visibility into the vaccination rates of their respective populations.

2.3. Equity and Access

Equity and access were important considerations in the State's vaccine rollout, given the systemic barriers to equal healthcare access. In terms of vaccine eligibility, the State prioritized equity over

[26] Additional information on vaccinations in congregate care facilities can be found in Chapter 6 of this report.
[27] These workers were part of the Phase 1A vaccine rollout.

penalties and enforcement by declining to require proof of identity in order to get vaccinated and allowing its residents to self-determine whether they fit into an eligibility category. However, vaccine access, communications, and education nevertheless posed continuous challenges for the State throughout the pandemic. New Jersey was ultimately able to achieve its 70% vaccination rate goal through coalition-building with local communities and by offering its diverse constituents an array of vaccination options throughout the State, but the most underserved counties had the lowest vaccination rates throughout the pandemic.

Accessing Vaccination Sites

When the first mass vaccination sites launched in December 2020 during the early supply constrained period, the physical location of those mega-sites precluded access by many New Jerseyans, particularly those in urban metropolises and remote rural areas, those with disabilities and/or other special needs, and those lacking sufficient means and reliable transportation. NJDOH responded with an ambitious but important goal: that all eligible New Jerseyans would be within a 15-minute walk or 30-minute drive from a vaccine site, and the State launched various programs and partnerships to bring vaccination sites closer to individuals who had not been vaccinated. As discussed above in **Section 1.4**, beginning with the supply constrained period, NJDOH and NJOEM collaborated on a pop-up vaccination program to focus on susceptible populations and bring vaccinations directly to residents who might otherwise face difficulty accessing a vaccine for any reason. For example, in February 2021, multiple agencies partnered with DHS to offer on-site clinics at Intellectual and Developmental Disabilities (IDD) and Developmental Disabilities (DD) facilities. During the supply constrained period, national pharmacy chains like Rite Aid, Walmart, CVS, and Walgreens set up special partnerships to vaccinate particularly susceptible populations, including seniors ages 65+, home care and hospice workers, and long-term care residents and staff. Where possible, pop-up and mobile sites were deployed in partnership with local faith-based and other community organizations and held in familiar spaces like churches, schools, barber shops, and YMCAs.

Sites with predictable hours and locations were also important. A temporary mega-site operated by FEMA from March 31 through June 20, 2021, at the New Jersey Institute of Technology in Newark served many urban New Jerseyans, and the State was able to provide free train access and car services for many vaccine clinics.

Transportation Access

NJDOH created a transportation access goal that all eligible New Jerseyans would be within 15-minute walk or 30-minute drive from a vaccine site. Ultimately, NJDOH met its goal for 6.5M residents and all but 250,000 residents by establishing approximately 3,000 vaccination sites

Accounting for Special Needs and Cultural Differences

The State also aimed to eliminate vaccine barriers that were unrelated to site location and/or transportation and account for communities' special needs. The Division of Developmental

Disabilities (DDD), a division of DHS, provided American Sign Language (ASL) interpreters at all vaccination mega-sites for the entirety of their hours of operation and also created and distributed communication cards at vaccination sites starting in February 2021 to help people with intellectual and developmental disabilities communicate their needs without the need of an interpreter. The Department of Medical Assistance and Health Services (DMAHS) within DHS and NJDOH partnered to provide wraparound vaccination efforts, such as childcare, for Medicaid recipients. NJDOH received reports of concern and confusion about vaccine eligibility and the presence of federal law enforcement at vaccination sites from organizations that serve immigrant communities, but as discussed above, the State required constituents to show no documentation (or proof of valid immigration status) in order to be vaccinated. In addition, pursuant to New Jersey Attorney General Law Enforcement Directive No. 2018-6, a directive issued to "build trust with [the] state's large and diverse immigrant communities," state, county, and local law enforcement agencies and officials in New Jersey are precluded from questioning individuals about their immigration status unless necessary and relevant to an ongoing investigation and may not provide non-public personally identifying information and/or database access to federal immigration authorities when the purpose of such assistance is solely to enforce immigration law. One NJDOH employee learned that having uniformed workers at vaccination sites was preventing some undocumented New Jerseyans, many of whom fled oppressive regimes and/or experienced negative law enforcement interactions, from getting vaccinated, and the employee was able to persuade NJOEM vaccine site workers to change out of their uniforms.

Increasing Vaccinations and Combatting Misinformation, Disinformation, and Hesitancy

The above examples illustrate the importance of cultural competency, community partnerships, and "meeting people where they are" when standing up a public health response. The State instituted a number of initiatives designed to do just that as it worked to dispel rumors, resolve confusion, and eliminate hesitancy surrounding the COVID-19 vaccines.

The previously mentioned CCC was established by the NJDOH in March 2021 "to increase public confidence in and uptake of COVID-19 vaccines in underserved communities across New Jersey." The CCC embraced a three-prong approach comprised of (1) educating trusted community member volunteers about COVID-19 risks, vaccines, and vaccine registration, (2) helping susceptible populations navigate the vaccination process, and (3) conducting strategic outreach alongside community partners to reduce vaccine hesitancy among immigrant and minority populations. To accomplish these goals, the CCC deployed four targeted outreach groups. First, volunteers received training about vaccine scheduling and eligibility and helped spread the word about vaccine access and affordability in local communities. Second, door-to-door multilingual outreach workers targeted residential homes to provide information about COVID-19 and wrap around service information. The third group provided strategic boots-on-the-ground canvassing and outreach in high-traffic areas such as parks, public transportation stops, schools, and businesses in hard-to-reach neighborhoods in partnership with FEMA. Finally, in October 2021, the fourth group was deployed to develop meaningful community partnerships and respond to

specific cultural, religious, and linguistic barriers to vaccination. This last group's work has continued through the present.

The County Ambassadors and Municipal Ambassadors programs, described previously, were designed by NJDOH to increase vaccination rates in counties with lagging numbers, and County Ambassadors' efforts included attending community events, meeting with community members about their concerns, and meeting regularly with NJDOH to relay the information gleaned by Ambassadors in the field. NJDOH reported that the success of the County Ambassadors initiative in improving COVID-19 vaccination rates prompted NJDOH to launch a Municipal Ambassadors program whereby unvaccinated and un-boosted residents were identified, and Ambassadors worked with government agents, community organizations, and faith-based leaders to increase vaccination rates and respond to other municipal concerns.

The State also deployed multiple initiatives to help specific groups overcome and remedy particular barriers relating to scheduling and awareness. For New Jerseyans who lacked the skills, information, and/or access needed to schedule vaccine appointments online, the strategic vaccine call center, which launched during the supply constrained period and is discussed previously, was an important resource. Call center agents helped disperse information about vaccination sites, debunk vaccine myths, and book vaccine appointments for constituents struggling to navigate the online scheduling system. The Call Center also proactively reached out to senior high-rise facilities about scheduling on-site vaccine clinics as well as those identified by community and faith-based partners for community vaccination sites. In addition, during the demand constrained and booster periods, the State reached constituents who could not access online materials using lower-tech channels like billboards, print and audio advertisements, television, and radio to convey vaccine information to the public and, as part of its partnership with FEMA, sent workers door-to-door with information about accessing the vaccine.

As discussed above, leveraging relationships with trusted community members and organizations was key to the State's response to the rampant misinformation, disinformation, and hesitancy surrounding the vaccines. As multiple NJDOH employees interviewed pointed out, different groups harbored different concerns about the vaccine that could not be assuaged by a single message or messenger. Rather, the State used social media campaigns, television ads, and live events to feature recognized and respected local leaders, who could credibly speak to debunk myths and fears about the vaccines using culturally appropriate language and references to shared experiences that resonated with a particular group.

The State also utilized several resources aimed at residents who primarily communicate in a language other than English. The call center again proved to be an important resource in this regard, as 20% of call center agents were bilingual (primarily Spanish-speakers), and all agents could communicate with constituents about the vaccine in over 240 languages via a translation service. As mentioned above, during the demand constrained and booster periods, NJDOH translated many written educational and outreach materials into over 40 languages, launched social media campaigns featuring medical professionals discussing vaccine information in their

native dialects, and deployed multilingual CCC workers into communities to help bridge language gaps.

Final Vaccination Rates

New Jersey's final vaccination rates convey the State's power to reduce equity barriers through agency coordination and cooperation with community leaders but simultaneously spotlight the persistence of the State's health inequities and the work that still lies ahead on this front. During the initial vaccine supply constrained period from December 2020 through April 2021, for example, the estimated[28] first-dose vaccination rates for Black and Hispanic New Jerseyans (29% and 31%, respectively) were about half of the vaccination rates for Whites and Asians (51% for both groups) during that same window. While the State succeeded in increasing vaccination rates amongst all of these groups over the course of the pandemic, the final vaccination rates for Black and Hispanic New Jerseyans still remained the lowest at 76% and 84%, respectively (compared to a rate of 86% for white residents). Although these figures demonstrate that the State met its vaccination goal of 70% compliance for both of these groups, the final vaccination rate for Black New Jerseyans was 19 points lower than for Asians in the State (95%) and 10 points lower than for White New Jerseyans (86%). Moreover, the most vulnerable[29] counties in New Jersey had the lowest vaccination rates, while the least vulnerable counties enjoyed the highest vaccination rates across every COVID-19 vaccine stage (primary series, first boosters, and bivalent boosters). Thus, the State's work in reducing accessibility barriers and improving health equity must continue.

The importance of demographic data

Vaccination statistics by race/ethnicity are estimates based on available demographic information reported by providers throughout the course of the vaccination campaign. Although all providers are required to report demographic information when administering vaccines, many providers reported the race/ethnicity of individuals being vaccinated as "Other" or "Unknown." Accurate reporting is a crucial component for the State to track outcomes across demographic groups and adjust outreach and delivery efforts to communities that would benefit from them the most.

[28] Vaccination rates are estimates. Vaccinations attributed to 'Other' or 'Unknown' races were capped at 95% of the 'Other' census population and the remainder was redistributed proportionally based on census population breakdowns. Total first doses administered includes non-NJ residents vaccined in New Jersey and total doses administered may differ from other reported totals due to reporting inconsistencies between internal NJDOH documents and CDC reported data. See **Chapter 4** for additional detail.

[29] Vulnerability is measured through the Social Vulnerability Index (SVI), a tool used by the federal government and many states to measure disadvantages and evaluate equity of a county by incorporating the socio-economic status (including measures of poverty such as unemployment), household characteristics, and racial and ethnic minority status of its population. For further information about SVI, see **Chapter 4**.

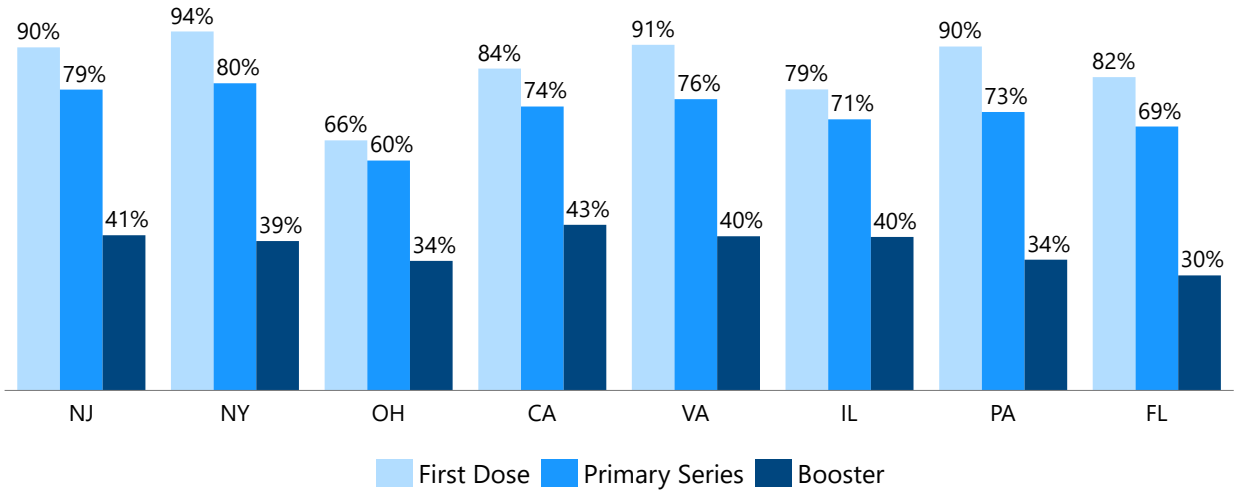
3. Comparison to Other States

States generally had to address the same concerns throughout the different phases of vaccine rollout. In the first months after COVID-19 vaccines became available, states needed to define the populations eligible for vaccinations while vaccine supplies were still scarce, and CDC guidelines were often vague. States also had to rapidly organize a vaccine distribution network and identify and set up vaccination sites, engaging with Federal, state, and private partners.

Exhibit 5 shows that benchmark states[30] varied in the vaccination rates they achieved by the end of the pandemic, with New Jersey having one of the highest rates. This depended in part on the decisions they made regarding eligibility and their methods of vaccine distribution.

Exhibit 5: Vaccination Rates in Benchmark States

% of total population vaccinated with first dose, full primary series, and at least one booster by December 2022



States varied not only in their raw total vaccination rates, but in the differences between their first dose and booster vaccination rates. For example, Illinois had a lower first dose rate than many other benchmark states, but a high booster rate. New Jersey had relatively high vaccination rates compared to the benchmark states.

[30] Benchmark states for Chapter 5 were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in the Appendix of this report.

The following section focuses on the different decisions states made in defining vaccine eligibility in the initial stage of vaccine rollout and in operationalizing points of vaccine distribution.

3.1. Eligibility

Differences in eligibility for vaccination across states became pronounced in January 2021, when the CDC issued guidance for Phase 1B of the vaccination campaign. CDC guidance for this phase recommended that states vaccinate essential workers and adults 65 years of age and older. CDC guidance on essential workers listed many categories of essential workers, some of which were vague at times and required states to provide additional specifications.

For most states, opening eligibility to the entire CDC list was not feasible, as they did not have enough vaccines. As a result, states were forced to add additional criteria for determining which essential workers would be vaccinated. This also required states to balance prioritizing vaccines for individuals with jobs with a higher risk of COVID-19 exposure versus vaccines for the elderly, who were at a higher risk of negative health impacts. When it came to eligibility, benchmark States fell primarily into three categories:

- States that focused vaccine eligibility on age (Pennsylvania and Florida) in early 2021. Neither state included many groups of frontline workers or susceptible populations in the rollout from February to March 2021, and they based eligibility almost entirely on age. For example, all other benchmark states had opened eligibility to public safety, public transportation, and childcare workers by March 2021, while Pennsylvania and Florida had not. In fact, Florida had opened eligibility to only three groups of frontline workers by March 2021 (firefighters and emergency services, sworn law enforcement, and educators in pre-K to grade 12) and further restricted their eligibility to frontline workers 50 and above.
- States that focused vaccine eligibility on frontline workers (California, Virginia, and Illinois) in early 2021. California included more groups in their Phases 1a and 1b than other states, allocating vaccines to almost all classes of frontline workers by February 2021. Virginia and Illinois included fewer classes of frontline workers than California by February 2021, but still had a relatively high number compared to other states. While these states focused on frontline workers, they were slower to extend eligibility to the general adult population or susceptible populations.
- States that took a combined approach (New Jersey, New York, and Ohio). These states extended eligibility to all or nearly all frontline workers, but did so later than California, Virginia, and Illinois. Ohio, for example, had opened eligibility to every population specified by the CDC except for judicial or legislative system workers, but did so by March 2021. New York and Ohio opened eligibility to more general population age groups by March 2021 than the states focusing on frontline workers. New Jersey and Ohio also included more susceptible populations than other states.

Exhibit 6: Timing of Eligibility for Essential Workers and Older Adults

		Blended eligibility			Eligibility focused on frontline workers			Eligibility focused on age	
	CDC Guidance	**NJ**	**NY**	**OH**	**CA**	**VA**	**IL**	**PA**	**FL**
Essential Healthcare Workers									
Workers in healthcare settings[1]	✓	✓	✓	✓	✓	✓	✓	✓	✓
Age									
Adults ≥ 75 years	✓	✓	✓	✓	✓	✓	✓	✓	✓
Adults ≥ 65 years	✓	✓	✓	✓	✓	✓	✓	✓	✓
Adults ≥ 55 years			✓	✓					✓
Adults ≥ 40 years			✓	✓					✓
16-64 with 1+ underlying medical conditions	✓	✓	✓	✓	✓	✓	✓	✓	✓
16-64 with 2+ underlying medical conditions	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ Implemented by February 2021 ✓ Implemented by March 2021

1. CDC recommended opening eligibility for this population in Phase 1A of the vaccine rollout in December 2020. 2. Only for individuals in multigenerational households.

Exhibit 7: Timing of Eligibility for Frontline Workers (Part 1)

		Blended eligibility			Eligibility focused on frontline workers			Eligibility focused on age	
	CDC Guidance	NJ	NY	OH	CA	VA	IL	PA	FL
Frontline Workers									
Firefighters & emergency services	✓	✓	✓	✓	✓	✓	✓	✓	✓ [1]
Sworn law enforcement	✓	✓	✓	✓	✓	✓	✓	✓	✓ [1]
Public safety workers	✓	✓	✓	✓	✓	✓	✓		
Public transportation workers	✓	✓	✓	✓	✓	✓	✓		
Educators & support staff in pre-K – grade 12	✓	✓	✓	✓	✓	✓	✓	✓	✓ [1]
Educators & support staff in college, university, or technical settings	✓	✓	✓	✓	✓	✓	✓		
Childcare workers in licensed & registered settings	✓	✓	✓	✓	✓	✓	✓		
Childcare workers in informal settings	✓	✓		✓	✓	✓	✓		
Grocery store workers	✓	✓	✓	✓	✓	✓	✓	✓	
Workers in food production, agriculture, or food distribution	✓	✓		✓	✓	✓	✓	✓	
Postal workers	✓	✓	✓	✓	✓	✓	✓		

✓ Implemented by February 2021 ✓ Implemented by March 2021

1. Only if older than age 50

The CDC's eligibility recommendations included significantly more groups of frontline workers than the vaccine supply. CA, VA, and IL included the most classes of frontline workers by February 2021, while NJ opened eligibility to all groups in March.

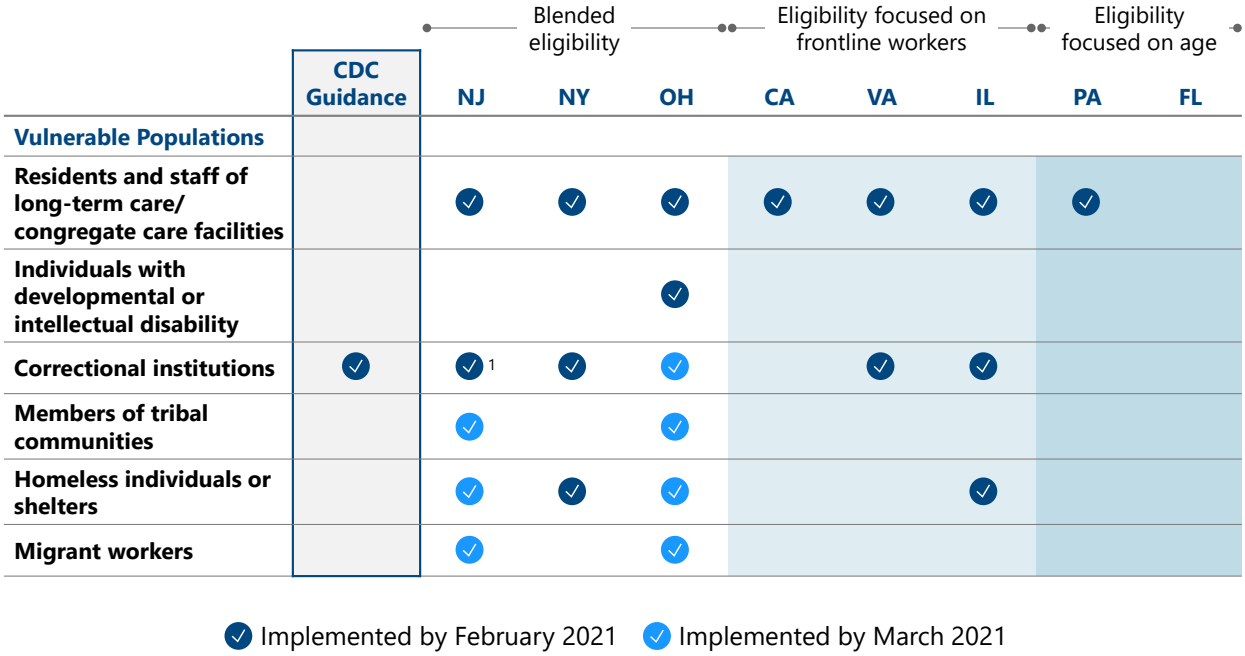
Exhibit 8: Timing of Eligibility for Frontline Workers (Part 2)

		Blended eligibility			Eligibility focused on frontline workers			Eligibility focused on age	
	CDC Guidance	NJ	NY	OH	CA	VA	IL	PA	FL
Frontline Workers (continued)									
Social services and support staff	✓	✓	✓	✓	✓	✓	✓		
Hospitality workers	✓	✓		✓	✓				
Warehousing, transportation, logistics, manufacturing, construction workers	✓	✓		✓	✓	✓	✓		
Clergy	✓	✓		✓	✓	✓	✓		
Judicial or legislative system workers	✓	✓	✓		✓	✓	✓		

✓ Implemented by February 2021 ✓ Implemented by March 2021

NJ was able to open eligibility to all frontline workers by March. Some states that had included relatively more groups of frontline workers in their initial phases in February, like NY, took longer to open eligibility to the rest of frontline worker groups.

Exhibit 9: Timing of Eligibility for Vulnerable Populations



1. Eligibility opened in December 2020.

New Jersey opened eligibility to a greater number of high-risk populations earlier than most other states, reflecting the State's commitment to health equity.

3.2. Operational Rollout / Supply

States generally utilized the same toolkit to distribute vaccines; this involved leveraging Federal resources, typically from FEMA, and partnering with pharmacies, community centers, and providers to administer vaccines.

FEMA-Supported Vaccination Sites

All selected states received FEMA support to set up vaccination sites, but the types of sites varied depending on states' specific characteristics, such as geography or demographics of focus. There were five types of sites that FEMA established in the states, ranging from the largest (Type 1), which vaccinated up to 6,000 individuals per day, to the smallest (Type 5), or mobile sites, vaccinating approximately 250 individuals daily.

Some states (New Jersey, California, Illinois, Ohio, and Pennsylvania) partnered with FEMA to set up a Type 1 mega-site. While other types of FEMA sites were also created within these states, New Jersey, California, Illinois, Ohio, and Pennsylvania were part of the subset of total states that

organized mega-sites, vaccinating 6,000 individuals daily. California had two Type 1 sites, while the remaining states had one. These sites tended to be strategically located in large urban centers, such as Chicago or Cleveland.

New York and Florida utilized a mix of Type 2 and Type 3 FEMA sites, which vaccinated 3,000 and 1,000 people per day, respectively. Other states leveraged FEMA in different ways. For example, Virginia set up four temporary FEMA sites, which ran for a shorter period than other states. While FEMA's mass-testing sites sometimes operated for more than 2 months (such as New Jersey's), Virginia's FEMA sites operated 2 to 5 days at a time. These temporary sites targeted outreach directly to underserved communities where vaccination rates were lagging.

Distribution Network Partnerships

All benchmark states partnered with pharmacies and community-based centers (such as Federally Qualified Health Centers) to distribute vaccines. However, states varied in the mix of distribution partners they used, with some states creating more centralized networks and others emphasizing community partners.

California, for example, contracted with Blue Shield of California to create a centralized vaccine distribution network. This was a departure from the partnerships of other states, as Blue Shield assumed responsibility from the State in coordinating vaccine distribution. Blue Shield paid providers in its system based on their vaccine administration performance, incentivizing higher throughput. Blue Shield also made recommendations on vaccine allocation, although final decisions remained with the State.

Florida's vaccination sites were generally organized by county health departments (CHDs) or federally supported (e.g., FEMA) mass-vaccination sites. Unlike New Jersey, Florida had few State-supported vaccination sites. Virginia is an example of a state that focused on community-based vaccination sites, similar to New Jersey. Unlike New Jersey, however, Virginia stood up its Community Vaccination Centers (CVCs) utilizing FEMA resources and support, rather than coordinating mostly with LHDs like New Jersey. Virginia's CVCs were State-managed and FEMA-funded, selected based on an equity analysis to identify communities with large numbers of susceptible populations and significant COVID-19 impact.

4. Key Strengths and Challenges

New Jersey's strategy to vaccinate its constituents through decisions on vaccine eligibility, setting up vaccine information systems, operationalizing the vaccine rollout and allocating supply, and managing demand for vaccines allowed it to achieve its ambitious 70% vaccination rate goal ahead of schedule. Despite this, there were still challenges in the State's vaccination campaign, which are described below, along with strengths.

Defining Vaccine Eligibility

In the first stages of vaccine rollout, New Jersey had to reconcile with the CDC's vague eligibility guidelines, which made it more difficult to budget the limited supply of vaccines. The State was successful in flexibly interpreting CDC guidelines to define what was suitable for its own needs.

Strength The State was able to flexibly define vaccine eligibility during the initial phases of vaccine rollout, particularly while CDC guidelines were difficult to follow. This flexibility allowed the State to plan eligibility such that it could optimally manage vaccine supplies according to its own needs and vaccination goals, ultimately contributing to the achievement of its 70% vaccination goal.

Strength New Jersey's management of vaccine supply through its vaccine eligibility decisions allowed the State to prioritize underserved populations (e.g., incarcerated individuals) earlier than other states and was able to extend eligibility to March 2021. At that point, New Jersey was also able to include a greater number of susceptible populations in its eligible groups.

Information Systems

While some of the State's existing technology was appropriate for creating information systems to manage vaccines, particularly as NJIIS had existed before the pandemic and many providers were already familiar with the system, expanding these systems to meet the needs of New Jersey's vaccination plan was a challenging process.

Strength Despite the difficulties the NJDOH and OIT initially encountered in scaling NJIIS, the existence of a centralized tracking system was valuable in consolidating data on inventory and vaccinated individuals. The NJDOH and DHS were able to link vaccination data sets (at least to include who, where, vaccination status, and other demographics in some cases).

Strength INNOVATION's vaccine appointment finder captured nearly 80% of the appointments available in New Jersey, indicating a high level of effectiveness, and allowed many residents to make appointments, expanding access to vaccines through ease of access.

Challenge While New Jersey was successful in setting up a robust, centralized vaccine tracking system, it faced challenges with data collection. Robust demographic data on vaccine recipients (e.g., the recipients' place of residence or occupation) was initially not collected or centralized in an organized manner, making it difficult for the State to make real-time decisions on vaccine rollout strategy. Furthermore, New Jersey had few enforcement mechanisms for ensuring that facilities reported vaccine data, and many sites neglected to adhere to reporting requirements.

Challenge The State encountered significant technological challenges with implementing vaccine information systems. The NJDOH had contracted with a vendor to create NJVSS, which often crashed due to its inability to manage load, inflexibility with changing eligibility requirements, inability to add billing information (necessary for hospitals), and inability to integrate with native systems for major pharmacies.

Operational Rollout / Supply

New Jersey's vaccine rollout was generally strong despite universal difficulties, such as the need to diligently monitor and allocate vaccines based on throughput rates in response to limited supplies. The State was able to set up multiple avenues of vaccination for its constituents while engaging in smooth partnerships with stakeholders.

Strength The NJDOH was able to coordinate with vaccine manufacturers Pfizer and Moderna to provide sufficient supply of vaccines to meet the State's vaccination goals, particularly in the supply-constrained period of vaccine rollout.

Strength New Jersey ultimately was successful in taking a community-centered approach to distributing vaccines. For example, pop-up vaccination sites (e.g., at churches, with town meetings, or as parts of fairs and other major events) were critical for reaching difficult-to-reach populations and getting them vaccinated. The State was also able to implement outreach efforts such as the CCC and county/municipal ambassadors, which allowed the State to remain in tune with the specific needs of its communities. The State's partnerships with PODs were also a success that continued beyond the pandemic. The NJDOH remained in contact with PODs and ultimately fostered closer relationships with the State's community centers and providers. The NJDOH was diligent in setting up resources to coordinate the numerous PODs in the State, including the creation of extensive training materials and institutionalizing regular communications.

Strength The State employed the full range of tools and strategies at its disposal to maximize the number of people it could reach with its vaccination program. It leveraged a broad range of capabilities and partners, including federal resources like FEMA, private pharmacies, and the State's hospital system. This allowed the State to operationalize a wide variety of vaccination efforts, ranging from mass-vaccination sites to mobile vaccination sites.

Challenge Because the LINCS agencies are only activated in an emergency, the ability of the agencies to manage vaccine rollout for LHDs was varied and largely a product of the level of coordination that county health departments and LHDs had during non-emergency situations. While NJDOH attempted to assist where possible, counties with fewer resources and those who did not coordinate with their LHDs as regularly had more of a staggered and difficult rollout.

Demand Management

A universal challenge for all states was the increase in vaccine hesitancy, which impacted the states' ability to achieve high vaccination rates. New Jersey devised creative communications solutions to address these challenges but was not uniformly successful.

Strength New Jersey had a sophisticated communications strategy that involved social media, an app (Docket), and its vaccine call center to answer questions. By adhering to its core principle of encouraging "overcommunication," the State was able to engage diverse audiences, including different age and cultural groups.

Challenge Vaccine hesitancy was a challenge that limited vaccination rates across the state. For example, higher hesitancy rates among Black Americans at the beginning of the vaccination campaign likely slowed vaccination uptake in that period. Later in the vaccination campaign, there was a large and vocal anti-vaccination presence in New Jersey, and some mayors declined offers to host a vaccine site in their municipality, fearing political blowback. New Jersey was not exempt from the challenges of vaccine hesitancy and misinformation that many other states also faced. This, unfortunately, negatively impacted the State's booster rollout.

New Jersey was able to achieve final vaccination rates well above those of many other U.S. states (see **Chapter 4**). This was a function of concerted State efforts to vaccinate as many people as possible, as quickly as possible, with a State-wide vaccination campaign that focused on bringing vaccines to residents and reducing as many barriers, including vaccine hesitancy, as possible. Despite this, there were meaningful challenges – including significant data system issues – that the State had to overcome and can learn from in the future. Improvements for future digital capabilities, communications campaigns, and equity concerns can be found in **Chapter 7**.

5. Appendix

A-1 Chronology of events in New Jersey

The following timeline includes how the vaccine rollout progressed in New Jersey starting in December 2020 and continuing through the pandemic:[31,32]

Supply Constrained Period (December 2020 to April 2021):

- December 11, 2020: The FDA issues Emergency Use Authorization (EUA) for the Pfizer-BioNTech vaccine for the prevention of COVID-19 for those age 16+.[33]
- December 14, 2020: New Jersey receives its first shipment of vaccines.
- December 15, 2020: Vaccinations first begin in New Jersey, as the state launches Phase 1A of vaccinations for healthcare workers and long-term care residents.[34]
  - Healthcare workers are defined as any paid or unpaid person working or volunteering in a healthcare setting who may have direct or indirect contact with infectious persons or materials (e.g., doctors, nurses, pharmacists, hospital staff).
- December 18, 2020: The FDA issues EUA for the Moderna vaccine for the prevention of COVID-19 for those age 18+.[35]
- December 2020: New Jersey DOH begins outreach to chain pharmacies Walmart, Walgreens, CVS, ShopRite, Stop & Shop, Acme, Weis, – to begin coordinating vaccine rollout.
- January 4, 2021: The first State Mega Site opened in Morris County.
  - January 8, 2021, the Gloucester County Mega Site opened.
  - January 15, 2021, the Burlington and Middlesex County Mega Sites opened.
  - January 22, 2021, the Bergen and Atlantic County Mega Sites Opened.
  - March 29, 2021, The Newark FEMA Type 1 Community Vaccination Center opened.

[31] Washington State Department of Health. (2022, February). Vaccine timeline [PDF file]. https://doh.wa.gov/sites/default/files/2022-02/348-862-VaccineTimeline.pdf

[32] Immunization Action Coalition. (2024, January 17). *Vaccine History Timeline*. https://www.immunize.org/vaccines/vaccine-timeline/

[33] U.S. Food and Drug Administration. (n.d.). *Press Announcements*. https://www.fda.gov/news-events/fda-newsroom/press-announcements and Centers for Disease Control and Prevention. (n.d.). *CDC Newsroom Releases*. https://www.cdc.gov/media/archives.html#cc-widget-9fc9

[34] New Jersey Department of Health. (2021, March 11). *COVID-19 Vaccination Eligibility Expansion to Phase 1B Education and Childcare Sectors*. https://www.nj.gov/health/legal/covid19/03-11-2021_Memo-EligibilityExpansion1B_EduChildcare.pdf

[35] U.S. Food and Drug Administration. (n.d.). Press announcements. from https://www.fda.gov/news-events/fda-newsroom/press-announcements https://www.cdc.gov/media/archives.html#cc-widget-9fc9

- **January 7, 2021:** New Jersey launches Phase 1B of vaccinations, expanding eligibility to frontline first responders, including sworn law enforcement and fire professionals.[36]
- **January 12, 2021:** U.S. government releases updated vaccine allocation guidance that states will receive vaccine doses based on the 65+ population.
- **January 14, 2021:** New Jersey expands eligibility for Phase 1B to include individuals ages 65 and older, as well as individuals ages 16-64 years old who have at least one medical condition, as defined by the CDC, that increases the risks or might increase the risk for severe COVID-19.[37]
- **January 25, 2021:** New Jersey launches vaccine appointment call center.
- **February 12, 2021:** New Jersey Governor Murphy announces community-based vaccination partnerships, including the NJDOH, NJOEM, Federal Emergency Management Agency, and U.S. Department of Defense. Initial phase to include sites in Somerset, Trenton, Elizabeth, and Paterson.[38]
- **March 1, 2021:** New Jersey Department of Health launches COVID Community Corps to increase public confidence in and uptake of COVID-19 vaccines.
- **March 2, 2021:** New Jersey expands eligibility for Phase 1B to include childcare workers in licensed or registered settings of the Pre-K to grade 12 education sector.[39]
- **March 11, 2021:** President Biden announces that states will be required to open vaccine eligibility to all adults 18+ by May 1st, 2021.
- **March 15, 2021:** New Jersey expands eligibility for Phase 1B to include persons experiencing homelessness, persons living in shelters, migrant workers, members of tribal communities, and frontline essential worker sectors (public and local transportation, public safety).[40]
- **March 29, 2021:** New Jersey expands eligibility for Phase 1B to include frontline essential workers in the following categories:[41]
  - Clergy; elder care and support; elections personnel; food production, agriculture, and distribution; hospitality; judicial system; medical supply chain; social services support staff; postal and shipping services; warehousing and logistics.

[36] New Jersey Department of Health. (2021, March 11). *COVID-19 Vaccination Eligibility Expansion to Phase 1B Education and Childcare Sectors*. https://www.nj.gov/health/legal/covid19/03-11-2021_Memo-EligibilityExpansion1B_EduChildcare.pdf
[37] Ibid.
[38] Office of the Governor. (n.d.). Press releases. State of New Jersey. Retrieved https://www.nj.gov/governor/news/news/562021/20210212b.shtml
[39] New Jersey Department of Health. (2021, March 11). *COVID-19 Vaccination Eligibility Expansion to Phase 1B Education and Childcare Sectors*. https://www.nj.gov/health/legal/covid19/03-11-2021_Memo-EligibilityExpansion1B_EduChildcare.pdf
[40] Ibid.
[41] Ibid.

- March 31, 2021: FEMA Community Vaccination Center in Newark opens to serve underserved communities.[42]
  - Vaccines were provided directly from the federal government beyond the state's regular allocations.
- March 31, 2021: New Jersey launches centralized online portal for finding vaccine appointments.
- April 5, 2021: New Jersey launches Phase 1C of vaccinations, expanding eligibility to:
  - Individuals age 55-64; individuals ages 16+ with intellectual and developmental disabilities; educators in higher education; communications infrastructure support; real estate, building, and home service workers; retail financial institution workers; sanitation workers; laundry service workers; utility workers; librarians and library support staff.[43]
- April 6, 2021: President Biden moves up deadline for all states to open vaccine eligibility to all adults to April 19th, 2021 – two weeks earlier than the initial deadline.
- April 19, 2021: New Jersey opens vaccine eligibility to residents 16+, following an announcement made on April 16, 2021.

Demand Constrained Period (May 2021 to July 2021)

- May 12, 2021: The CDC issues guidance recommending that adolescents ages 12-15 receive the Pfizer-BioNTech COVID-19 vaccine and allows providers to begin vaccinating right away.[44]
- May 21, 2021: Governor Murphy announces "Grateful for the Shot" vaccination events at congregations in targeted communities to reduce vaccine hesitancy.[45]
- June 18, 2021: New Jersey reaches goal of fully vaccinating 4.7 million individuals who live, work, or study in the state, nearly two weeks before the original target date of June 30, 2021.
- June 18, 2021: Mega-vaccination sites throughout New Jersey begin to close.
- June 20, 2021: FEMA Community Vaccination Center in Newark closes.
- June 21, 2021: New Jersey begins sending "vaccine ambassadors" to high-risk counties to work with elected officials, community leaders, school districts, and faith leaders to increase vaccination rates.

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[42] New Jersey COVID-19 Information Hub. (2023, January 27). *What has the State done to expand vaccine capacity and access?* https://covid19.nj.gov/faqs/nj-information/testing-and-treatment/what-has-the-state-done-to-expand-vaccine-capacity-and-access

[43] Office of the Governor. (n.d.). Press releases. State of New Jersey. Retrieved https://nj.gov/governor/news/news/562021/approved/news_archive.shtml

[44] Walensky, R. P. (2021, May 12). *CDC Director Statement on Pfizer's Use of COVID-19 Vaccine in Adolescents Age 12 and Older*. https://www.cdc.gov/media/releases/2021/s0512-advisory-committee-signing.html

[45] Office of the Governor. (n.d.). Press releases. State of New Jersey. https://www.nj.gov/governor/news/news/562020/approved/news_archive.shtml

Booster period (August 2021 to December 2022)

- August 2, 2021: Governor Murphy announces that all workers in certain state and private healthcare facilities and high-risk congregate settings will be required to be fully vaccinated against COVID-19 or be subject to testing. An executive order instituting the requirement signed on August 6, 2021.[46]
- August 12, 2021: The FDA authorizes an additional dose of mRNA vaccines for certain immunocompromised individuals.[47]
- August 23, 2021: Governor Murphy signs executive order requiring all preschool to grade 12 school personnel to be fully vaccinated against COVID-19 or be subject to testing.[48]
- September 24, 2021: The CDC updates guidance on booster shots, recommending an additional dose of the Pfizer-BioNTech vaccine in certain populations and for those in high-risk occupational and institutional settings. [49]
  - Booster dose recommended for individuals ages 65+, residents in long-term care settings, and individuals ages 50-64 with underlying medical conditions.
  - Individuals ages 18-49 with underlying medical conditions and individuals ages 18-64 who are at increased risk of infection because of occupational or institutional settings are also eligible.
- September 24, 2021: The New Jersey Department of Health directs vaccination partners throughout the state to begin administering booster doses to eligible individuals immediately.[50]
- October 22, 2021: The CDC recommends Moderna and J&J booster shots for high-risk individuals. Recommendations included individuals age 65+, individuals aged 18-64 in long-term care settings or with underlying medical conditions, and those at increased risk of social inequities or in high-risk settings. For the J&J vaccine, a booster dose is recommended at least two months after initial vaccination for individuals age 18+.
- November 3, 2021: The Pfizer-BioNTech COVID-19 vaccine is approved for children, and the CDC issues guidance recommending that children ages 5-11 years old receive the Pfizer-BioNTech COVID-19 pediatric vaccine, allowing providers to begin vaccinating right away.[51]
  - Distribution of the pediatric vaccine begins this week.

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[46] Office of the Governor. (n.d.). Press releases. State of New Jersey. https://www.nj.gov/governor/news/news/562020/approved/news_archive.shtml
[47] Ibid.
[48] Ibid.
[49] New Jersey COVID-19 Information Hub. (2023, January 27). *What has the State done to expand vaccine capacity and access?* https://covid19.nj.gov/faqs/nj-information/testing-and-treatment/what-has-the-state-done-to-expand-vaccine-capacity-and-access
[50] Office of the Governor. (n.d.). Press releases. State of New Jersey. https://www.nj.gov/governor/news/news/562020/approved/news_archive.shtml
[51] New Jersey COVID-19 Information Hub. (2023, January 27). *What has the State done to expand vaccine capacity and access?* https://covid19.nj.gov/faqs/nj-information/testing-and-treatment/what-has-the-state-done-to-expand-vaccine-capacity-and-access

- **November 20, 2021:** The CDC expands eligibility for COVID-19 mRNA booster shots to all adults ages 18+ six months after receiving both doses of the Pfizer-BioNTech or Moderna COVID-19 vaccine. Those who received the J&J vaccine were recommended to get a booster shot two months after vaccination. [52]
- **November 20, 2021:** Governor Murphy encourages all individuals who received their COVID-19 vaccination to get a booster dose.[53]
- **December 9, 2021:** The CDC expands eligibility for COVID-19 mRNA booster shots to include individuals ages 16-17 years old.[54]
- **January 6, 2022:** The CDC expands eligibility for COVID-19 mRNA booster shots to include those ages 12-16 years old, five months after completing their primary vaccination series. [55]
- **January 19, 2022:** Governor Murphy signs executive order strengthening COVID-19 vaccination requirements for workers at healthcare facilities and high-risk congregate settings, requiring that they be up to date with their booster doses.[56]
- **March 30, 2022:** The CDC recommends that certain immunocompromised individuals and people over the age of 50 who received an initial booster dose at least 4 months ago be eligible for another mRNA booster dose.[57]
- **May 19, 2022:** The CDC expands eligibility for COVID-19 mRNA booster shots to include children ages 5-11 years old five months after completing their primary vaccine series. Individuals age 18+ who received the J&J vaccine at least four months ago are also eligible for a second booster dose of a mRNA COVID-19 vaccine (Pfizer or Moderna).[58]
- **June 18, 2022:** The CDC issues guidance recommending that children ages 6 months through 5 years of age receive a Pfizer or Moderna COVID-19 vaccine.[59]
- **September 1, 2022:** The CDC recommends the use of updated bivalent COVID-19 boosters for people ages 12+. The original, monovalent booster dose is no longer authorized for people aged 12+ years. The monovalent booster may still be administered to people ages 5-11 years.[60]

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[52] Ibid.
[53] Office of the Governor. (n.d.). Press releases. State of New Jersey. https://www.nj.gov/governor/news/news/562020/approved/news_archive.shtml
[54] New Jersey COVID-19 Information Hub. (2023, January 27). *What has the State done to expand vaccine capacity and access?* https://covid19.nj.gov/faqs/nj-information/testing-and-treatment/what-has-the-state-done-to-expand-vaccine-capacity-and-access
[55] Ibid.
[56] Office of the Governor. (n.d.). Press releases. State of New Jersey. https://www.nj.gov/governor/news/news/562020/approved/news_archive.shtml
[57] New Jersey COVID-19 Information Hub. (2023, January 27). *What has the State done to expand vaccine capacity and access?* https://covid19.nj.gov/faqs/nj-information/testing-and-treatment/what-has-the-state-done-to-expand-vaccine-capacity-and-access
[58] Ibid.
[59] Ibid.
[60] Ibid.

- **October 12, 2022:** The CDC expands the use of the updated bivalent COVID-19 boosters to children ages 5-11 years old.[61]
- **December 9, 2022:** Bivalent boosters approved for ages 6 months and older.

[61] Ibid.

Section 5.11 Therapeutics

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5.11 Therapeutics

1. Context and Summary

COVID-19 therapeutics are treatments used to treat mild-to-moderate COVID-19 symptoms or to prevent those symptoms from developing and worsening. Unlike vaccines, therapeutics are administered in the early stages of the disease when an individual has already been diagnosed with COVID-19. When administered correctly, therapeutics can help improve health outcomes and, in some cases, save lives.[1]

In the initial stages of the pandemic, there was little understanding of how COVID-19 spread or of effective ways to treat it. Researchers quickly began to test a variety of possible therapeutics that could help combat the virus and alleviate symptoms. In March 2020, the Secretary of the U.S. Department of Health and Human Services (HHS) issued a declaration that extended liability protections to therapeutics manufacturers; distributors; State, Local, Tribal, and Territorial governments (SLTTs); licensed healthcare professionals; and other qualified persons who administered them. As with the COVID-19 vaccines, the FDA granted Emergency Use Authorizations (EUAs) and expedited approvals of therapeutics throughout the pandemic, allowing treatments to be rapidly distributed and administered to the public.[2]

As more was discovered about the COVID-19 virus and new treatments were tested, new therapeutics were introduced while others were phased out. All COVID-19 therapeutics require a prescription, and since each treatment option had its eligibility criteria and suggested use, patients were encouraged to work with a healthcare provider to determine the best treatment for them.

During the public health emergency and before therapeutics' transition to the commercial market, the Administration for Strategic Preparedness and Response (ASPR) (part of the U.S. Department of Health and Human Services [HHS]) purchased supplies of outpatient therapeutics on behalf of individual states.

States were then required to manage the operational rollout of therapeutics supplies and their administration. This included:

[1] Administration for Strategic Preparedness and Response. (n.d.). *COVID-19 Therapeutics: Resources for Health Care Professionals and Public Health Officials*. Retrieved from https://aspr.hhs.gov/COVID-19/Therapeutics/Pages/default.aspx

[2] The FDA uses Emergency Use Authorizations (EUA) to expedite the availability of medical products during a public health emergency. EUAs are granted when no approved alternatives exist and when the potential and known benefits outweigh risks. EUAs only last as long as the public health emergency they were issued under and can be revised and revoked at any point.

- Prioritizing recipients while enabling widespread access.
- Educating providers on when and how to prescribe therapeutics that required navigating evolving guidance on the use and effectiveness of certain treatments.
- Educating the public on the existence and efficacy of therapeutics as a treatment option.

New Jersey worked diligently to increase equitable access to therapeutic treatments. Nevertheless, lack of education and awareness, cost, inadequate health insurance coverage, and the lack of an established relationship with a primary care provider (PCP) posed barriers for many New Jerseyans.

1.1. Overview of Therapeutic Types

The landscape for COVID-19 therapeutics has been changing continuously since the start of the pandemic in early 2020. States were required to monitor, adhere to, and implement evolving guidance to provide individuals with access to treatment.

In general, there were five types of therapeutics used to treat COVID-19: Intravenous Antivirals, Immune Modulators, Monoclonal Antibodies, Convalescent Plasma, and Oral Antivirals. These types are explained in more detail in the following sections. These therapeutics were split by whether they needed to be administered in a hospital setting (inpatient therapeutics) or not (outpatient therapeutics). While outpatient therapeutics did not have to be administered in a hospital, most still had to be administered in a healthcare setting (such as monoclonal antibody infusion sites).

Remdesivir, an intravenous antiviral, was the first therapeutic to be granted an EUA from the Food and Drug Administration (FDA) in May 2020. Outpatient therapeutics became available starting in August 2020, but oral antiviral pills – which could be used at home – were not available until late December 2021, when the FDA granted an EUA to *Paxlovid*.

Additional explanations of the types of therapeutics, along with examples of each therapeutic type, are found in the following tables.[3,4]

[3] U.S. Food and Drug Administration. (n.d.). *Press Announcements*. https://www.fda.gov/news-events/fda-newsroom/press-announcements

[4] Centers for Disease Control and Prevention. (n.d.). *CDC Museum COVID-19 Timeline*. Retrieved from https://www.cdc.gov/museum/timeline/covid19.html

1.1.1. Inpatient Therapeutics

Intravenous Antivirals help the body fight off COVID-19 by stopping the virus from replicating inside the body's cells.

Drug Name	Approval & Usage Timeline
Remdesivir **(brand name *Veklury*)**	• FDA granted EUA on May 1, 2020 for treatment of COVID-19 in adults and children who are hospitalized with severe disease. Severe disease is defined as patients with low blood oxygen levels or needing oxygen therapy or more intensive breathing support such as a mechanical ventilator. EUA expanded in August 2020 for all hospitalized patients, regardless of disease severity. • FDA granted full approval on October 22, 2020 for use in adult and pediatric patients aged 12+ and weighing at least 88 pounds for treatment of COVID-19 requiring hospitalization. • FDA expanded approval on April 25, 2022, to include pediatric patients 28 days of age and older, weighing at least 7 pounds, who tested positive for COVID-19 and were hospitalized, or had mild-to-moderate COVID-19 and were at elevated risk for progression to severe illness. • Treatment is administered intravenously in hospital or comparable inpatient healthcare setting.

Immune Modulators, a large category of treatments that are not specific to viral strains, are also part of the recommended inpatient therapeutics. Modulators treat symptoms and control the immune system's reaction to a virus. The modulators are also used to treat COVID-19 in adults and pediatric patients aged 2 and older who have been hospitalized with severe disease.[5] Treatment is administered intravenously in a hospital setting. Because these treatments were not distributed by states or the federal government, only two treatments are included as examples below:

Drug Name	Approval & Usage Timeline
Baricitinib **(brand name *Olumiant*)**	• FDA granted EUA on November 19, 2020 for treatment of COVID-19 *when used in combination with Remdesivir*. • FDA expanded EUA on July 29, 2021 to authorize *Baricitinib* alone for treatment of COVID-19. • FDA granted full approval on May 10, 2022.
Tocilizumab **(brand name *Actemra*)**	• FDA granted EUA on June 24, 2021 for treatment of COVID-19. • FDA granted full approval on December 21, 2022.

[5] Severe disease is defined as receiving systemic corticosteroids and requiring supplemental oxygen, mechanical ventilation, or extracorporeal membrane oxygenation.

1.1.2. Outpatient Therapeutics

Convalescent Plasma is plasma filtered from the blood of patients who have recovered from COVID-19 and contains antibodies to the virus. Treatment is administered intravenously in a healthcare setting.

Drug Name	Approval & Usage Timeline
Convalescent Plasma	• FDA granted EUA on August 23, 2020 for treatment of hospitalized patients with suspected or confirmed COVID-19. • FDA revised EUA on February 4, 2021, limiting the use of high titer[6] COVID-19 convalescent plasma to the treatment of hospitalized patients with COVID-19 early in the disease course and to those hospitalized patients who have impaired immunity and cannot produce an adequate antibody response.

Monoclonal Antibodies stimulate the immune system by seeking antigens and destroying them. They are administered intravenously in outpatient settings for adults and pediatric patients. The first monoclonal antibody – *Bamlanivimab* – was granted an EUA in November 2020. These treatments were effective in the initial stages of the pandemic. However, authorizations were limited starting in January 2022 because they were less effective against new COVID-19 variants.[7]

Drug Name	Approval & Usage Timeline
Bamlanivimab	• FDA granted EUA on November 9, 2020 for treatment of mild to moderate COVID-19. Patients must have positive COVID-19 test and be at elevated risk for progressing to severe illness or hospitalization. • FDA revoked EUA on April 16, 2021 for *Bamlanivimab* when administered alone for the treatment of COVID-19.
Casirivimab and ***Imdevimab*** (administered together)	• FDA granted EUA on November 21, 2020 for treatment of mild to moderate COVID-19. Patients must have positive COVID-19 test and be at elevated risk for progressing to severe illness or hospitalization. • FDA revoked EUA on January 24, 2022 due to the prevalence of the Omicron variant.
Bamlanivimab and ***Etesevimab*** (administered together)	• FDA granted EUA on February 9, 2021 for treatment of mild to moderate COVID-19. Patients must have positive COVID-19 test and be at elevated risk for progressing to severe illness or hospitalization.

[6] High titer convalescent plasma has higher antibody amounts; Sharfstein, J. (2022, January 18). An update on convalescent plasma for COVID-19. Johns Hopkins Bloomberg School of Public Health. https://publichealth.jhu.edu/2022/an-update-on-convalescent-plasma-for-covid-19

[7] Administration for Strategic Preparedness and Response. (n.d.). *COVID-19 Paused and Discontinued Products: Retention, Storage, and Shelf-Life Extension*. https://aspr.hhs.gov/COVID-19/Therapeutics/Products/Pages/paused-products.aspx

Drug Name	Approval & Usage Timeline
	• FDA revoked EUA on January 24, 2022 due to the prevalence of the Omicron variant.
Sotrovimab	• FDA granted EUA on May 26, 2021 for treatment of mild to moderate COVID-19. Patients must have positive COVID-19 test and be at elevated risk for progressing to severe illness or hospitalization. • FDA revoked EUA on April 5, 2022 due to the prevalence of the Omicron BA.2 sub-variant.
Evusheld	• FDA granted EUA on December 8, 2021 for pre-exposure prophylaxis (prevention) of COVID-19. Only authorized for individuals not currently infected with COVID-19 and who have not been recently exposed to an infected individual. Individuals must have moderately to severe compromised immune systems or a history of severe adverse reactions to a COVID-19 vaccine. • FDA revoked EUA on January 26, 2023 as therapeutic is unlikely to be active against more than 90% of COVID variants circulating.
Bebtelovimab	• FDA granted EUA on February 11, 2022 for treatment of mild to moderate COVID-19 in adults and pediatric patients. Patients must have positive COVID-19 test and be at elevated risk for progressing to severe illness or hospitalization. • FDA revoked EUA on November 30, 2022 due to the prevalence of the Omicron BQ.1 and BQ.1.1 sub-variants.

Oral Antivirals were the first treatment for COVID-19 that could be taken orally and used at home. Antiviral pills prevent the virus from multiplying in the body. Oral antivirals were not available until late December 2021, when *Paxlovid* was granted an EUA by the FDA. *Paxlovid* received full FDA approval in May 2023.

Drug Name	Approval & Usage Timeline
Ritonavir (brand name *Paxlovid*)	• FDA granted EUA on December 22, 2021 for treatment of mild-to-moderate COVID-19 in adults and pediatric patients ages 12+ and weighing at least 88 pounds. Patients must have positive COVID-19 test and be at elevated risk for progression to severe illness. • FDA granted full approval on May 25, 2023 for treatment of mild-to-moderate COVID-19 in adults who are at elevated risk for progression to severe illness. • First treatment for COVID-19 that can be taken orally and can be used at home. Available by prescription only and should be initiated as soon as possible after diagnosis of COVID-19 and within 5 days or symptom onset.

Drug Name	Approval & Usage Timeline
Molnupiravir (brand name *Lagevrio*)	• FDA granted EUA on December 23, 2021 for treatment of mild-to-moderate COVID-19 in adults with positive COVID-19 test and who are at high risk for progression to severe illness. • To be used when alternative COVID-19 treatment options authorized by the FDA are not accessible or clinically appropriate. • Second treatment for COVID-19 that is taken orally and can be used at home. Available by prescription only and should be initiated as soon as possible after diagnosis of COVID-19 and within 5 days of symptom onset.

1.2. Timeline of Therapeutics Rollout

The following provides a brief timeline of how quickly therapeutics to treat COVID-19 reached New Jersey residents through FDA authorization.

1.2.1. Inpatient Therapeutics

Intravenous Antivirals

On May 1, 2020, the FDA granted emergency authorization for the use of the intravenous antiviral drug *Remdesivir* for the treatment of COVID-19 in people who were hospitalized with severe disease. Allotments from the federal government were based on New Jersey's COVID-19 hospitalizations as a percentage of total U.S. hospitalizations.

Between May 4 - June 29, 2020, New Jersey received 50,520 vials of *Remdesivir* as its allocation from the federal government and distributed the drug until the stockpile was depleted. Hospitals were able to order *Remdesivir* from distributors independently. *Remdesivir* allocation within New Jersey was guided by the COVID-19 Therapies Distribution Policy devised by the NJDOH's Professional Advisory Committee in April 2020 that codified the criteria and principles for allocation of scarce resources. The NJDOH issued guidance on the use of *Remdesivir* for patients with COVID-19 on May 14, 2020, and issued updated guidance on distribution and hospital inventory reporting on June 26, 2020.

On October 22, 2020, the FDA granted full approval for *Remdesivir's* use in adult and pediatric patients ages 12+ and weighing at least 88 pounds for the treatment of COVID-19 requiring hospitalization. On April 25, 2022, that approval was expanded to include pediatric patients 28 days of age and older weighing at least 7 pounds who tested positive for COVID-19 and were hospitalized or had mild-to-moderate COVID-19 and were at elevated risk for progression to severe illness.

Immune Modulators

On November 19, 2020, the FDA granted emergency use for *Baricitinib* for treatment of COVID-19 when used in combination with *Remdesivir* to be used in hospitalized adults and certain pediatric

patients aged 2 and older. On June 24, 2021, the FDA granted emergency use for *Tocilizumab* for the same group of people. Full approval of these immune modulators came on May 10, 2021, and December 21, 2022, respectively.

1.2.2. Outpatient Therapeutics:

Monoclonal Antibodies

Between November 2020 and March 2021, the Federal government made weekly allocations of monoclonal antibodies to states. During initial period of limited supply, New Jersey assigned allocations to hospitals and based on the number of hospitalizations in the locality, as a proxy for demand at the facility.

Between November 2020 and February 2021, the FDA granted emergency use authorizations for a number of monoclonal antibody treatments, including *Bamlanivimab, Casirivimab, Imdevimab, Etesevimab, and Sotrovimab* for certain patients meeting eligibility criteria.

Then, between June 2021 and January 2023, the FDA revoked the use of many of these treatments due to the drug lack of effectiveness against new COVID-19 variants.

Convalescent Plasma

On August 23, 2020, the FDA granted an EUA for the use of convalescent plasma (the liquid component of blood that, when taken from someone who has recently recovered from an infection, can contain antibodies to that illness) to treat people hospitalized with severe COVID-19. On February 4, 2021, the FDA revised the EUA, limiting use of high-titer COVID-19 convalescent plasma to the treatment of hospitalized patients with COVID-19 early in the disease course, and to those hospitalized patients who had impaired immunity and could not produce an adequate antibody response.

Oral Antivirals

On December 22, 2021, FDA granted an EUA for Pfizer's anti-viral pill *Paxlovid* to treat COVID-19 for individuals who were at elevated risk for progression to severe disease. *Paxlovid* was the first treatment for COVID-19 that was taken orally and could be used at home. The next day, the FDA granted an EUA for Merck's antiviral pill *Molnupiravir* to treat COVID-19 for individuals ages 18+ who had tested positive and were at elevated risk for progression to severe disease.

On May 25, 2023, FDA granted full approval for oral antiviral Paxlovid for the treatment of mild-to-moderate COVID-19 in adults who were at elevated risk for progression to severe COVID-19.

2. New Jersey's Response

2.1. Key Decisions

Starting from May 1, 2020, when the FDA granted an EUA of the first COVID-19 therapeutic (the antiviral drug *Remdesivir*), New Jersey's primary role in supporting the delivery of therapeutics to residents was operations management, provider education, and public education.

2.1.1. Operational Rollout / Supply

The NJDOH played an active role in determining treatment allocations and providing policy and guidance to providers for therapeutics administration.

In March 2020, the NJDOH convened the Professional Advisory Committee (PAC) to provide guidance to ensure that New Jersey's response to COVID-19 was based on the latest scientific, medical, ethical, and public health evidence. The PAC met with the NJDOH Commissioner regularly, with an initial frequency of three times a week that evolved into once weekly. The PAC informed allocation of critical care resources, including scarce therapeutics distribution (e.g., *Remdesivir* and monoclonal antibodies).[8]

The State was heavily involved with the rollout and distribution of intravenous antivirals, particularly *Remdesivir*. After a brief period of confusion on whether the federal government or states would allocate antivirals, the federal government determined on September 13, 2021 that states would be responsible for deciding allocations.

The NJDOH PAC formed a Statewide *Remdesivir* Advisory Committee (RAC) that met for the first time on May 10, 2020, to develop guidance for use of *Remdesivir* under the EUA to ensure that resources were not wasted. In May 2020, the NJDOH determined which hospitals would receive future federal shipments of *Remdesivir*.[9] At the time, due to supply shortages, the size of the future weekly shipments was unknown. Because the number of eligible patients outpaced the supply available to hospitals, the NJDOH decided to base distribution of *Remdesivir* to hospitals on hospitalization data. Every hospital in New Jersey was allocated a drug supply based on its recent number of hospitalized patients.[10]

The NJDOH also operated a Medical Countermeasures (MCM) warehouse that managed therapeutic delivery coordination. *Remdesivir* and future therapeutics had specific storage requirements, such as temperature maximums. This warehouse managed inventory tightly to

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[8] *Interim Covid-19 vaccination plan executive summary*. New Jersey Department of Health. (2020, October 26). https://www.nj.gov/health/cd/topics/Executive%20Summary%20-%20NJ%20Vaccination%20Plan%20-%20Final%2010-26-20.pdf

[9] The shipped formulation requires cold chain management throughout the distribution process.

[10] Persichilli, J. M. (2020, May 14). Use of Remdesivir in Treatment of Patients with COVID-19. https://nj.gov/health/legal/covid19/05-14-2020_Use_ofRemdesivir_inTreatment_ofPatientsWithCOVID19.pdf

ensure that inventory was tracked, products were safely stored, and products with earlier expiration dates were shipped first.[11]

MCM shipped therapeutic orders directly to providers, whose facility operations staff directly managed expiration dates and inventory. On occasions when providers ordered less treatment than the State was allocated, New Jersey would order the unallocated treatment itself to have it on hand for immediate deployment as needed. This was, in effect, insurance for disease surges. During a surge, when providers' needs outpaced federal allocations of a therapeutic, New Jersey would distribute additional product from its MCM warehouse. This allowed providers to obtain treatments more quickly than if they had relied only on the federal government.

The NJDOH does not have the authority to directly deliver healthcare services. As a result, New Jersey did not establish any state-run treatment centers (such as state-run monoclonal antibody infusion sites), other than one test-to-treat pilot in Trenton. All administration and dispensing of therapeutic treatments were completed through third-party providers such as hospitals and pharmacies.

Paxlovid, the first oral antiviral, was granted an EUA in late December of 2021, and was the first therapeutic that could be distributed through pharmacies and taken at home. To ensure the public's access to therapeutics, the NJDOH launched provider networks, many of which were in place from the vaccination campaign. Almost 2,000 providers were activated, including Federal Pharmacy Partners and Federally Qualified Health Centers (FQHCs). When the NJDOH identified areas without sufficient access to therapeutics, it worked with Points of Dispensing (POD) site leads to reach out to providers that had historically been strong partners.

In parallel, New Jersey leveraged the county and municipal ambassadors who had been established for the vaccination campaign. Ambassadors had established relationships across diverse providers within an area. They were therefore able to quickly enroll organizations that had been engaged for vaccinations but were not handling therapeutics. Together, these interventions allowed the NJDOH to rapidly target providers at an individual level.

In March 2022, the Biden Administration launched the nationwide Test-to-Treat Initiative to provide individuals a way to quickly access oral antivirals to treat COVID-19. Test-to-treat sites allowed patients to go to a single location to be evaluated by a healthcare provider, receive a prescription for an oral antiviral, and have the prescription filled. Patients that visited test-to-treat centers were not required to have a PCP.

In May 2022, new federally supported test-to-treat locations became available, building upon the existing test-to-treat networks set up by states, to reach reaching hard-hit and high-risk

[11] This warehouse relied on an existing inventory management system (ICAM) that tracked inventory quantities and expiration dates.

communities. Patients could find locations using the HHS online COVID-19 Therapeutics Locator or calling the CDC's COVID-19 hotline.[12]

The NJDOH also attempted to set up test-to-treat sites across New Jersey; however, given the State's legal requirements around pharmaceutical dispensing, it was not possible for most sites to test, prescribe, and dispense therapeutics at the same location. As a result, the NJDOH worked with large pharmacy chains such as CVS, Walgreens, Rite Aid, and Walmart, leveraging their ability to carry oral antivirals. Where possible, the NJDOH activated providers capable of serving as their test-to-treat sites (e.g., CVS), and attempted to enroll sites where prescriptions and dispensing were in close proximity.

2.1.2. Demand Management

Educating Providers

One of the most important aspects of confirming therapeutic availability was ensuring that providers were aware of which therapeutics were available to the public, when they needed to be prescribed, and who they were intended to help. This was especially important – as well as difficult – because guidance on therapeutic treatments changed often as new drugs were developed and COVID-19 strains mutated.

The NJDOH held daily, then weekly calls with providers and hospital networks to communicate the latest drug developments and advisories for treatment. During these calls, the NJDOH provided as much information as was available. Given the novelty of the drugs, however, the Department was constantly gaining new information about treatment, usage, and effectiveness. In some cases, the evolution of information caused provider hesitancy about prescribing treatments; in other cases, the lack of information caused confusion. For example, many providers expressed confusion around contraindications for *Paxlovid*. Since information surrounding treatments was changing quickly, it was often not "provider-friendly" and required additional directions and explanations. Despite the release of an FDA-provided checklist on contraindications several months into the *Paxlovid* rollout, significant confusion persisted and was difficult to overcome.

Educating the Public

New Jersey leveraged many of the same communication channels it was using for vaccination campaigns to communicate therapeutic availability to the public. For example, information on therapeutics was placed on the State's website and the COVID-19 Hub website, and in social media and press releases. It was also promoted via advertising. These informational campaigns were

[12] New Jersey COVID-19 Information Hub. (2023, January 30). *Can I use new drugs or therapeutics to treat COVID-19? Where do I get them?* https://covid19.nj.gov/faqs/nj-information/testing-and-treatment/can-i-use-new-drugs-or-therapeutics-to-treat-covid-19-where-do-i-get-them

designed to inform the public that therapeutics existed, show the local availability of therapeutics, and explain the process of accessing them.

The COVID-19 Information Hub provided patients with information on treatments for COVID-19,[13] as well as:

- Locations for treatments.
- Toll-free numbers for questions and general vaccine and quarantine information.
- A way for users to sign up for email notifications on pandemic-related news and updates from New Jersey.

The Information Hub had links to CDC Guidance on Testing for COVID-19 and the Administration for Strategic Preparedness and Response (ASPR). It also had a link to a test-to-treat locator that displayed live locations where people could access COVID-19 oral antiviral medications. In New Jersey, eight locations were displayed.

The therapeutics information presented to the public also covered eligibility. This was important because treatment windows for therapeutics are limited to the first few days after symptom onset to be effective. The NJDOH also offered a call center that answered logistical questions on how to acquire treatment and directed callers to CVS *Minute Clinics* or FQHCs.

Educational efforts were particularly challenging due the large volume of misinformation on COVID-19 treatments. Misinformation spread through public and official channels alike, and even President Trump openly propagated misinformation by suggesting unproven therapies in speeches and on social media.[14] For example, after the President implied that the federal government should look into potentially treating COVID-19 by injecting disinfectants in April 2020, searches for off-label disinfectant use increased by over 3000% overnight.[15]

2.2. Equity and Access

As with New Jersey's approach to COVID-19 testing and vaccinations, equity and access were important considerations for the State's therapeutics rollout, given the systemic barriers to healthcare access that less-privileged communities face. However, therapeutics posed new

[13] New Jersey COVID-19 Information Hub. (2023, January 30). *Can I use new drugs or therapeutics to treat COVID-19? Where do I get them?* https://covid19.nj.gov/faqs/nj-information/testing-and-treatment/can-i-use-new-drugs-or-therapeutics-to-treat-covid-19-where-do-i-get-them

[14] Niburski, K., & Niburski, O. (2020). Impact of Trump's Promotion of Unproven COVID-19 Treatments and Subsequent Internet Trends: Observational Study. *Journal of medical Internet research*, *22*(11), e20044. https://doi.org/10.2196/20044

[15] Niburski, K., & Niburski, O. (2020). Impact of Trump's Promotion of Unproven COVID-19 Treatments and Subsequent Internet Trends: Observational Study. *Journal of medical Internet research*, *22*(11), e20044. https://doi.org/10.2196/20044

challenges with respect to establishing provider networks, public communications, and access to treatments for underinsured New Jerseyans and those without PCP relationships beyond what the State encountered while trying to make access to COVID-19 tests and vaccines more equitable.

Increasing Provider Networks

The FDA granted an EUA for the first intravenous antiviral therapeutic treatment, *Remdesivir*, and by June 2020, hospitals were required to report to the NJDOH demographics data (e.g., sex, age, and race/ethnicity) about the patients who received therapeutic treatments. The NJDOH received this data daily, using it to identify communities with insufficient therapeutics resources by tracking uptake by geography and ethnicity. The Department then combined the data with existing SVI data and data about high-risk municipalities to provide a more comprehensive understanding of the rollout and communities requiring additional support.

Once *Paxlovid*, the first oral antiviral that could be taken at home and distributed by pharmacies, was granted an EUA in late December 2021, New Jersey encountered challenges in establishing and educating a sufficiently robust network of providers. As these therapeutics treatment deserts were identified, the NJDOH employed various efforts to overcome access barriers by activating provider networks wherever possible. As discussed above, the NJDOH secured close to 2,000 provider networks when counting national pharmacy partners and FQHCs. The NJDOH collaborated first with the largest chain pharmacies (e.g., CVS, Walgreens, Rite Aid, and Walmart) and subsequently, with local retail pharmacies, to ensure that oral antivirals were being offered throughout New Jersey, including in remote and underserved communities. Chain pharmacy locations with on-site clinics, such as CVS's Minute Clinic, were all test-to-treat sites where New Jerseyans without a PCP could go for diagnosis, treatment, and therapeutics information.

In addition, once the County and Municipal Ambassadors programs were established in 2021, ambassadors were provided with lists of providers in their respective geographic regions that had offered testing and/or vaccines, but not therapeutics. Ambassadors worked in tandem with PODS team site leads, who had relationships with various provider site types within a discrete geographic area, and contacted those individual providers to discuss and troubleshoot the relevant problems impacting therapeutics access. While these efforts increased the number of therapeutics providers in the State, representatives from local health departments (LHDs) noted that they had established relationships with community providers and organizations that FQHCs, PODS teams, and Ambassadors never reached, and that the NJDOH should have coordinated more closely with them to leverage those existing connections.

Communicating with the Public About Therapeutics

As part of its efforts to provide equitable access to therapeutic treatments, New Jersey communicated key information to its citizens using many of the same communications channels that it had used for vaccines, testing, and other COVID-19-related initiatives.

The NJDOH put out social media campaigns, press releases, and advertisements with information about therapeutic treatments to reach the wide range of constituents who use such media forms in New Jersey.

As with vaccinations and testing, the Call Center was an important resource for ensuring that all New Jerseyans had the latest information about available treatments and increasingly equitable access to therapeutic drugs. Call Center agents were provided with scripts containing information about therapeutic drugs and were equipped to direct callers without insurance and/or a primary care physician to FQHCs and pharmacy clinics. The Call Center was also a key resource for many non-native English speakers in New Jersey, as it offered robust multi-lingual support services with 240+ languages available through the Language Line. In addition, 20% of call center agents were bilingual, primarily Spanish-speakers. The State's decision to provide multilingual access to this vital information was part of its commitment to reaching as wide a range of residents as possible. Few other states did as much in this regard.

The COVID-19 Hub website,[16] which launched March 21, 2020, published information about the various therapeutics available, the requirements for accessing therapeutics, and the locations where New Jerseyans could go to access treatment. Despite these efforts, multiple organizations serving underrepresented communities in New Jersey noted that they had heard very little about therapeutics from the State.

Treating Underinsured and Low-Income Patients and Patients without Primary Care Providers

Some New Jerseyans faced additional barriers in accessing therapeutic treatments due to cost, inadequate healthcare coverage, and the lack of an established relationship with a PCP.

For much of the Public Health Emergency, the federal government paid for outpatient therapeutics to offset high treatment costs, without requiring patients to have health insurance. States and territories were involved in the distribution of these treatments to healthcare providers, pharmacies, and test-to-treat sites. While the drugs themselves were free to patients during this period, it is important to note that the infusion service of monoclonal antibodies outside state clinics or infusion sites was not free, but, rather, administered through normal insurance market dynamics.[17,18] There was only one state-run test-to-treat site in New Jersey, the pilot program in Trenton.

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[16] *New Jersey COVID-19 information hub*. New Jersey COVID-19 Information Hub. (n.d.). https://covid19.nj.gov/
[17] *Coverage for COVID-19 testing, vaccinations, and treatment*. Center on Budget and Policy Priorities. (2023, May 22). https://www.cbpp.org/research/health/coverage-for-covid-19-testing-vaccinations-and-treatment
[18] The White House. (2022, April 26). *Fact Sheet: Biden Administration Increases Access to COVID-19 Treatments and Boosts Patient and Provider Awareness*. Retrieved from https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/26/fact-sheet-biden-administration-increases-access-to-covid-19-treatments-and-boosts-patient-and-provider-awareness/

The costs associated with therapeutic treatment options were also heavily dependent on individuals' insurance coverage. Those enrolled in private health insurance had no special financial protections for COVID-19 treatment under the Public Health Emergency. Existing cost-sharing charges under a plan (e.g., copayments, coinsurance, deductibles) applied, and therefore treatment costs varied by plan and payer. Until 2023, Medicare covered monoclonal antibody treatments for all enrollees. However, starting in 2024, Medicare began to cover only those enrollees who exhibited COVID-19 symptoms. It covered oral antiviral treatments for individuals who tested positive for COVID-19 and had an elevated risk of progressing to a severe case by December 31, 2024. During the Public Health Emergency, and continuing through September 2024, Medicaid was required to cover COVID-19 treatment for most enrollees and could not charge cost-sharing for these services. For those without insurance, New Jersey's FQHCs across the State delivered healthcare and prescribed COVID-19 treatments to all individuals, regardless of their insurance status or ability to pay.[12]

Moreover, the number of FQHCs that treated patients, regardless of insurance status, was limited in New Jersey. Therapeutic treatments required a prescription, which, in turn, required that New Jersey residents go to a hospital, their PCP, or an urgent care center. There were no FDA-approved COVID-19 treatments for at-home use until late December 2021.

Given the positive feedback about the pilot test-to-treat site in Trenton, the State should consider implementing similar initiatives across New Jersey to help its underinsured constituents and those without established PCP relationships to access the treatments needed.

3. Comparison to Other States[19]

During the roll-out of therapeutics to various populations, states' use of therapeutics differed based on a variety of factors, such as provider- and patient-awareness campaigns, accessibility of distribution sites, vaccination rates, and media coverage. Among comparison states, Illinois had low utilization of both oral antivirals and monoclonal antibodies. Florida and New York had high utilization of oral antivirals but low utilization of monoclonal antibodies. New Jersey, California, Ohio, Pennsylvania, and Virginia had mixed use of therapeutics across the board.

Benchmark states employed a number of distribution channels for therapeutics. The federal government stood up the Test-to-Treat Program to make oral antiviral treatment more quickly and widely accessible across the country, although much less so in New Jersey. States took different and often innovative approaches to leveraging test-to-treat as a distribution channel: New York

[19] Benchmark states for **Chapter 5** (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in **Appendix.**

and California stood up physical test-to-treat sites at non-pharmacy locations, while Illinois and Virginia implemented virtual test-to-treat offerings. New Jersey, Florida, Ohio, and Pennsylvania mostly limited their test-to-treat sites to pharmacies.

The following section compares the utilization of therapeutics (specifically oral antivirals and monoclonal antibodies) for the set of benchmarking states and describes states' innovative approaches to distributing therapeutics through the Test-to-Treat Program.

State Utilization of Oral Antivirals and Monoclonal Antibodies

Utilization of therapeutics varied across benchmark states. Exhibit 1 shows a comparison of the various state therapeutic utilization using data from HHS. Although monoclonal antibodies were available before oral antivirals (as early as November 2020), the HHS dataset for that period only tracked courses allocated and not those that were administered; therefore, utilization cannot be calculated. HHS began to receive data on courses administered in September 2021.

The earliest cumulative dataset that includes administered courses is from December 2021 to September 2022, and covers two types of oral antivirals (*Paxlovid* and *Lagevrio*) and two types of monoclonal antibodies (*Bebtelovimab* and *Evusheld*).

From available data between December 17, 2021 and September 4, 2022, Illinois was the only state that consistently had low utilization of both monoclonal antibodies and oral antivirals, while other states varied in their utilization patterns. For example, while Florida and New York were the lowest utilizers of monoclonal antibodies, they were among the highest for oral antivirals.

Exhibit 1: Benchmark States' Utilization of Oral Antivirals and Monoclonal Antibodies

			NJ	CA	FL	IL	NY	OH	PA	VA
Oral antivirals (Dec 17, 2021 – Sept 4, 2022)	Paxlovid	% utilization	63%	66%	63%	57%	70%	45%	56%	59%
		Total allocation (100k)[2]	2.47	9.55	5.22	2.46	4.82	2.46	3.04	1.87
	Lagevrio	% utilization	16%	16%	20%	12%	25%	17%	15%	29%
		Total allocation (100k)[2]	0.68	2.68	1.52	0.87	1.23	0.68	0.98	0.60
Monoclonal antibodies (Dec 17, 2021 – Sept 4, 2022)	Bebtelovimab	% utilization	85%	76%	60%	55%	61%	71%	N/A	94%
		Total allocation (100k)[2]	0.23	0.81	0.63	0.34	0.61	0.20	N/A	0.14
	Evusheld	% utilization	44%	74%	44%	50%	41%	56%	72%	86%
		Total allocation (100k)[2]	0.20	1.10	0.87	0.32	0.48	0.24	0.56	0.20

Note: No cumulative data ending in 2021 is publicly available; earliest cumulative data available ends on Sept 4, 2022. 2. Units = patient courses
Note: PA was left out of Bebtelovimab analysis, since PA data reported more administered than delivered units.
Source: ASPR HHS

Distribution channels may have played a key role that contributed to the differences in uptake between monoclonal antibodies and oral antivirals. For example, Florida took a centralized approach to distributing monoclonals to a limited number of sites, likely because monoclonal antibodies had to be distributed in a monitored healthcare setting. However, the centralized sites were not easily accessible to all counties. On the other hand, Florida distributed oral antivirals state-wide through local pharmacies, which had a broader geographic footprint.

With regard to oral antivirals (*Paxlovid* and *Lagevrio*), Florida and New York consistently had high utilization rates. Pennsylvania and Illinois were among the lowest utilizers for both types of oral antivirals. California, Virginia, and Ohio varied greatly across the two spectrums, while New Jersey typically fell around the median.

It is worth noting that across all states, *Paxlovid* was utilized at a higher rate than *Lagevrio*. This higher usage may be because *Lagevrio* came to market later than *Paxlovid,* and was much less effective – *Lagevrio* reduced 30% of COVID-19 hospitalizations and deaths in clinical trials, while *Paxlovid* reduced them by 86%.

With regard to monoclonal antibodies (*Bebtelovimab* and *Evusheld*), Viriginia and California had consistently high utilization rates. Florida, Illinois, and New York were among the lowest utilizers for both types, and New Jersey varied greatly – it had the second highest utilization rate of *Bebtelovimab* but the second lowest utilization rate of *Evusheld*. Each comparison state utilized a greater percentage of *Bebtelovimab* than *Evusheld*. *Evusheld* acted as a pre-exposure prophylaxis

and was intended for immunocompromised individuals who could not get the vaccine. Thus, the eligible population was much smaller and harder to identify and reach.

In summary, each state's utilization rate of therapeutics was subject to a variety of factors, including provider and patient education efforts, accessibility of distribution sites, vaccination rates, and effectiveness of communications.

Test-to-Treat Initiatives

The federal Test-to-Treat Program was launched relatively late into the pandemic and had limited effectiveness as a means of distribution. While New Jersey's test-to-treat sites were limited to pharmacies, other benchmark states had greater flexibility in setting up sites elsewhere. For example, New York State used mobile testing sites around New York City, providing free, immediate *Paxlovid* prescriptions to people who tested positive for COVID-19. The initiative was created to improve access to antivirals for residents without health insurance or a PCP. Meanwhile, California's Department of Health worked with OptumServe, a third-party health provider network, to launch 146 test-to-treat sites statewide with the goal of improving access for individuals without healthcare.

Some states expanded their implementation of test-to-treat in innovative ways, such as creating virtual test-to-treat programs that allowed them to achieve the same intent of the original program and find easy ways for the public to gain access to treatment. For example, the Illinois Department of Public Health partnered with SIU Medicine to provide a telehealth program that virtually prescribed oral treatments to high-risk patients. Virginia's Department of Health website promoted eMed, a nationwide program that offered at-home tests, telehealth sessions, and at-home treatments.

In summary, states employed mixed approaches on test-to-treat for a variety of reasons, including state-specific regulations, willingness to fund test-to-treat efforts, and severity of outbreaks.

4. Key Strengths and Challenges

Like other U.S. states, New Jersey faced hurdles in the operational rollout of therapeutics, given the complexity of the healthcare system, legislative and regulatory restrictions, and COVID-19's rapidly evolving nature. Ultimately, the NJDOH was able to educate and promote therapeutics among providers and patients alike. The process exposed key strengths and challenges:

Strength New Jersey strategically acquired therapeutics in preparation for future short-term demand, which allowed the NJDOH to meet demand during disease surges. The NJDOH also ordered and stored smaller quantities of unallocated treatments in anticipation of future disease surges. This ensured that providers had quick access to additional therapeutics in case demand ever exceeded federal government allocations.

Strength New Jersey used several communication channels to educate providers on the efficacy of therapeutics. The State targeted providers at an individual level by activating provider networks and utilizing local ambassadors from vaccination campaigns. As provider education about treatments increased, therapeutics became more accessible to the public through the providers.

Strength New Jersey leveraged multiple channels to increase public awareness on oral antivirals. The State used tactics developed for vaccination campaigns to educate constituents and provided web resources with treatment information and access points. Ultimately, New Jersey was effective in driving patient demand for oral antivirals - as of October 29, 2023, 67% of allocated *Paxlovid* was administered to patients, the seventh-highest rate of all states.

Challenge Test-to-treat sites were difficult to implement because State laws on pharmaceutical licensing prevented therapeutics from being dispensed outside of pharmacies. As a result, many testing sites could not become treatment sites. This added barriers to access for those without insurance or without primary care providers.

Challenge Although the NJDOH's work with various pharmacies enabled therapeutics to be accessible across the State, it was often difficult to work across disparate IT systems and individual contracts. Data reporting to New Jersey was thus often slow, inconsistent, or incomplete.

Despite the universal issues that all states faced with therapeutics distribution, New Jersey was able to launch an effective operational rollout and focused on educating providers and the public to the best of its ability. Recommendations on how the State should institutionalize these communications abilities are included in Chapter 7 Recommendations, which also includes recommendations on how the State can improve its capabilities to integrate data from various sources to better shape emergency response (see Recommendation 19).

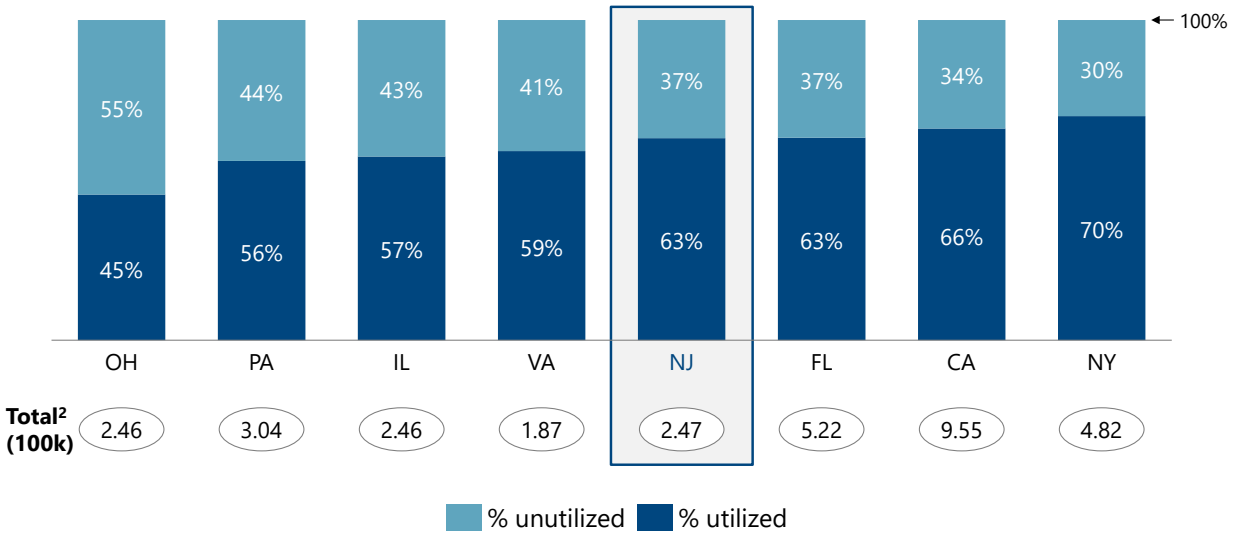
5. Appendix

A-1 State Comparisons: Utilization Rates of Therapeutics

Exhibit A-1 shows the percentage of *Paxlovid* administered by the Comparison States. All except Ohio administered more than half of the courses delivered.

A-1 Comparison States' Percentage of *Paxlovid* Administered

% of cumulative administered patient courses of Paxlovid from December 17, 2021, to September 4, 2022

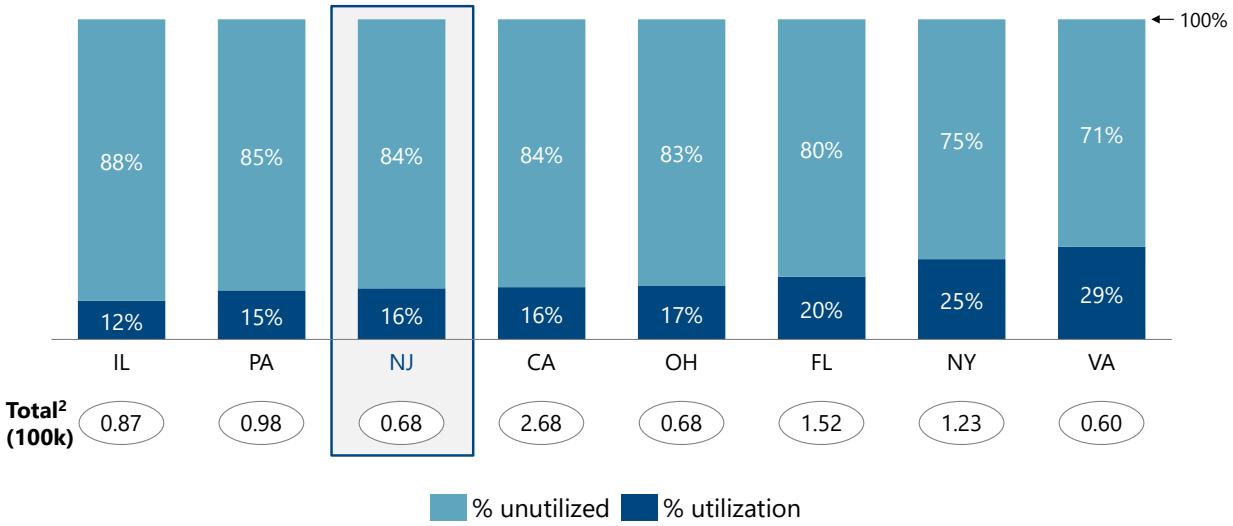


Note: No cumulative data ending in 2021 is publicly available; earliest cumulative data available ends on Sept 4, 2022. 2. Units = patient courses
Source: ASPR HHS

Exhibit A-2 shows the percentage of *Lagevrio* administered by the Comparison States. The utilization was lower than that for *Paxlovid*.

A-2 Utilization Percentage of *Lagevrio* by Comparison States

% of administered patient courses of Lagevrio from December 17, 2021, to September 4, 2022

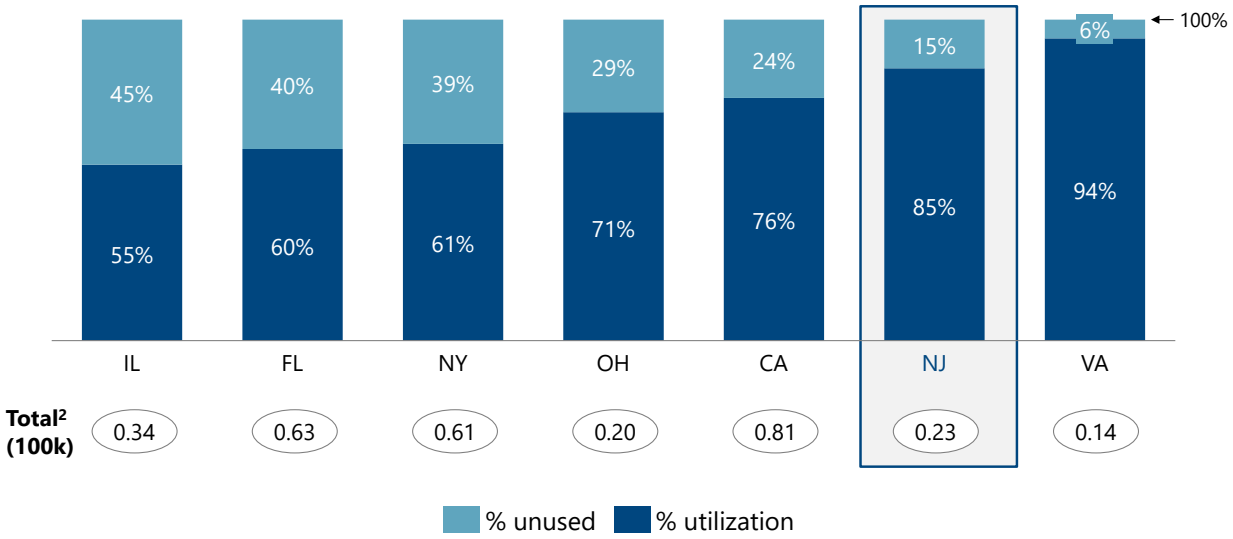


Note: No cumulative data ending in 2021 is publicly available; earliest cumulative data available ends on Sept 4, 2022. 2. Units = patient courses
Source: ASPR HHS

Exhibit A-3 shows the utilization percentage of *Bebtelovimab* administered by the Comparison States. The utilization percentage was higher than that of *Evusheld* for all states.

A-3 Utilization Percentage of *Bebtelovimab* by Comparison States

Percentage of administered patient courses of Bebtelovimab from December 17, 2021 to September 4, 2022

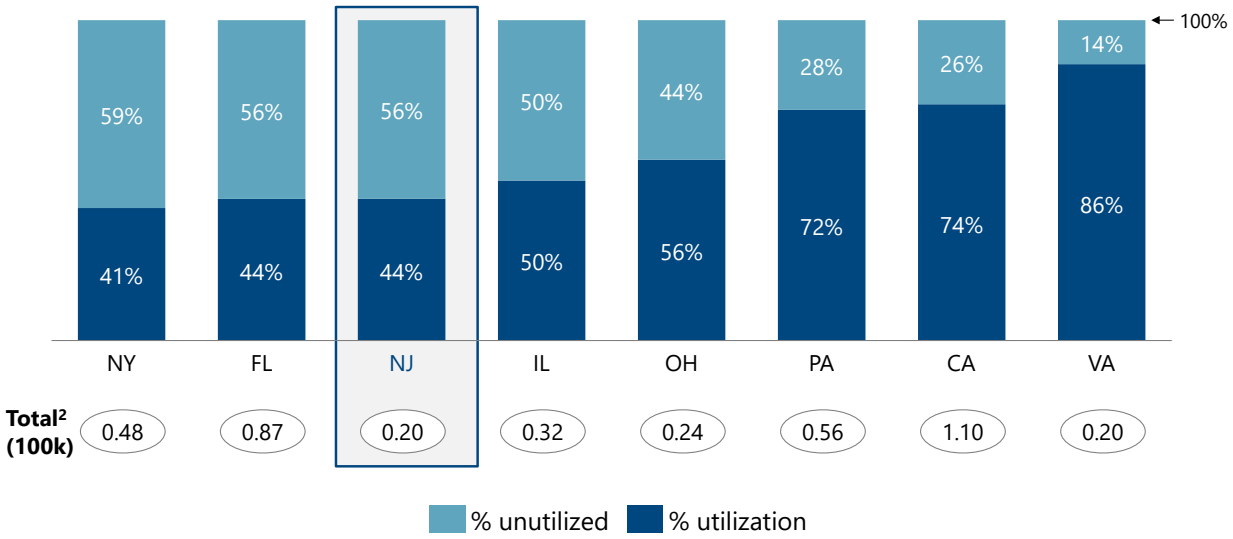


Note: No cumulative data ending in 2021 is publicly available; earliest cumulative data available ends on Sept 4, 2022. 2. Units = patient courses; PA was left out of analysis, since PA data reported more administered than delivered units.
Source: ASPR HHS

Exhibit A-4 shows the utilization percentage of *Evusheld* administered by the comparison states. The utilization percentage of New Jersey was the second lowest for all comparison states.

A-4 Utilization Percentage of *Evusheld* by Comparison States

% of administered patient courses of Evusheld from December 17, 2021, to September 4, 2021



Note: No cumulative data ending in 2021 is publicly available; earliest cumulative data available ends on Sept 4, 2022. 2. Units = patient courses
Source: ASPR HHS

A-2 Chronology of Events in New Jersey

The following timeline, segmented by treatment type, showcases how the therapeutic rollout progressed in New Jersey starting in the Spring of 2020 and continuing through the pandemic:

Inpatient Therapeutics

Intravenous Antivirals

- May 1, 2020: FDA granted an EUA for the use of antiviral drug *Remdesivir* for the treatment of COVID-19 in people who were hospitalized with severe disease.
  - HHS ASPR allocated Remdesivir based on states' COVID-19 hospitalizations as a percentage of US total hospitalizations.
- May 4 - June 29, 2020: New Jersey received 50,520 vials of *Remdesivir* as its allocation from the federal government managed by HHS ASPR and distributed until the stockpile was depleted. Hospitals were able to independently order *Remdesivir* from distributors.
  - Remdesivir allocation within New Jersey was guided by the COVID-19 Therapies Distribution Policy devised by the Professional Advisory Committee in April 2020 which codified the criteria and principles for allocation of scarce resources.
- May 14, 2020: The NJDOH issued guidance on use of *Remdesivir* in treatment of patients with COVID-19.
- June 26, 2020: The NJDOH issued updates requirements regarding *Remdesivir* distribution and hospital inventory reporting.
- August 28, 2020: FDA expanded EUA for *Remdesivir* for the treatment of COVID-19 to include all hospitalized adults and pediatric patients with suspected or confirmed COVID-19, regardless of their severity of disease.
- October 22, 2020: FDA granted full approval for antiviral drug *Remdesivr* for use in adult and pediatric patients ages 12+ and weighing at least 88 pounds for the treatment of COVID-19 requiring hospitalization.
- April 25, 2022: FDA expanded authorization of *Remdesivir* to include pediatric patients 28 days of age and older weighing at least 7 pounds who had tested positive for COVID-19 and were hospitalized or had mild-to-moderate COVID-19 and were at elevated risk for progression to severe illness.

Immune Modulators

- November 19, 2020: FDA granted an EUA for *Baricitinib* for treatment of COVID-19 when used in combination with *Remdesivir* to be used in hospitalized adults and pediatric patients ages 2+ requiring supplemental oxygen, invasive mechanical ventilation, or extracorporeal membrane oxygenation.

- June 24, 2021: FDA granted an EUA for *Tocilizumab* for the treatment of hospitalized adults and pediatric patients ages 2+ who were receiving systemic corticosteroids and required supplemental oxygen, invasive mechanical ventilation, or extracorporeal membrane oxygenation.
- July 29, 2021: FDA expanded the EUA for *Baricitinib* to be used alone for the treatment of COVID-19 in hospitalized adults and pediatric patients ages 2+ requiring supplemental oxygen, invasive mechanical ventilation, or extracorporeal membrane oxygenation.
- May 10, 2022: FDA granted full approval for *Baricitinib* for the treatment of COVID-19 in hospitalized adults requiring supplemental oxygen, invasive mechanical ventilation, or extracorporeal membrane oxygenation (ECMO).
- December 21, 2022: FDA granted full approval for *Tocilizumab* for treatment of COVID-19 in hospitalized adults using supplemental oxygen, invasive mechanical ventilation, or ECMO.

Outpatient Therapeutics

Monoclonal Antibodies

- November 2020 - March 2021: The federal government made weekly allocations of monoclonal antibodies to states.
  - During initial period of limited supply, the State assigned allocations to hospitals and based on the number of hospitalizations in the locality, as an indicator of demand at the facility.
  - The NJDOH surveyed hospitals weekly on utilization and inventory of monoclonal antibodies but did not collect individual patient data.
- November 9, 2020: FDA granted an EUA for *Bamlanivimab* for patients at increased risk from a COVID-19 infection progressing to a more severe form of the disease.
- November 21, 2020: FDA granted an EUA for *Casirivimab* and *Imdevimab* to be administered together for the treatment of mild to moderate COVID-19 in adults and pediatric patients ages 12+ weighing at least 88 pounds with positive results of COVID-19 testing and who were at elevated risk for progressing to severe illness.
- February 9, 2021: FDA granted an EUA for *Bamlanivimab* and *Etesevimab* to be administered together for the treatment of mild to moderate COVID-19 in adults and pediatric patients ages 12+ weighing at least 88 pounds with positive results of COVID-19 testing and who were at elevated risk for progressing to severe illness.
- April 16, 2021: FDA revokes the EUA for *Bamlanivimab*, when administered alone, for the treatment of COVID-19 because of its reduced effectiveness in treating variants.
- May 26, 2021: FDA granted an EUA for *Sotrovimab* for treatment of mild to moderate COVID-19. Patients must have had a positive COVID-19 test and been at elevated risk for progressing to severe illness or hospitalization.
- September 13, 2021: New Jersey resumed managing allocations of monoclonal antibodies, following HHS guidance in response to a surge in COVID-19 incidence.

  - Facilities that qualified submitted their orders to New Jersey; the State submitted the requests to HHS ASPR twice weekly. The allocated therapies were delivered directly to the facilities without state stockpiling.
  - The EUA for monoclonal antibodies for the treatment of COVID-19 was expanded and New Jersey revised its policy to reflect changes to the EUAs.
  - Under the expanded EUAs, monoclonal antibodies could be administered in ambulatory settings, mobile sites, nursing homes, and patient homes by a licensed clinician.

- December 8, 2021: FDA granted an EUA for *Evusheld* for pre-exposure prophylaxis (prevention) of COVID-19. Only authorized for individuals not infected with COVID-19 and who had not been recently exposed to an infected individual. Individuals must have had moderate to severely compromised immune systems or a history of severe adverse reactions to a COVID-19 vaccine.
- January 24, 2022: FDA revoked the EUA for *Bamlanivimab* and *Etesevimab*, administered together, and Casirivimab and Imdevimab, administered together, for the treatment of COVID-19 due to the emergence of the Delta & Omicron variant.
- April 5, 2022: FDA revoked the EUA for *Sotrovimab* for treatment of COVID-19 due to prevalence of the Omicron BA.2 sub-variant.
- January 26, 2023: FDA revoked the EUA for Evusheld for pre-exposure prophylaxis (prevention) of COVID-19 as the therapeutic was unlikely to be active against more than 90% of the circulating COVID-19 variants.

Convalescent Plasma

- August 23, 2020: FDA granted an EUA for the use of convalescent plasma (the liquid component of blood that, when taken from someone who has recently recovered from an infection, can contain antibodies to that illness) to treat people hospitalized with severe COVID-19.
- February 4, 2021: FDA revised the EUA, limiting the use of high-titer COVID-19 convalescent plasma to the treatment of hospitalized patients with COVID-19 early in the disease course and to those hospitalized patients who had impaired immunity and could not produce an adequate antibody response.

Oral Antivirals

- December 22, 2021: FDA granted an EUA for Pfizer's anti-viral pill *Paxlovid* to treat COVID-19 for individuals who were at elevated risk for progression to severe disease.
  - It was the first treatment for COVID-19 that was taken orally and could be used at home.

- December 23, 2021: FDA granted an EUA for Merck's antiviral pill *Molnupiravir* to treat COVID-19 for individuals ages 18+ who had tested positive and were at elevated risk for progression to severe disease.
    - It was the second treatment for COVID-19 that was taken orally and could be used at home.
- March 1, 2022: Biden Administration launched the nationwide Test-to-Treat Initiative to provide individuals a way to quickly access oral antivirals for the treatment of COVID-19.
- May 26, 2022: New federally supported test-to-treat locations became available to build on existing test-to-treat networks, focusing on distributing oral antivirals to hard-hit and high-risk communities.
- May 25, 2023: FDA granted full approval for oral antiviral *Paxlovid* for the treatment of mild-to-moderate COVID-19 in adults who were at elevated risk for progression to severe COVID-19.

5.12 Economic Impact Mitigation

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5.12 Economic Impact Mitigation

1. Context and Summary

The COVID-19 pandemic abruptly ended the longest economic expansion in recent history, putting the United States into a rapid economic downturn that skyrocketed unemployment and economic insecurity on a calamitous scale. While many indicators of economic health have recovered, others are still not at pre-pandemic levels. The effects were felt differently across industries and within states and led to a fundamental restructuring of state economies. This resulted in widespread suffering for New Jersey workers who lost jobs, income, and a vital sense of economic security.

Seemingly overnight, many New Jersey communities experienced unprecedented financial hardship due to business closures and widespread layoffs. Unemployment soared, with data showing that New Jersey lost more than 750,000 jobs in April 2020 alone.[1] As residents found themselves suddenly jobless, many struggled to pay their utility bills, faced threats of eviction, and experienced food insecurity.

As the impacts of COVID-19 intensified, the New Jersey government had to balance its attempts to stop the spread of the disease with efforts to protect the economy from further harm. Given the comparably high levels of COVID-19 in New Jersey, the State implemented longer shutdowns than many other states in the country. All non-essential businesses in New Jersey were ordered closed for 86 days and industry-specific shutdowns remained in some form until 2021.[2] The unprecedented length and magnitude of these shutdowns, coupled with the severity of COVID-19's spread in New Jersey, had important economic consequences. However, these effects were not spread equally across the State.

From the beginning of the Public Health Emergency, lockdowns had different impacts on different regions, businesses, and workers. For example, while many in the professional services sector were able to work remotely, restaurant workers and meatpackers could not. More than half of New Jersey's employment losses were concentrated in just four industries,[3] which had lower median wages than the New Jersey average. By the end of June 2020, as unemployment claims peaked, the average claimant was more likely to have had an annual income below $40K than claimants at the end of 2019.[4]

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[1] New Jersey Department of Labor and Workforce Development. (2020, May 21). *Pandemic leads to historic job losses in April.* https://www.nj.gov/labor/lwdhome/press/2020/20200521_aprilunemployment.shtml

[2] Additional information on New Jersey business activity restrictions can be found in **Section 5.06 Closures and Guidance to Prevent the Spread of COVID-19**.

[3] Industries were 1) Retail 2) Accommodation and Food Services 3) Healthcare and 4) Admin., Support, and Waste Management. Refer to Economic Outcomes section of **Chapter 4**.

[4] Refer to Economic Outcomes section of **Chapter 4**.

In the face of these impacts, New Jersey executed and coordinated a response to mitigate economic impact and provide financial assistance across the State. Many New Jersey agencies played a role in this response, from expanding existing programs to setting up new ones to assist struggling residents. A string of federal government programs and funds issued in summer 2020 also assisted the State by providing additional support. Together, these recovery efforts aimed to provide comprehensive assistance across the State for social services, local government, industry recovery, and housing. New Jersey's largest economic mitigation efforts fell under three categories:

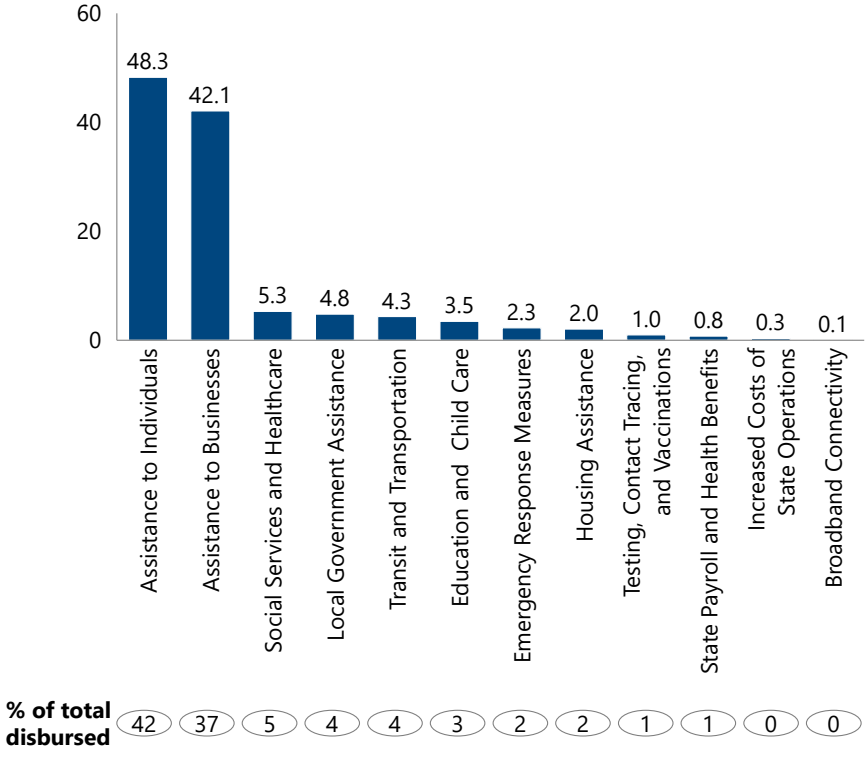
- Direct monetary support for individuals (e.g., Unemployment Insurance [UI])
- Support for New Jersey Industries and Small Businesses
- Housing and Utility Moratoriums and Assistance[5]

Exhibit 1 shows a comparison of COVID-19 relief funds disbursed to different categories of programs across the State.

[5] Housing assistance is included as one of the three focus areas of this report given a large portion of non-monetary support imbued into the effort (e.g., eviction moratorium).

Exhibit 1: Funding for COVID-19 Relief Programs by Category

Disbursed funds to COVID-19 relief programs by category ($B)



Examples of programs by category

Assistance to individuals: unemployment aid (PUA) & economic impact payments

Assistance to businesses: injury disaster loans, paycheck protection program

Social services & healthcare: medical coverage for the aged & disabled, childcare & development block grant

Local government: local fiscal recovery fund, local gov't emergency fund

Transportation: public infrastructure grants

Education: stabilization & higher ed funds

Emergency response: FEMA call center, COVID-19 emergency program

Housing: eviction & homelessness prevention, emergency rental assistance

Other: ELC enhanced detection, public safety salaries, P25 communication

1. Last updated on September 30th, 2023; data reflects amount of money disbursed, not allocated, across categories.
Source: Official Site of the State of New Jersey, Governor's Disaster Recovery Office, Financial Analysis report

A comprehensive table for other economic mitigation programs (including Medicaid expansion, childcare payment assistance programs, Supplemental Nutrition Assistance Program (SNAP) expansion, job matching programs, restart, and recovery commissions) can be found in the Appendix to this section.

2. New Jersey's Response

2.1. Key Agencies Involved

The Governor's Office – The Governor's Office worked extensively with the New Jersey legislature to pass various pieces of legislation that were directed at mitigating economic harm to New Jersey residents. The new laws included an eviction moratorium that was put into place from March 2020 through the end of 2021. The Governor's Office also created the Restart and Recovery Advisory Commission and Council, which brought together leaders from diverse industry groups and community organizations throughout New Jersey to advise state leadership on economic matters

impacted by COVID-19. The Council was geared to restart the economy, and once it recovered, to consider economic and health policy. An offshoot of the Restart and Recovery Commission, the CEO Council, which is now integrated into Choose New Jersey, is an informal coalition of CEOs from some of the State's largest companies, which, among other things, pledged to hire or train more than 30,000 residents by 2030 and increase their companies' spending in New Jersey. The Governor's Office also supported small businesses by directing hundreds of millions in federal relief dollars into small business grants and creating the Main Street Recovery Fund. Governor Murphy further supported the emergency rental assistance programs and dedicated substantial funds to rent and utility support, childcare, and food security programs.[6]

The New Jersey Economic Development Authority (the NJEDA) – The NJEDA addressed the financial impacts of the pandemic and led the State's economic recovery. During the pandemic, the NJEDA provided more than $1B in economic assistance to New Jersey's small businesses and extraordinary concessions for awards under several incentive programs.[7] For example, businesses utilizing the Business Employment Incentive Program, the Business Retention and Relocation Assistance Grant Program, the Urban Transit Program, and the Grow New Jersey Program were granted flexibility with the requirement for workers having to be at the recipient's business location to qualify as an incented position. In the beginning of the pandemic, the NJEDA also launched its first COVID-19 relief program, the Small Business Emergency Assistance Grant Program.

The New Jersey Department of State (NJDOS) – The NJDOS played a critical role in mitigating the economic effects of the pandemic. The NJDOS's Business Action Center (BAC) is a business advocacy team that connects businesses and government officials, and supports people's efforts to start, grow and finance their businesses. Among other things, the BAC educated businesses about the Governor's declarations, promoted the NJEDA's small business grants, and assisted businesses in transitioning to ecommerce. The NJDOS launched grants for hundreds of nonprofit arts organizations and secured and distributed federal and state funds while redirecting existing dollars to focus on recovery and sustainability.

The New Jersey Department of Labor and Workforce Development (NJDOL) – The responsibility to administer several federal and state unemployment benefit programs fell to the NJDOL. This required the NJDOL to process and pay out an unprecedented surge of unemployment claims while implementing quickly changing eligibility requirements. As of January 2023, the NJDOL, which is still working through a backlog, provided $39.2B in relief on 2.9 million claims.[8] The Workforce Development division is responsible for providing job seekers with training and education, and during the pandemic, responded to more than 800,000 requests for services via

[6] Office of the Governor of New Jersey. (n.d.). News archive. Retrieved from https://www.nj.gov/governor/news/news/562021/approved/news_archive.shtml

[7] New Jersey Economic Development Authority. (2021). *Annual report 2021*. https://www.njeda.gov/wp-content/uploads/2023/04/2021-Annual-report-.pdf

[8] U.S. Department of Labor, Office of Unemployment Insurance. (2023). Data dashboard. https://oui.doleta.gov/unemploy/DataDashboard.asp

direct calls, emails, and online platforms. The Workforce Development division also implemented Governor Murphy's "Return and Earn" program, which provided wage reimbursement support to qualified employers to hire eligible applicants with identifiable skills gaps.

Department of Community Affairs (DCA) – DCA was responsible for delivering more than $800M in Federal Emergency Rental Assistance to New Jersey residents who faced significant income losses. DCA also was charged with designing and implementing new COVID-19-related rental assistance and utility arrears payment programs and providing information and assistance to landlords and tenants related to the eviction moratorium.[9]

Board of Public Utilities (BPU) – BPU created and promoted utilities assistance programs to assist under-served communities and individuals. It also coordinated with energy companies to facilitate New Jersey's utilities shutoff moratorium during COVID-19.[10]

Various other agencies were also involved in providing some form of economic relief for New Jersey residents. For example, the Department of Human Service's Division of Family Development (DFD) supervised programs to provide temporary assistance for childcare and expand the State's SNAP benefits.

2.2. Key Decisions

2.2.1. Monetary Support for individuals – Unemployment Insurance

COVID-19's widespread economic and employment impacts began as soon as the federal and New Jersey State Governments announced a state of emergency. Because of the high level of uncertainty regarding impact and duration of the pandemic, many businesses laid-off or terminated their employees' positions. As discussed in **Chapter 4**, New Jersey's unemployment rate was at a historic low of 4% in January 2020 and peaked at 15% in spring 2020, only a few months later. This translated to an overwhelming increase in Unemployment Insurance (UI) claims that peaked in May 2020 and did not return to pre-pandemic levels until nearly two years later. **Section 4.4 Data and Outcomes: Economic Outcomes** contains additional information on the full scale of economic impacts on New Jersey residents, including breakdowns on unemployment insurance applications by demographics.

In March and April 2020, the NJDOL processed more unemployment claims than it did in all of 2019 or during the Great Recession of 2008-2009. During the Great Recession, the NJDOL processed nearly 700k applications in a year. In contrast, at one point during the COVID-19 pandemic, the Department processed around two million claims in a single week. This surge in UI

[9] New Jersey Department of Community Affairs. (2023, April 18). *DCA to receive over $31M in additional federal emergency rental assistance due to successful distribution of rental aid*. https://www.nj.gov/dca/news/news/2023/approved/20230418.shtml

[10] New Jersey Board of Public Utilities. (n.d.). *COVID-19 reports*. https://www.nj.gov/bpu/newsroom/reports/covid19.html

claims was unique – not just because of the scale of claims, but also because of the speed of the increase. Unemployment claims increased nearly tenfold in a matter of weeks.[11]

Staffing

Before COVID-19, the NJDOL was staffed according to record low unemployment numbers. As a result, when the Public Health Emergency was announced and layoffs began across the State, the NJDOL did not have enough agents or call center staff to process the number of unemployment claims and questions that flooded the Department. The biggest issue affecting UI systems at the onset of COVID-19 was that there simply were not enough agents to handle the claims, since each claim needs to be individually submitted by a UI agent at the NJDOL. This required New Jersey to mobilize and reallocate its resources in an attempt to meet every applicant's needs. For example, the NJDOL brought in staff from the New Jersey Treasury Department to assist in processing claims, moved around staff within the NJDOL, brought back retirees, and at times hired temporary workers.

Because of the complexity of UI claims processing, the NJDOL oriented trainings into discrete responsibilities with more manageable tasks, allowing the newly assigned workers to increase capacity.[12] The NJDOL also formed "Impact Teams" to address specific problems as they arose (e.g., a password reset team), with dedicated project leaders and supporting employees; however, in spite of these moves, the Department remained short staffed throughout the pandemic.

The scale of unemployment claims is only one indicator of the high levels of economic uncertainty and stress New Jersey workers faced. Despite the lockdowns, some claimants would also appear in person, often sent over as referrals by state legislators, while others called the NJDOL directly and requested immediate assistance.

Technology Infrastructure

In addition to the stress placed on the NJDOL staff, the surge in UI applications placed considerable stress on the Department's technology infrastructure.

The NJDOL did not have the technology in place at the beginning of the pandemic to support widespread employee remote work or to handle the volume of UI claimants. The NJDOL's IT infrastructure was outdated and had not been regularly, substantively updated prior to the pandemic. As a result, parts of the system dated back to the 1970's. In addition, the Department

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[11] Weidinger, M. (2020, April 9). *Unprecedented: A brief review of the extraordinary unemployment benefit response to the coronavirus crisis*. American Enterprise Institute. https://www.aei.org/research-products/report/unprecedented-a-brief-review-of-the-extraordinary-unemployment-benefit-response-to-the-coronavirus-crisis/

[12] New Jersey Department of Labor and Workforce Development. (2020, May 11). Labor Department Launches Online Chat Feature To Answer Customers' Unemployment Questions. https://www.nj.gov/labor/lwdhome/press/2020/20200511_chatbot.shtml

lacked enough adequately trained IT staff able to make changes to the system. Because the system was out of date, no employees knew how to code in the language it was originally coded in and existing staff were not able to code in newer languages (e.g., Python) required to implement patchwork updates.

To address this technology issue, the NJDOL dedicated funding and sourced additional team members. The Department implemented a series of patchwork fixes that allowed the systems to handle the dramatic increase in UI applications. These updates were enabled by the NJDOL recruiting a new staff member from another part of the State government, who was able to implement these patches in a more modern coding language on top of existing code. In addition, some of the patchwork fixes allowed the NJDOL to implement new requirements and capabilities that were needed because of the pandemic (e.g., adjusting for new/changing U.S. Department of Labor (USDOL) requirements, building capability to handle instances of fraud).[13] Due to these changes, New Jersey had fewer UI processing delays than did many other states.[14]

During the pandemic, the NJDOL also began a comprehensive update that it estimates will take a few years to complete. Once completed, the system will be able to handle larger volumes of applications with fewer problems and new updates will be implemented on a regular basis to avoid downtimes for system maintenance.

Communications with the Public

The pandemic created a wave of unemployment that affected hundreds of thousands of individuals in a short timeframe. Many of the people submitting claims were navigating the unemployment claims system for the first time and required additional guidance. In addition, information on available programs, eligibility, and award amounts rapidly evolved as new legislation was passed. Together, these factors created confusion that necessitated regular communication from the State to the public.

The Governor's Office was the main avenue for the NJDOL's communications with the public. The NJDOL worked closely with the Governor to communicate up-to-date information during daily press briefings, and the Governor informed the public whenever the Department faced difficulties that could impact processing.

Many constituents also reached out to their representatives in the state legislature for assistance with UI questions and claims. While legislators would direct constituents to the NJDOL, the NJDOL also held regular meetings with representatives to make sure they were prepared to answer questions when possible. The NJDOL also coordinated heavily with other State agencies to address common questions and communicate necessary information. The NJDOL also coordinated with

[13] New Jersey Department of Labor and Workforce Development. (2020, April 14). *Labor Department implements customer-service, tech improvements to address historic increase in unemployment claims*. https://www.nj.gov/labor/lwdhome/press/2020/20200414_njdolimprovements.shtml

[14] See State Comparison Section on UI backlogs.

neighboring states to standardize policies and communications to avoid "reinventing the wheel" and to minimize confusion.

Early in the pandemic, the NJDOL attempted to answer individual questions directly through email and social media. This approach only lasted a short time, however, because the NJDOL received tens of thousands of questions from individuals, which made it difficult for the NJDOL to respond to each request in a timely manner. Some New Jersey residents, seeking a response, reached out several times or concurrently on different platforms, complicating the process. In addition, on multiple occasions, the NJDOL's internal staff emails were exposed to the public, leading to harassment and concerns about staff safety.

To address these issues, the NJDOL directed people to their website, which contained answers to commonly asked questions. Moreover, Governor Murphy's briefings and State social media accounts also directed the public to the NJDOL website. The NJDOL regularly updated messaging and graphics on the website and within the UI application system itself, and it set up automated replies for constituents who emailed the Department. Website messaging was constantly updated based on frequently asked questions to legislators, through the call center, and on social media.

NJDOL Call Center

The NJDOL had to expand the capacity of its call center significantly to meet incoming demand and to assist New Jersey residents who were less comfortable with technology, wanted to follow up on existing claims, or simply needed to speak to a person directly. To meet capacity needs, the NJDOL contracted with an external vendor, enabling the Department to more easily change staffing levels as necessary. Turnover in the call center was high for a variety of reasons: UI regulations were confusing for many call center employees, callers were often angry or upset with call center staff, and call center staff was limited in the extent to which they could respond to questions or manage claims without being fully trained as agents. Despite these factors, the NJDOL trained call center staff in basic processes to help the Department handle a larger volume of claims in a short period of time.

Fraud Prevention

Unfortunately, despite the public health crisis, there were individuals who tried to defraud the system; for example, a common fraud technique faced by the NJDOL involved impersonating New Jersey individuals or businesses to file unemployment insurance claims on their behalf. New Jersey had to implement a number of new fraud-prevention strategies. For example, the State integrated *IDMe,* a third-party system, to verify claimant identities. The State also held monthly meetings with neighboring states to discuss fraud. To encourage data sharing and the development of best practices, New Jersey shared information with the National Association of State Workforce

Agencies' (NASWA) data integrity center, which is used by all states. As a result of its fraud prevention strategies, New Jersey prevented an estimated $3B loss from fraudulent claims.[15]

Federal Government Audits

In addition to the USDOL regulation changes, the federal government undertook multiple rounds of audits on UI delivery. Employees had to balance providing information to government auditors and continuing to administer UI benefits to New Jersey residents. UI rules changed 30+ times over the course of two years, leading the NJDOL to navigate back-end disbursement (e.g., through IT) and communications to claimants.[16]

Department of Labor Regulation Changes

Changing USDOL regulations posed significant problems for the NJDOL both logistically and for communications purposes, particularly in the initial stages of the pandemic.

For example, the federal government's CARES Act, which was signed into law on March 27, 2020, included UI assistance programs, providing supplemental compensation (Federal Pandemic Unemployment Compensation) (FPUC) and a 13-week extension of UI eligibility (Pandemic Emergency Unemployment Compensation) (PEUC). It also included the Pandemic Unemployment Assistance (PUA) program, which provided UI for individuals who had not previously been eligible for UI, such as people who were self-employed, independent contractors, gig economy workers, and those not able to telework who also were not receiving paid leave. Then, on August 8, 2020, the President issued a Memorandum authorizing the use of FEMA funds for lost wages assistance (LWA). The LWA was distributed through state UI programs and provided up to $400 per week in additional benefits.

On December 27, 2020, the federal government again altered the UI programs when it enacted the Continued Assistance Act (CAA). In addition to extending, with alterations, the CARES Act programs, the CAA authorized a newly created $100-a-week Mixed Earners Unemployment Compensation payment. A few months later, in March 2021, the federal government enacted the American Rescue Plan Act, which again extended and revised many of the programs that were part of the CARES Act and the CAA.[17]

These new or revised UI programs were often announced by Congress or the USDOL before specific details on implementation requirements were published. This was operationally difficult for the NJDOL because the Department had to then implement policy updates or build capabilities into UI systems to disburse assistance based on new eligibility criteria. In addition, for many

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[15] NJDOL data.

[16] U.S. Government Accountability Office. (2022, June 7). *Unemployment Insurance: Pandemic Programs Posed Challenges, and the NJDOL Could Better Address Customer Service and Emergency Planning* (GAO-22-104251). https://www.gao.gov/products/gao-22-104251

[17] These programs are discussed in greater detail in the Appendix of this section.

constituents who relied on the establishment and extension of federal UI programs to make ends meet, the lag between the federal government's announcement of a program and its actual implementation at the state level was confusing, frightening, and frustrating. As the pandemic progressed, the NJDOL and the Governor's Office improved communication to clarify constituent expectations as to when a new program would be made available.

At various points throughout the pandemic, the USDOL also updated guidance to states on how to implement existing programs. Because each federal benefit associated with COVID-19 required its own system for tracking, disbursement, and oversight, this created additional operational challenges for all states.

Because of the challenges associated with implementing new UI programs and managing changes to existing programs, many states declined to participate in optional USDOL UI assistance programs.[18] Despite the heavy burden of administering additional unemployment programs, New Jersey opted into every federally available assistance program passed by Congress throughout the pandemic – including, for example, the PUA, which was available from March 2020 to September 2021. New Jersey also continued to administer those programs for the full length of time they were offered in an attempt to assist New Jerseyans as much as possible, for as long as possible, despite any resulting administrative challenges.

2.2.2. Housing and Utility Moratoriums and Assistance

Eviction Moratorium

In March 2020, Governor Murphy initiated New Jersey's eviction moratorium by an Executive Order[19] that prevented tenants from being evicted from their homes.[20]

The moratorium remained in place until it was ended by state legislation[21] in August 2021. While this legislation ended the eviction moratorium, it stipulated that households earning under 120% of the Area Median Income (AMI) could not be evicted for reasons relating to missed rent payments from March 2020 to August 2021. Households earning under 80% of the AMI were protected from evictions due to nonpayment of rent from March 2020 to December 2021. This legislation extended greater protections to New Jersey residents than did the CDC's eviction moratorium and was enforceable even after the U.S. Supreme Court found that the CDC's eviction moratorium was an unlawful exercise of its powers in August 2021.

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[18] Liu, J. (2021, January 6). States prepare to pay $100 unemployment boost to mixed earners, but delays are expected. CNBC. https://www.cnbc.com/2021/01/06/states-prepare-to-pay-100-unemployment-boost-to-mixed-earners.html

[19] Murphy, P. (2020, March 9). *Executive Order No. 106*. State of New Jersey.

[20] During the time that the eviction moratorium was in place, landlords could not evict tenants but were still able to file evictions in court.

[21] N.J. Stat. 52:27D-287.10.

The legislation institutionalized protection against evictions due to economic insecurity during the pandemic but allowed courts to begin processing the backlog of eviction orders that were filed during the pandemic for reasons other than nonpayment.

As a result of the eviction moratorium, DCA experienced an influx of calls by residents who were looking to understand the details and implications of the moratorium. In response, DCA expanded its call center operating hours to 7 days a week, 12 hours a day. Before COVID-19, the call center had operated only during periods after long lists of new benefits were announced and when utility assistance was available.

Rental Program Support

In addition to the eviction moratorium, the State's expanded rental and utility assistance programs were a vital component of economic relief for New Jersey residents.

On April 24, 2020, Governor Murphy issued Executive Order (EO) No. 128, which aimed to provide critical short-term support for renters. The EO permitted tenants to use their security deposits to offset rent or back rent, which had previously not been allowed. Then, on May 29, the first of two phases of the Short-Term Rental Assistance Program was announced. This program, which included $100M in housing relief, provided up to 12 months of rental assistance. The second phase of the Emergency Rental Assistance Program went into effect on March 22, 2021.

On August 4, 2021, the Governor signed the Housing Eviction Prevention and Utility Assistance Bill, which was legislation that appropriated an additional $500M for the Emergency Rental Assistance program. The law acknowledged that the eviction moratorium would gradually phase out and provided additional eviction prevention for tenants. Indeed, the next day, on August 5, the Governor signed a bill providing that the eviction moratorium would end in waves, based on income levels. On December 15, 2021, the Emergency Rental Assistance Application Program ended. By that point, the program had provided more than $421M in funds to 47,329 New Jersey households.

Further, in addition to providing renters with assistance, the Governor announced the Small Landlord Emergency Grant Program in the late summer of 2020. That program provided at least $25M in support for small rental property owners by reimbursing them for missed rent payments between April and July 2020.

Utility Program Support

On March 13, 2020, the Governor and the NJ Board of Public Utilities (BPU) announced that the State's public electric and gas companies voluntarily agreed to suspend service shutoffs. On April 13, the Governor signed an EO prohibiting providers from terminating Internet and voice service due to nonpayment until after the end of the Public Health Emergency. On October 15, 2020, through another EO, the Governor made mandatory the previously voluntary utilities moratorium, which applied to all residential gas, electric, and water utilities, both public and private. Although

the utilities moratorium ended on July 1, 2021, EO 246 permitted a six-month grace period for disconnection and late-fee collection.

On December 21, 2021, the grace period was extended through March 15, 2022, and on that date, about one million customers were behind on their payments. On March 25, 2022, the Governor signed legislation providing for protections for residential customers who submitted applications for utility assistance before June 15, 2022.

DCA and BPU Management of Rental and Utilities Programs

Before the pandemic, New Jersey already had a rental and utility assistance program, managed through DCA. Participating in these programs required individuals to submit an application to determine their eligibility, which, if approved, entered them into a distribution lottery. When the Federal Emergency Rental Assistance Program (Federal ERAP) came into effect in spring 2020, it increased the Department's ability to help New Jersey residents by removing the lottery aspect of the program so that all eligible constituents would receive benefits.

Given the increased need for these programs created by the pandemic, the State wanted to lower the barrier to entry for people who needed support but found the application difficult or were too busy or overwhelmed to apply. New Jersey thus worked closely with internal stakeholders to ensure that the proper processes were in place to allow assistance to be delivered with limited documentation from applicants.

Application portals for housing and utility assistance programs were updated to ask resident applicants to self-certify their eligibility and income at the time of application. This self-certification was used as the main qualifier for assistance eligibility. To cross-check the information reported on applications, DCA took historical data from utilities, rental assistance, and utility programs, and cross-checked the average incomes of applicant zip codes.

To make sure that assistance reached the people who needed it most, DCA sought out one- on-one engagement with eligible applicants, adapting its communications strategy and mobilizing its resources to do so. This was particularly important given that, due to the pandemic, traditional community engagements at communal locations could no longer be used.

The Department launched a large-scale advertising campaign on buses, radio, and social media, and worked with non-profit groups and community organizers. In addition, DCA set up phone banks to make outgoing calls and text individuals who had started but not finished their applications. DCA also conducted outreach to landlords and developers who participated in housing production programs.

DCA also began receiving information on eviction filings, which allowed the Department to reach out directly to residents at risk of losing their housing. Using contact information from utility companies, DCA directly informed customers who had missing or delayed payments that utility assistance programs could help them pay their charges.

The BPU worked with DCA, and also played an important role in communicating information about the utilities assistance programs. BPU contacted high-need individuals and created a working group to discuss assistance programs. The group included stakeholders such as the AARP, rate boards, and utility companies.

BPU reported that it learned through focus groups that constituents obtained information primarily from television. This was a mode of communications that BPU had not extensively used, and it adjusted outreach as a result. BPU also worked with DCA, town mayors, and legislators to promote energy assistance programs, pushing energy companies to increase their communications about arrearages. The demographics of individuals helped by DCA's efforts did not change as programs expanded. Instead, the volume of support significantly increased due to an increase in available resources and higher urgency during the pandemic.

Mortgage Payment Support

On March 28, 2020, Governor Murphy also announced New Jersey's Mortgage Payment Relief Program, which provided mortgage forbearance and financial protection to New Jersey residents facing economic hardship due to the COVID-19 pandemic. Financial institutions supporting this program promised not to commence foreclosure sales or evictions and provided a waiver or refund of mortgage-related fees and a 90-day mortgage payment grace period. The Mortgage Payment Relief Program relied upon the support of over 40 financial institutions, including Citigroup, JPMorgan Chase, and US Bank, to fund these relief measures.

Although the program was voluntary, many banks were convinced to take part due to the State's marketing campaign highlighting the widespread commitment of financial institutions to COVID-19 relief efforts. While the initial program design stemmed from similar initiatives in California, Governor Murphy's decision to launch the program was driven by both the immediate need to address housing insecurities during the pandemic, and a broader commitment to preventing foreclosures and ensuring housing affordability in New Jersey. As of the summer of 2023, the program was still in effect.[22,23,24]

[22] DiCicco, S., & Monteiro, D. (2020, April 1). New Jersey Governor announces mortgage payment relief, financial protections for residents. *JD Supra*. https://www.jdsupra.com/legalnews/new-jersey-governor-announces-mortgage-30555/

[23] Office of the Governor of New Jersey. (2020, March 28). Governor Murphy announces mortgage payment relief, financial protections for New Jerseyans facing economic hardship as a result of COVID-19. https://www.nj.gov/governor/news/news/562020/20200328c.shtml

[24] Lakewood Resource & Referral Center. (2023, June). REMINDER: Funds still available for New Jersey's Emergency Rescue Mortgage Assistance Program (ERMA). https://www.lrrcenter.org/public/news/erma_mortgage_20230629

2.2.3. Support for New Jersey Industries and Small Businesses

The NJEDA addressed the impacts of COVID-19 on small businesses within the State and led the State's economic recovery. On March 26, 2020, a few weeks after the Governor declared the State of Emergency and Public Health Emergency, the NJEDA announced a suite of COVID-relief programs, which are discussed below, for businesses and workers. This suite of programs would evolve throughout the pandemic.

One of the first ways that the NJEDA attempted to alleviate the harm of COVID-19 on the economy was by offering relief grants targeted at small New Jersey businesses. This relief was organized through the NJEDA's Small Business Relief Program, which distributed multiple rounds of funding throughout the COVID-19 pandemic. The NJEDA decided to set up this program as soon as the widespread economic impacts of COVID-19 became apparent. Although the nature and duration of COVID-19's impacts were unprecedented, the NJEDA was accustomed to providing grant support for small businesses through emergencies. Similar, smaller scale programs had been established after emergencies like Hurricane Sandy.

The NJEDA continued to announce and administer an array of new programs throughout 2020. For example, on July 29, 2020, it announced a pilot program (E-Commerce Technical Assistance Services) to help businesses transition to e-commerce and operate safely online. In October, it announced a business consulting program, which provided 25 hours of free consulting to advise small businesses on ways to increase their e profitability while complying with public health protections. Then, in December 2020, the Governor and the NJEDA announced the Sustain & Serve program, which provided funding for organizations to purchase meals from restaurants that were negatively impacted by the pandemic and then to distribute the meals to residents at no cost. This program resulted in the distribution of over 5.4 million meals.

Small Business Emergency Assistance Grants

The NJEDA administered four successive phases of the Small Business Emergency Assistance Grant. In the first phase of the grant process, the NJEDA focused on providing grants to businesses in the industries most impacted by COVID-19.

To determine which industries were most impacted by the pandemic, the NJEDA considered:

- The results of a survey asking about the types of assistance needed that the Agency distributed to the small business community at the beginning of the pandemic; and
- The effects of the state-wide stay-at-home order.

Because many businesses could not afford to shut down for weeks or months at a time, there was an urgent need for fund distribution almost immediately after the closures took effect. However, this proved difficult, as there was a lack of detailed, real-time data available to guide the NJEDA's decisions on which businesses most needed assistance. Nevertheless, the Agency had to devise a response and grant allocation plan that could direct limited funds to highest-priority businesses.

Insufficient data was a constant challenge for the NJEDA throughout the Public Health Emergency. For example, the NJEDA reported that while some sources were citing that New Jersey lost 1/3 of small businesses because of COVID-19, the validity of these numbers was uncertain, making it difficult for the State to fully assess impact and need. In the end, while the State saw losses for 3-6 months, many small businesses only closed temporarily. Data visibility was particularly poor at the height of the Initial Surge, between March 2020 and June 2020, when it was extremely difficult to understand the scale of impact across the State, and impossible to fully separate temporary versus permanent closures.

In the initial round of grants, the NJEDA prioritized a set of industry sectors based on federal government classifications: 'Retail Trade', 'Arts, Entertainment, and Recreation', 'Accommodation and Food Services', 'Repair and Maintenance', and 'Personal Care'.[25] These service-based industries all rely on in-person contact.

Within these sectors, the NJEDA determined which businesses to award grants to by limiting eligibility to those with 10 or fewer full-time employees (FTEs) and by considering:

- Small businesses that relied heavily on part-time employees (e.g., a restaurant that employs bartenders who only work 3 nights a week);
- Businesses with employees that are highly dependent on tips; and
- A business's wage base and the number of hours its employees worked.

In the three subsequent grant allocation rounds, the NJEDA expanded eligibility to include all industries given the wide-spread economic effects of the pandemic. For eligibility, businesses only needed to certify that they had experienced material impacts from the COVID-19 pandemic. Moreover, businesses could receive funding even if they had received a grant during the first phase of the program.[26] While all industries were eligible for funding, the program still reserved funds and fast-tracked approvals for specific industries, such as childcare and restaurants.

To ensure that business needs were met across industries and business types, the NJEDA set aside certain days of the week when only particular types of businesses could apply for grant funding. For example, the grant application was open for businesses with less than ten full-time employees on one day, and open for childcare centers or restaurants on another. This was meant to prioritize businesses that the NJEDA had identified as having the greatest need.

[25] Classification was determined by NAICS (North American Industry Classification System) codes, a government specification that classifies businesses by industry (e.g., restaurants vs. gyms). Retail Trade, Arts, Entertainment, and Recreation, Accommodation and Food Services, Repair and Maintenance, and Personal Care sectors correspond to NAICS codes beginning with 44-45, 71, 72, 811, 812.

[26] For Phase 2 of grant funding, grant amounts were incremental from those received in Phase 1 (meaning that businesses were eligible for the maximum grant amount minus the amount they had received In Phase 1). Phases 3 and 4 were not incremental and businesses were eligible for the full grant amounts regardless of funding received in prior rounds.

The grant program continued to focus on small- and medium-sized enterprises but increased the eligibility criteria to a maximum of 50 full-time employees by Phase 3. In addition, by Phases 3 and 4, the State had received more funding, largely due to the American Rescue Plan Act, and the NJEDA did not reject any applications due to lack of funding.

Since March 2020, the NJEDA has provided more than $1B in economic assistance to New Jersey's small businesses.

Sources of Small Business Relief Grant Program Funding

The NJEDA initially lacked sufficient funding to fully address the financial and economic impacts of the pandemic. It launched its first COVID-19 relief program around March 30, 2020 – the Small Business Emergency Assistance Grant Program – utilizing $5M of its own funds. Within the first hour of the application portal becoming available, more than 10,000 businesses had submitted applications. By the time the application portal closed a week later, the NJEDA had received 34,404 applications, representing an estimated $117M in total grant funding requested. At that point, the need significantly exceeded the available funding.

The NJEDA subsequently received Federal funding from the Coronavirus Relief Fund, the Coronavirus State Fiscal Recovery Fund, and State Small Business Credit Initiative (SSBCI), as well as appropriations from the State General Fund.

Exhibit 2: Summary of Small Business Emergency Assistance Grant Phases and Eligibility Criteria

Funding Phase	NAICS Criteria	FTE Criteria	Maximum Award	Total Funding Provided
Phase 1	Starting with 44, 45, 71, 72, 811, 812	1-10	$5,000 ($1,000 per FTE)	$5M
Phase 2	Open to all	≤25	$10,000 for entities with >10 FTEs ($1,000 per FTE)	$45M (1/3 reserved for entities in Opportunity Zones)
Phase 3	Open to all	≤50	Restaurants: - ≤5 FTEs: $10,000 - 6-25 FTEs: $15,000 - 26-50 FTEs: $20,000 Micro-businesses: $5,000 Other smaller businesses: - 6-25 FTEs: $10,000 - 26-50 FTEs: $15,000	$70M ($35M reserved for restaurants, $15M reserved for micro-businesses with ≤5 FTEs, $20M reserved for businesses with 6-50 FTEs)
Phase 4	Open to all	≤50	- ≤5 FTEs: $10,000 - 6-25 FTEs: $15,000 - 26-50 FTEs: $20,000	$85M ($35M for restaurants, $10M for childcare providers, $25M for micro-businesses with ≤5 FTEs, $15M for all else)

Other Business Relief Programs

The NJEDA also set up and launched Small Business Emergency Assistance Loan Program, which provided low-cost financing to small businesses impacted by COVID-19. The program was expanded in July 2021 with funding from the Coronavirus Relief Fund of the CARES Act.

Creating a loan program allowed the State to reach businesses (e.g., small to mid-sized businesses) that might not have been prioritized by other initiatives. For example, the grant program initially focused on businesses with less than 10 full-time employees, which may not have been able to make repayments on a loan program and were thus better served by grants. Furthermore, some loan programs, such as the Federal Paycheck Protection Program, were administered through private commercial banks. Businesses that might not have had access to an existing bank account were thus not covered. The NJEDA's Small Business Emergency Assistance Loan Program, however, allowed the State to focus on businesses that were not served by commercial banks. Ultimately, the State focused more on the grant program, which was funded significantly more than the loan program ($577M versus $20M, respectively).

The State also administered several business relief programs beyond the grant and loan programs, most of which were federally supported. Two examples included the Entrepreneur Support Program, which focused on support to startups; and the Community Development Financial Institution (CDFI) emergency assistance grants, which indirectly supported small businesses, since CDFIs functioned to provide capital to businesses or communities underserved by the commercial banking sector. These programs allowed the State to provide additional, targeted support to specific areas of the economy, thereby making sure that a wide swath of the State's business sector was covered by emergency aid.

Department of State's Business Action Center's Role

The New Jersey Department of State's Business Action Center (BAC) played a key role in communicating to businesses during the pandemic. The BAC is a business advocacy team that connects businesses with local, State, and federal government officials and offices, and supports people in their efforts to start, grow, and finance their businesses. The BAC has three units: (1) the Business Advocate Unit helps with expanding businesses, site planning, permitting, finding employees, and converting to solar energy; (2) The Small Business Unit helps small businesses navigate various government agencies; and (3) the Export Promotion Office helps businesses develop and implement export plans. For example, the Small Business Advocacy office within the BAC set up a live chat line and remote call center to provide information to businesses about the Governor's emergency declarations. The BAC answered questions, relying on guidance from the Governor's Office of Economic Development, and helped promote the NJEDA's small business grants to assist businesses sustain their operations.

While the NJEDA was the primary agency distributing assistance to New Jersey businesses, BAC also offered certain business grants. The NJEDA and the NJDOS coordinated closely to ensure that grant programs would not overlap. The NJDOS grant system, which is discussed in detail below,

targeted non-profit arts organizations, particularly those that were not eligible for the NJEDA grants.

Fraud Prevention

The NJEDA faced tension between getting money into the hands of small businesses as quickly as possible and ensuring that the money was not being distributed to unqualified or false applicants. This challenge was amplified as fraudsters focused on New Jersey business assistance programs because larger amounts of money were offered to businesses than to individuals. Fraudulent applications, for example, included individuals applying on behalf of a company that they had no association with. Accordingly, the NJEDA instituted increased checks in applications.

While fraudulent applications were--and are still--a challenge for the Agency, the NJEDA continued to offer benefits at a large scale because they were greatly beneficial to legitimate businesses and workers in New jersey. From March 2020 to May 2023, New Jersey's the NJEDA provided more than $1B in economic assistance to New Jersey's small businesses.

2.3. Equity and Access

The COVID-19 pandemic's economic effects were felt more acutely by at-risk communities.[27] Low-income workers in service-industry jobs that require lower levels of education were more likely to see their jobs disappear when many retail, leisure, and hospitality industry business were forced to shut down during the pandemic. Because members of racial and ethnic minorities are more likely to work in these industries, they were disproportionately impacted by pandemic closures. Undocumented immigrants were structurally excluded from accessing many emergency relief programs that sustained other underserved groups during the pandemic. Older workers who lost jobs because of the pandemic had a more difficult time re-skilling in preparation for rejoining the workforce in different roles. Young adults completing their schooling and looking for a first job during the pandemic struggled to get their careers started. With children attending school virtually from home during the pandemic, parents—particularly single parents—struggled to balance employment and caregiving responsibilities. Whether because they tend to earn less than their male partners or because they have traditionally done most of the caregiving in their families, women were more likely to leave the labor force during the pandemic to care for children, once schools and day care centers closed.

The state took some steps to specifically target at-risk communities in its economic mitigation efforts.

[27] See also **Chapter 4.**

New Jersey Economic Development Fund Outreach to Underserved Communities

According to the NJEDA, the focus of Phase One of the COVID-19 grant program was getting badly needed funding distributed as quickly as possible. While equity was not specifically prioritized in this first phase, the NJEDA reserved one third of available funding for Federal Opportunity Zone-eligible census tracts in subsequent distribution phases. The NJEDA also specifically targeted underserved communities in its efforts to educate New Jerseyans about available resources. The NJEDA activated its existing relationships with statewide Chambers of Commerce and engaged the services of several women- and minority-owned marketing agencies to coordinate strategic outreach to underserved communities. Despite these efforts, less than 30% of available grant funding for COVID-19-impacted businesses went to women- and minority-owned small businesses.[28][29]

The NJEDA also developed resources for underbanked communities during the pandemic.[30] The Micro Business Loan Program provided financing for inventory, equipment purchases, and working capital. The expanded Small Business Bonding Readiness Assistance Program provided training and surety bonding education to help small businesses qualify for government contracts.

Arts Organizations

The COVID-19 pandemic's impact on the arts was devastating. With theaters dark and museums closed for months, many cultural sector workers, individual artists, and art institutions faced financial ruin. To keep the arts alive in New Jersey, the NJDOS Council on the Arts founded the New Jersey Arts and Culture Recovery Fund, later renamed the New Jersey Arts and Culture Renewal Fund. Drawing on resources and expertise from both government and the philanthropic sector, this public-private partnership has awarded more than $7.4M to more than 200 arts organizations. Recognizing that larger, better-resourced institutions were better equipped to endure the economic shock of the pandemic, the Fund focused on awarding grants to smaller arts organizations in New Jersey, with a particular emphasis on supporting organizations led by people of color or serving communities of color.

[28]According to the NJEDA, New Jersey's women- and minority-owned businesses tend to be smaller businesses in terms of revenue, generating an average of $600k in annual revenue to the $2.3M generated by other businesses. New Jersey Women- and minority-owned businesses also tend to be smaller in terms of total employees, with fewer than five employees on average (where other businesses have more than six employees on average)
[29]NJ Treasury. (2023, January 4). *Welcome Page*. Office of Diversity and Inclusion. https://www.nj.gov/treasury/diversity/welcome.shtml#:~:text=Nearly%2045%25%20of%20New%20Jersey's,and%20252%2C944%20women%20owned%20firms
[30]"Underbanked" households are those where members have a checking or savings account with a Federal Deposit Insurance Corporation insured institution, but regularly use alternate financial services like check-cashing outlets, money transmitters, car title lenders, payday loan stores, pawnshops, and rent-to-own stores.

Excluded New Jerseyans Fund

Not all New Jerseyans were eligible for the state and federal financial assistance programs that sustained many though the pandemic, an issue immigrant advocacy groups called attention to by staging protests, rallies, and a three-week hunger strike in April of 2020.[31]The Excluded New Jerseyans Fund was created in May of 2021 to provide aid to undocumented immigrants and other New Jersey residents who did not qualify for other forms of COVID-19 relief or unemployment benefits. The Office of New Americans administered this fund, disbursing nearly $60M to more than 20,000 individuals over 15 months. The Office of New Americans determined award eligibility, created an online application system, and worked with community organizations to solicit and process applications. While the program was criticized for its slow rollout and onerous documentation requirements, the Office of New Americans worked diligently to streamline the application process where possible and educate eligible New Jerseyans about ways to meet nonnegotiable federal documentation requirements.

3. Comparisons to Other States[32]

States generally provided similar economic aid programs during the pandemic, with all states recognizing the need to create programs to administer non-monetary aid and support for impacted industries. For example, all states created rental and utility assistance programs and provided some form of housing support, though the individual policy design, scope, and priorities varied.

One set of benchmark states (New Jersey, California, and New York) focused on directing economic assistance to underserved communities. New Jersey's eviction moratorium and rental assistance were often more forgiving in criteria compared to other states, and its business relief programs targeted small businesses that might lack access to credit from commercial financial institutions. California and New York reflected similar prioritization of disadvantaged communities. Both states prioritized small businesses with their business relief funds. Furthermore, California had a generous eviction moratorium and, along with New York, had expansive utility assistance programs.

Other states (Virginia, Illinois, Ohio, Pennsylvania, and Florida) articulated a more general set of priorities to address economic need created by the pandemic. These states allocated funding to broad needs that included both assistance to households and the most impacted sectors of their

[31] Yi, K. (2021, April 7). *NJ Immigrants Launch Hunger Strike To Demand COVID Relief Funds*. WNYC News. https://www.wnyc.org/story/nj-immigrants-launch-hunger-strike-demand-covid-relief-funds/

[32] Benchmark states for **Chapter 5** (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in **Appendix.**

economy such as tourism, hospitality, and entertainment. For example, Virginia had in place a long eviction moratorium, but identified business needs through a more sectoral lens.

It is important to note that these categorizations are general. All states directed some level of assistance to underserved communities and were mindful of the unprecedented amount of economic stress placed on workers who lost their jobs. Furthermore, these comparisons do not cover the different approaches states took to reopening the economy after the initial lockdown or regulating business activity, though these policies had a major impact on the amount of economic support required. For more information, see Section 5.6 Closures and Guidance to Prevent the Spread of COVID-19.

Unemployment Insurance

In the months immediately following the beginning of the COVID-19 pandemic, high levels of unemployment insurance (UI) claims placed increased stress on States' systems and ability to deliver payments on time. A core USDOL measure on payment promptness is the percentage of first time UI payments made within 21 days.[33] The USDOL has an Acceptable Level of Performance (ALP) standard of 87%. A lower percentage indicates a larger backlog in the distribution of UI benefits to new claimants.

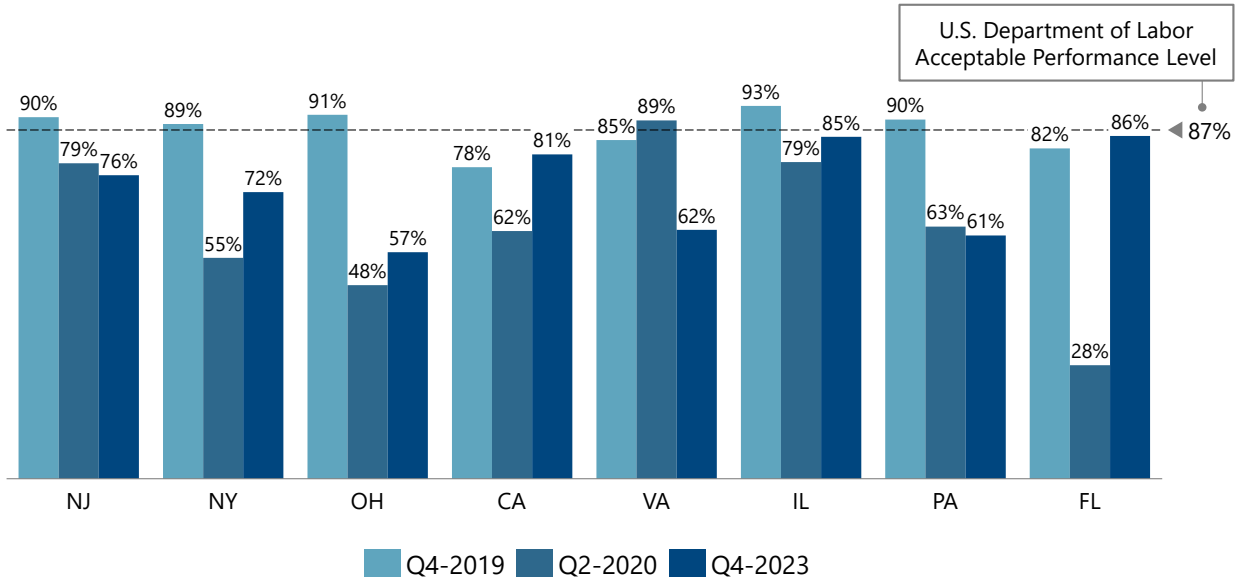
In Q2 2020, as UI claims skyrocketed, most benchmark states saw dramatic decreases in on-time UI payments. Florida, for example, experienced the most significant impacts with a 54-percentage point decrease of on-time UI payments. This was followed by Ohio and New York, which had 43- and 34-point decreases, respectively. New Jersey experienced an 11-point decrease in on-time payments, behind only Virginia. Virginia, which saw its on-time payment rate increase, was the only benchmark state to achieve the USDOL's ALP threshold.[34]

As of Q4 2023, only Florida and California have fully returned to their pre-pandemic performance levels and none of the selected benchmark states are meeting the USDOL's ALP target. New Jersey, New York, Illinois, Ohio, Virginia, and Pennsylvania are all making prompt first-time UI payments below their Q4 2019 levels, with the latter three experiencing 25-point decreases.

[33] For states with a waiting week requirement the USDOL uses 14 days as the payment promptness measure.
[34] In Q4 of 2019, prior to the pandemic, five of the eight sample states (New Jersey, New York, Ohio, Illinois, and Pennsylvania) were meeting the NJDOL's ALP standard.

Exhibit 3: Comparison of Benchmark States' Unemployment Insurance Backlogs

% of all first UI payments made within 21 days after the ending of the first compensable week



1. For states with a waiting week requirement the USDOL uses 14 days as the 'payment promptness measure
Source: U.S. Department of Labor

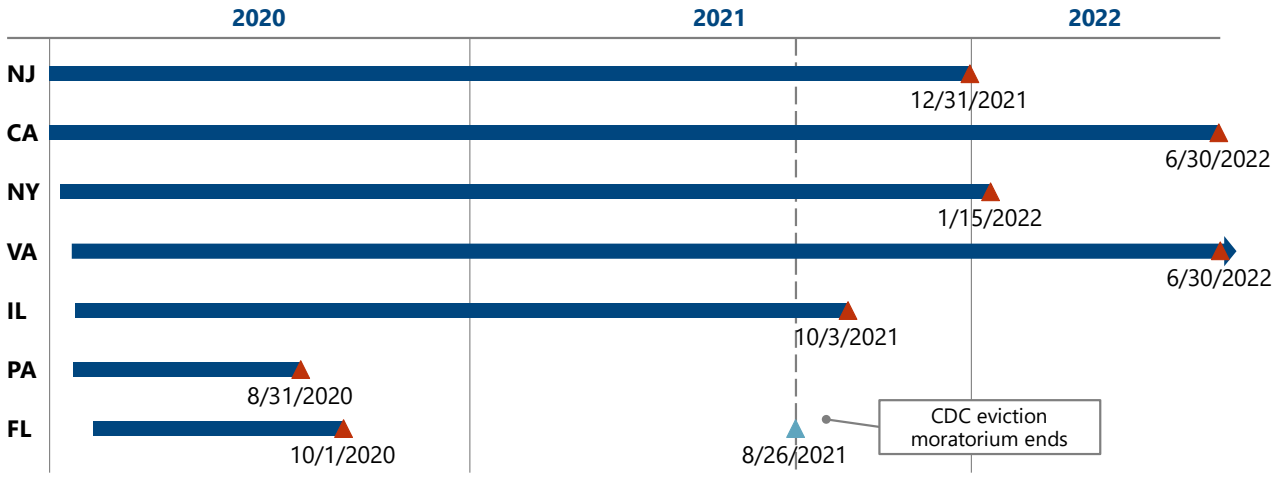
State Eviction Moratoria

The CDC eviction moratorium was established in September 2020 and was extended several times until the U.S. Supreme Court ruled it unlawful in August 2021. To avoid relying solely on the CDC's eviction moratorium, all benchmark states except Ohio enacted their own eviction protections in addition to the CDC's eviction moratorium. These states' eviction protections were enshrined into state laws or Executive Orders (EOs).

Exhibit 4 compares the moratoria timeframes for benchmark states. California and Virginia had the longest eviction moratoria, which lasted until the end of June 2022. New York and New Jersey had the next longest moratoria, which both lasted roughly until the beginning of January 2022. Illinois' eviction moratorium lasted roughly a month longer than the CDC's, while Pennsylvania and Florida ended state-specific moratoria in late 2020, about a year before the CDC's moratorium was ruled unconstitutional.[35]

[35] Murphy, P. (2020, March 9). *Executive Order No. 106*. State of New Jersey.

Exhibit 4: State Moratoria Timeframe Comparisons



Beyond the differences in duration of the eviction moratoria, there were also variations in eligibility criteria. New Jersey's initial eviction moratorium[36] was the widest in scope, given that it prevented evictions without requiring tenants to meet income criteria or demonstrate financial hardship. In all other benchmark states, eviction moratoria had either income criteria or requirements for the individual to demonstrate financial hardship. For example, in California, landlords were prohibited from evicting tenants earning less than 80% of the area median income. California residents who submitted a completed rental relief application were protected from eviction through the end of June 2022.[37]

After the Federal CDC eviction moratorium expired on July 31, 2021, Virginia extended its own evictions protections until June 2022, preventing evictions due to non-payment of rent for tenants experiencing COVID-19-related financial hardships. Virginia's Governor also instituted a moratorium on eviction proceedings that provided relief to tenants facing financial difficulties and housing instability during the crisis. Virginia's moratorium did not extend to evictions for issues other than rent non-payment, such as lease violations.[38]

New York, Florida, and Illinois also enacted eviction moratoria with more criteria than did New Jersey. New York's eviction moratorium legislation was similar to New Jersey's but required

[36] Murphy, P. (2020, March 9). *Executive Order No. 106*. State of New Jersey.
[37] California Business, Consumer Services and Housing Agency. (2021). *COVID-19 Tenant Relief Act*. https://www.bcsh.ca.gov/covidrelief/
[38] Jean-Charles, T. (2021, August 17). *Virginia extended its COVID-19 eviction protections until June 2022*. The Progress-Index. https://www.progress-index.com/story/news/2021/08/17/virginia-eviction-protection-extended-next-summer-whos-eligible/8160245002/

applicants to demonstrate financial hardship.[39] Illinois's moratorium protected individuals earning less than $99K, those unable to pay their rent due to COVID-19-related hardships or facing homelessness or unsafe living conditions if evicted.[40] Protections were also extended to tenants who were up to date on rent and who remained in their units beyond their leases. The order was initially issued during the beginning of the pandemic and ended in October 2021, earlier than New Jersey's.[41]

Florida's statewide eviction moratorium was similar to New Jersey's in halting foreclosures and evictions in court for tenants affected by the COVID-19 crisis. In contrast, however, Florida also had provisions that required tenants to begin repaying missed rent once they were no longer adversely affected by the pandemic (e.g., once they found employment).[42] Ohio did not enact its own statewide eviction moratorium; instead, it followed the federal moratorium established under the CARES Act. At the local level, some Ohio counties and cities implemented measures according to federal policies, but the lack of an Ohio-wide policy resulted in an uneven application of eviction protections.[43]

Rental Assistance

All of the benchmark states had rental assistance programs. Some closely mirrored New Jersey's, while others differed in the populations they targeted. New York, for example, established a state-sponsored Emergency Rental Assistance Program (ERAP) that provided financial assistance to help renters. Eligible households included those with a gross income at or below 80% of the Area Median Income and who were experiencing financial hardship due to the pandemic. The household had to be at risk of experiencing homelessness or housing instability, and priority was given to applicants who were unemployed for extended periods of time, or those living in areas disproportionately impacted by COVID-19. Payments under ERAP were made directly to landlords and utility companies, ensuring direct settlement of owed amounts.[44]

Other states also introduced Rental Assistance Programs benefiting both landlords and tenants. Florida's Emergency Rental Assistance Program aimed to benefit both but was more restrictive in its criteria for households in need of rental assistance. The program focused on households that qualified for unemployment, experienced a reduction in household income, incurred significant

[39] New York State Homes and Community Renewal. (n.d.). *COVID-19 Eviction Protections for Tenants*. https://hcr.ny.gov/covid-19-eviction-protections-tenants
[40] Nowicki, J. (2021, September 20). Illinois eviction moratorium set to expire Oct. 3. *Capitol News Illinois*. https://capitolnewsillinois.com/NEWS/illinois-eviction-moratorium-set-to-expire-oct-3
[41] Id.
[42] DeSantis, R. (2020). *Executive Order Number 20-94*. State of Florida, Office of the Governor. https://www.flgov.com/wp-content/uploads/orders/2020/EO_20-94.pdf
[43] Eviction Lab. (2021, June 30). *COVID-19 Housing Policy Scorecard*. https://evictionlab.org/covid-policy-scorecard/
[44] New York State Office of Temporary and Disability Assistance. (n.d.). *Emergency Rental Assistance*. https://otda.ny.gov/programs/emergency-rental-assistance/

costs, or faced financial hardships due to COVID-19. Florida's program prioritized households below 50% in area median income.[45]

Utility Fee Assistance

All the benchmark states implemented utility assistance programs during the pandemic but varied in the extent of assistance administered and the program's implementation.

In March 2020, Pennsylvania introduced a moratorium on utility service terminations similar to New Jersey's, which prohibited the termination of public utility services and directed the reconnection of services to customers previously terminated. In November 2020, the Pennsylvania Public Utility Commission (PUC) introduced shut-offs for non-paying customers, but continued to protect customers whose income was less than 300% of the Federal Poverty Guidelines, setting the limit to $78K for a family. With the State's largest electric and gas utilities being owed more than $743M, the PUC ended the moratorium on March 31, 2021, thus ending the protections for those set of customers as well. However, certain protections and modified policies were to set to continue until September 30, 2021, including extended payment arrangements.[46]

New York's Public Service Commission introduced a two-phase Bill Relief Program that was similar to New Jersey's Universal Service Fund in providing a credit on monthly energy bills, but was wider in scope. The first phase, introduced in June 2022, focused on low-income electric and natural gas utility customers, and provided credits for customers to cover unpaid pandemic-period balances through May 1, 2022. The second phase, introduced in January 2023, expanded coverage to address the unpaid balances of residential customers that did not receive a Phase 1 bill credit and small business accounts. Credits for unpaid COVID-19-related balances were automatically applied without customers having to apply. In addition, New York State provided $250M in funding through the Utility Arrears Relief Program to reduce utility bills arrears for customers eligible for energy assistance programs.[47]

California's energy assistance program was more retroactive in nature than New Jersey's and focused on reducing accumulated arrears. The California Arrearage Payment Program (CAPP) was implemented over two years. In 2021, the program focused on assisting energy utility customers in reducing past due energy bill balances accumulated during the pandemic relief period (March 4, 2020, through June 15, 2021) by automatically applying it to their account. The program covered residential and commercial with past-due balances, prioritizing residential customers at risk of disconnection due to nonpayment. Overall, the program prevented the discontinuation of utility

[45] Office of Governor Ron DeSantis. (2021, January 12). *Governor Ron DeSantis Announces Florida's Participation in Federal Emergency Rental Assistance Program*. https://www.flgov.com/2021/01/12/governor-ron-desantis-announces-floridas-participation-in-federal-emergency-rental-assistance-program/

[46] Maykuth, A. (2021, February 20). *Pa. utilities urge a resumption of shutoffs as pandemic subsides and unpaid bills soar*. The Philadelphia Inquirer. https://www.inquirer.com/business/pennsylvania-utilities-shutoff-ban-coronavirus-covid-20210220.html

[47] New York State Department of Public Service. (n.d.). *Electric and Gas Bill Relief Program*.

services to customers and waived late fees and accrued interest from non-payment. Finally, all energy utilities were required to enroll their small commercial customers in payment plans with terms that prevented date payments from exceeding 10%.[48]

Support for Industries and Small Businesses

The availability of federal recovery funds allowed all states to create targeted relief programs for specific industries, particularly those most impacted by the pandemic. Some states were similar to New Jersey in focusing on small- to mid-sized businesses, with particular attention paid to service industries like restaurants. Other states prioritized industries like hospitality and tourism. For example, New Jersey, California, and New York focused primarily on small businesses, targeting historically underserved or disadvantaged businesses. California's Small Business COVID-19 Relief Grant Program focused on reaching historically underserved communities, including women- and minority-owned businesses. Key sectors prioritized in California included restaurants, retail apparel, hair salons, and lodging, similarly to New Jersey.[49]

New York State directed significant funds to small and traditionally disadvantaged businesses through the New York State Small Business Credit Initiative. Illinois, Florida, Pennsylvania, and Virginia focused on industries like hospitality and tourism, which were significantly affected by reduced tourist activity. While Illinois also focused on small businesses with its Business Interruption Grant (BIG) Program, it also emphasized certain sectors like childcare providers, clean energy, energy efficiency, and tourism.[50]

Florida's grant programs concentrated on the State's crucial sectors like the cruise industry, with the Seaport Relief Grant providing $250M in aid.[51] Additionally, the Florida Job Growth Grant Fund and Visit Florida Grant were significant, supporting various job-creating sectors and the hard-hit hospitality and tourism industry, respectively.[52]

Pennsylvania's strategic focus included the hospitality industry, with the COVID-19 Hospitality Industry Recovery Program providing $145M in aid.[53] The State also prioritized personal care services like barbershops and beauty salons and provided working capital financing to a broad

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[48] California Department of Community Services and Development. (2022, December). *California Arrearage Payment Program (CAPP) Report to the Legislature*. https://www.csd.ca.gov/Shared%20Documents/CAPP-Legislative%20Report-12-2022.pdf

[49] California State Assembly, Committee on Jobs, Economic Development, and the Economy. (n.d.). Small Business COVID-19 Grant Program. https://ajed.assembly.ca.gov/small-business-covid-19-grant-program

[50] Illinois Department of Commerce & Economic Opportunity. (n.d.). Business Interruption Grants Program (BIG). https://dceo.illinois.gov/smallbizassistance/c19disadvantagedbusgrantstest.html

[51] Florida Department of Transportation. (2021, July 29). Governor DeSantis announces $250 million to support economic recovery for Florida ports. https://www.fdot.gov/info/co/news/2021/07292021-gov

[52] FloridaCommerce. (n.d.). Florida Job Growth Grant Fund. https://www.floridajobs.org/jobgrowth

[53] Pennsylvania Department of Community and Economic Development. (n.d.). COVID-19 Hospitality Industry Recovery Program (CHIRP). https://dced.pa.gov/programs/covid-19-hospitality-industry-recovery-program-chirp/

range of small businesses across the Commonwealth.[54] In Virginia, the Rebuild VA Grant Fund, GO Virginia Grants, and the Economic Resilience and Recovery Program were key initiatives. These programs supported industries like hospitality, technology, maritime, and various other sectors impacted by COVID-19, reflecting the State's commitment to a diverse range of industries facing challenges during the pandemic.[55] Ohio's grant programs were diverse, with significant allocations for the food and beverage industry, lodging, and entertainment venues. These sectors were among the most affected by the pandemic, and the State's response included substantial financial support to help them navigate economic challenges.[56]

4. Key Strengths and Challenges

The economic fallout of the COVID-19 pandemic created significantly greater demand for economic assistance throughout the State. Across many initiatives – notably unemployment insurance payouts - New Jersey's existing infrastructure was unequipped to handle the sudden increase in demand and needed to quickly address its IT, staffing, and communication needs. Despite significant challenges with lack of resources and administrative burden, New Jersey had a robust system of assistance programs, and it was able to meet the demands of the pandemic. Its eviction, rental, and utilities assistance programs were largely successful, and the State had one of the most robust small business relief programs in the country.

Direct Monetary Support for Individuals

Strength The NJDOL, despite needing to quickly update its outdated UI IT systems, was successful in innovating its technological infrastructure and emerged from the pandemic with much greater capabilities than it had before the pandemic. The NJDOL was also able to leverage new technological tools, such as an identification verification service to process UI claims.

Challenge The complexity of federal requirements that came with the new UI programs presented challenges both for the NJDOL and UI applicants. The NJDOL was unequipped to handle the administrative burden of UI claims; each UI benefit type required its own system for tracking, disbursement, and oversight, and federal programs needed to be audited, which created additional work for the NJDOL employees. The complexity of federal requirements, as well as their frequent

[54] Pennsylvania Department of Community and Economic Development. (n.d.). COVID-19 Relief Statewide Small Business Assistance. https://dced.pa.gov/programs/covid-19-relief-statewide-small-business-assistance/

[55] Virginia Growth and Opportunity Fund (GO Virginia). (2020, April 22). Economic resilience and recovery (ERR) program guidelines. https://dhcd.virginia.gov/sites/default/files/Docx/gova/gova-economic-resilience-recovery-program-guidelines.pdf;
Virginia's New River Valley. (2021, April 1). COVID-19 resources for business. https://www.newrivervalleyva.org/business/covid-19_resources/

[56] TourismOhio. (2021, July 1). Ohio launches new grant programs for small businesses. https://ohio.org/home/industry/the-heart-of-it-all/ohio-launches-new-grant-program-for-small-businesses

changes, meant that significant time was spent processing claims forms. The NJDOL found it difficult to make changes to the UI processing system and in communicating to claimants. Changing federal requirements also meant that claimants were often confused about how to apply for assistance.

Challenge The NJDOL was also extremely understaffed to handle the influx of UI claims. Although staff turnover was low, both the volume of UI claims and complexity of federal requirements meant that the NJDOL needed more staff trained in claims processing than they had. The NJDOL resorted to re-allocating employees from other agencies like Treasury and retired staff.

Non-Monetary Support for Individuals

Strength The State was broadly successful in coordinating and disbursing aid to a significantly greater number of individuals in need than it had done previously. The DCA paid rent for more than 100k individuals throughout and after the pandemic, marking a 50% increase from their usual case load.

Strength The State was able to successfully identify the constituents in greatest need of assistance and ensure that its assistance programs reached those populations through a mix of outreach efforts, marketing campaigns, and data analysis. The DCA's efforts to directly contact constituents resulted in its aid programs reaching the appropriate populations. Data from eviction filings, as well historical data on rental and utilities assistance programs, helped the DCA to identify the appropriate populations in need. The State's identification efforts paid off, as the main demographic served by the DCA's assistance programs remained the same as that of pre-pandemic aid recipients (predominantly low-income, single mothers of color), reflecting the populations historically most underserved and hardest hit by the pandemic.

Strength Using self-certification for assistance programs generally worked well, though could have been simplified further. Although fraud was a concern, the amount of fraud did not markedly increase with the use of self-certification. Particularly in the beginning of the pandemic, when economic impacts were first felt, individuals in need might not have had the capacity to assemble the extensive documentation typically required of assistance applications. Ultimately, the expedited process of self-certification fostered the immediate delivery of aid to those who needed it most. However, even the expedited self-certification process could have been streamlined further, as sometimes applicants did not understand the technical legal language used in applications.

Challenge Agencies did not have streamlined data-sharing practices, which would have made it easier for the State to identify constituents to target for its assistance programs. Some examples of data tracked by other agencies that would have benefited the DCA's programming included Medicaid enrollees, DCF lists, and customer data from utilities companies. In particular, utilities data was not regularly reported at the time, which made that data difficult for state agencies to obtain and organize without some degree of administrative cost.

Support for Industries and Small Businesses

Strength The State was generally able serve all businesses that needed aid during the COVID-19 pandemic. Because the State received sufficient funding from federal aid programs, it did not reject any applicants because of insufficient funds.

Strength The NJEDA was able to greatly expand micro-businesses in its customer base because of the Small Business Emergency Assistance programs. It also identified constituents who needed assistance despite access to limited data to inform aid decisions.

Strength The NJEDA's ability to rapidly develop a high number of grantmaking programs during the pandemic resulted in greater capabilities and the infrastructure to scale up similar programs in the future.

Challenge Similar to rental and utilities assistance programs, the NJEDA would have benefited from more robust data-sharing between agencies, such as Treasury and the NJDOL, to identify the appropriate businesses in need and disburse money more quickly. More robust data on business owners' demographics may also have allowed the NJEDA to consider equity in earlier rounds of funding disbursement. Centralized data capabilities would have also decreased concerns about benefits duplication.

New Jersey was able to quickly set up a robust set of assistance programs that helped many residents withstand the high levels of economic insecurity that the COVID-19 pandemic created and exacerbated for many households. While these programs were ultimately successful, many of the implementation challenges highlight a need for the State to further invest in the capabilities and infrastructure that will allow it to meet constituent needs faster and more effectively, both in an emergency and during daily, non-emergency government operations. Recommendations on how to achieve this can be found in Chapter 7 (e.g., Recommendation 20) outlines investments the State can make into more responsive, flexible digital services).

5. Appendix

A-1 Additional Detail of Economic Impact Mitigation Efforts Across the State

During the pandemic, New Jersey initiated numerous economic mitigation efforts for both individuals and businesses. Examples of these efforts include:

- $20M was spent to address the increased behavioral health needs of New Jersey residents through additional support for treatment providers and more robust access to opioid-addiction treatment.
- The NJEDA spent at least $65M of CRF funds on its Small Business Emergency Assistance Grants Program.
- The DCA and the New Jersey Redevelopment Authority (the NJRA) used CRF funds to support a range of place-based community development programs.
- The NJDOL used $15M to support worker retraining and reskilling programs.
- The DCA leveraged more than $100M to support the Coronavirus Emergency Rental Assistance Program (CVERAP). The Administration also provided $10M for Emergency Housing Assistance through the DHS's current infrastructure of non-profits and county agencies.

In addition to these economic mitigation and recovery efforts, New Jersey was responsible for administering direct income assistance to workers who had lost their jobs. The UI system is a federal-state partnership that provides temporary and partial wage replacement to involuntarily unemployed workers and stabilizes the economy during times of recession. In response to the recession caused by the COVID-19 pandemic, Congress acted quickly to create temporary UI programs through the Coronavirus Aid, Relief, and Economic Security (CARES) Act, and extended them with the Continued Assistance Act and the American Rescue Plan Act (ARPA). The federal government implemented four emergency programs to enhance existing unemployment benefits for millions of Americans who were economically impacted by the pandemic. In addition to legislation that built upon UI benefits, federal and state programs that also provided economic support to individuals and families were implemented.

A-1 UI Programs and Other Individual/Family Support Program Descriptions

Other Individual/ Family Support Programs	Description
Federal Pandemic Unemployment Compensation (FPUC)	• Additional weekly supplement for individuals who collected UI benefits. • Provided $600 per week for all UI benefits from March through July 2020, and $300 per week from December 2020 through September 2021.
Pandemic Emergency Unemployment Compensation (PEUC)	• Provided a total of 49 additional weeks of Federally financed UI benefits for individuals who exhausted State and Federal UI benefits and were able to work, available for work, or actively seeking work, subject to COVID-19-related rules. • Program was in place from March 2020 through September 2021.
Pandemic Unemployment Assistance (PUA)	• Provided a total of 75 weeks of UI benefits for individuals who were (1) not otherwise eligible for UI benefits (e.g., self-employed, independent contractors, gig economy workers); (2) unemployed, partially unemployed, or unable to work due to a specific COVID-19-related reason; and (3) not able to telework and are not receiving any paid leave. • Program was in place from March 2020 through September 2021.
Mixed Earner Unemployment Compensation (MEUC)	• $100-a-week payment augmenting the $300-a-week FPUC benefit for unemployed workers with income from both wage-and-salary jobs and self-employment who were not currently receiving PUA. To be eligible, individuals must have received at least $5,000 in self-employment income in the most recent tax year and receive a UI benefit other than PUA. • Program was in place from December 2020 through September 2021.
Families First Coronavirus Response Act[57]	• Required certain employers to provide employees with paid sick leave or expanded family and medical leave for specified reasons related to COVID-19. In effect from April 1, 2020, through December 31, 2020. • Applied to certain public employers and private employees with fewer than 500 employees. Provided employees of covered employees with two weeks of paid sick time for specified reasons related to COVID-19, and an additional 10 weeks of paid family leave to care for a child under certain circumstances related to COVID-19.
Extended Benefits (EB)[58]	• New Jersey's high unemployment rate triggered state extended benefits for workers who had exhausted unemployment benefits, if they met the minimum earnings requirement. • 20 weeks of EB were provided from July 2020 through April 2021, and 13 weeks of EB were provided from April 2021 through April 2022. • Benefit was decreased because New Jersey's unemployment rate went down.

[57] U.S. Department of Labor. (n.d.). *Families First Coronavirus Response Act: Employee Paid Leave Rights*. https://www.dol.gov/agencies/whd/pandemic/ffcra-employee-paid-leave

[58] New Jersey Department of Labor and Workforce Development. (n.d.). *Federal and State Extended Benefits*. https://www.nj.gov/labor/myunemployment/apply/extensions/

Other Individual/ Family Support Programs	Description
Lost Wages Assistance (LWA) Program[59]	• Authorized in August 2020 after the expiration of the initial FPUC and provided claimants in most UI programs up to $400 per week additional benefits. Ended in December 2020. • Administered by states and territories through a grant agreement with the Federal Emergency Management Agency (FEMA) and with support from the Labor Department. 75% of the cost ($300) was funded by FEMA and the remaining 25% ($100) was covered by the states. • To quality, individuals needed to provide self-certification that they were unemployed or partially unemployed due to disruptions caused by COVID-19, and the State needed to confirm that the individual was receiving at least $100 of underlying unemployment benefits.
Child Tax Credit[60]	• The ARPA increased and expanded the Child Tax Credit for 2021 with the following provisions: • Increased Child Tax Credit amount from $2,000 to $3,600 for qualifying children under age 6, and $3,000 for other qualifying children under age 18. • Credit was made fully refundable, allowing low-income households to receive the full credit benefit. • Credit's scope was expanded to allow 17-year-olds to qualify (previously only children 16 and younger qualified). • Monthly advance payments of half of estimated 2021 Child Tax Credit to eligible taxpayers from July through December, instead of waiting until tax filing season to receive the full benefit.

[59] U.S. Department of Labor. (2020, August 12). *U.S. Department of Labor announces guidance for the Lost Wages Assistance Program to provide needed relief to Americans*. https://www.dol.gov/newsroom/releases/eta/eta20200812-0

[60] Internal Revenue Service. (n.d.). *Coronavirus Tax Relief*. https://www.irs.gov/coronavirus-tax-relief-and-economic-impact-payments

To support businesses economically impacted by the COVID-19 pandemic, New Jersey implemented the following programs:

Business Support Program	Description
Small Business Emergency Assistance Grant Program[61]	• Established by the NJEDA in April 2020 to grant emergency funding to small- and medium-sized businesses and non-profits that needed payroll and working capital support due to the economic impacts of the COVID-19 pandemic. • Initial phase focused on the smallest enterprises in targeted industries that were most adversely impacted by the pandemic. The program was expended in three subsequent phases throughout 2020 and 2021 that were funded by the Coronavirus Relief Fund of the CARES Act.
Small Business Emergency Assistance Loan Program[62]	• Established by the NJEDA in April 2020 to make low-cost financing available to small businesses impacted by the COVID-19 pandemic. Provides up to $100,000 in low-cost financing to small businesses and non-profits throughout New Jersey. • The program was expanded in July 2021 with funding from the Coronavirus Relief Fund of the CARES Act.
Small Business Lease Grant[63]	• Established under the New Jersey Economic Recovery Act of 2020 (ERA). Program launched October 2021 to provide grant funding to cover a portion of lease payments for business and non-profits leasing new or additional space.
Small Business Improvement Grant[64]	• Established under the New Jersey ERA. Program launched in February 2022 to reimburse small business and non-profits for up to 50% of eligible project costs associated with building improvements for the purchase and/or installation of new furniture, fixtures, and equipment made on or after March 9, 2020. Maximum award grant is $50,000.

The primary support offered from the federal government for businesses impacted by the COVID-19 pandemic was through the Paycheck Protection Program (PPP).[65] The Government established PPP as part of the CARES Act in March 2020 and began loan distribution in April 2020. The Small Business Administration implemented the program with support from the Department of the

[61] New Jersey Economic Development Authority. (2021, April 19). *Small Business Emergency Assistance Grant Program-Phase 4: Notice of Funding Availability*. https://www.njeda.gov/wp-content/uploads/2021/05/Small-Business-Emergency-Assistance-Grant-Program_Phase-4-II_NOFA-FINAL-1-1.pdf

[62] New Jersey Economic Development Authority. (2021, June 9). *NJEDA Board Approves Updated Phase 2 of Small Business Emergency Assistance Loan Program*. https://www.njeda.gov/njeda-board-approves-updated-phase-2-of-small-business-emergency-assistance-loan-program/

[63] New Jersey Economic Development Authority. (n.d.). *Small Business Lease Grant*. https://www.njeda.gov/small-business-lease-grant-program/

[64] New Jersey Economic Development Authority. (n.d.). *Small Business Improvement Grant*. https://www.njeda.gov/small-business-improvement-grant/

[65] U.S. Department of the Treasury. (n.d.). *Paycheck Protection Program*. https://home.treasury.gov/policy-issues/coronavirus/assistance-for-small-businesses/paycheck-protection-program

Treasury. PPP provided small businesses with funds to pay up to 8 weeks of payroll costs including benefits. Funds could also be used to pay interest on mortgages, rent, and utilities.

A high-level view of all State funding for COVID-19 relief programs can be found in the following table, broken into categories showing where funds were allocated and including examples of programs within those categories.

Category	Programs	Disbursed ($M)
Economic Assistance to Individuals and Employees ($48,255M)	Federal Pandemic Unemployment Assistance (Incl. Compensation)	$26,722
	Economic Impact Payments	$19,884
	FEMA Lost Wages	$1,371
	Funeral Assistance	$110
	Other - Assistance to Individuals	$168
Economic Assistance to Businesses ($42,062M)	Paycheck Protection Program	$25,773
	Economic Injury Disaster Loans	$15,705
	Small Business Grants	$273
	Support for Microbusinesses	$102
	Sustain and Serve Grants	$36
	Other – Assistance to Businesses	$173
Social Services and Healthcare Supports ($5,290M)	Medical Coverage	$2,125
	Child Care and Development Block Grant	$828
	CARES Meals & Other Stimulus	$561
	Community Care Waiver – Disability Individual Supports	$387
	Medical Assistance Program	$184
	Provider Settlements and Adjustments	$117
	New Jersey Kidcare Benefit	$115
	Payments for Medicare Recipients	$114
	Other – Social Services	$859
Education and Childcare Assistance ($3,476M)	Elementary and Secondary School Emergency Relief	$1,362
	Education Stabilization Fund	$1,108
	Higher Education Emergency Relief	$525
	Special Education Services	$158
	School Re-Opening and Remote Learning	$99
	Governor's Emergency Education Relief Fund (GEER)	$97
	Other – Education	$127
Housing Assistance ($2,039M)	Eviction & Homelessness Prevention	$558
	Higher Education Emergency Relief	$532
	Emergency Rental Assistance	$459

Category	Programs	Disbursed ($M)
	Low-Income Home Energy Assistance	$202
	Homeowners Assistance Fund	$105
	Community Development & Emergency Solutions Grants	$66
	Section 8 Housing Vouchers	$36
	Other – Housing	$81
Broadband/Digital Connectivity ($52M)	Bridging the Digital Divide	$49
	Other – Broadband	$3

A-2 Chronology of Economic Mitigation Programs in New Jersey

Unemployment Assistance

- March 27, 2020: The CARES Act was signed into law.
- July 1, 2020: New Jersey's Extended Benefit (EB) program permitted up to 20 weeks of EB for workers who had exhausted unemployment benefits, if they met the minimum earnings requirement.
- July 25, 2020: FPUC supplement of $600 per week expired.
- August 8, 2020: The LWA was authorized by Presidential Memorandum.
- December 27, 2020: The Continued Assistance Act was signed into law.
- March 11, 2021: The ARPA was signed into law.
- April 17, 2021: New Jersey's EBs were reduced from up to 20 weeks to up to 13 weeks.
- September 4, 2021: FPUC, PEUC, PUA, and MEUC programs expired.
- April 9, 2022: New Jersey EB program ended.

Eviction Moratorium and Assistance Programs

- March 19, 2020: The Governor issued EO 106: Eviction Moratorium.[66]
- March 28, 2020: The Governor announced Mortgage Payment Relief Program.[67]
- April 16, 2020: The Governor announced the suspension of rent increases at all NJHMFA-Regulated Properties.[68]
- April 24, 2020: The Governor issued EO 128: Critical Short-term Support for Renters.[69]
- May 29, 2020: The Governor and Lieutenant Governor announced the Short-Term Rental Assistance Program.[70]
- August 7, 2020: Small Landlord Emergency Grant Program announced.[71]

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[66] Murphy, P. (2020). *Executive Order No. 106*. State of New Jersey.
[67] *Governor Murphy Announces Mortgage Payment Relief, Financial Protections for New Jerseyans Facing Economic Hardship as a Result of COVID-19*. Office of the Governor. (2020, March 28). https://www.nj.gov/governor/news/news/562020/20200328c.shtml
[68] *Governor Murphy Announces Suspension of Rent Increases at all NJHMFA-Regulated Properties*. New Jersey Housing and Mortgage Finance Agency. (2020, April 16). https://www.nj.gov/dca/hmfa/about/pressreleases/2020/approved/20200416.shtml
[69] Murphy, P. (2020). *Executive Order No. 128*. State of New Jersey.
[70] *Governor Murphy and Lieutenant Governor Oliver Announce Short-Term Rental Assistance Program to Help Residents Affected by COVID-19 Pandemic*. Office of the Governor. (2020, April 16). https://www.nj.gov/governor/news/news/562020/20200529b.shtml
[71] *Small landlord emergency grant program (SLEG) announced*. Property Owners Association of New Jersey. (2020, August 7). https://poanj.org/small-landlord-emergency-grant-program-sleg-announced/

- **October 5, 2020:** Expanded relief under Small Landlord Emergency Grant Program.[72]
- **October 9, 2020:** The New Jersey Department of Human Services announced its Housing Assistance Program.
  - $12M program provides rental or mortgage assistance payments (March-December 2020) on behalf of eligible households that suffered financial hardship due to COVID-19 and were not eligible for or had not received other housing assistance during the same time period.
  - Funded by federal Coronavirus Relief Fund.[73]
- **January 13, 2021:** The Governor signed a bill requiring landlords to allow tenants to make rent payments using a credit card during the COVID-19 pandemic, as well as for one year following the expiration of the State of Emergency.[74]
- **July 4, 2021:** EO 128 expired because it relied on existence of Public Health Emergency, which ended on June 4, 2021.
- **March 22, 2021:** New Jersey COVID Emergency Rental Assistance Phase II (the NJ CVERAP II) enrollment began.[75]
- **August 4, 2021:** The Governor signed the Housing Eviction Prevention and Utility Assistance Bill.[76]
- **August 5, 2021:** The Governor signed a bill officially ending Eviction Moratorium in waves, based on income levels.
  - After August 31, 2021, landlords could evict tenants whose households made 120% of the Area Median income for nonpayment of rent, regardless of when it became due.
  - After August 31, 2021, landlords could evict tenants whose households made less than 120% of the Area Median Income, but only for unpaid rent that was due before March 1, 2020, or after August 31, 2021.
  - Tenants who made less than 80% could submit a "Hardship Certification" to prevent landlords for evicting them for unpaid rent between March 1, 2020, and December 31, 2021.

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[72] *Open today expanded relief under small landlord emergency grant program (SLEG)*. Property Owners Association of New Jersey. (2020, September 28). https://poanj.org/open-today-expanded-relief-under-small-landlord-emergency-grant-program-sleg/

[73] *NJ Human Services Unveils New Program to Help Residents Pay Housing Costs Amid Ongoing COVID-19 Pandemic*. Department of Human Services. (2020, October 9). https://www.nj.gov/humanservices/news/pressreleases/2020/approved/20201009.html

[74] *Acceptance of Credit Cards for Rent Payments Bill Signed into Law*. Property Owners Association of New Jersey. (2021, January 13). https://poanj.org/acceptance-of-credit-cards-for-rent-payments-bill-signed-into-law/

[75] *Welcome to the NJ-DCA portal*. Home - NMA Portal. (n.d.). https://njdca.onlinepha.com/en-US/Home/Index; *COVID-19 Emergency Rental Assistance Program Phase II (CVERAP Phase II)*. New Jersey Department of Community Affairs (DCA). (n.d.). https://www.nj.gov/dca/cverap2.shtml

[76] *Governor Murphy Signs Sweeping Housing Eviction Prevention and Utility Assistance Bill*. Office of the Governor. (2021, August 4). https://nj.gov/governor/news/news/562021/approved/20210804b.shtml

- Landlords were required to post information about the new law.[77]

- **December 15, 2021:** COVID Emergency Rental Assistance Program application period ended.

Timeline of Utilities Moratorium

- **March 13, 2020:** The Governor and the BPU announced that the State's public electric and gas companies had voluntarily agreed to suspend service shutoffs, given the Public Health Emergency.
- **April 13, 2020:** The Governor signed EO 126, which prohibited providers from terminating Internet and voice service due to nonpayment until 30 days after the end of the Public Health Emergency; late fees due to nonpayment were also prohibited.
- **October 15, 2020:** The Governor signed EO 190, which made mandatory the previously voluntary utilities disconnection moratorium, and which applied to all public and private residential gas, electric, and water utilities.
- **March 3, 2021:** The Governor signed EO 229 extending the utilities disconnection moratorium until June 30, 2021.[78]
- **June 14, 2021:** The Governor signed EO 246, which lifted the utilities disconnection moratorium on July 1, 2021, but allowed for a 6-month grace period for disconnection and for late-fee collection.
- **October 1, 2021**: BPU board order expanded income limits for qualification for utility assistance under the Universal Services Fund (USF) goes into effect.[79]
- **October 1, 2021:** BPU's Fresh Start program changes went into effect and included: (1) USF enrollees with an overdue balance of $60 or more would be enrolled in the Fresh Start program; and (2) For each month that customers paid their current utility bill in full, 1/12th of their outstanding balances would be forgiven.[80]
    - Program expansion was scheduled to last until Oct. 1, 2023.
- **December 21, 2021:** The Governor signed S4081, which extended the utility shutoff grace period established under EO 246 from December 31, 2021, to March 15, 2022, for all water, municipal electric, and sewer customers.[81]

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[77] *Eviction Moratorium Update*. Property Owners Association of New Jersey . (2021b, August 5). https://poanj.org/eviction-moratorium-update/

[78] *Governor Murphy Signs Executive Order Extending Utility Shutoff Moratorium Through June 30, 2021*. Office of the Governor. (2021a, March 3). https://www.nj.gov/governor/news/news/562021/20210303d.shtml

[79] *NJBPU Expands Utility Assistance Programs to Help Residents Financially Impacted by Pandemic*. Insider NJ. (2021, June 30). https://www.insidernj.com/press-release/njbpu-expands-utility-assistance-programs-help-residents-financially-impacted-pandemic/

[80] *NJBPU Expands Utility Assistance Programs to Help Residents Financially Impacted by Pandemic*. Insider NJ. (2021, June 30). https://www.insidernj.com/press-release/njbpu-expands-utility-assistance-programs-help-residents-financially-impacted-pandemic/

[81] *Governor Murphy Signs Legislation Extending Utility Shutoff Grace Period for Water and Sewer Customers*. Office of the Governor. (2021b, December 22). https://www.nj.gov/governor/news/news/562021/20211222a.shtml

- March 15, 2022: The grace period for the utilities moratorium ended, and state officials warned customers of potential shut-offs.
- March 25, 2022: The Governor signed S2356, which provided that residential customers who submitted an application for utility assistance before June 15, 2022 would be protected for 60 days after submitting the application, and if they completed their application during this time, would be protected until the State agency made a decision on the application. The DCA, DHS, BPU, or any other state agency administering a utility assistance program was to notify utility service providers of the customers who had applied for an assistance program and were eligible for this grace period while awaiting their application determination.[82]

Timeline of the NJEDA Support for Businesses

- March 26, 2020: The NJEDA announced a suite of COVID-19 relief programs for businesses and workers:
  - Small Business Emergency Assistance Loan Program Phase 1
  - Small Business Emergency Assistance Grant Program Phase 1
  - Community Development Financial Institutions (CDFI) Emergency Loan Loss Reserve Fund
    - $10M capital reserve fund to take a first-loss position on CDFI loans that provided low-interest working capital to micro-businesses.
  - CDFI Emergency Assistance Grant Program
    - $1.25M program to provide grants of up to $250K to CDFIs to scale operations or reduce interest rates for the duration of COVID-19 pandemic.[83]
  - The New Jersey Entrepreneur Support Program
    - $5M program to encourage continued capital flows to new companies, often in the innovation economy.
  - Small Business Emergency Assistance Guarantee Program
    - $10M program to provide 50% guarantees on working capital loans and waive fees on loans made through institutions participating in the NJEDA's existing Premier Lender or Premier CDFI programs.[84]
  - SBA Emergency Technical Assistance Program

[82] *Governor Murphy Signs Bill to Extend Prohibition on Utility Shutoffs for Certain Residential Customers*. Office of the Governor. (2022, March 25). https://www.nj.gov/governor/news/news/562022/20220325f.shtml
[83] *NJEDA Announces New Initiatives to Support Businesses Impacted by COVID-19*. Bergen County New Jersey. (2020, March 26). https://www.co.bergen.nj.us/public-information/press-releases/166-njeda-covid-program
[84] *NJEDA Announces New Initiatives to Support Businesses Impacted by COVID-19*. Bergen County New Jersey. (2020, March 26). https://www.co.bergen.nj.us/public-information/press-releases/166-njeda-covid-program

    - $150K program to support technical assistance to New Jersey-based companies applying for assistance through the U.S. Small Business Administration.
- **May 26, 2020:** Small Business Emergency Assistance Grant Program Phase 2 approved
  - As of February 19, 2021, the NJEDA disbursed $55,371,000 of the Grant Phase 2 funds to 19,267 businesses.[85]
    - 24% Minority-Owned Businesses
    - 26% Woman-Owned Businesses
    - 2% Veteran-Owned Businesses
    - 0.5% Disabled-Owned Businesses
    - 32% approved applications were for businesses in one of the State's 715 Opportunity Zone-eligible census tracts.[86]
- **July 29, 2020:** E-commerce Technical Assistance Services announced
  - $100K approved
  - 27 businesses helped
- **August 11, 2020:** New Jersey Small and Micro Business PPE Access Program announced
  - Program offered a 10% discount on a selection of PPE products to all New Jersey businesses through the NJEDA-approved "designated vendors," including Boxed, Office Depot, or Staples.
  - 8,973 businesses were approved for discounts totaling nearly $8M.[87]
- **October 5, 2020:** The NJEDA launched Business Consulting for COVID-19 Recovery.
  - $100K program, which by the end of 2020, helped 30 businesses.[88]
- **October 14, 2020:** Small Business Emergency Assistance Grant Program Phase 3 approved
  - As of February 26, 2021, the NJEDA had disbursed $144,066,000 of Grant Phase 3 funds to 20,236 businesses and non-profits.[89]
    - 32% Minority-Owned Businesses
    - 33% Woman-Owned Businesses

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[85] Office of the State Auditor, & Kaschak, D. J., New Jersey Economic Development Authority Selected COVID-19 Emergency Assistance Programs: March 1, 2020 to February 28, 2021 (2021), p. 4. Retrieved February 28, 2024, from https://dspace.njstatelib.org/bitstream/handle/10929/70807/95010220.pdf?sequence=1&isAllowed=y

[86] New Jersey Economic Development Authority, COVID-19 Programs Report 2020, p. 11. Retrieved February 28, 2024, from https://www.njeda.gov/wp-content/uploads/2021/02/2020-COVID-19-Activity-Report-1-28.pdf

[87] New Jersey Economic Development Authority, COVID-19 Programs Report 2020, p. 20. Retrieved February 28, 2024, from https://www.njeda.gov/wp-content/uploads/2021/02/2020-COVID-19-Activity-Report-1-28.pdf

[88] New Jersey Economic Development Authority, COVID-19 Programs Report 2020, p. 25. Retrieved February 28, 2024, from https://www.njeda.gov/wp-content/uploads/2021/02/2020-COVID-19-Activity-Report-1-28.pdf

[89] Office of the State Auditor , & Kaschak, D. J., New Jersey Economic Development Authority Selected COVID-19 Emergency Assistance Programs: March 1, 2020 to February 28, 2021 (2021), p. 4. Retrieved February 28, 2024, from https://dspace.njstatelib.org/bitstream/handle/10929/70807/95010220.pdf?sequence=1&isAllowed=y

    - 8% LatinX-Owned Businesses
    - 2% Disabled-Owned Businesses
    - 1% Veteran-Owned Businesses[90]
- **December 2020:** The Governor and the NJEDA launched the Sustain & Serve Program
  - Originally a $2M grant program, this grew into a $57.6M program that distributed more than 5.4 million meals.[91]
- **April 19, 2021:** Small Business Emergency Assistance Grant Program Phase 4
  - $85M in funding added from CARES Act.

[90] New Jersey Economic Development Authority, COVID-19 Programs Report 2020, p. 13. Retrieved February 28, 2024, from https://www.njeda.gov/wp-content/uploads/2021/02/2020-COVID-19-Activity-Report-1-28.pdf

[91] *Sustain & Serve NJ Distributes More Than 5 Million Meals*. NJEDA. (2023, August 1). https://www.njeda.gov/sustain-serve-nj-distributes-more-than-5-million-meals/#:~:text=Launched%20by%20Governor%20Phil%20Murphy,to%20New%20Jerseyans%20facing%20food

Section 5.13 Education

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5.13 Education

1. Context and Summary

COVID-19 disrupted schooling for millions of children and had long-lasting effects on their learning and development, as well as other aspects of their lives. In early March 2020, schools were among the first elements of daily life to shut down due to COVID-19. Schools provide crucial services to students besides education: they act as a safe haven for students suffering from abuse and neglect, a shelter for homeless students, and food providers for students with limited or uncertain access to adequate meals. The need to close schools may have seemed apparent to some, especially from a public health perspective. Students met daily and in close quarters—which was inherently at odds with social distancing requirements. However, decisions related to school closures cannot be made lightly as they can have serious repercussions on a student's education, development, health, and safety.

The first state to close schools was Ohio, on March 12, 2020. Other states quickly followed suit the week after. New Jersey had begun to issue guidance to prepare schools for closure as early as March 5, and first closed schools on March 16, 2020, with Executive Order (EO) 104. Like other states, New Jersey then had to create a comprehensive education plan that accounted for factors such as:

- Remote learning during school closures.
- Feeding programs to ensure that food-insecure students continued to receive meals.
- A reopening plan that bridged learning gaps while still prioritizing pandemic health and safety.

Initially, districts anticipated closures of only 1-2 weeks, and therefore were slow to implement the remote-learning capabilities necessary to support synchronous learning (where students and instructors interact in real-time at the same time and in the same virtual space). Governor Murphy did not announce that schools would definitively close for the remainder of the 2019-20 school year until May 4, 2020—2 months after initial closures.

Generally, in the United States, control over schools is more concentrated within municipalities than other public services. The New Jersey Department of Education (NJDOE) is primarily a regulatory body that sets broad mandates around curricula and monitors student, teacher, and school performance. During the pandemic, however, state Departments of Education needed to play a particularly significant role in responding to the massive undertaking of school closures and reopening. When schools closed, the NJDOE's responsibilities shifted very quickly to supporting school districts in navigating closures, providing detailed guidance on everything from ensuring that students received food to provisioning them with laptops and Wi-Fi, all while advising on how to run remote classrooms to continue delivering adequate education.

The State also had to address the risks of food insecurity that closing schools would incur, as many students receiving free and reduced-price lunches depended on their school for meals. Congress immediately granted waivers allowing Local Education Agencies (LEAs) to provide free meals to all students. This move paved the way for LEAs to set up programs for students who had access to free and reduced-price lunches and, in many cases, all students enrolled in the district, as well as their families and the broader community.

Eventually, school districts set up online classrooms, and the school year resumed. However, the pandemic had forced massive change, and much was still unknown about the standards that all public schools were required to meet (e.g., what could be counted toward different states' mandated days of learning, which ranged from 160 to 180 days). Meanwhile, pre-pandemic disparities widened as disadvantaged students struggled to gain the technology, Internet connectivity, and space they needed to attend school remotely. Students with learning disabilities also struggled, as it was often much more difficult to accommodate them adequately in a remote setting without access to the resources provided in person by schools. While students as a whole scored lower on math and reading assessments than students of the same grade before the pandemic, the drop in scores was larger for students with disabilities.[1]

States also had to consider the health concerns of reopening schools, particularly before vaccines were universally available to teachers and students. In making decisions on closing and reopening schools, states had to balance mitigating the health impact of the pandemic with addressing learning loss, particularly for disadvantaged students.

Across the country, the timing of school reopening varied significantly. This was shaped by factors such as disease prevalence, stakeholder opinions (which often differed in receptiveness to reopening in-person instruction), and the power of teachers' unions. When states did allow for reopening, few mandated opening schools. Instead, they left reopening decisions to districts while creating requirements or recommendations around safe operation. To reopen schools, Governor Murphy, the NJDOE, and the New Jersey Department of Health (NJDOH) worked together to develop guidance to protect students, teachers, and staff in line with guidelines from the Centers for Disease Control and Prevention (CDC). The guidance changed over time as the disease progressed, but generally included masking, social distancing, quarantine requirements, and vaccinations. Other recommended measures included:

- Offering remote learning services.
- Establishing a "Pandemic Response Team."
- Minimizing shared object usage in classrooms.
- Ensuring proper building ventilation with filters.
- Providing hand sanitizing stations and/or scheduling designated handwashing times.

[1] Blad, E. (2022, October 17). Special Education During the Pandemic, In Charts. Education Week. Retrieved from https://www.edweek.org/teaching-learning/special-education-during-the-pandemic-in-charts/2022/10

The notion of school opening quickly became a contentious issue in New Jersey. While the State prioritized opening schools earlier to address learning loss, parents and teachers vocalized diverse opinions, forcing school administrators to balance these competing interests. Additionally, union strength and local partisanships played a notable role in influencing school districts' decisions to reopen for the 2020-2021 school year.[2] Generally, across the country, school districts with teachers' unions that had more comprehensive collective bargaining agreements (in other words, districts in which teachers' unions have more power to negotiate contract terms as a group)[3]:

- Were less likely to start the 2020-2021 school year with in-person instruction.
- Were less likely to open for in-person instruction in the fall semester.
- Spent more weeks overall administering distance learning.

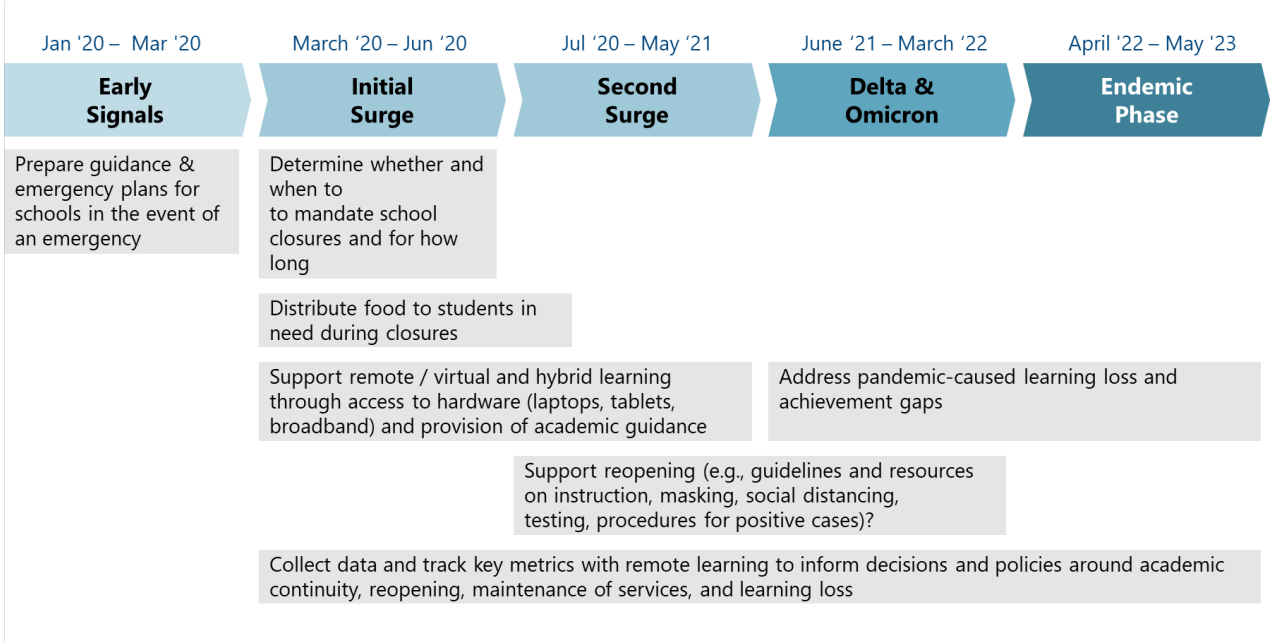
New Jersey was no different: its teachers' union was robust and generally opposed reopening in-person school, particularly in late 2020, when the vaccine was not yet widely available.

In addition, as schools reopened, states had to act to close the education gaps that worsened due to the pandemic. Marginalized students were more severely impacted, and the education gap increased more in states where LEAs were left to decide when to reopen and where schools remained closed longer across the board.

[2] Ujifusa, A. (2020, October 13). Untangling the Role of Trump, Unions, and Politics in School Reopening Decisions. Education Week. Retrieved from https://www.edweek.org/education/untangling-the-role-of-trump-unions-and-politics-in-school-reopening-decisions/2020/10

[3] Marianno, B., Hemphill, A., Coombes, E., Loures-Elias, A., Garcia, L., & Cooper, D,. (2022, January 26). Power in a Pandemic: Teachers' Unions and Their Responses to School Reopening. Sage Journals. Retrieved from https://journals.sagepub.com/doi/full/10.1177/23328584221074337

Exhibit 1: Key education decisions across states



2. New Jersey's Response

2.1. Key Agencies Involved

The NJDOE supports schools, educators and districts to ensure that New Jersey's students have equitable access to education. It also works with the Governor's Office and the NJDOH to set education-specific policies and guidance.

The Governor's Office set broad policy for the State, decided which services (including education and school meals) would be state priorities, and identified which types of decisions would be delegated to the NJDOE. Additionally, the Governor's Office approved NJDOE messaging and issued enforceable EOs regarding education and schools.

The NJDOH sets broad policy and guidance for the State. It dictated closures and broad health guidance, offering input on education-specific guidance and priorities.

The New Jersey Department of Agriculture (NJDA) manages programs that feed school children. It is the agency authorized by the U.S. Department of Agriculture (USDA) to administer and enforce the School Meals Programs in New Jersey. It secured all available waivers from USDA to continue to feed students during the pandemic and worked with the NJDOE to ensure that meals were delivered to students learning remotely.

LEAs oversaw districts at the county or local level. They operationalized guidance on education and support, including remote education, provision of food, closing the digital divide, and reopening.

Many operational decisions, including when and how to reopen, were determined by LEAs, which had decision-making latitude within the statutes set by the State.

Other state agencies, including the Department of Human Services (NJDHS) and the Office of Emergency Management (NJOEM), played supporting roles in providing pandemic-era relief and resources to students and their families via the NJDOE.

2.2. Key Decisions

2.2.1. School Closures

In New Jersey and across the United States, state governor's offices maintained the authority to issue state-wide school closures. New Jersey's decisions on school closures largely followed federal and CDC guidelines and other states' examples.

On February 25, 2020, the CDC issued its first warning to schools, encouraging them to prepare for closures and remote learning. Ohio was the first state to shut down its schools statewide on March 12, 2020. Other states, including Pennsylvania and Virginia, quickly followed suit. During the same week, many districts in New Jersey[4] had half days or abbreviated sessions to give teachers time to prepare material in the case of a prolonged closure. Additionally, some districts announced multi-week closures, which would begin the following week.

By the following day, March 13, New Jersey was in full preparation mode for school closures. The NJDOE announced that days of remote instruction during a public health emergency could count toward New Jersey's 180-day school year requirement. This modified the pre-COVID-19 policy, which had no provisions for remote learning. Meanwhile, the Governor's Office was preparing contingency plans for the measures that would need to be in place before issuing a statewide school closure. Of particular concern was students who relied on school for meals and how they could continue to receive nutrition.

On March 16, 2020, President Trump issued national guidelines that advised several closures, including for schools. That same day, Governor Murphy issued an EO, effective March 18, to close schools and order residents to stay home when possible. This EO came 2 days after the Governor had ordered businesses to close. Closure decisions were coordinated with New York, which also issued EOs for school closures on March 16; these became effective on March 18.

When the State closed, many government officials, including within the NJDOE, expected the shutdown would last weeks, rather than months or years. The State did not explicitly outline whether schools would remain closed for the duration of the school year until May 4, nearly 2 months after the initial school closures.

[4] Kakkar, A. (2020, March 12). Coronavirus closures: Latest N.J. school district closings, map of outbreak (Thursday March 12). NJ.com. Retrieved from https://www.nj.com/coronavirus/2020/03/coronavirus-closures-updated-list-of-nj-school-districts-that-are-closing-map-of-outbreak-thursday-march-12.html

2.2.2. Feeding Students

The NJDOE, in partnership with the NJDA and LEAs, ran school feeding services for all public school students throughout the pandemic. The NJDOE also worked with the NJDA in obtaining waiver approvals for increased flexibility with meal services, including COVID-19 Meal Service Times Nationwide Waivers; Supplemental Nutrition Assistance Program (SNAP), and Child Nutrition Area Eligibility Waiver.

Prior to the pandemic, New Jersey schools had been a critical source of food for the nearly 400,000 students[5] (approximately 30% of total students in New Jersey) who received some level of free or reduced-price lunch. As soon as closing schools became an option, Governor Murphy prioritized finding a solution to ensure that those students would not go hungry.

On March 13, the Governor's Office tasked the NJDOE Director of School Preparedness & Emergency Planning with solving how students would continue to receive meals if or when schools shut down. Some 48 hours later, the NJDOE team had created a plan for feeding students in the event of a shutdown based on New Jersey's annual summer food program. As schools closed, the NJDOE released guidance to LEAs and local Offices of Emergency Management on how to feed students safely, securely, and in compliance with federal standards.

On March 20, 2020, New Jersey's legislature enacted legislation that required school districts to supply meals or vouchers[6] to students eligible for free and reduced-price school meals during COVID-19-related closures. The statute instructed districts to establish accessible meal distribution sites. For areas where students were unable to reach the meal distribution sites, districts were instructed to use school buses or contractors to deliver up to 3 days' worth of food to residences or bus stops. NJDA worked closely with school food service operators and business officials to distribute food, which NJDA received directly from the USDA. NJDA performed compliance audits on school food programs to validate that they met standards of quality and pandemic health guidelines.

New Jersey complied with federal standards, prohibiting making free- and-reduced lunch status identifiable to the broader community and allowing schools to provide meals to all students, regardless of income.

Once feeding plans were initiated, the NJDOE School Preparedness and Emergency Planning team, together with the NJSP and local OEM coordinators, went to schools to observe and take note of the challenges that LEAs were experiencing with food distribution in the field. The NJDOE visited more than 1,000 schools in 6 weeks. They compiled best practices from visits and re-shared them

[5] The Annie E. Casey Foundation Kids Count Data Center. (n.d.). Children Receiving Free/Reduced Price School Lunch in New Jersey. Retrieved from https://datacenter.aecf.org/data/line/2108-children-receiving-free-reduced-price-school-lunch?loc=32&loct=2#2/any/false/1769,1696,1648,1603,1539,1381,1246,1124,1021,909/asc/any/4420

[6] New Jersey Legislature. (2020, March 16). Assembly No 3840. Retrieved from https://pub.njleg.gov/bills/2020/A4000/3840_I1.PDF

across the State in webinars that reached more than 15,000 educators. The program was so successful that the U.S. Department of Education (ED) asked the New Jersey team to host a national webinar.

In addition, the NJDOE's food distribution approach became a model for the Department's plan to distribute laptops and other technology to close the digital divide, by setting up points of distribution or Internet hotspots at schools.

The NJDOE also supported the New Jersey Department of Human Services (NJDHS) in deploying Pandemic Electronic Benefit Transfer (P-EBT), a federal program that provided food benefits to children who were unable to receive food in school during the pandemic. The program depended on school enrollment data to determine eligibility, and on school districts to communicate with families.

Although NJDHS's Division of Family Development (DFD) oversees programs that provide food benefits to children, such as SNAP and Temporary Assistance for Needy Families (TANF), it was critical for the NJDOE to spearhead school feeding, because the 500+ school districts in New Jersey were unfamiliar stakeholders to DFD.

2.2.3. Supporting Virtual Learning

When schools closed, it was unclear to many leaders, including NJDOE staff and the Superintendents they support, how long closures would last. This uncertainty made it difficult to identify the type and timing of needed guidance. Additional delays in the NJDOE's reopening decisions arose due to dependencies on other agencies. For example, the NJDOE deferred to the NJDOH, which followed CDC recommendations, which also took time to formulate and release. When the CDC eventually issued guidance in spring 2020 to close schools for the remainder of the school year, it was because it would have been logistically impossible to be ready to reopen schools before the end of the academic year.

During the first weeks, many students were supported only by take-home packets of work while schools decided how much to invest in remote capabilities, and then actually made the investments. At the same time, the NJDOE provided support by:

- Serving as a liaison between LEAs and the NJDOH/the Governor's Office to communicate health guidance and interpret EOs.
- Issuing guidance for what educating students in a remote environment even meant.
- Providing funds to schools to procure technology.
- Helping provide connectivity to students.

The NJDOE also offered guidance and resources on everything from lesson plans in a remote environment, to what counted as "attendance" to classroom safety issues such as "Zoom bombings." Examples include:

- "Teacher Resources for Remote Instruction" to instructors, which included technology tools and digital resources across content areas.
- "Guiding the Education Community Through the COVID-19 Pandemic," a website that included updates, resources, and guidance for educators, administrators, and students and their families.

To increase the security of platforms for virtual learning, the NJDOE partnered with FEMA, NJOHSP, and the State Police to provide guidance on "culture and climate" in virtual classrooms. This included guidance on the rules that educators should enforce in virtual classrooms, such as acceptable kinds of video backgrounds or language in chats, to maintain classroom environments that were conducive to learning and safe for students.

At the outset of the pandemic, very few school districts (in New Jersey and beyond) had a device (e.g., laptop or tablet) for each student, nor did they have robust video conferencing capabilities. There was no data on New Jersey's digital divide ahead of the pandemic, so educators were not aware of the extent of the problem when it became apparent that COVID-19 would last longer than just a few weeks. Had they been aware of the severity of the digital divide earlier, they could have moved faster to bridge the gap.

> *The digital divide*
>
> *Wealthier schools were able to react more quickly to close the digital divide, as they were more likely to be better equipped with technology to begin with. Districts' readiness to transition to remote learning was thus highly correlated with their socioeconomic status, widening the existent achievement gap for low-income students.*

To bridge the digital divide, NJDOE administered federal funding to LEAs to set up the technological infrastructure for remote learning. When the NJDOE received its first round of federal Elementary and Secondary School Emergency Relief (ESSER) funding through the CARES Act in late March 2020, and further rounds of ESSER funding in December 2020 and March 2021, they allocated a significant portion to help LEAs buy technology for their staff and students. While the NJDOE initially considered purchasing technology themselves, they ultimately passed the money through to LEAs, which was administratively more simple due to New Jersey's lengthy procurement and reimbursement processes, which would have required more staff and hours than the NJDOE had available.

Since the NJDOE had charged LEAs with assessing and meeting needs, it had not developed the data infrastructure necessary to collect critical information, such as which students needed devices. The NJDOE resorted to frequent surveys of LEAs and schools, as well as reports from county superintendents, to gather information. As a result, data reporting to the NJDOE from districts on the digital divide was slow.

The NJDOE also coordinated with LEAs and Comcast to provide free Internet access to students without connectivity. Still, regions where Comcast had not already laid wire could not be served. To mitigate this issue, the NJDOE worked to find creative solutions, including setting up hotspots on

parked buses (often in locations where student lunch pick-up took place) so that students in the area could connect.

Shortly after schools shut down, Governor Murphy announced the cancellation of statewide student assessments for the spring 2020 testing window, as there was no infrastructure for remote testing or proctoring.

2.2.4. Reopening Guidance

While the Governor's Office mandated school closures via EO, it did not mandate schools to completely reopen for the 2020-2021 school year. Instead, Governor Murphy released EO 175 in August 2020, permitting schools to reopen on the condition that they submit to the State reopening plans that adhered to strict criteria, including continuing to enable remote learning. However, the decision to reopen schools for in-person learning was left to the LEAs' discretion.

Reopening was not mandated at the state level because the NJDOE knew it would be difficult for all schools to meet the mandatory health and safety restrictions that would come with reopening. In particular, many urban schools were unable to reopen safely because they had higher student population densities and used older buildings, making social distancing difficult.

For districts that chose to offer in-person or hybrid instruction, the NJDOE issued reopening guidance in line with CDC guidelines. "The Road Back,"[7] the NJDOE's restart plan for LEAs, outlined specific requirements for schools, designed in close partnership with the NJDOH and the Governor's Office.

The *Road Back* outlined a host of minimum reopening conditions, including that:

- Students be seated at least 6 feet apart.
- Hand sanitizing stations be prepared and available in highly trafficked spaces.
- Schools adopt screening and isolation procedures.
- Districts develop a schedule for routine cleaning and disinfecting.

Ever-changing guidelines

One issue with the NJDOE basing its reopening plans on CDC guidelines was that CDC recommendations were constantly changing. This caused confusion for some schools, as CDC protocols were often outdated by the time the NJDOE released its plans.

School nurses played a significant role in ensuring that school procedures followed NJDOE guidelines. They did everything—from setting up triage areas in schools to doing contact tracing for positive cases.

The *Road Back* also provided recommendations for districts to provide wraparound services such as mental health, health care, and academic mentoring. Nonetheless, in the fall of 2020, most

[7] New Jersey Department of Education. (2020, June). The Road Back – Restart and Recovery Plan for Education. Retrieved from https://www.nj.gov/education/reopening/NJDOETheRoadBack.pdf

school districts in New Jersey declined to fully reopen[8] for a myriad of reasons, including staff unwillingness to return and logistical difficulties in preparing school grounds for safe return. For many schools, the biggest bottleneck to reopening was finding a way to maintain compliance with guidelines on social distancing in the classroom. Cafeterias were a particular concern for the number of students that would typically convene in a single location for lunch.

Of note, New Jersey is home to one of the strongest teachers' unions in the U.S.,[9] and there is significant empirical evidence that schools where teachers were represented by unions reopened later.[10] In New Jersey, teachers' unions expressed concerns over rising cases of COVID-19 infection, the high cost of equipping schools to follow safety guidelines (such as purchasing masks or barriers), and the lack of universal vaccination (particularly in January 2021, when the State considered reopening schools for in-person education but vaccines were not yet available for the general population).[11]

When the 2020-2021 school year began, most New Jersey schools were still operating in remote-learning mode. The NJDOE continued to provide the same virtual learning guidance and support. To support schools that chose to reopen, New Jersey used $100M of its Coronavirus Relief Fund to lower the costs of reopening schools for the school year (including purchasing safety equipment like PPE and plexiglass barriers), allocate funding by student headcount, and provide extra funding for low-income students.

On May 17, 2021, Governor Murphy mandated full-time, in-person instruction for all schools beginning in the fall of 2021, given the improved health conditions and vaccine availability for students aged 12 and above. The State then issued a series of guidelines to enable schools to safely remain open.

On August 6, 2021, Governor Murphy issued a masking mandate for students and school staff alike via EO 251. This decision was made in consideration of rising cases in the Delta & Omicron Surge. The CDC also revised its K-12 guidelines in July 2021 to recommend universal indoor masking in

[8] New Jersey Office of the Governor. (2020, September 2). Transcript: September 2nd, 2020 Coronavirus Briefing Media. Retrieved from https://www.nj.gov/governor/news/news/562020/20200902b.shtml

[9] Northern, A, Scull, J., & Shaw, D. (2012, October 29). How Strong Are U.S. Teacher Unions? A State-By-State Comparison. Fordham Institute. Retrieved from https://fordhaminstitute.org/national/research/how-strong-are-us-teacher-unions-state-state-comparison

[10] For example: Marianno, B., Hemphill, A., Loures-Elias, A., Garcia, L., Cooper, D. & Coombes, E. (2022). Power in a Pandemic: Teachers' Unions and Their Responses to School Reopening. Sage Publications. Retrieved from https://files.eric.ed.gov/fulltext/EJ1360359.pdf

[11] Tully, T. (2021, January 25). School Were Set to Reopen. Then the Teachers' Union Stepped In. The New York Times. Retrieved from https://www.nytimes.com/2021/01/25/nyregion/montclair-schools-covid.html

schools, even for fully vaccinated individuals.[12] The mask mandate was lifted on March 7, 2022, with the end of New Jersey's public health emergency.

On August 23, 2021, Governor Murphy issued an EO that required all teachers and school staff to get vaccinated by October 18, or test once or twice weekly. The Governor's Office issued this guidance as part of a suite of vaccine-or-test mandates. These mandates were initially considered because Universities in the Rutgers system requested guidance on issuing a vaccine mandate to employees, including those represented by unions. The mandate – already issued in California and Hawaii – had significant backing from New Jersey's largest teachers' union. The CDC also strongly recommended vaccinating eligible teachers and other educational staff. The State never made COVID-19 vaccinations mandatory for students.

Mask Mandates

Public opinion in New Jersey regarding school masking was divided. In August 2021, more than 1,400 parents filed an appeal against the mask mandate, seeking a return to normal routines. When the mandate was lifted, the New Jersey Education Association supported lifting the mandate but left room for reimposition if cases surged. The debate involved parents, school boards, teachers, officials, and doctors – all with varying views on the role of masks in protecting public health and addressing academic loss.

Finally, after all schools reopened, the NJDOH enacted the Test to Stay protocol, starting January 2022, to allow negative-testing, asymptomatic close contacts to continue in-person instruction instead of asking all contacts to quarantine.

2.2.5. Addressing Learning Loss

When schools closed in March 2020, educators expected some learning loss—but not at the scale that actually occurred over time. This was partially because there had never been an experiment with remote learning at scale. It was also because decisions were made in increments of a few weeks, often without a big-picture perspective on aggregate time out of school.

When schools shut down, New Jersey was forced to suspend student academic assessments (via EO 117 on April 7, 2020), which, in turn, prevented the NJDOE from evaluating teacher or school performance. Additionally, suspended assessments prevented the State from measuring the learning loss caused by COVID-19, hampering decision-making about reopening.

To gain some window into student performance, the NJDOE worked with assessment vendors to create the Start Strong assessment for some grades. This was a short test that measured the bare minimum for students to learn at the new academic year's grade level. Using this assessment was not mandated in the 2020-2021 school year, but was for future school years until statewide assessments returned.

[12] Howard, J. (2021, July 27). CDC recommends encouraging everyone to wear a mask in school regardless of vaccination status. CNN.com. Retrieved from https://www.cnn.com/2021/07/27/health/cdc-guidance-wear-a-mask-in-school-bn/index.html

Many school districts partnered independently with assessment vendors to track their schools' progress during the pandemic. The NJDOE looked to these classroom assessments, which were administered throughout the school year, as a more accurate measure of learning loss than point-in-time statewide assessments. However, the NJDOE found it nearly impossible to draw statewide conclusions using assessments from vendors across districts—since different districts used different assessment vendors, results could not be accurately normalized across regions. Still, as the pandemic proceeded, even without the benefit of state assessments, it became clear that students were falling behind rapidly. The NJDOE made efforts to combat this lag.

In December 2020, the NJDOE announced $2.5M in competitive grant awards under the program for Addressing Student Learning Loss from the Coronavirus Act and the CARES Act. Applicants submitted proposals to implement interventions or strategies for additional math, English language arts (ELA), and social-emotional learning (SEL). Sixteen grants were awarded up to ~$150K and supported 3,588 K-12 students across all student populations. Eleven of the grant recipients continued their summer 2021 learning programs in summer 2022, due to the success of the initial summer programs.

The NJDOE also directed funding to mitigate students' learning loss, including support for summer instruction, Individualized Education Programs (IEPs) for students with special needs or disabilities, SEL, and additional support for students experiencing homelessness. Other state set-aside funds were also directed at addressing content areas disproportionately weakened by COVID-19, particularly in STEM. The NJDOE allocated $75M to establish the Learning Acceleration grant,[13] with a minimum of $25K allocated to each LEA. Each LEA allocated ~56% towards STEM fields and ~18% towards language arts and visual arts, with the remainder used for activities to support the broader learning ecosystem.

Learning loss

There is clear evidence that when students return to the classroom, learning loss slows. In New Jersey, there was strong evidence of this in even the most underserved populations by December 2020, as NJDCF schools were already operating on an in-person basis. Even with some teachers joining classrooms remotely, the Department immediately noticed an improvement in their students' educational attainment.

In March 2021, the NJDOE allocated $30M of its state set-aside funding from the federal Coronavirus Response and Relief Supplemental Appropriations Act to further assist schools in providing mental health services.

[13] New Jersey Department of Education. (2020, December 27). Coronavirus Response and Relief Supplemental Appropriations. Retrieved from https://www.nj.gov/education/esser/crrsa/

In February 2023, Governor Murphy and the NJDOE first announced the New Jersey Learning Acceleration High Impact Tutoring Program[14]. This program provided $52M in grants to LEAs to provide tutoring services to mitigate learning loss due to COVID-19, and opened for applications in July 2023[15].

As the pandemic disrupted schooling for students at all educational institutions, other New Jersey agencies that offer educational support, including the Office of Higher Education (OSHE) and the Office of Education (OOE) under the Department of Children and Families (DCF), played supporting roles in addressing the learning loss. These supporting roles are described in more detail below.

Higher Education

OSHE oversees higher education institutions in New Jersey. In addition to issuing guidance to these institutions during COVID-19, OSHE offered support outside of its typical operational oversight, including:

- OSHE worked with the NJDOE to distribute hot spots to students without connectivity.
- OSHE distributed federal funds and liaised between institutions and the Governor's Office's DRO for questions on how funding could be spent. Given the sudden influx of federal funding, OSHE expanded the finance team to ensure appropriate allocation.
- Institutions that decided to reopen were required to submit restart plans to OSHE based on transmission levels. Plans had to comply with EOs, be approved by OSHE, and be publicly posted with a phased approach.
- OSHE convened an Education Restart and Recovery Council that lasted until early 2022 for institutions to test out guidance and share best practices.

In addition to providing guidance on school reopening, OSHE made sure to provide enough flexibility for institutions to make their own decisions. For example, Rutgers mandated vaccinations for the fall of 2021, and was the first major institution in the country to do so.

[14] New Jersey Department of Education. (2023, February 24). Murphy Administration Announces Programs to Boost Student Learning with High Impact Tutoring and RAPID Learning Acceleration Professional Development Programs. Retrieved from https://www.nj.gov/education/news/2023/MurphyAdministrationAnnouncesProgramstoBoostStudentLearningwithHighImpactTutoringandRAPIDLearning.pdf

[15] New Jersey Department of Education. (2023, September 20). New Jersey Learning Acceleration Program: High Impact Tutoring Notice of Grant Opportunity (NGO). Retrieved from https://www.nj.gov/education/broadcasts/2023/july/28/NewJerseyLearningAccellerationProgramHigh-ImpactTutoringProgramNoticeofGrantOpportunity.pdf

NJDCF Schools

The New Jersey Office of Education (NJOOE), under the New Jersey Department of Children and Families (NJDCF), operates 14 state-run schools for high-risk youth, including teen parents and pregnant teens, youth with long-term hospital stays, and others unable to thrive in traditional school.

When schools closed, students did not have school-issued laptops. Like their NJDOE peers, NJOOE scrambled to close the digital divide – and received free hotspots directly from Comcast. This was significantly more efficient than going through the State's procurement process, which would have taken up to 6 weeks.

NJOOE struggled to procure laptops as quickly as it did hotspots. This was due to supply chain issues at the beginning of the pandemic. However, once laptops became available, NJOOE secured Chromebooks for students and staff.

While closed, NJDCF schools provided students with food, coordinating with local school districts to ensure that families with children in both districts were covered. NJDCF also tasked cooks, bus drivers and classroom aides (who were unable to perform their specific roles) to deliver meals to students' homes when necessary. This lasted from March to September 2020, and meal deliveries continued during the hybrid phase of reopening.

For the populations that NJOOE supports, being home and away from schools and services was particularly difficult. Students had differentiated learning needs that their parents had not previously had to deal with, or were parents themselves. Teachers' aides and nurses supported students and families throughout the pandemic by fielding questions and contacting parents to ensure that they were able to support their at-risk children. NJOOE could keep all of its staff—bus drivers, cooks, aides—because they could repurpose skills to match needs.

Most DOE-run schools did not reopen in fall 2020, despite having the green light from the Governor's Office. On the other hand, NJDCF-run schools opened as soon as they were able, and found that as soon as students were back in the classroom, they were able to start recovering academic and other social-emotional learning loss, which was a particularly big issue for the populations NJOOE serves. In addition, the NJDCF Office of Education found important ways to innovate to allow for social distancing and to manage a depleted force of teachers, such as having teachers join multiple classrooms (where students are physically present) virtually at the same time, with teachers' aides present in each room.

2.3. Equity and Access

COVID-19 had a three-fold impact on marginalized students: 1) They experienced all of the particular challenges that any marginalized person might, including higher health risks for them and their families, and higher probability of income loss for their families. 2) As mentioned above, marginalized students were less likely to have the devices, broadband, or physical space necessary to continue their schooling from home. 3) They were less likely to have a parent who could set

aside time to help with homework, or keep them on task during the long days of instruction delivered via Zoom.

These marginalized populations included students with disabilities, English-language learners, low-income students, Black and Latino students, and students experiencing homelessness or living in an out-of-home setting. To support these students, New Jersey undertook several initiatives in addition to those already described above:

- The NJDOE created several webinars and guidance documents specifically for English Language Learners. Resources for educators include online interactive lessons[16], and access to online resources such as Unite for Literacy, International Children's Digital Library.
- To determine the needs of students with disabilities, the NJDOE held regional meetings with district directors of special education. The NJDOE worked with ED to ensure that special needs for virtual instruction were met, and made Dynamic Learning Maps available for teachers to conduct assessments of special education students.
    - Across New Jersey, the NJDOE struggled to make special education services available remotely, because existing policies prohibited remote administration. Eventually, the NJDOE worked with ED to secure permission for students who had been receiving additional services to continue to receive them in a virtual environment.
- The NJDOE brought students with disabilities back to in-person schooling first, to ensure they had the additional supports they needed.

2.3.1. The "Digital Divide" and Other Remote Learning Challenges

As discussed above, overcoming the digital divide between students with the hardware, Internet access, and physical space to successfully attend school virtually and students who lacked these resources presented a serious equity issue during the pandemic. The State recognized this digital divide between students capable of attending school virtually and those who lacked the resources to do so. In July 2020, New Jersey launched the $54M Digital Divide Grant to ensure that all students in all New Jersey public school districts would have what they needed to connect with their classrooms online. In March 2021, Governor Murphy announced that the digital divide had been "closed," with all public school districts reporting that every one of their students had the technology and connectivity to attend school virtually.[17] Critics pointed out, however, that a laptop and hot spot issued for 1 year would not permanently address a problem as complex as the digital

[16] New Jersey Department of Education. (2020, April 17). English Language Learners. Retrieved from https://www.nj.gov/education/covid19/sped/ell.shtml

[17] New Jersey Office of the Governor. (2021, March 10). ICYMI: Department of Education Announces NJ Schools Have Bridged the 'Digital Divide'. Retrieved from https://www.nj.gov/governor/news/news/562021/20210310c.shtml

divide.[18] Teachers and superintendents also continued to raise concerns about students failing to log on for online classes.[19]

2.3.2. The Achievement Gap

As discussed above in Section 2.2.5, many students who *were* able to attend school virtually fell significantly behind. Like many states, New Jersey entered the pandemic already struggling with an achievement gap between low-income students of color and wealthier White students.[20] This gap became a chasm during the pandemic. Students who returned to in-person school more quickly generally suffered less learning loss, but in New Jersey, students of color were more likely to attend school virtually for longer than White students.[21] Whiter, wealthier districts were able to reopen for in-person school more quickly than under-resourced districts. Students of color are also more likely to come from low-income families in which parents are not necessarily available to keep their children focused and attentive through long days of virtual instruction and where children are less likely to live in homes large enough to support dedicated, quiet, private learning spaces.[22] Because teachers have trouble assessing the engagement and well-being of students who log on for online classes but leave their cameras off and never participate, timely intervention and remediation became more difficult.

Restoring students to 2019 achievement levels in some academic subjects is projected to take years, and closing the achievement gap will require significant, sustained investment.[23]

2.3.3. Department of Children and Families Schools

After schools shut down and parents were at home all day with their high-need children, teachers' aides and nurses spent much of their time on the phone with these parents, who needed guidance. One challenge the NJDCF Office of Education faced early on was that it did not always have the

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[18] Holcomb, S., Hetling, A., Porumbescu, G. & Trehan, V. (2022, January 19). State efforts to close the K-12 digital divide may come up short. The Conversation. Retrieved from https://theconversation.com/state-efforts-to-close-the-k-12-digital-divide-may-come-up-short-173977

[19] Sitrin, C. (2021, March 11). New Jersey has closed its digital divide, Murphy says. Politico. Retrieved from https://www.politico.com/news/2021/03/11/new-jersey-has-closed-its-digital-divide-murphy-says-475382

[20] Mooring, C. (2023, February 16). The achievement gap becomes an achievement crisis. NJ.com. Retrieved from https://www.nj.com/opinion/2022/01/the-achievement-gap-becomes-an-achievement-crisis-opinion.html; see also 5.6 for additional discussion of disparities between rural, urban, and suburban areas.

[21] *See* Exhibit 9, "Disparity in in-person learning"

[22] *See* Spievack, N. & Gallagher, M. (2020, June 23). For Students of Color, Remote Learning Environments Pose Multiple Challenges. Urban Institute. Retrieved from https://www.urban.org/urban-wire/students-color-remote-learning-environments-pose-multiple-challenges

[23] Kelley, T. (2024, February 2). Slow progress in N.J. schools recovering from the pandemic, national study says. NJ. Com. Retrieved from https://www.nj.com/education/2024/02/slow-progress-in-nj-schools-recovering-from-the-pandemic-national-study-says.html

resources to communicate with non-English-speaking parents—in the early days of the pandemic, the translation services the NJDCF Office of Education would ordinarily use became unavailable.

Once schools began reopening, the NJDCF Office of Education brought students back to classrooms on a staggered basis to make social distancing possible. The NJDCF Office of Education acquired "Smartboards," headphones, and "Talkboxes" so teachers could provide virtual instruction to students physically present in multiple classrooms at once while proctors supervised the classrooms and so students could stay in the same room while receiving instruction from multiple teachers. This helped the Office compensate for a teacher shortage.

Because educators were so concerned about meeting students' basic physical, mental, and emotional needs, they were less concerned about maintaining academic rigor during the early days of the pandemic. One lesson the NJDCF Office of Education reported learning was that they "leaned too far toward social work, as opposed to education." In retrospect, the NJDCF Office of Education reflected, it would have been better for students if educators had maintained more of a focus on education. Now that students are back in the classroom full-time, it has become clear to educators in these schools that a great deal of compensatory education will be required to remediate the learning loss suffered during the pandemic.

2.3.4. Higher Education

Community advocates who testified before the Racial Disparities Task Force spoke about college students who were forced to take time away from school during the pandemic because of illness, family issues, financial challenges, or other stressors. Not all of these students have gotten back on track to completing their degree programs, and some will take longer than anticipated to complete their degrees, according to some who testified before the Racial Disparities Task Force. These advocates also testified that the existing financial aid systems are not necessarily set up to adequately support people who need additional time to complete their degrees. Some students who rely on financial aid have seen their educational plans derailed because eligibility for some loans, grants, and scholarships is capped after a certain number of years, according to testimony.

3. Comparison to Other States[24]

School Closures

New Jersey outlined guidance and provided implementation support for schools' virtual learning models, from curriculum adaptations to broadband access, in the 2020-2021 school year. All

[24] Benchmark states for **Chapter 5** (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in **Appendix.**

comparison states—New York, California, Florida, Illinois, Ohio, Pennsylvania, and Virginia—put forth similar guidance or helped schools implement remote learning practices.

Closing the digital divide was a two-fold operation: students needed both hardware (e.g., laptops, tablets) and Internet connectivity. For the most part, states provided schools with federal funding for digital divide initiatives but left the logistics of implementation to LEAs.

Most comparison states made federal funding available for LEAs for hardware initiatives, but LEAs were responsible for assessing the need for, ordering, and distributing the hardware. On the other hand, some states took a more involved approach to providing broadband access to students. While the NJDOE worked directly with Comcast to increase connectivity across the State, Virginia's DOE contracted consulting firms to help superintendents connect as many students and staff to the Internet as possible.

Feeding Students

In 2020, Congress passed the Families First Coronavirus Response Act,[25] granting the USDA the authority to offer temporary free meals for all students nationwide. This initiative was extended until September 2020 through the Keep Kids Fed Act, including free meals in the summer and eligibility-based free or reduced-price meals in the fall.

Following the conclusion of the national meal waivers, various states introduced legislation to continue providing meals to students. For example, California implemented universal free school meal programs, irrespective of income. In 2022, New Jersey passed legislation to expand eligibility for free school meals. The bill raised the eligibility limit from students whose family income was less than 185% above the federal poverty line to 200% above the federal poverty line.[26]

Supporting Virtual Learning

New Jersey outlined guidance and provided implementation support for schools' virtual learning models, from curriculum adaptations to broadband access, in the 2020-2021 school year. All comparison states—New York, California, Florida, Illinois, Ohio, Pennsylvania, and Virginia—put forth similar guidance or helped schools implement remote learning practices.

Closing the digital divide was a two-fold operation: students needed both hardware (e.g., laptops, tablets) and Internet connectivity. For the most part, states provided schools with federal funding for digital divide initiatives but left the logistics of implementation to LEAs.

[25] Economou, R. (2022, July 29). States Step in as End of Free School Meal Waivers Looms. National Conference of State Legislatures. Retrieved from https://www.ncsl.org/state-legislatures-news/details/states-step-in-as-end-of-free-school-meal-waivers-looms

[26] New Jersey Legislature. (2022). Bill A2368 AcaSca (2R) Working Class Families' Anti-Hunger Act. Retrieved from https://www.njleg.state.nj.us/bill-search/2022/A2368

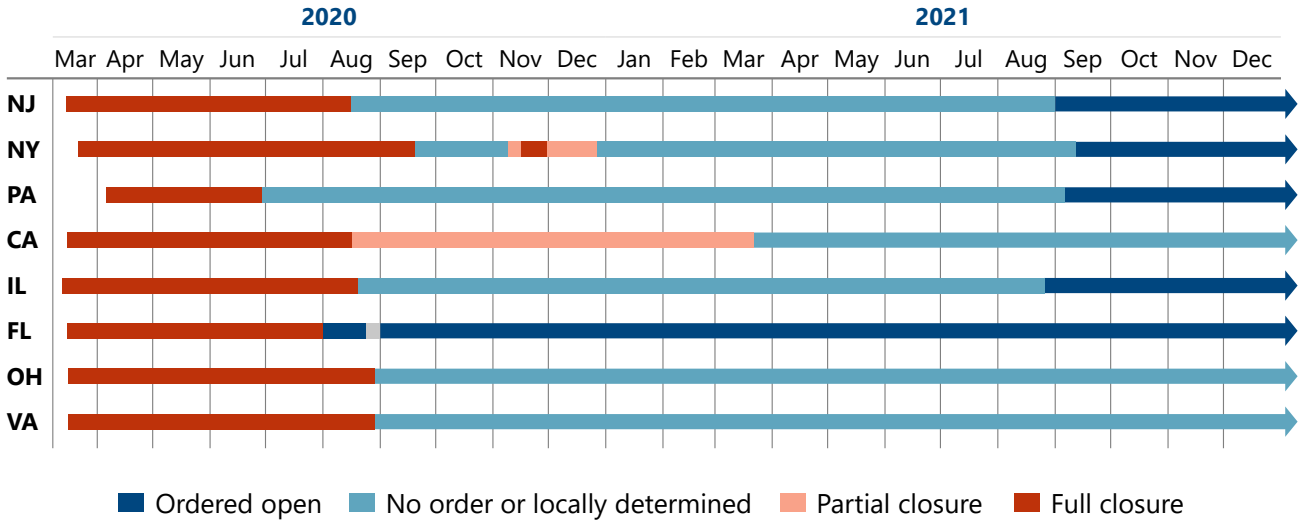
Most comparison states made federal funding available for LEAs for hardware initiatives, but LEAs were responsible for assessing the need for, ordering, and distributing the hardware. On the other hand, some states took a more involved approach to providing broadband access to students. While the NJDOE worked directly with Comcast to increase connectivity across the State, Virginia's DOE contracted consulting firms to help superintendents connect as many students and staff to the Internet as possible.

Reopening Guidance

While states were generally uniform in issuing school closures from late March 2020 to the end of the 2019-2020 school year, states' approaches to reopening in the 2020-2021 school year were varied. Most did not issue orders and allowed for locally determined openings for the entire school year. Of comparison states, only Florida issued a full reopening mandate.

Among comparison states, Florida was a significant outlier: it mandated school reopening in August 2020 for the entire 2020 school year (see exhibit below). Florida's school districts differ from New Jersey's in two ways. First, Florida has significantly fewer school districts (67 vs. New Jersey's 697 LEAs). Florida's school districts are also delineated based on its counties, with one for each of its 67 counties, while New Jersey's LEA's are more localized, sometimes serving a single municipality or charter school. One benefit to Florida's strategy is that mandating reopening across the board meant Florida was the only state in the benchmark set where minority and low-income students received a comparable amount of in-person instruction as their White or wealthy peers. In states that allowed for local determination, including New Jersey, they received significantly less in-person instruction.

Exhibit 2: Local decision authority

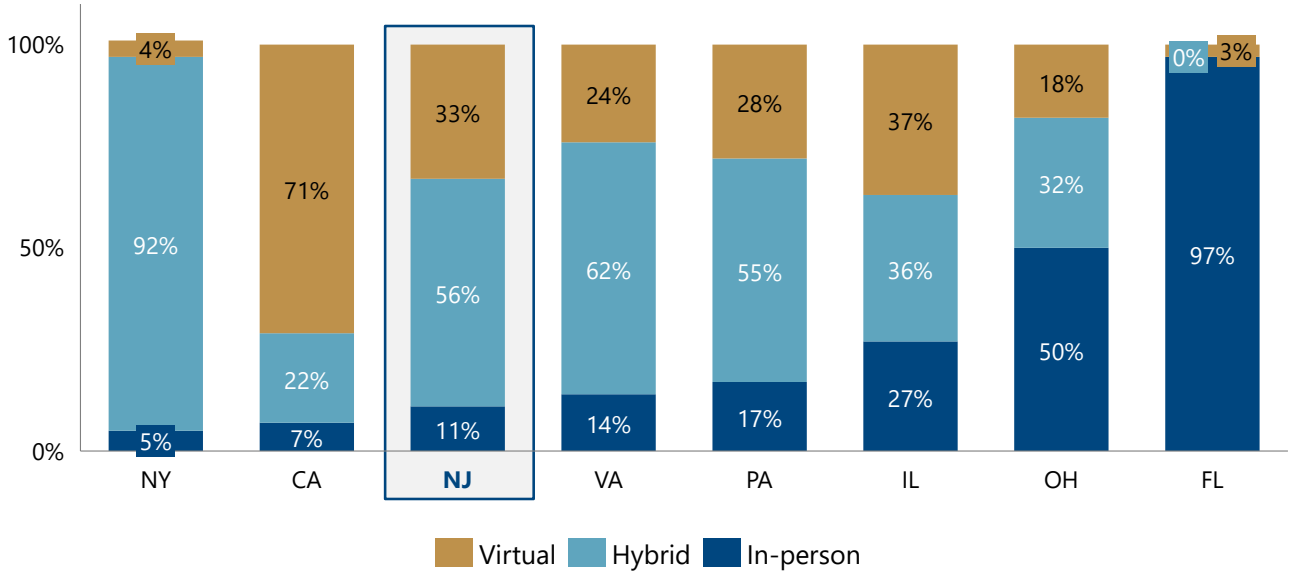


Source: Ballotpedia "Documenting America's Path to Recovery"; Education Week "Where Has COVID-19 Closed Schools? Where Are They Open?"

Even among peers that similarly allowed for locally determined reopening, New Jersey had some of the least in-person or hybrid learning in the 2020-2021 school year. As previously discussed, the concerns of many of New Jersey's teachers regarding reopening safety and level of preparation likely contributed.

Exhibit 3: Lower in-person education rates

% of student hours in 2020-2021 school year of each instruction type



Source: COVID School Data Hub "Explore by State"
Note: Calculations were weighted by school enrollment size

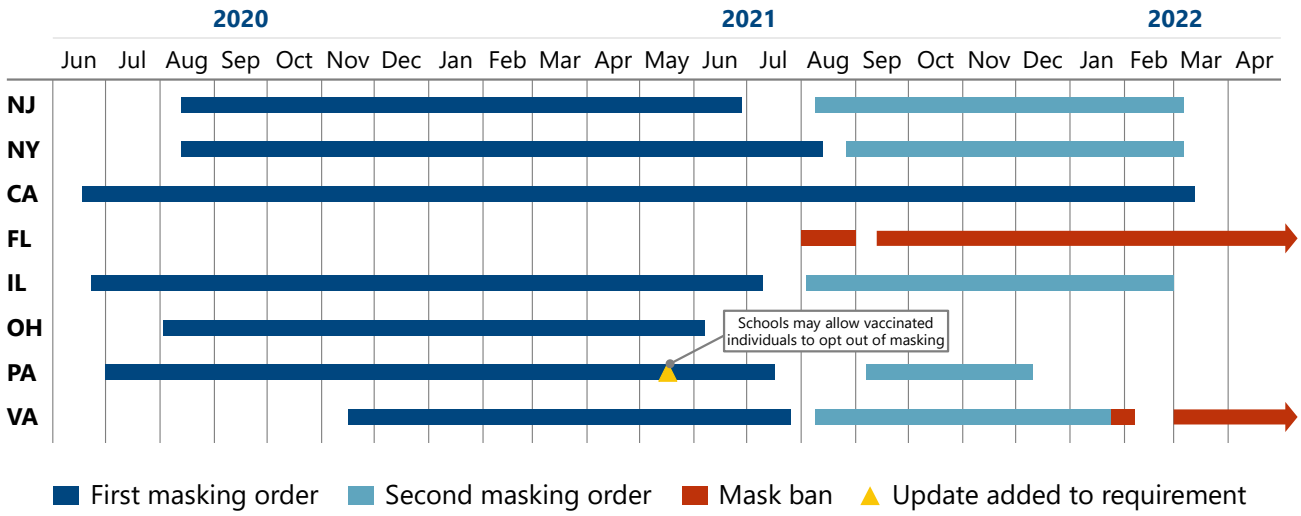
The variation in states' reopening approaches can be attributed to a variety of factors, such as:

- Different levels of political support for reopening.
- Levels of disease severity.
- Strength of teachers' unions.
- Level of state control over LEAs prior to the pandemic.

Mask Mandates

Aside from Florida, New Jersey and all comparison states issued mask mandates in schools at some point beginning in the fall of 2020. New Jersey, New York, Illinois, Pennsylvania, and Virginia lifted their masking orders in the summer of 2021, but reinstated them at the beginning of the 2021-2022 school year. By contrast, California left its school masking order in place until March 2022, when the CDC announced that much of the country no longer had high COVID-19 transmission rates. Pennsylvania amended its masking guidelines in 2021 to be conditional on vaccination rates. Florida never issued a state-wide school mask mandate; rather, Florida's governor issued a ban on mask mandates in schools on July 30, 2021.

Exhibit 4: New Jersey masking policies



Source: Ballotpedia "School mask requirements over time"

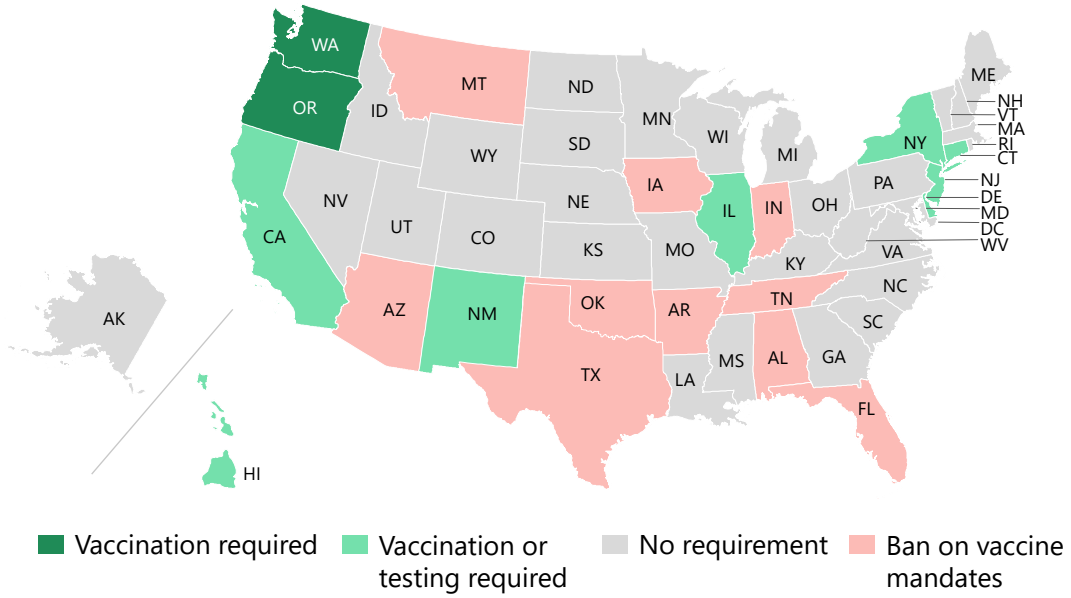
Vaccinations

Requirements surrounding vaccinations varied greatly throughout the United States. New Jersey required either vaccination by October 18, 2021 or testing one to two times per week for teachers. California, Illinois, and New York implemented similar vaccine-or-testing requirements, with vaccination deadlines of October 15, September 17, and September 2, respectively. Virginia and Pennsylvania did not issue any statewide requirement, and Florida banned vaccine requirements in schools altogether.

California was the only state to require students aged 12 and older to get vaccinated beginning in July 2022. New York took a less stringent approach, requiring vaccinations only for high school student-athletes.

Exhibit 5: Staff vaccination requirements

States with vaccination and vaccination/testing requirement for teachers and school employees for 2021-2022 school year



Source: Ballotpedia "Teacher and school employee vaccine requirements"

While New Jersey was similar to many of the other benchmark states in adopting vaccine-or-test requirements, this practice was not common across the country, as shown by Exhibit 5. Considering that the CDC had strongly recommended vaccinating teachers, New Jersey's vaccine-or-test requirement was in line with federal guidance to safely reopen schools, while being less stringent than states like California and New York.

Addressing Learning Loss

Across the United States, students experienced learning loss because of the pandemic. Because there was no statewide standardized testing in 2020 or for much of 2021, the best metrics available for cross-state comparisons on learning loss are from comparing 2022 standardized test scores to a baseline from 2019. Note, however, that these measures may conflate the extent of the learning loss from remote schooling and any learning recovered through statewide initiatives.

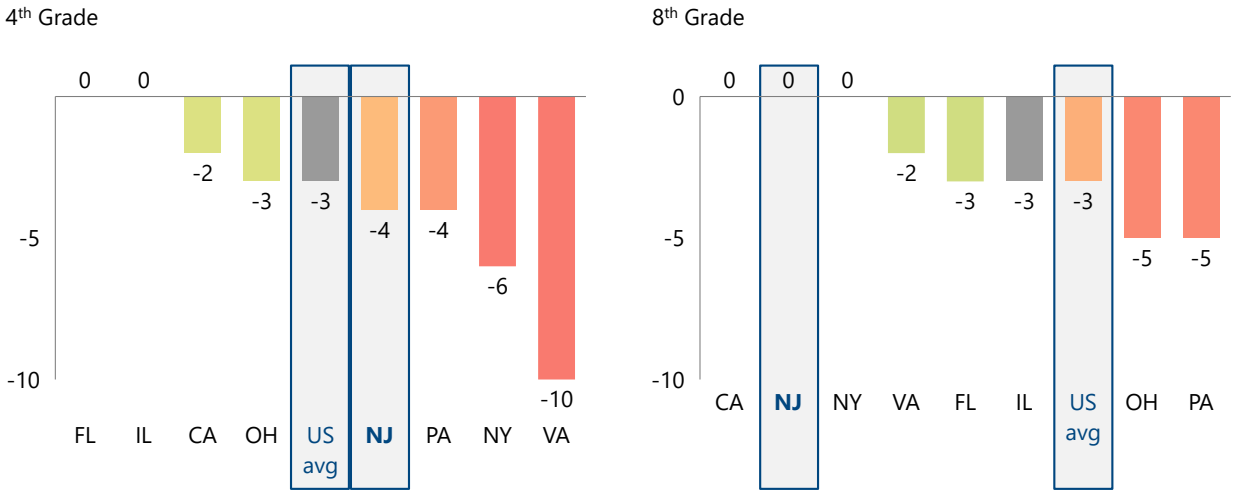
In New Jersey, students' NAEP testing scores declined more between 2019 and 2022 than the national average in 4th-grade math, 8th-grade math, and 4th-grade reading. However, the score change for 8th-grade reading was above the national average (**Exhibit 6** and **Exhibit 7**). Of comparison states, Florida, California, and Illinois consistently fared better than the national

average across all four NAEP testing categories, despite significantly different mitigation strategies. These states' activities and funding plans included:

- Florida's governor announced, in March 2021, $7B for programs to address learning loss. This included funding for tutoring initiatives, reading intervention and learning coaches, access to hands-on STEM programs, and after-school and summer programs.
- California received $5.3B in funding from the CARES Act Governor's Emergency Education Relief, CARES Act Coronavirus Relief Fund, and the State General Fund. This funding was allocated to LEAs towards learning-loss recovery programs. California's programs included expanding learning support prior to and during the school year, adjusting the academic calendar and increasing instructional minutes, providing services such as diagnostic assessments of learning needs or intensive instruction, and providing mental health counseling.
- While Illinois did not provide statewide funding for learning loss initiatives, it partnered with the Illinois Tutoring Initiative in 2022 to provide high-impact tutoring to support learning-loss recovery. The Illinois State Board of Education also announced a $17M grant in April 2022 to create a Freedom Schools Network, which focuses on learning loss recovery for disenfranchised communities.

Exhibit 6: New Jersey 4th and 8th grade reading learning loss

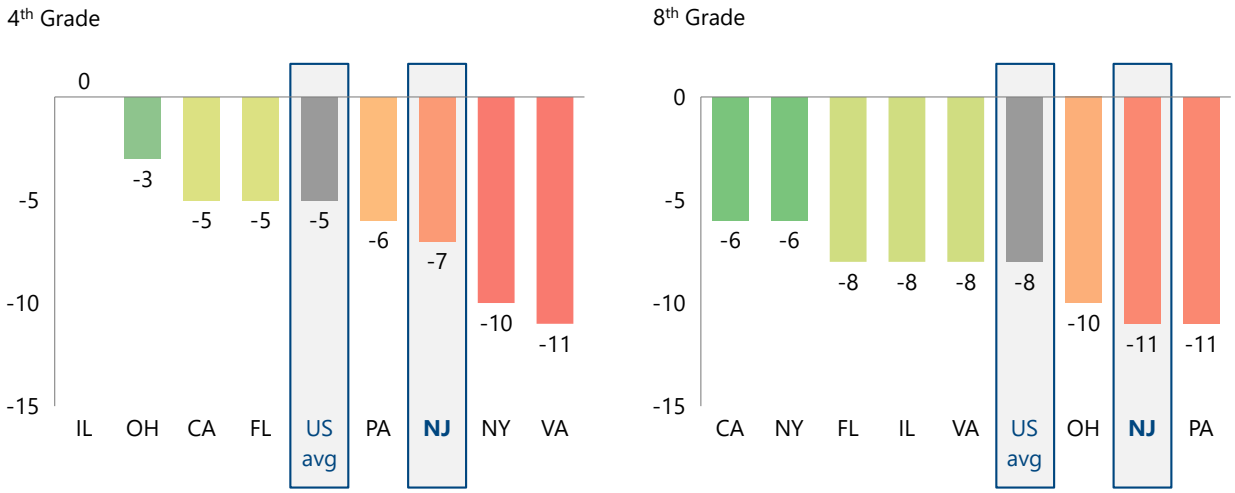
NAEP Reading Score Change from 2019-2022



Note: No assessments administered in the intervening years
Source: NAEP The Nation's Report Card

Exhibit 7: New Jersey 4th-and 8th-grade math learning loss

NAEP Math Score Change from 2019-2022



Note: No assessments administered in the intervening years
Source: NAEP The Nation's Report Card

While it is still too early to evaluate the impact of different interventions on addressing learning loss, there is strong research to back the positive impact of high-dosage tutoring in combating learning loss. Many states have invested heavily in high-dosage tutoring, including Pennsylvania, Illinois, Ohio, and Virginia. Governor Murphy announced a High-Impact Tutoring Program in February 2023, but it was at a smaller scale than other states' programs. New Jersey, California, Florida, and Pennsylvania also make up a small handful of states that allowed for parent-requested grade retention in response to COVID-19 (with the New Jersey bill applying only to the 2021-22 school year).[27]

High-dosage tutoring

High-dosage tutoring refers to 1-to-1 or very small group tutoring sessions, held at least three times per week.

Equity

New Jersey and many other states saw disproportionate impacts of the pandemic on particular groups of students, especially Black, low-income, and urban students. It is worth noting that these populations overlap heavily.

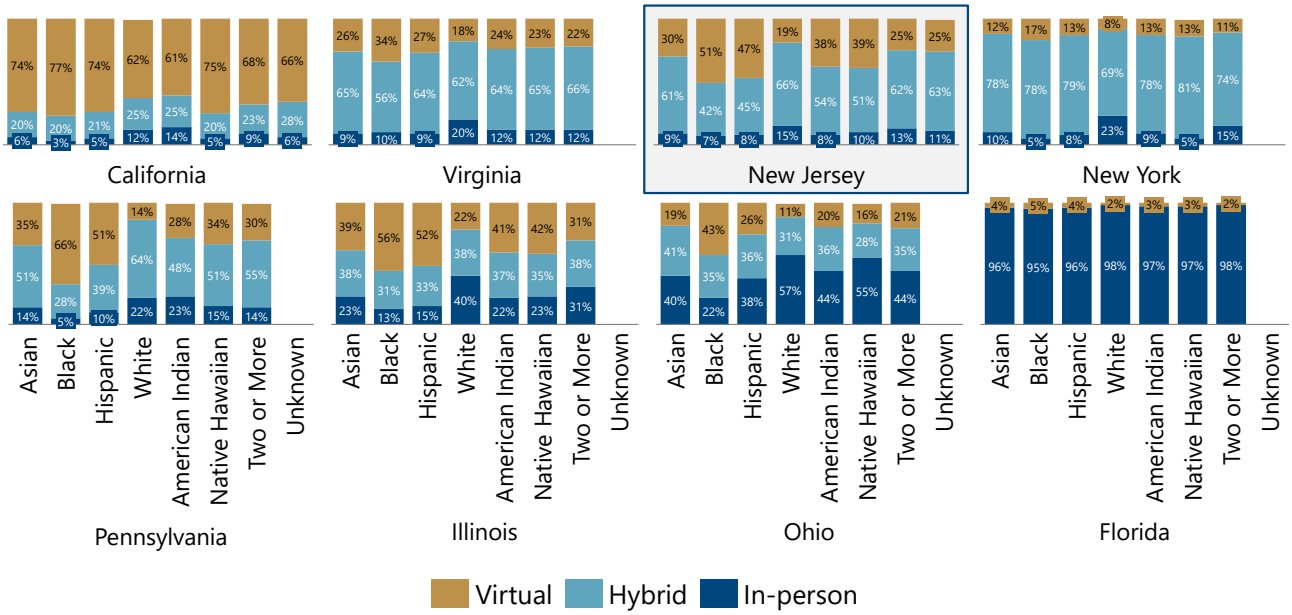
[27] New Jersey Legislature. (2021, June 30). An Act concerning grade retention during the 2021-2022 school year. Retrieved from https://pub.njleg.gov/bills/2020/PL21/141_.HTM

Students of Color

- In all comparison states except for Florida, White students were in school for more than double their Black peers.
- Black students had significantly less hybrid instruction than their White peers.
- Recent research shows that virtual learning contributes to widening achievement gaps, so students receiving more virtual learning are likely to experience higher levels of learning loss than their counterparts who spent more time in the classroom.

Exhibit 8: Disparity in in-person learning

% of in-person, hybrid, or virtual instruction in 2020-2021 school year by student race/ethnicity



Students of color were more likely to receive hybrid or virtual learning.
Recent research has found that virtual learning contributed to widening achievement gaps1 .

1. Goldhaber, D. , Kane, T., McEachin, A., Morton E., Patterson, T., Staiger, D., (2022) The Consequences of Remote and Hybrid Instruction During the Pandemic.
Source: COVID School Data Hub "Explore by State"

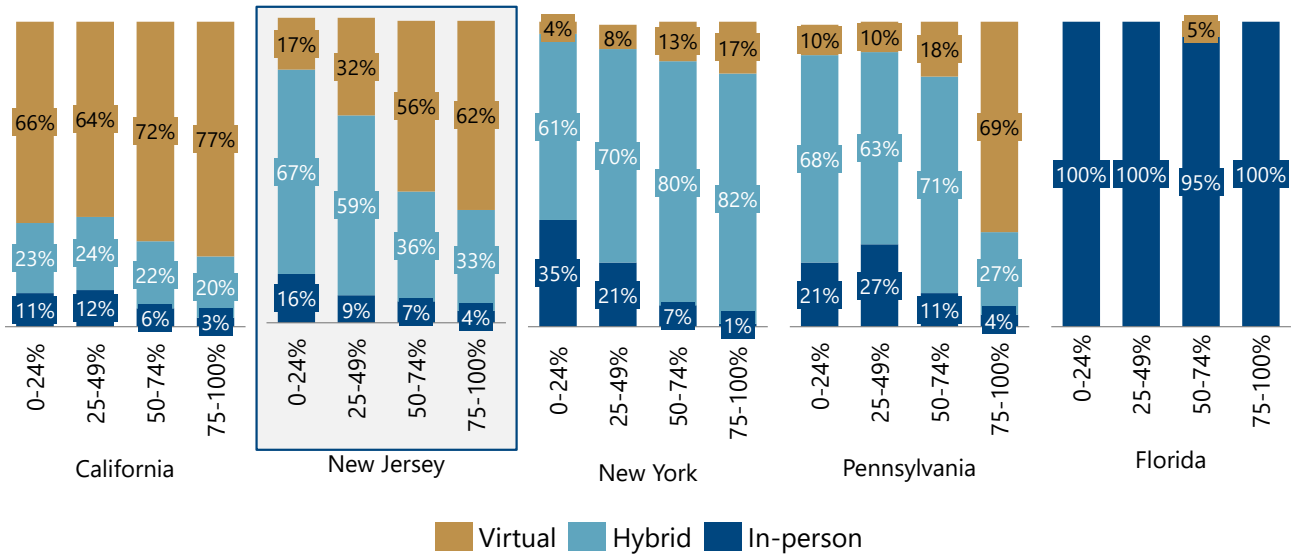
Low-income Students

- New Jersey schools with higher percentages of students eligible for free and reduced-price lunch generally saw more virtual learning and less in-person learning, as in comparison states, except for Florida (see exhibit below).
- Free and reduced-price lunch eligibility is determined by family income level; therefore, low-income students were less likely to receive in-person schooling.

Note that across the United States, low-income status and free-and-reduced lunch status are heavily correlated with race.

Exhibit 9: Low-income virtual learning

% of in-person, hybrid, or virtual instruction in 2020-2021 school year by schools' percentage of free and reduced-price lunch eligibility



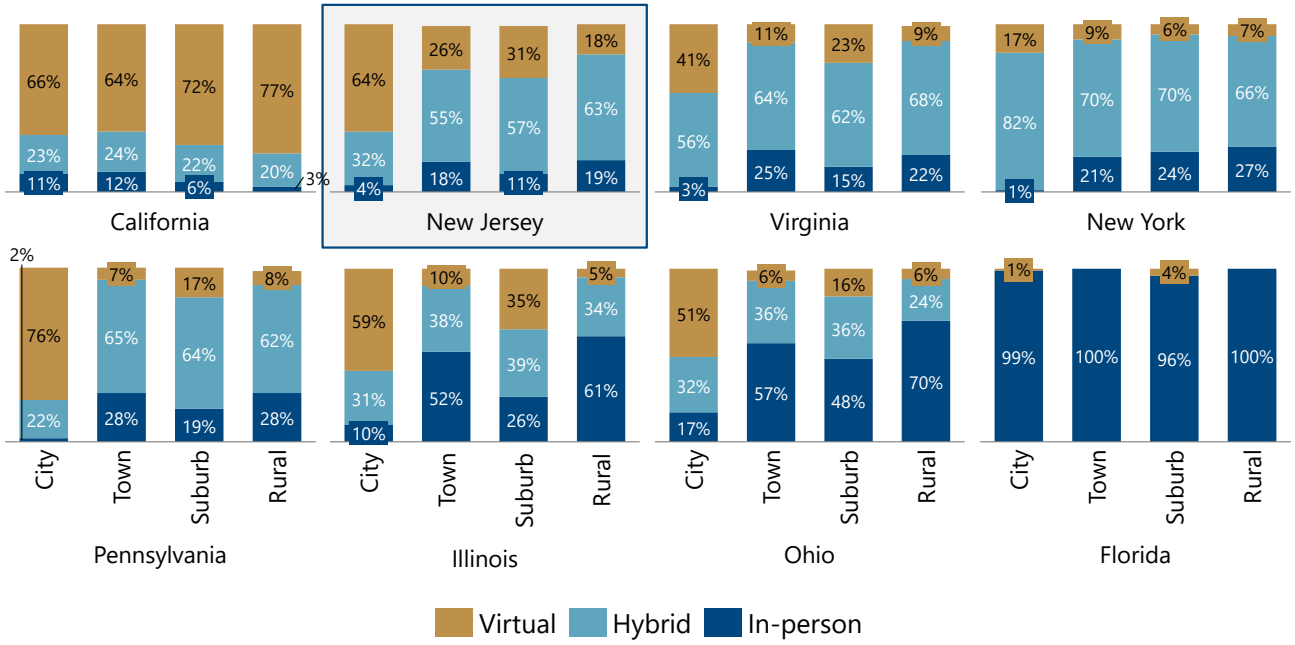
Note: No data for Illinois, Ohio, Virginia
Source: COVID School Data Hub "Explore by State"

Urban Students

- Of four locale types—city, town, suburb, and rural—in comparison states, students in cities generally received less in-person instruction than those in more rural areas. New Jersey saw low overall levels of in-person schooling, and students living in cities and suburbs received the most virtual schooling.
- Historical lack of investment in urban school facilities made it difficult for urban schools to meet the health and safety standards required to reopen for in-person learning. Furthermore, higher population densities in urban areas made social distancing impossible, exacerbating inequity problems surrounding in-person learning.

Exhibit 10: Students in cities saw less in-person learning than those in rural areas, except in CA and FL

% of in-person, hybrid, or virtual instruction in 2020-2021 school year by student district locale



Source: COVID School Data Hub "Explore by State"

Overall, there was significant inequity in the availability of in-person schooling for New Jersey's disadvantaged populations. By contrast, Florida students in all categories received near-equal amounts of in-person learning due to a statewide reopening mandate. Thus, allowing for local decision-making on school reopening can yield inequitable outcomes that unintentionally impact marginalized students and widen existing achievement gaps. This is underscored by the fact that reopening in accordance with state and CDC guidelines often required the funds to purchase and provide safety equipment or the infrastructure to safely modify in-person activities (e.g., having enough space for students and staff to social distance), which many under-resourced schools lacked.

Overall, New Jersey's approach to reopening schools, from its orders to reopen to requirements to mask or vaccinate, was often similar to that of the other benchmark states. However, New Jersey's educational outcomes, such as learning loss, days of virtual education, or equity outcomes, often measured below the national average and other benchmark states. These challenges demand consideration, particularly in the event of another emergency affecting schools.

4. Key Strengths and Challenges

COVID-19 posed challenges to New Jersey's education system that the State had never faced. Although COVID-19 disrupted schooling and led to long-lasting effects on learning and development, New Jersey was able to maintain certain key functions of schools, from teaching to feeding students, throughout the pandemic. While some of New Jersey's challenges were due to long-standing structural challenges not unique among states, many of the State's approaches taken to mitigate those challenges were.

This section discusses New Jersey's strengths and gaps in managing education-related challenges during the pandemic.

Strength Because of its status as a home-rule state, New Jersey has a uniquely high number of LEAs, with more than 600 districts. The NJDOE worked with these districts over time to ensure that county superintendents maintained communication channels with each district so that programs such as school lunch and efforts to close the digital divide were administered well across the 600+ districts. Furthermore, New Jersey's mandates were useful for county superintendents, as it was easier for them to implement directives from the Governor's Office.

Strength The NJDOE's School Preparedness and Emergency Planning team was able to quickly set up food distribution plans for students and refined these programs by conducting extensive field visits to schools to observe pain points firsthand. Ultimately, New Jersey's food distribution program became a model for best practices used by other states.

Challenge New Jersey students, like their peers across the country, experienced significant learning loss, but the State had neither statewide virtual assessment tools to monitor performance nor plans triggered by drops in performance to prevent further loss. While some districts used independent assessment vendors to track performance, it was difficult for the NJDOE to standardize learning loss data across districts. Ultimately, when national standardized assessments resumed, the extent of learning loss caused by remote learning was greater than educators had anticipated.

Challenge While all states faced uncertainty regarding the course of the pandemic, the Governor's Office and the NJDOE reacted more slowly than some other states in announcing that school closures would last for the duration of the 2019-2020 school year. That uncertainty made it difficult for LEAs to prepare proactively for long-term virtual learning and exacerbated delays in districts' transitions to remote schooling.

Challenge Schools across the country faced the challenge of closing the digital divide. At the start of the pandemic, New Jersey districts lacked both the technology to facilitate remote learning and the data to quantify the divide's severity. This made it difficult for the NJDOE and LEAs to provide a timely statewide solution to the digital divide. However, it should be noted that New Jersey mobilized to address this challenge as the pandemic went on. The NJDOE was able to quickly set up hotspots and provide funding and connectivity support to LEAs, and eventually, all remote-learning needs were met.

Challenge Historical lack of investment in urban areas made it difficult for urban schools to reopen in accordance with the NJDOE's health guidelines, as old buildings and high enrollment made it impossible to meet distancing requirements. As a result, urban schools, which have historically served low-income students and students of color, remained closed longer than their suburban counterparts. This difference exacerbated the learning gap.

Ultimately, New Jersey's response to the pandemic regarding education saw varying degrees of success. The approach New Jersey took to ensuring students had access to school meals was a clear strength, being used as an example for other states to replicate. However, New Jersey's journey to reopen schools after the closures was difficult and contentious, with its students experiencing significant learning loss.

In hindsight, it is likely that New Jersey students would have benefited from schools opening sooner. If the State had access to more information about COVID-19's airborne transmission and the most effective ways to mitigate it, including the value of indoor masking, it would have been more likely to encourage full in-person school reopening in the fall of 2020. However, doing so would still have created complications, including inequitable resources (including school facilities), LEAs having to accommodate reopening requirements, and the different interests of stakeholder groups, including students, families, teachers, and administrators. Ultimately, New Jersey followed available federal guidance and took the necessary measures to reopen schools, by mandating vaccine-or-test requirements and indoor masking.

While the State made decisions with the best information they had at the time, and in the face of incredible uncertainty, this experience offers lessons on the different impacts (health, learning loss, and mental health) on students as well as on families, teachers, and administrators.

5. Appendix

A Additional Exhibits

A-1 4th grade reading score changes Pt 1

State	Score Change from 2019-2022[1]	Rank	Asian Student Score Change from 2019-2022	Rank	Black Student Score Change from 2019-2022	Rank	White Student Score Change from 2019-2022	Rank	Hispanic Student Score Change from 2019-2022	Rank
National	-3	--	2.1	--	-4.7	--	-3.2	--	-3.5	--
Alabama	1	2	--	--	1.8	2	0.6	4	6.0	2
Alaska	0	4	-0.5	13	--	--	-0.3	7	8.1	1
Arizona	-1	8	--	--	-0.3	7	0.2	5	-0.2	11
Arkansas	-3	16	--	--	-8.2	30	-1.1	10	-9.5	40
California	-2	10	6.2	3	-2.9	11	-3.1	23	-5.1	25
Colorado	-2	10	5.9	4	-8.0	28	-0.9	9	-3.4	20
Connecticut	-5	32	-6.7	20	-5.9	21	-4.3	33	-4.7	23
Delaware	-10	49	-13.6	23	-8.0	27	-8.7	49	-10.3	41
Florida	0	4	5.7	5	-3.7	13	1.2	2	1.1	9
Georgia	-2	10	-4.0	17	-2.3	10	-2.9	21	-1.6	13
Hawaii	1	2	1.1	10	--	--	-5.2	38	1.7	6
Idaho	-8	43	--	--	--	--	-9.1	50	-3.1	17
Illinois	0	4	11.0	1	-6.7	24	-0.6	8	-2.4	14
Indiana	-5	32	--	--	-5.7	20	-4.3	34	-0.4	12
Iowa	-3	16	--	--	1.4	3	-2.9	20	-5.2	26
Kansas	-4	25	--	--	-3.9	14	-2.8	19	-8.6	38
Kentucky	-4	25	-6.1	19	1.2	4	-5.4	39	0.7	10
Louisiana	2	1	--	--	2.3	1	3.4	1	4.1	5
Maine	-8	43	--	--	-23.5	39	-7.5	46	--	--
Maryland	-8	43	-8.8	21	-4.0	15	-1.9	14	-14.9	45
Massachusetts	-4	25	2.9	8	-5.9	23	-3.4	28	-8.9	39
Michigan	-6	38	--	--	-11.0	35	-4.0	32	-5.5	28
Minnesota	-7	42	-21.2	24	-7.7	26	-4.8	35	-5.5	29
Mississippi	-2	10	--	--	-4.2	16	-0.2	6	-6.8	33
Missouri	-5	32	--	--	-14.2	37	-2.0	16	-3.3	18

Source: NAEP The Nation's Report Card
1. No assessments administered in the intervening years

A-2 4th grade reading score changes Pt 2

State	Score Change from 2019-2022[1]	Rank	Asian Student Score Change from 2019-2022	Rank	Black Student Score Change from 2019-2022	Rank	White Student Score Change from 2019-2022	Rank	Hispanic Student Score Change from 2019-2022	Rank
Montana	-3	16	--	--	--	--	-3.3	26	1.2	8
Nebraska	-3	16	--	--	-5.9	22	-3.2	24	-7.5	36
Nevada	-6	38	6.5	2	-8.2	29	-5.6	40	-6.8	32
New Hampshire	-1	8	5.2	6	--	--	-1.3	13	-11.2	44
New Jersey	**-4**	**25**	**1.9**	**9**	**-7.6**	**25**	**-6.6**	**43**	**-3.0**	**16**
New Mexico	-6	38	--	--	--	--	-3.3	27	-6.5	30
New York	-6	38	-0.3	12	-8.6	31	-5.7	41	-3.4	19
North Carolina	-5	32	0.1	11	-9.5	32	-3.6	30	-4.9	24
North Dakota	-3	16	--	--	-20.0	38	-3.7	31	-6.7	31
Ohio	-3	16	--	--	-10.2	33	-3.3	25	-15.5	46
Oklahoma	-8	43	--	--	-5.2	18	-8.0	47	-10.6	42
Oregon	-8	43	-0.7	14	--	--	-6.5	42	-7.6	37
Pennsylvania	-4	25	-2.1	15	-5.4	19	-6.8	44	1.2	7
Rhode Island	-3	16	--	--	-4.8	17	-1.3	12	-3.8	21
South Carolina	0	4	--	--	0.5	6	0.8	3	-10.9	43
South Dakota	-4	25	--	--	--	--	-3.0	22	4.6	3
Tennessee	-5	32	--	--	-10.6	34	-5.1	37	4.2	4
Texas	-2	10	4.3	7	-0.7	8	-3.6	29	-2.9	15
Utah	-4	25	--	--	--	--	-2.3	17	-7.1	34
Vermont	-5	32	--	--	--	--	-5.0	36	--	--
Virginia	-10	49	-11.5	22	-12.4	36	-7.0	45	-16.4	47
Washington	-3	16	-4.2	18	0.6	5	-2.5	18	-7.4	35
West Virginia	-8	43	--	--	-3.2	12	-8.3	48	--	--
Wisconsin	-3	16	-3.7	16	-1.9	9	-1.2	11	-5.5	27
Wyoming	-2	10	--	--	--	--	-1.9	15	-4.0	22

Source: NAEP The Nation's Report Card
1. No assessments administered in the intervening years

A-3 8th grade reading score changes Pt 1

State	Score Change from 2019-2022[1]	Rank	Asian Student Score Change from 2019-2022	Rank	Black Student Score Change from 2019-2022	Rank	White Student Score Change from 2019-2022	Rank	Hispanic Student Score Change from 2019-2022	Rank
National	-3		-0.8		-0.5		-3.8		-1.1	
Alabama	1	2	--		-5.0	29	0.7	4	-1.4	17
Alaska	0	4	-3.1	16	--		4.5	2	3.4	1
Arizona	-1	8	--		5.0	3	-3.3	18	0.5	8
Arkansas	-3	16	--		-2.3	18	-3.8	23	-3.7	30
California	-2	10	-0.9	12	9.9	1	-5.3	39	0.2	9
Colorado	-2	10	6.7	4	0.4	9	-4.4	33	-3.1	25
Connecticut	-5	32	-0.8	11	-6.5	35	-4.0	27	-5.8	39
Delaware	-10	49	-15.2	24	0.5	8	-5.4	40	-4.6	34
Florida	0	4	-9.6	22	-0.9	14	-8.5	50	1.2	4
Georgia	-2	10	11.1	3	-2.7	21	-0.8	9	-2.2	22
Hawaii	1	2	-0.7	10	--	--	5.3	1	1.0	5
Idaho	-8	43	--		--	--	-4.0	28	2.0	3
Illinois	0	4	-1.3	13	-4.8	28	-4.2	30	-1.3	16
Indiana	-5	32	--		-5.5	30	-4.9	35	-7.4	44
Iowa	-3	16	--		0.9	7	-2.2	14	-1.8	19
Kansas	-4	25	--		-5.5	31	-6.1	42	-7.3	43
Kentucky	-4	25	--		-0.5	13	-4.4	32	-3.9	32
Louisiana	2	1	--		1.1	5	0.3	5	-4.3	33
Maine	-8	43	--		-9.8	38	-8.5	49	--	
Maryland	-8	43	-5.0	19	-7.4	36	-0.9	11	-1.6	18
Massachusetts	-4	25	-2.6	15	-4.5	27	-4.7	34	1.0	6
Michigan	-6	38	--		-5.8	32	-2.6	15	-3.7	27
Minnesota	-7	42	-3.3	17	0.9	6	-2.7	16	-4.9	36
Mississippi	-2	10	--		-4.0	25	-0.9	10	-11.1	46
Missouri	-5	32	--		-10.6	39	-3.6	21	-4.8	35

Source: NAEP The Nation's Report Card
1. No assessments administered in the intervening years

A-4 8th grade reading score changes Pt 2

State	Score Change from 2019-2022[1]	Rank	Asian Student Score Change from 2019-2022	Rank	Black Student Score Change from 2019-2022	Rank	White Student Score Change from 2019-2022	Rank	Hispanic Student Score Change from 2019-2022	Rank
Montana	-3	16	--		--	--	-3.2	17	-3.7	29
Nebraska	-3	16	--		-3.4	23	-3.9	26	-5.7	38
Nevada	-6	38	12.2	1	0.4	11	0.2	6	-0.2	10
New Hampshire	-1	8	1.9	6	--	--	-5.1	38	-6.0	40
New Jersey	**-4**	**25**	**1.6**	**7**	**-0.3**	**12**	**-1.3**	**12**	**2.3**	**2**
New Mexico	-6	38	--		--	--	-0.6	8	-5.2	37
New York	-6	38	3.0	5	-1.2	15	1.5	3	-0.8	11
North Carolina	-5	32	-8.3	21	-2.4	20	-7.1	46	-3.9	31
North Dakota	-3	16	--		-9.6	37	-3.7	22	-1.1	14
Ohio	-3	16	--		0.4	10	-6.5	43	-13.1	47
Oklahoma	-8	43	--		-2.8	22	-8.4	48	-3.5	26
Oregon	-8	43	-13.3	23	--	--	-5.6	41	-6.2	41
Pennsylvania	-4	25	0.5	8	-2.3	19	-6.5	44	-2.5	23
Rhode Island	-3	16	11.3	2	-6.1	33	-4.2	31	4.5	--
South Carolina	0	4	--		-2.3	17	-3.8	24	-8.9	45
South Dakota	-4	25	--		--	--	-0.6	7	-0.8	12
Tennessee	-5	32	--		-4.1	26	-3.4	20	-7.0	42
Texas	-2	10	-0.6	9	8.9	2	-3.4	19	-2.2	21
Utah	-4	25	--		--	--	-1.6	13	-3.7	28
Vermont	-5	32	--		--	--	-5.1	37	--	
Virginia	-10	49	-2.0	14	-1.4	16	-4.2	29	-1.3	15
Washington	-3	16	-4.1	18	4.5	4	-7.1	47	0.6	7
West Virginia	-8	43	--		-6.3	34	-6.6	45	--	
Wisconsin	-3	16	-6.3	20	-3.9	24	-5.0	36	-1.9	20
Wyoming	-2	10	--	--	--	--	-3.3	--	-2.6	24

Source: NAEP The Nation's Report Card
1. No assessments administered in the intervening years

A-5 4th grade math score changes Pt 1

State	Score Change from 2019-2022[1]	Rank	Asian Student Score Change from 2019-2022	Rank	Black Student Score Change from 2019-2022	Rank	White Student Score Change from 2019-2022	Rank	Hispanic Student Score Change from 2019-2022	Rank
National	-3		-3.9		-7.4		-6.5		-3.1	
Alabama	1	2	--		-2.0	5	2.2	3	1.7	1
Alaska	0	4	-0.8	9	--	--	0.4	5	-5.0	31
Arizona	-1	8	-12.5	25	-8.4	21	-6.3	21	-2.9	17
Arkansas	-3	16	--		-8.6	22	-8.7	37	-4.1	25
California	-2	10	1.6	6	-9.5	25	-5.8	19	-4.4	27
Colorado	-2	10	1.6	5	0.5	2	-8.2	33	-4.5	29
Connecticut	-5	32	-2.9	13	-16.0	38	-9.8	41	-3.6	22
Delaware	-10	49	-14.6	27	-12.6	32	-14.0	45	-13.2	50
Florida	0	4	-2.9	14	-7.5	17	-6.4	23	-1.1	6
Georgia	-2	10	-10.0	21	-1.4	4	-0.8	7	-3.0	19
Hawaii	1	2	-2.3	12	--	--	-4.7	15	-8.1	44
Idaho	-8	43	--		--	--	-8.4	34	-5.0	32
Illinois	0	4	6.3	1	-3.0	7	-9.4	38	1.4	2
Indiana	-5	32	--		-3.4	11	-10.8	44	-4.4	28
Iowa	-3	16	--		-3.3	10	-3.5	14	-0.9	5
Kansas	-4	25	--		-7.7	18	-6.7	26	-3.9	23
Kentucky	-4	25	-4.3	16	-13.1	33	-0.7	6	-5.4	38
Louisiana	2	1	--		-2.5	6	-1.4	8	-0.6	3
Maine	-8	43	--		-7.4	15	--	--	-8.1	46
Maryland	-8	43	-9.3	19	-11.5	28	-18.6	47	-3.2	20
Massachusetts	-4	25	-3.8	15	-9.3	24	-9.8	40	-5.2	35
Michigan	-6	38	3.0	3	-6.9	13	2.8	2	-2.2	15
Minnesota	-7	42	-18.1	28	-12.4	31	-6.6	25	-8.1	45
Mississippi	-2	10	--		-9.7	26	-5.3	17	-5.6	39
Missouri	-5	32	--		-11.9	29	-6.8	27	-4.2	26

Source: NAEP The Nation's Report Card
1. No assessments administered in the intervening years

A-6 4th grade math score changes Pt 2

State	Score Change from 2019-2022[1]	Rank	Asian Student Score Change from 2019-2022	Rank	Black Student Score Change from 2019-2022	Rank	White Student Score Change from 2019-2022	Rank	Hispanic Student Score Change from 2019-2022	Rank
Montana	-3	16	--		--	--	-5.2	16	-1.9	11
Nebraska	-3	16	5.9	2	-0.7	3	-6.9	29	-1.3	7
Nevada	-6	38	-1.5	10	-8.0	19	-8.4	35	-5.1	34
New Hampshire	-1	8	--		--	--	-7.9	32	-5.3	37
New Jersey	**-4**	**25**	**0.9**	**7**	**-13.1**	**34**	**-8.4**	**36**	**-4.7**	**30**
New Mexico	-6	38	--		--	--	-9.8	39	-9.3	48
New York	-6	38	-9.0	18	-6.0	12	-10.6	42	-8.6	47
North Carolina	-5	32	-1.6	11	-8.3	20	-10.7	43	-5.3	36
North Dakota	-3	16	--		-13.8	37	-2.8	12	-1.8	10
Ohio	-3	16	-11.0	23	-13.6	36	-18.7	48	-1.5	8
Oklahoma	-8	43	--		-20.8	40	-6.4	22	-6.4	42
Oregon	-8	43	-12.9	26	--	--	-5.8	18	-9.6	49
Pennsylvania	-4	25	-4.3	17	-13.5	35	-2.7	11	-6.5	43
Rhode Island	-3	16	-0.5	8	-8.9	23	-7.6	30	-2.9	18
South Carolina	0	4	--		-3.3	9	-2.9	13	-2.5	16
South Dakota	-4	25	--		0.7	1	2.0	4	-2.1	12
Tennessee	-5	32	--		-12.0	30	3.3	--	-1.6	9
Texas	-2	10	-9.7	20	-7.0	14	-6.8	28	-2.1	13
Utah	-4	25	--		--	--	-7.6	31	-2.2	14
Vermont	-5	32	--		--	--	--	--	-5.1	33
Virginia	-10	49	-10.1	22	-18.6	39	-17.4	46	-5.9	41
Washington	-3	16	-11.7	24	-3.1	8	-6.1	20	-4.0	24
West Virginia	-8	43	--		--	--	--	--	-5.7	40
Wisconsin	-3	16	3.0	4	-11.2	27	-2.7	10	-0.7	4
Wyoming	-2	10	--		--	--	-1.8	9	-3.4	21

Source: NAEP The Nation's Report Card
1. No assessments administered in the intervening years

A-7 8th grade math score changes Pt 1

State	Score Change from 2019-2022[1]	Rank	Asian Student Score Change from 2019-2022	Rank	Black Student Score Change from 2019-2022	Rank	White Student Score Change from 2019-2022	Rank	Hispanic Student Score Change from 2019-2022	Rank
National	-3		-6.5		-6.8		-6.8		-5.7	
Alabama	1	2	--	--	-3.2	8	-5.2	11	-7.6	27
Alaska	0	4	-1.3	4	--	--	-8.2	22	-3.3	4
Arizona	-1	8	-11.1	18	-14.1	36	-7.6	21	-4.3	6
Arkansas	-3	16	--	--	-1.1	3	-8.7	23	-8.6	32
California	-2	10	-2.6	6	-4.3	9	-5.0	10	-9.9	39
Colorado	-2	10	-9.5	14	-5.9	14	-13.5	41	-9.6	38
Connecticut	-5	32	-13.6	24	-7.6	20	-5.3	13	-6.1	15
Delaware	-10	49	--	--	-13.9	35	-9.5	28	-8.3	30
Florida	0	4	-10.8	17	-4.6	10	-8.8	24	-9.2	34
Georgia	-2	10	-12.0	22	-5.7	13	-11.3	36	-7.3	23
Hawaii	1	2	-1.9	5	--	--	-13.5	40	-7.0	21
Idaho	-8	43	--	--	--	--	-4.5	7	-11.0	45
Illinois	0	4	-11.3	21	-8.0	23	-10.8	34	-3.5	5
Indiana	-5	32	--	--	-12.8	34	-6.2	15	-4.8	8
Iowa	-3	16	--	--	-1.1	2	-12.7	38	-4.5	7
Kansas	-4	25	--	--	-7.0	16	-9.4	27	-3.0	3
Kentucky	-4	25	--	--	-7.6	21	-10.6	31	-9.5	35
Louisiana	2	1	--	--	-2.8	7	-10.7	32	-7.7	28
Maine	-8	43	--	--	--	--	--	--	-6.6	18
Maryland	-8	43	-5.2	11	-10.2	27	-11.0	35	-9.6	36
Massachusetts	-4	25	-9.9	15	-7.3	19	-7.2	20	-11.0	44
Michigan	-6	38	11.0	1	-7.2	18	-7.1	18	-11.3	47
Minnesota	-7	42	-11.2	20	-1.2	4	-14.8	43	-7.6	26
Mississippi	-2	10	--	--	-6.5	15	-16.4	45	-10.4	41
Missouri	-5	32	--	--	-12.1	32	-5.3	12	-6.8	19

Source: NAEP The Nation's Report Card
1. No assessments administered in the intervening years

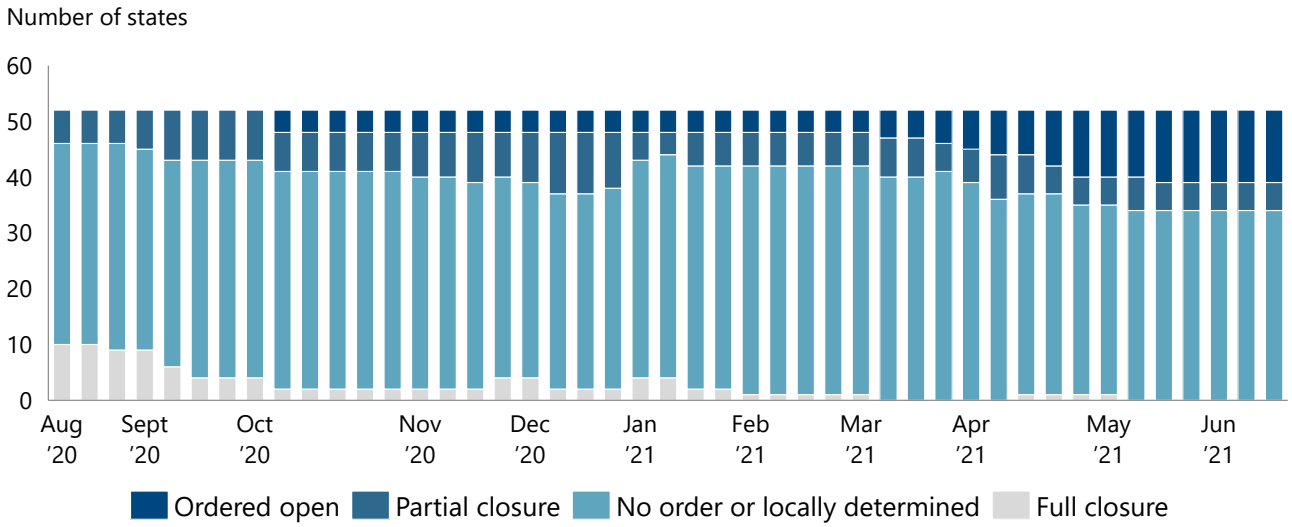
A-8 8th grade math score changes Pt 2

State	Score Change from 2019-2022[1]	Rank	Asian Student Score Change from 2019-2022	Rank	Black Student Score Change from 2019-2022	Rank	White Student Score Change from 2019-2022	Rank	Hispanic Student Score Change from 2019-2022	Rank
Montana	-3	16	--	--	--	--	-10.0	30	-7.3	25
Nebraska	-3	16	--	--	-0.6	1	-6.4	16	-5.5	11
Nevada	-6	38	-2.8	7	-7.0	17	-4.5	6	-1.8	2
New Hampshire	-1	8	-5.8	12	--	--	-14.9	44	-8.2	29
New Jersey	**-4**	**25**	**-11.1**	**19**	**-14.8**	**37**	**-4.7**	**8**	**-10.6**	**42**
New Mexico	-6	38	--	--	--	--	-9.4	26	-9.6	37
New York	-6	38	-5.1	10	-7.6	22	-3.4	4	-5.9	13
North Carolina	-5	32	-13.2	23	-9.5	25	-6.7	17	-9.1	33
North Dakota	-3	16	--	--	-2.3	6	-16.6	46	-7.3	24
Ohio	-3	16	0.9	3	-10.4	28	-10.7	33	-11.1	46
Oklahoma	-8	43	--	--	-11.2	30	-18.9	47	-10.8	43
Oregon	-8	43	-4.5	9	--	--	-2.7	3	-12.1	49
Pennsylvania	-4	25	-3.5	8	-8.5	24	-4.8	9	-12.2	50
Rhode Island	-3	16	--	--	--	--	-0.6	1	-5.1	10
South Carolina	0	4	--	--	-10.6	29	-5.8	14	-7.0	22
South Dakota	-4	25	--	--	-5.5	12	-13.4	39	-5.0	9
Tennessee	-5	32	--	--	--	--	-8.8	25	-5.9	12
Texas	-2	10	--	--	-10.0	26	-7.1	19	-8.6	31
Utah	-4	25	-10.8	16	-5.1	11	-1.3	2	-1.4	1
Vermont	-5	32	--	--	--	--	--	--	-10.1	40
Virginia	-10	49	--	--	--	--	-14.0	42	-6.9	20
Washington	-3	16	2.5	2	-11.7	31	-11.4	37	-6.1	14
West Virginia	-8	43	-16.2	25	-2.0	5	--	--	-11.8	48
Wisconsin	-3	16	--	--	--	--	-9.8	29	-6.3	16
Wyoming	-2	10	-6.4	13	-12.5	33	-4.3	5	-6.6	17

Source: NAEP The Nation's Report Card
1. No assessments administered in the intervening years

A-9 Local authority on school closures across states

COVID-related school closure policies by state, Aug '20 – Jun '21



Note: Partial closures varied by region/district, grade-level, and in-person option mandate. Full closure includes "Only hybrid or remote instruction allowed".
Source data was collected at irregular intervals, with data collection dates averaging 6.8 days apart
Source: Education Week "Where Has COVID-19 Closed Schools? Where Are They Open?"

B Chronology of Events in New Jersey

Initial Surge (March 2020 to June 2020)

- **March 2, 2020:** The NJDOH released updated COVID-19 guidance for Child Care and K-12 Schools, advising schools to prepare, plan, and consult local health officials.[28]
- **March 5, 2020:** The NJDOH released supplemental guidance and advised schools to prepare plans for the possibility that schools may be asked to close in response to the spread of COVID-19.[29]
- **March 13, 2020:** Following the Governor's declaration of a State of Emergency on March 9, 2020, the NJDOE issued updated guidance. The new guidance allowed flexibility for school districts to employ at-home instruction for public health-related closures in consultation with

[28] New Jersey Department of Education. (2020). *Updated 2019 Novel Coronavirus (COVID-19) Guidance for Child Care and K-12 Schools*. Retrieved from https://www.nj.gov/education/broadcasts/2020/mar/3/Updated%202019%20Novel%20Coronavirus%20COVID-19%20Guidance%20for%20Child%20Care%20and%20K-12%20Schools.pdf

[29] New Jersey Department of Education. (2020). *Guidance Regarding Requirements for Public Health-Related School Closure*. Retrieved from https://www.nj.gov/education/broadcasts/2020/mar/05/Guidance%20Regarding%20Requirements%20for%20Public%20Health-Related%20School%20Closure.pdf

local health agencies, with those days counting towards New Jersey's statutory requirement of 180 days of instruction per school year. Previously, there was no provision permitting virtual instruction to count toward this requirement.[30]

- **March 16, 2020:** EO 104 ("Social Distancing and Limiting Services/Commerce") closed all schools, effective March 18, 2020. Schools were instructed to continue at-home instruction and to permit the provision of free or reduced meals and essential non-educational services.[31]
- **March 19, 2020:** EO 105 postponed April school board elections to May 12, 2020.[32]
- **March 20, 2020:** The NJDA, in collaboration with the NJDOE, received waivers and approvals from the USDA to serve meals in non-congregant settings through the Seamless Summer Option and Summer Food Service Program as part of COVID-19 response efforts. This relieved administrative pressure and granted flexibility in continuing meal service programs for families who rely on school lunches.
- **March 21, 2020:** EO 108 ("Preemption Order") invalidated any local regulations at odds with any EOs, ensuring compliance with state mandates.[33]
- **March 24, 2020**: NJDOE announced the cancellation of statewide student assessments for the Spring 2020 testing window, including NJSLA, ACCESS for ELLs, and DLM assessments.[34]
- **March 27, 2020:** President Trump signed the CARES Act, establishing the Elementary Secondary School Emergency Relief Fund (ESSER I) for 12 specific uses for costs incurred on or after March 13, 2020, through September 30, 2020. In response, the NJDOE provided guidance to local education agencies about qualified use of funds and how to complete CARES Act Performance reporting.[35]
- **April 3, 2020:** The NJDOE allowed school districts to provide special education and related services to students with disabilities through telehealth and online platforms.[36]
- **April 7, 2020:** EO 117 ("Waiver of Educational Requirements and Rules") suspended statutory student testing requirements, waived non-tenured teaching staff requirements, and

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[30] New Jersey Department of Education. (2020). *Supplemental Guidance Regarding Requirements for Public Health-Related School Closure.* Retrieved from https://www.nj.gov/education/broadcasts/2020/mar/13/Supplemental%20Guidance%20Regarding%20Requirements%20for%20Public%20Health-Related%20School%20Closure.pdf

[31] Murphy, P. (2020, March 16). *Executive Order No. 104*. State of New Jersey.

[32] Murphy, P. (2020, March 19). *Executive Order No. 105*. State of New Jersey.

[33] Murphy, P. (2020, March 21). *Executive Order No. 108*. State of New Jersey.

[34] New Jersey Department of Education. (2020). *New Jersey Cancels Statewide Student Assessments.* Retrieved from https://www.nj.gov/education/broadcasts/2020/mar/24/New%20Jersey%20Cancels%20Statewide%20Student%20Assessments.pdf

[35] New Jersey Department of Education. *Coronavirus Aid, Relief, and Economic Security (CARES) Act*. Retrieved from https://www.nj.gov/education/esser/cares/index.shtml

[36] New Jersey Department of Education. (2020). *Providing Special Education and Related Services to Students with Disabilities During Extended School Closures as a Result of COVID-19.* Retrieved from https://www.nj.gov/education/broadcasts/2020/apr/3/Providing%20Special%20Education%20and%20Related%20Services%20to%20Students%20with%20Disabilities%20During%20School%20Closures%20as%20a%20Result%20of%20COVID-19.pdf

prohibited the use of student growth data for educator evaluation for the 2019-2020 school year.[37]

- **April 8, 2020:** NJDOE, in collaboration with NJEA and NJTV, launched NJTV Learning Live to allow teachers to provide instruction on New Jersey Public Television, aimed at ensuring continuity of education for students during school closures.[38]
- **April 30, 2020:** The NJDOE received waivers from federal requirements related to COVID-19, loosening reporting and spending requirements for schools.[39]
- **May 4, 2020:** Governor Murphy announced the closure of schools for the remainder of the 2019-2020 academic year.[40]
- **May 5, 2020:** The NJDOE required updates to public health-related school closure plans and made temporary suspensions and modifications to school district evaluation rules. The NJDOE also changed requirements on topics including virtual instruction, attendance, support for students, meal delivery, facility maintenance, and summer programs.[41][42]
- **May 7, 2020:** The NJDOE provided strategies for identifying and notifying English language learners during COVID-19 school closures.[43]
- **May 8, 2020:** The NJDOE issued an announcement encouraging virtual graduation celebrations for the Class of 2020 amid school closures.[44]

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[37] Murphy, P. (2020, April 7). *Executive Order No. 117*. State of New Jersey.

[38] New Jersey Department of Education. (2020). *Call for Garden State Teachers to Provide Instruction on New Jersey Public Television.* Retrieved from https://www.nj.gov/education/broadcasts/2020/apr/8/Call%20for%20Garden%20State%20Teachers%20to%20Provide%20Instruction%20on%20NJ%20Public%20Television.pdf

[39] New Jersey Department of Education. (2020). *U.S. Department of Education Waivers Granted Related to the COVID-19 Emergency.* Retrieved from https://www.nj.gov/education/broadcasts/2020/apr/30/US%20Department%20of%20Education%20Waivers%20Granted%20Related%20to%20the%20COVID-19%20Emergency.pdf

[40] Office of Governor Phil Murphy. (2020, May 4). *Governor Murphy Announces That Schools Will Remain Closed Through the End of the Academic Year* [Press release]. Retrieved from https://www.nj.gov/governor/news/news/562020/20200504a.shtml

[41] New Jersey Department of Education. (2020). *Required Updates to District Public Health-Related School Closure Plans.* Retrieved from https://www.nj.gov/education/broadcasts/2020/may/5/Required%20Updates%20to%20District%20Public%20Health-Related%20School%20Closure%20Plans.pdf

[42] New Jersey Department of Education. (2020). *New Jersey Department of Education Checklist for School Health-Related Closure Plans.* Retrieved from https://www.nj.gov/education/topics/NJDOE%20Checklist%20for%20Emergency%20Preparedness%20Plans.pdf

[43] New Jersey Department of Education. (2020). *Identification and Parent Notification of English Language Learners during COVID-19.* Retrieved from https://www.nj.gov/education/broadcasts/2020/may/7/Identification%20and%20Parent%20Notification%20of%20English%20Language%20Learners%20during%20COVID-19%20.pdf

[44] New Jersey Department of Education. (2020). *COVID-19: Virtual Graduation Celebrations.* Retrieved from https://www.nj.gov/education/broadcasts/2020/may/8/COVID-19%20Virtual%20Graduation%20Celebrations.pdf

- **May 11, 2020:** The NJDOE informed school leaders about CARES Act ESSER Fund allocations, educator certification rule waivers, and modifications.[45]
- **May 18, 2020:** The NJDOE outlined the process for borrowing due to delayed State School Aid Payments in June 2020.[46]
- **May 27, 2020:** The NJDOE issued additional guidance for reporting student absences and discussed testing materials and score reporting updates.[47][48]
- **May 30, 2020:** EO 149 allowed resumed childcare services, camps, and sports for the summer. It outlined that high school sports under the jurisdiction of the NJSIAA must follow reopening protocols and could not resume before June 30, 2020.[49]
- **June 12, 2020:** The NJDOE issued guidance for students with disabilities graduating during COVID-19 restrictions and summer learning programs.[50]
- **June 17, 2020:** The NJDOE updated the Health History Questionnaire, extended the deadline for evaluating chief school administrators, and announced new target areas of CARES Act ESSER Funds.[51][52][53]

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[45] New Jersey Department of Education. (2020). *CARES Act Elementary and Secondary School Emergency Relief (ESSER) Funds Allocations and Application.* Retrieved from https://www.nj.gov/education/broadcasts/2020/may/11/CARES%20Act%20Elementary%20and%20Secondary%20School%20Emergency%20Relief%20Funds%20Allocations%20and%20Application.pdf

[46] New Jersey Department of Education. (2020). *Process for Filing an Application to Borrow Due to Delay in June 2020 State School Aid Payments (N.J.S.A. 18A:22-44.2).* Retrieved from https://www.nj.gov/education/broadcasts/2020/may/18/Process%20for%20Filing%20an%20Application%20to%20Borrow%20Due%20to%20Delay%20in%20June%202020%20State%20School%20Aid%20Payments.pdf

[47] New Jersey Department of Education. (2020). *Guidance for Reporting Student Absences and Calculating Chronic Absenteeism 2020 Update/COVID-19 Attendance Issues.* Retrieved from https://www.nj.gov/education/broadcasts/2020/may/27/Guidance%20for%20Reporting%20Student%20Absences%20and%20Calculating%20Chronic%20Absenteeism.pdf

[48] New Jersey Department of Education. (2020). *ACCESS 2.0 and Alternate ACCESS 2.0 Update.* Retrieved from https://www.nj.gov/education/broadcasts/2020/may/27/ACCESS%202%20and%20Alternate%20ACCESS%202%20Update.pdf

[49] Murphy, P. (2020, May 29). *Executive Order No. 149*. State of New Jersey.

[50] New Jersey Department of Education. (2020). *Guidance for Summer Learning Programs.* Retrieved from https://www.nj.gov/education/broadcasts/2020/jun/12/Guidance%20for%20Summer%20Learning%20Programs.pdf

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- **June 22, 2020:** The NJDOE updated COVID-19 and Special Education Dispute Resolution. These updates addressed the unique challenges faced by students with disabilities and their families during the pandemic.[54]
- **June 26, 2020:** Governor Murphy's Administration announced "The Road Back: Restart and Recovery Plan for Education."[55]

Second Surge (July 2020 to May 2021)

- **July 9, 2020:** Governor Murphy announced new funding to combat food insecurity in New Jersey. This funding was crucial in providing meals and support to students and families affected by school closures due to COVID-19.[56]
- **July 16, 2020:** Governor Murphy unveiled a plan to address the digital divide ahead of 2020-2021 school year. This plan aimed to bridge the digital divide among students to ensure equitable access to online learning during the pandemic.[57]
- **August 13, 2020:** EO 175 ("Re-Opening Schools for In-Person Instruction") allowed schools to reopen, given they adhere to strict criteria. Districts were instructed to submit a reopening plan but continue to enable remote student learning. It also waived standardized testing requirements for students and teachers for the 2020-21 school year.[58]
- **September 2, 2020:** Governor Murphy addresses school reopening for the 2020-2021 school year in his daily coronavirus briefing, noting that more than 400 school districts prepared to begin the following week with a hybrid model of in-person and remote learning, 68 opening to all in-person instruction, and more than 200 being fully remote up until a certain specific date.[59]
- **January 11, 2021:** EO 214 ("School Policies for 2021-2022 Year") waived statutory testing requirements for students and teachers and lowered criteria for substitute teachers and certifications.[60]

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[54] New Jersey Department of Education. *News & General Information*. Retrieved from https://www.nj.gov/education/covid19/news/

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[56] Office of Governor Phil Murphy. (2020, July 9). *Governor Murphy Announces New Funding to Combat Food Insecurity in New Jersey* [Press release]. Retrieved from https://nj.gov/governor/news/news/562020/approved/20200709a.shtml

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[58] Murphy, P. (2020, August 13). *Executive Order No. 175*. State of New Jersey.

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[60] Murphy, P. (2021, January 11). *Executive Order No. 214*. State of New Jersey.

- **February 25, 2021:** The NJDOE announced that it will be collecting locally administered testing data in the spring to assess gaps in learning to inform allocation of the anticipated ESSER II funding.[61]
- **March 11, 2021:** ESSER II provided extended local education funding upon the signing of the federal CRRSA Act. The State of New Jersey set aside funds for Learning Acceleration grants, Mental Health grants, and Spring Assessment Data collection and published the distribution of funds across local education agencies.[62]
- **May 17, 2021:** Governor Murphy announced a mandate for full-time, in-person instruction for New Jersey schools starting in the fall of 2021, allowing remote learning only in emergencies. The announcement included reference to improved health conditions and vaccine availability for students aged 12 and above.[63]
- **May 24, 2021:** EO 242 ("Lifts Most Restrictions") maintained social distancing and gathering limitations in schools and childcare settings, but lifted them in most other settings.[64]
- **May 28, 2021:** The NJDOE released updated guidance for large gatherings and commencement ceremonies, lifting the requirement for indoor masking, but maintaining indoor capacity limits until June 4.[65]

Delta & Omicron Wave (June 2021 to March 2022)

- **June 4, 2021:** All indoor gathering and capacity limits were lifted as part of EO 242[66].
- **August 6, 2021:** EO 251 ("Indoor Mask Requirement for Schools") mandated schools to require face masks in schools, effective August 9, 2021.[67]
- **August 12, 2021:** The U.S. Department of Education approved New Jersey's state plan for ARP ESSER II (federal American Rescue Plan Elementary and Secondary School Emergency Relief), providing New Jersey with $2.77B in additional funding for local education agencies to respond to the impact of COVID-19. The use of the funds was subject to federal and state-level maintenance of equity requirements, which protect funding for schools with higher proportions of low-income students.[68]

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[61] New Jersey Department of Education. (2021). *The Road Forward: Spring Assessment Data Collection.* Retrieved from https://www.nj.gov/education/broadcasts/2021/feb/TheRoadForward-SpringAssessmentDataCollection.pdf
[62] New Jersey Department of Education. *Coronavirus Response and Relief Supplemental Appropriations*. Retrieved from https://www.nj.gov/education/esser/crrsa/index.shtml
[63] Office of Governor Phil Murphy. (2021, May 17). *Governor Murphy Announces That Schools Will Be Required to Provide Full-Time, In-Person Instruction Beginning Fall 2021* [Press release]. Retrieved from https://www.nj.gov/governor/news/news/562021/approved/20210517a.shtml
[64] Murphy, P. (2021, May 24). *Executive Order No. 242*. State of New Jersey.
[65] New Jersey Department of Education. *Considerations for Graduation Ceremonies and Other End-of-Year School Events 2020-2021*. Retrieved from https://www.nj.gov/education/covid19/boardops/commencement.shtml
[66] Murphy, P. (2021, June 4). *Executive Order No. 242*. State of New Jersey.
[67] Murphy, P. (2021, August 6). *Executive Order No. 251*. State of New Jersey.
[68] New Jersey Department of Education. *American Rescue Plan Act*. Retrieved from https://www.nj.gov/education/esser/arp/index.shtml

- **August 23, 2021:** EO 253 ("Vaccination or Testing Requirements for State Workers and School Personnel") required private and public schools to mandate, track, and report either proof of full vaccination or a weekly testing cadence for school personnel, effective October 18, 2021.[69]
- **September 1, 2021:** The NJDOH released an updated guide to navigating COVID-19 in schools titled "*The Road Forward*" with updated COVID-19 guidelines and procedures.[70]
- **September 1, 2021:** Governor Murphy announced $267M in funding to make COVID-19 testing available at schools.[71]
- **March 4, 2022:** EO 292 ("Lifts Public Health Emergency") rescinded school masking requirements, effective March 7, 2022.[72]
- **March 15, 2022:** EO 302 ("Lifting Restrictions for Testing") rescinded vaccination and testing requirements for school personnel and allowed school districts to implement their own policies and report information to the NJDOH.[73]
- **April 8, 2022:** The NJDOH released Test to Stay (TTS) guidance on how individuals can qualify to return to in-person instruction sooner after exposure to COVID-19.[74]

[69] Murphy, P. (2021, August 23). *Executive Order No. 253*. State of New Jersey.
[70] New Jersey Department of Education, New Jersey Department of Health. (2021, September 1). *The Road Forward: Health and Safety Guidance for the 2021-2022 School Year.*
[71] New Jersey Department of Health. (2021, September 1). *Murphy Administration Announces $267 Million in Funding For Student, Staff COVID-19 Screening Testing at K-12 Schools* [Press release]. Retrieved from https://www.nj.gov/health/news/2021/approved/20210901a.shtml
[72] Murphy, P. (2022, March 7). *Executive Order No. 292*. State of New Jersey.
[73] Murphy, P. (2022, March 15). *Executive Order No. 302*. State of New Jersey.
[74] New Jersey Department of Health. (2022, April 8). *NJDOH Test to Stay Updates.* https://www.nj.gov/education/roadforward/docs/TTS_4_4._22.pdf

Section 5.14 Continuity of Government Services

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5.14 Continuity of Government Services

1. Context and Summary

When the Governor announced aggressive social distancing measures on March 16, 2020, and the stay-at-home order on March 21, the operations of every State agency in New Jersey were significantly disrupted. No one knew what would happen next, but it was clear that state governments had to step up to provide essential services to their constituents despite the uncertainty surrounding the virus. To ensure that agencies can continue to fulfill their responsibilities throughout emergencies, all New Jersey agencies are required to have Continuity of Operations (COOP) Plans. In March 2020, however, none of New Jersey's agencies had COOP Plans that contemplated debilitating global public health crises. Thus, the COVID-19 pandemic forced agencies to rapidly determine how they could continue to provide their vital services while operating in emergency mode.

The State of New Jersey provides countless essential services to constituents on a daily basis, ranging from transportation to food safety to child protection. These services are a cornerstone of the livelihoods of many populations and could not simply be halted, even in the face of a once-in-a-century global crisis. From the beginning of the pandemic, New Jersey's state employees worked tirelessly to ensure that core programs and government operations still functioned despite rapidly changing circumstances, limitations on in-person interactions, and, most importantly, devastating personal tragedies.

A key impact of the pandemic was that almost all state agencies had to start both administering their services virtually and organizing a frontline response. Agencies had varying levels of virtual capabilities prior to the pandemic, and as employees were forced to be at home, many agencies scrambled to equip their staff with the tools required for remote work. Some agency employees could not work from home as they were essential to mitigating the effects of the pandemic on the front lines. It was critical that these employees were both aware of their status as 'essential workers,' adequately protected against the virus, and appreciated for their willingness to show up during a time of great uncertainty.

As the emergency response and transition to remote work happened, agencies were also dealing with heightened responsibilities that necessitated more staff capacity and exacerbated previously existing staffing shortages. Amid staff illnesses, severe exhaustion, and mental health struggles, agencies had to be creative in expanding their workforces and determine how to work with what they had to get the job done. Agencies' approach to service delivery grew even more complicated when some in-person operations began in the summer of 2020, and when state workers officially began returning to office in October 2021.

Throughout the pandemic, New Jersey's state agencies faced serious and debilitating challenges. Some agencies successfully adapted their services and ways of working to respond to the pandemic. Other agencies struggled tremendously and had to suspend their services, which caused complicated and long-lasting backlogs. Generally, however, many agencies were forced to improve their operations and services by both modernizing and streamlining processes. They also devised creative and innovative

ways to adapt, optimize, and digitize their services so that New Jersey residents would have the resources and support they needed to face life during a global pandemic. Moreover, agency employees took on untold hours of additional work despite the pandemic's emotional toll, becoming heroes for their constituents.

New Jersey's agencies faced formidable challenges when confronted with the COVID-19 pandemic. To be better prepared for future emergencies, whether they are related to public health, weather, or security, it is essential to understand how agencies responded, what went well, and what can be improved. This analysis of the continuity of the State of New Jersey's services discusses the key decisions made by State agencies, highlighting specific examples of how agencies responded to the pandemic regarding:

- In-person work during the pandemic.
- Changing ways of working.
- Maintaining staff capacity.
- Adaptation of agency services.

The analysis then shifts to examine how agencies from other states responded to similar challenges. Finally, the report explores the strengths and weaknesses of New Jersey's response, summarizing lessons learned and providing recommendations for the future.

2. New Jersey's Response

2.1. Key Decisions

Throughout every stage of the pandemic, New Jersey's state agencies had to make critical decisions to continue to deliver their services in a safe, timely, and practical manner. Failure to do so could result in overwhelming backlogs, significant delays, and a loss of critical, sometimes life-sustaining, services. COVID-19 impacted every agency in a different way, requiring each to consider different factors to different degrees to be able to continue functioning and serving their constituents. For example, agencies varied in the amount of preparedness they had to shift to remote work or provide services with minimal contact. Therefore, they had to quickly decide how they would conduct in-person and frontline work, transition to remote capabilities, address staffing concerns, and deliver services safely and efficiently.

2.1.1. Work for Frontline and Essential Employees

On March 19, 2020, the Governor instructed all departments and agencies in the State to use work-from-home arrangements for essential and non-essential employees as feasible. Complying with this instruction became more difficult when Executive Order No. 107 directed all residents to stay at home until further notice. Many agencies across the State perform a variety of essential functions that could not be offered remotely at the beginning of the public health emergency, so they had to rapidly

determine how to continuously deliver services and decide which services and workers were essential, and needed to continue working in-person, and which could be modified to be remote. Two of the most significant challenges agencies faced during the pandemic were interpreting state and federal guidelines and providing their in-person employees with safe facilities.

In-Person Work for Essential Employees

In the early stages of the pandemic and beyond, agencies needed to determine which of their employees were considered "essential." This was often challenging because many agencies had pre-existing "essential employee" designations that were primarily targeted toward weather-related incidents, given that hurricanes and snowstorms are the most common emergencies in New Jersey. The needs of state government during a snowstorm are vastly different than the needs of government during an unexpected public health emergency. This made existing essential employee designations practically inapplicable. In addition, some Civil Service Commission (CSC) rules left gaps for agencies to fill in themselves. For example, decisions about employees' 'essential' status were left to individual agencies because the CSC did not provide extensive guidance. As a result, policies were inconsistent across the State, and employees who played critical roles during the pandemic, such as New Jersey Department of Labor (NJDOL) unemployment workers and some healthcare workers, often did not fall under the 'essential' designation. Because they were considered 'non-essential,' these workers could take advantage of remote work and sick leave policies, even when their roles required them to be working in person. For example, following the stay-at-home order (Executive Order 107), many New Jersey Department of Health (NJDOH) employees working in the Public Health laboratory who were not officially deemed 'essential' stayed home. As a result, the NJDOH did not have enough staff in the laboratory to process COVID-19 testing quickly and had backlogs of non-COVID-19 work (e.g., newborn screening). The NJDOH worked around this as best it could by using temporary workers, but temporary workers were in high demand nationwide and could leave at any time for better-paying opportunities elsewhere, putting laboratory continuity at risk.

Health and Safety Procedures for In-Person Agencies

Agencies that continued to operate in-person and offer in-person services needed to modify their day-to-day operations to abide by health and safety guidelines from the Centers for Disease Control and Prevention (CDC) and the NJDOH. State agencies needed to ensure that facilities and equipment were clean for their frontline employees, who had to work in person and remain committed to their roles despite the fear of contracting the virus. These agencies also had to conduct contact tracing to reduce the spread of COVID-19 throughout the workplace. This posed an immense challenge when COVID-19's mode of transmission was still unknown. Further, each agency had to interpret U.S. Department of Health (USDOH) and CDC guidance to determine proper protocols to minimize the risk of infection. Guidance put forth policies such as:

- How many employees could be in a room at the same time.
- How to ensure proper ventilation in building structures.

- When and how often to clean rooms after an employee tested positive.
- Where to set up physical barriers to limit disease spread (e.g., clear plastic barriers at security desks).
- Requirements on masking and vaccination.

Treasury's Division of Property Management and Control (DPMC) was extensively involved in the State's efforts to return to work, because it is responsible for the property management of approximately 33 state owned buildings and 270 leased properties throughout the state. DPMC drafted COVID-19-related cleaning protocols and worked with agency representatives to ensure that facilities had the equipment needed to make workplaces safe for state employees. Agencies across the state were also committed to protecting their frontline workers and constituents and took creative approaches to cleaning their facilities and protecting employees.

Some agencies offered services that involved going directly to constituents, which meant that the agency needed to protect both its frontline staff and the constituents served. For example:

- The New Jersey Department of Transportation (NJDOT) was responsible for maintaining the cleanliness of 90 facilities (including offices and rest stops) as well as the trucks and equipment that were essential to its field work. The sheer volume of cleaning was immense; however, NJDOT used its own cleaning teams, outsourced some tasks to cleaning crews, and created cleaning stations within their main office, allowing workers to clean their own areas.
- The New Jersey Department of Children and Families (NJDCF) also hired special cleaning crews to clean cars after staff drove children to visitation locations, conducted home visits, and facilitated family meetings at local offices. Additionally, NJDCF's frontline workers would wear HAZMAT suits when conducting home visits with families who refused to share information about their COVID-19 exposure.

For other agencies, the nature of their services inherently meant indoor interaction in close quarters. This meant that they needed to create particularly thorough safety procedures. Examples of these agencies included New Jersey Transit (NJT) and the New Jersey Department of Corrections (NJDOC).

- NJT had a staff of more than 10,000 frontline workers who provided essential transportation services across the state throughout all stages of the pandemic, which made it crucial for NJT to have an organized and responsive set of cleaning protocols in place. NJT implemented a thorough cleaning regimen for its fleets of vehicles, conducting cleanings every 24 hours. NJT also staffed a medical call center to serve as a resource for employees and provide contact tracing services. When the call center received a report of a positive test, a cleaning crew would be immediately dispatched to conduct cleaning protocols.
- Likewise, the NJDOC implemented a thorough testing and contact tracing policy for incarcerated persons and staff. In the early stages of the pandemic, NJDOC contracted with a lab facility, which provided exclusive and expedited testing services. This testing program enabled NJDOC to create

a contact tracing system that allowed them to understand and track possible exposures within facilities.

2.1.2. Changing ways of working during the pandemic

On March 21, 2020, when the Governor announced that all non-essential government employees would have to transition to remote work, each agency needed to acquire proper equipment for employees and set up remote access to government servers without having to physically be in the office. However, agencies started at different levels of readiness and had to adapt accordingly. Although some agencies transitioned to remote work in a relatively smooth manner, many agencies struggled and overcame significant obstacles. This section will examine agencies' abilities to transition to remote work, what contributed to their level of preparedness, and the impact their preparedness had on their abilities to effectively deliver their services in a remote environment.

Agencies Shifting to Remote Work

In general, New Jersey's agencies struggled to provide services remotely due to complications with technology, which caused notable delays in service delivery. For agencies that were unprepared for remote work, their IT departments had to modernize the IT infrastructure and migrate systems toward Cloud-based solutions. The New Jersey Office of Information Technology (NJOIT) often assisted with such updates. Importantly, NJOIT set up remote access tools to ensure that State employees could securely log onto State systems from home. While there were challenges in providing remote access to such a large number of employees at once, NJOIT was prepared to scale remote access quickly as it foresaw a potential need for remote work in early March and had already completed stress tests.

Agencies that received critical support from NJOIT included the NJDOL and the New Jersey Department of Banking and Insurance (NJDOBI). For NJDOL, the shutdowns, closures, and furloughs that affected New Jersey's business and workers led to a massive increase in unemployment insurance (UI) claims submitted by New Jersey's workers. At the start of the pandemic, the computer systems the agency used to process UI claims were very outdated and depended on old computer languages and machines. NJOIT worked with NJDOL and its internal IT team on several initiatives designed to increase processing speed and data storage and fight UI claim fraud. Similarly, NJDOBI's internal IT teams worked extensively with NJOIT to digitize the agency's operations, enabling remote network access, which had previously been available exclusively to field workers. NJDOBI's Human Resources (HR) department also helped ensure collaboration between all NJDOBI employees, assisting them with updating their home phones, creating email lists to ensure that internal communication was not disrupted, and reallocating laptops.

Additionally, many agencies faced challenges with obtaining the technology to properly equip their employees at home because it was difficult to acquire and set up enough laptops, roll out remote access software, and identify what tools employees needed to do their jobs effectively. The New Jersey Department of Human Services (NJDHS) Division of Disability Services (DDS), the Board of Public Utilities (BPU), and the New Jersey Department of the Treasury (Treasury) approached the struggle of

obtaining necessary technologies by implementing tiered or staged working systems. These agencies evaluated which employees needed technology immediately and which employees could wait, and provisioned laptops accordingly. When possible, they also allowed employees to either use their own Wi-Fi-enabled devices to access secure networks or take home their desktop computers until they received laptops.

After acquiring new technology that enabled their employees to work remotely, many agencies found that their employees needed extensive training to use those new systems properly. For example:

- Employees at the New Jersey Department of Environmental Protection (NJDEP) were used to working on desktop computer systems and using in-office telephonic communications. As a result, NJDEP's staff struggled to quickly gain familiarity with remote access tools and the new flow of remote operations. To address these challenges, NJDEP offered frequent trainings on Microsoft Teams and Remote Access.
- The New Jersey Department of State (NJDOS) and the New Jersey Department of Education (NJDOE) similarly implemented extensive programs to train employees in new technology, systems, and ways of working. NJDOS also instituted daily check-in emails and end-of-day written reports to supervisors, regular Zoom/Microsoft Teams calls with staff, and instructional webinars to monitor and support progress.

Along with transitioning to remote work, many agencies reported that data sharing across IT systems became an obstacle due to IT system incompatibilities. For example, the NJDHS had difficulty integrating NJDOH vaccination data with DHS vaccine data to track vaccination progress for Medicaid recipients. The integration process often had to be done manually, as necessary data came from a variety of sources, including the New Jersey Hospital Association (NJHA) and the NJDOH. Agencies such as the New Jersey Economic Development Authority (NJEDA) and the Office of the State Comptroller (OSC) also described the struggle associated with tracking grants and funding that were distributed across New Jersey. Both agencies explained that the process for tracking grants to prevent fraud and duplicative funding was complicated by incompatible data sets. In fact, NJEDA employees manually input grant recipient dates, amounts, and purposes into shared files and had to run extensive, complicated searches across multiple platforms to ensure that grants were not duplicated or fraudulent.

Return to In-person Work

At first, agencies thought that they would be working remotely for 2 or 3 weeks. It soon became clear, however, that the Public Health Emergency would last into summer 2020 and beyond, leading agencies to develop protocols to slowly guide employees back to in-person work. These agencies leveraged existing policies – e.g., those around room capacity and room cleaning protocols – but adjusted protocols to accommodate the higher numbers of employees that would now be in the office. The Governor's Office and the NJDOH assisted agencies in developing their return-to-work protocols, which were similar to existing guidance for essential workers and outlined the requirements around:

- Whether an employee should be allowed to return in person.
- Daily screening assessments for employees and essential visitors.
- Face covering and social distancing.
- Building maintenance and cleaning.
- Employee travel.
- Modifications to layouts of workplaces and customer service centers.

Agencies also took additional measures to ensure that their employees felt comfortable and safe with guidelines when they did return to work. For example, the New Jersey Department of Law and Public Safety (NJLPS) paid to have a cleaning service conduct daily supplemental cleaning of all touchpoints in open buildings. NJLPS was also transparent with employees and their unions about policies, communicating through blast email announcements and an Intranet page. The NJDCF also undertook multiple initiatives to manage their employees' concerns upon workplace re-entry. This included developing a "Return to Office" webpage with guidelines and FAQs, creating a "Return to Office" email account to communicate information and respond to questions, hosting webinars on how employees could handle and overcome the stress of re-entry into the workplace, and publishing a full Safe Work playbook and "Return to Office" training videos.

However, continuing to work in person, or returning to in-person work, was not always a decision made by agencies alone – they had to consider the input from workers, unions, and constituents. For example, workers needed to feel comfortable with in-person services even as some elements of COVID-19's transmission or effects remained unknown. In some instances, this required coordination with unions that represented their workforces as policies were being developed. One agency that excelled at this was NJT, which had proactive discussions with unions before the pandemic hit the State and held regular weekly calls during the pandemic. NJT also facilitated direct communication between the NJDOH and union leaders, which allowed for open discussions about the progression of the pandemic. Additionally, agencies needed to ensure not only that their own employees were abiding by return-to-work protocols, but also that the other entities they were directly responsible for were compliant. One such agency was the New Jersey Board of Public Utilities (NJBPU), who oversees utility workers. Utility workers played a critical role in the pandemic, as New Jersey's homebound populations relied on electricity to stay connected. NJBPU's president was constantly in communication with utility leaders to ensure that their workers had access to the PPE and resources needed to perform their jobs. BPU also had to respond to new challenges, such as social distancing protocols for crews who shared repair trucks and workers who conducted home repair visits. By considering the needs of their workers and constituents, these agencies were able to build trust and return to in-person work more smoothly.

Although many of New Jersey's agencies returned to in-person work and easily resumed offering services, some agencies faced significant obstacles when returning to work after shutdowns because they were unable to provide their services remotely. An agency that was hit extremely hard by the stay-at-home order and pandemic-related closures was the New Jersey Motor Vehicle Commission (NJMVC). Prior to the pandemic, NJMVC provided mostly in-person, customer-facing services from brick-and-mortar locations. NJMVC did not offer services via the internet and only a small percentage of its employees had roles that permitted remote work. As such, mandated closures from March to July

2020 significantly impacted the agency's ability to deliver any of its services for a matter of months. Many transactions such as driver's tests, the issuance and renewal of permits and licenses, vehicle registrations, and temporary tags needed to be completed on-site. As a result, NJMVC experienced an unprecedented backlog of these transactions upon reopening.

NJMVC was not adequately prepared for the impact its months-long closure would have upon reopening in July 2020. The agency faced a staggering demand for in-person services, with millions of people suddenly visiting its locations. Individuals would queue up in hours long lines, only to find out that employees were unable to handle their transactions that day. These lines in the summer heat became so long that they stretched into neighboring property and individuals began selling their places to the highest bidders. NJMVC adopted a ticketing system in an attempt to solve the problem, but lines remained so intense that law enforcement officials had to be called to provide crowd control and protect NJMVC employees. Additionally, social distancing requirements and health and safety protocols consistently brought NJMVC locations to a halt even after reopening because locations needed to be shut down for cleaning and disinfecting whenever employees exhibited COVID-19 symptoms. This only worsened the significant backlogs that remained from the shutdown period.

2.1.3. Maintaining Staff Capacity

Staffing Concerns and Challenges

Throughout the pandemic, staffing issues plagued New Jersey's government agencies. In fact, most agencies cited staffing problems and understaffing as their greatest challenges. Often, pre-pandemic understaffing and non-pandemic related issues (such as scheduled retirements and competition from the private sector) worsened COVID-19-related absences and dramatically increased workloads resulting in employee burnout and departures. As a result, many agencies throughout the state struggled to maintain their existing staff and adapt their operations to a workforce reduced by illness, quarantine, and other factors.

As described above, NJMVC was faced with a unique set of issues, including serious staffing problems, upon reopening. Due to its in-person operations, NJMVC staff had greater contact with the public, putting them at a higher risk of COVID-19 exposure. Often, customers appeared at NJMVC locations when sick, endangering the health and safety of NJMVC staff. Many of NJMVC's workforce-related shortages related to staff needing to frequently quarantine or needing to close the location after staff members tested positive. Cross-contamination concerns and contact tracing procedures exacerbated workforce shortages, as workers could not be transferred from a quarantining facility to an open and functional facility even if they tested negative. Additionally, NJMVC found that its employees frequently exploited state guidelines on COVID-19 leave entitlements. For example, employees used pictures of old positive COVID-19 tests as justification for taking paid leave or obtained doctor's notes virtually from out-of-state providers. NJMVC's staffing issues were so significant that it estimated that it operated at 50% staff capacity throughout most of the pandemic.

Like NJMVC, many agencies found that their employees took advantage of sick leave policies and were extremely hesitant to return to in-person work due to exposure risks. These agencies experienced major roadblocks in their return to in-office operations. Often, the return to in-office work was complicated by school closures and the need to care for ill family members. Many employees were required to return to work but did not have adequate care for their children who were still attending school remotely or for their adult family members who typically attended adult care centers. Additionally, COVID-19 exposures and mandated quarantining made it difficult for agencies to keep their offices staffed once they had reopened. To accommodate employees who were unable to fully return to the office due to childcare or illness, agencies often required staff members to work additional hours. This only furthered workers' feelings of burnout and frustration. Multiple agencies, such as OHSE and NJDCF took employees' hesitation seriously, conducting exit interviews and workplace surveys to better understand the reasoning behind their employees' decisions. As a result, some have re-evaluated their operating procedures and adopted teleworking and flextime policies to meet their employees' needs.

Staffing Solutions

Early in the pandemic, New Jersey implemented statewide policy changes to temporarily address staffing shortages faced by all agencies. On April 6, 2020, the Governor's Office issued an executive order1 that allowed agencies to hire retirees in any capacity – including full-time and part-time work – without needing to re-enroll in any retirement system. Similarly, on June 30, 2020, the Governor's Office issued an Executive Order[2] that allowed New Jersey agencies to hire workers who did not live within the State of New Jersey[3] until 90 days after the end of the Public Health Emergency.

Further, CSC, in conjunction with the Governor's Office, took a number of actions to maintain staff capacity across state government, including relaxation of classification standards, development of incentive pay, and resumption of examinations. However, CSC's initiatives were often met with various timing and practicality challenges:

1. Agencies needed job classification to be loosened so that employees could expand the scope of their roles to meet agencies' shifting demands. The Governor's Office attempted to address this by implementing rule relaxations for individual agencies, but the process was slow and contributed to backlogs and pauses in service delivery.
2. CSC developed incentive pay by request to ensure essential workers were being compensated for the risk they undertook; however, it did not relax pay standards universally, which sparked discontent. COVID-19 rates were offered at time-and-a-half pay for the 36th-40th hours of work, and were mostly approved for direct care staff in NJDCF, NJDHS, NJDOL, and NJDOH.
3. The examination process that is required for State employees was extremely slow. At the start of the pandemic, all in-person CSC examinations were suspended, and online alternatives were not offered, resulting in a tremendous backlog. Even once examination administration was

[1] Murphy, P. (2020, April 7). *Executive Order No. 115*. State of New Jersey.
[2] Murphy, P. (2020). *Executive Order No. 159*. State of New Jersey.
[3] NJ First Act, N.J.S.A. 52:14-7 requires agencies to hire staff that reside within New Jersey.

permitted (after May 2020), there were still pandemic-related obstacles, such as capacity limits in rooms due to social distancing, which slowed the process and impeded agencies' ability to hire personnel.

To mitigate staffing needs, New Jersey agencies sourced additional staff where possible. State agencies leveraged multiple sources, including hiring temporary workers, temporarily shifting staff responsibilities, contracting work to vendors (e.g., call centers), and bringing back retired workers. Examples of how agencies employed these methods are discussed below.

Cross-Training: Some agencies used extensive cross-training and took advantage of built-in role flexibility to address staffing shortages in certain departments. For example, NJDOL adopted an all-hands-on-deck approach to dealing with UI claims, pulling employees from different groups within the agency. As mentioned in Section 5.12 Economic Impact Mitigation, when the pandemic hit NJDOL was staffed according to record low unemployment numbers. Many NJDOL employees had to completely shift roles and undergo extensive cross-training in other roles to manage the sheer volume of COVID-19-related work that needed to be done. Additionally, NJDOL borrowed staff from other state agencies, such as Treasury; brought workers out of retirement; and hired temporary workers to deal with the massive volume of claims.

Defined Duties: The Office of Emergency Management (NJOEM) had an emergency-specific set of duties for some employees that was activated when the State of Emergency was declared. One example was an employee shifting duties entirely to cover communications efforts. These emergency deviations in roles, which were purposefully built in, worked particularly well during the pandemic, especially given that flexibility in typical civil service roles did not always exist.

Repurposing Staff: NJDCF's Office of Education (OOE) also repurposed and triaged staff according to their skills and the department's needs. To determine staffing needs, the OOE administrative team met every day, assessed their roster of available staff, then assigned tasks as was necessary to maintain service. For example, bus drivers delivered meals to families, and aides helped digitize material left in schools and fielded calls from parents.

Relaxed Regulations: Other agencies, like the NJEDA and the NJDOH, relaxed regulations and took advantage of waivers and deadline extensions to mitigate staffing shortages. For example, the NJEDA initially had trouble finding qualified staff who lived within the State of New Jersey, as required by state law. Through Executive Order No. 159[4], the Governor extended the deadline to comply with the in-state residency requirement beyond the end of the public health emergency. This allowed the NJEDA to temporarily hire out-of-state workers to fill its staffing needs. Additionally, the NJDOH dealt with staffing challenges by relaxing licensing regulations, which allowed for Clinical Nurse Educators to be trained in 8 hours, medical assistants to function as Certified Nursing Assistants, and retirees to come back if their licenses had recently expired. (For more information on NJDOH's staffing challenges, see Section 5.07 Healthcare Capacity Management).

[4] Murphy, P. (2020). Executive Order No. 159. State of New Jersey.

Mental Health

Almost every agency throughout New Jersey described the extremely detrimental and long-lasting effects that COVID-19 has had on their employees' mental health and ability to work. State employees often broke down in tears when asked to explain what it was like to be part of the New Jersey's pandemic response. In fact, when asked to characterize the state of employee mental health throughout the pandemic, one official replied, "we were struggling, wheezing, gasping for breath. We didn't follow the guidance that flight attendants give to passengers on a plane: to put on our own masks before assisting others." Another leader reported feeling so overwhelmed and traumatized by the effects of the pandemic and the responsibilities of her office that she experienced frequent panic attacks.

Many frontline agency workers also reported experiencing significant trauma due to the panic and urgency of the response and the demands associated with their jobs. Some workers, like those in the New Jersey State Police, had to identify, transport, and plan for the storage of dead bodies. Other state employees, like those who worked in correctional facilities and state psychiatric hospitals, had to continue to work on site among large groups of people despite the virus's potency and transmissibility. Consequently, the fears and trauma that New Jersey employees endured day after day had a significant impact on their ability to be fully present at work and provide for constituents.

In addition to adjusting to remote work and responding to an increased workload, many state workers were forced to continue to operate in the face of tremendous loss. COVID-19 had caused the deaths of more than 10,000 New Jersey residents by the end of June 2020. The State's agency staff were unquestionably impacted by these losses. In fact, one worker in the Office of the Public Defender (OPD) lost 11 family members, yet had to return to business as usual at the office.

Both the Department of Transportation (NJDOT) and the Division of Children and Families (NJDCF) noted that staff struggled to maintain their mental health after enduring the deaths of multiple coworkers. Further, State workers were terrified of continuing or returning to in person work due to fear of contracting COVID-19 and spreading it to their loved ones. These fears were particularly strong in the early months of the pandemic when the virus and its transmission were not well understood. For example, NJDCF employees reported the immense fear and anguish they experienced around in-person field investigations as they tried to simultaneously protect the children entrusted to State custody and their fellow NJDCF co-workers, often without complete information or sufficient PPE. As one NJDCF employee pointed out, all prior emergencies in New Jersey were relatively contained and acute, leaving everyone unsure of how to respond.

Personal losses and increased workloads caused many State workers to endure prolonged exhaustion and pandemic fatigue. Workers were overwhelmed by the sudden and dramatic increase in their responsibilities, which agencies had to process while being understaffed. For example, COVID-19 hit New Jersey at a time when there was already a hiring backlog at the New Jersey Department of Corrections (NJDOC). NJDOC workers expressed frustration over being asked to put their health at risk to work extra shifts in prisons, when the agency had entered into the health emergency already understaffed.

Many agencies also reported that their staff suffered from exhaustion caused by expanded responsibilities and longer hours. In fact, some agencies, such as the Governor's Office, the NJDOS, and the NJDOL reported that their staff were working around the clock to triage and respond to the needs of their constituents and other agencies. The Governor's Office noted that employee mental health needs to be a priority in future emergencies, stating that at one point in the pandemic, its employees needed to be reminded to eat, sleep, and take showers. NJDOL and NJDOS officials also described their experience as being in "emergency mode" for years, noting that staff truly put their lives on hold to do work.

Many agencies across the State recognized that their employees were struggling, but lacked the time and resources to provide them with additional support. Other agencies took steps to support their employees' mental health by ensuring that they had transparent communications, provided programs for mental health support, and updated their operations. These agencies took the following approaches:

Ensuring strong two-way communication: Certain agencies focused on establishing solid lines of communication and feedback through which they could listen to employees and respond to their concerns. At the NJEDA, for example, transitioning from remote work to a hybrid work schedule brought into focus employees' reluctance to return to the office and morale issues. The NJEDA addressed those challenges by adopting a flexible but clear written policy, regularly communicating with staff, and creating a Morale Committee that implemented several measures to ensure that staff felt valued and wanted to return to the office. Further, the NJDCF's Public Affairs Team actively sought feedback from employees, conducting surveys to gauge its staff's wellbeing throughout the pandemic. Once the team realized that staff well-being was an issue, it created an Office of Staff Health and Wellness. Additionally, NJDCF's Division of Women channeled some of its COVID-19 relief funding towards staff wellbeing, creating bonuses and wage increases to thank staff for their hard work and dedication. The NJDCF Commissioner also held weekly support calls for staff, hosting experts from NJDOH and NJDOL to field questions about the virus and employment procedures and support. At the height of the pandemic, more than 1,500 NJDCF employees attended these calls.

Finally, the New Jersey Department of Law and Public Safety (NJLPS) created a COVID-19 Ombudsperson within the Office of the Attorney General's executive staff to field questions and complaints from employees on a confidential basis. The ombudsperson regularly met with NJLPS's chief of staff to review and resolve issues.

Providing programs for mental health support: Some agencies also sought to provide mental health support programs for their employees. A resource that is available to all New Jersey state employees is the New Jersey Civil Service Commission's (CSC) Employee Advisory Service (EAS). EAS is a program specifically designed to help employees and their dependents with personal, family, or work-related issues. It provides state employees with direct access to mental health specialists and confidential counseling services related to depression, anxiety, stress management and grief counseling. Despite the presence and availability of EAS, many agencies were not aware of it and their employees suffered as a result. Other notable efforts to provide support to employees include the NJDOH's use of support animals and the NJHA's nurse-to-nurse peer support hotline.

Updating workplace norms to ensure safety: Certain agencies took employee mental health into account when altering their operating procedures to continue work and mitigate the spread of the virus. These agencies did so by employing alternative teaming models that staggered shifts and ensured employees could have time off. NJT, for example, adopted a strategy to prevent the potential spread of COVID-19 that split the NJ Transit Police into two alternating working groups. One group worked from home while the other worked in person, and they would alternate, effectively minimizing the risk of spreading COVID-19 among employees. Like NJT, NJOEM created an A team/B team response system to ensure that staff had adequate time away to recuperate from their stress and disaster fatigue. Additionally, the New Jersey Department of Agriculture (NJDA) employees who worked in plant testing labs remained in person throughout the pandemic, prompting the agency to stagger shifts to continue testing and analysis while following safety guidelines.

2.1.4. Adaptation of Agency Services

Agency Coordination

Coordination between government agencies was a key aspect of the State's pandemic response. Without daily communication and synchronization, many of New Jersey's agencies would have been unable to continue to provide services to their constituents. The Governor's Office was central to agency coordination. Within the Governor's Office, the Governor's Cabinet Secretary acted as the primary point of contact for all executive agencies and worked closely with the Governor's Counsel and Policy offices to coordinate departmental operations. The Governor's Office also formed a COVID-19 legal team to draft and approve Executive Orders, communications, policies, and waivers to ensure consistency across all executive agencies. Further, The Governor's communications team coordinated with agency commissioners and department heads to guarantee their presence at and participation in public briefings.

The Governor's Office led the State's emergency response operations at the Regional Operations and Intelligence Center (ROIC). At the ROIC, key decision-makers from agencies across the State (including the Governor's Office, the NJDOH, NJOEM, the Attorney General's Office) as well as representatives from the New Jersey Hospital Association, physically co-located to increase the speed and efficiency of critical decision making. The Governor's Office also spearheaded the creation of the Coronavirus Task Force (CTF), which was composed largely of State Cabinet members and their delegates and became a mouthpiece for the NJDOH to provide updates to other agencies. (For more information about the State's emergency response efforts, see Section 5.02 Emergency Response Governance and Coordination).

Many agencies, such as the Treasury and the NJEDA partnered with other agencies that required extra assistance. For example, NJEDA helped the NJDOE create a comprehensive playbook for their return to school plan. NJEDA was able to provide such assistance because it had more up to date technology and staff with relevant experience. Treasury also assisted multiple agencies throughout the pandemic. For example, Treasury's Taxation unit maintained full operations, loaned 100 staff to NJDOL for UI claims, deployed Office of Criminal Investigation (OCI) staff to New Jersey State Police to assist in all facets of

the COVID-19 pandemic and were able to have its staff work fully remotely. Agencies also emphasized the importance of direct communication with one another. For example, NJDOBI officials described their consistent communications (through phone, email, and virtual meetings) with other agencies, particularly the NJDOH. NJDOBI worked closely with the NJDOH to issue bulletins and information about health insurance to New Jersey's residents.

Modifying Service Delivery

Despite universal delays and setbacks, many agencies were able to overcome pandemic-related setbacks and challenges and actually improve their delivery of services. These agencies used the pandemic as an opportunity to leverage technological advancements, existing relationships, and their employees' creativity. Where some agencies thought up innovative ways to deliver and expand their programs, others automated their services to increase efficiency and provide a better constituent experience. This section looks at agency service modifications from the following points of view:

- Resourceful service adaptions
- Service expansion
- Updated communication
- Process modernization

Resourceful Adaptation: Multiple agencies creatively pivoted to delivering their traditional in-person services to a new digital and socially distanced environment. They also leveraged relationships to improve their services and reach a greater number of constituents. Before the pandemic, many of the most significant operations at the NJDA and the NJDOS relied on in-person activities. In response to social distancing requirements and new COVID-19-related challenges, these agencies had to adapt essential services quickly and creatively.

For example, NJDA altered many of its common operations to protect the safety of its staff and constituents. NJDA's is responsible for providing school lunches to New Jersey students, assisting farmers with marketing and development, and advocating for the safe treatment of farm workers. These mission-critical directives were all directly challenged in one way or another. To ensure that New Jersey students and food-insecure residents had access to nutritious meals at designated drop-off and pick-up points, NJDA leveraged its well-developed relationships with USDA, school districts, and school-meal sponsor organizations. Further, NJDA's Marketing and Development department worked to help farmers who had lost markets due to restaurant closures and other pandemic measures find new customers and participate in the USDA Food Box program. NJDA also worked with NJDOH and NJDOL to ensure that farmworkers had access to COVID-19 testing and PPE, which was essential for workers who lived in congregate seasonal-employee housing. Additionally, NJDA worked to have garden centers and nurseries declared essential businesses at the beginning of the pandemic in order to provide planting materials to people using home gardening as a way to deal with the stress of being homebound.

Notably, NJDOS had to drastically alter its procedures for conducting both the 2020 Census and the 2020 presidential election. NJDOS had been diligently working on the census since at least 2019, hosting events and collecting information in communities. When the pandemic hit, the NJDOS census team shifted its focus to virtual outreach, maintaining partnerships with municipalities and counties and leveraging relationships with grassroots organizations. NJDOS planned to conclude its census work in April 2020, but COVID-19 shifted that timeline. In response, NJDOS conducted weekly calls with its partners in counties, localities, municipalities, houses of worship, universities, healthcare centers, and non-profit organizations to determine the best course of action. After the initial spike of the pandemic died down, NJDOS and its partners created informational census kiosks and began setting up at food distribution centers. These efforts led to the highest number of census self-responses in more than 30 years. NJDOS also had the monumental task of coordinating and running the 2020 election. The Lieutenant Governor used her connections from the Association of Secretaries of State to learn from states who typically have a large percentage of residents that vote by mail. The NJDOS team synthesized this information and worked quickly to pivot its elections processes and procedures. As a result, New Jersey had a 72% voter turnout and led the nation in youth voter turnout.

Service Expansion: Many agencies noted that the pandemic exposed new needs, which led them to expand their services offerings. For example, NJDCF's Division on Women increased the number of funded organizations that serve a culturally specific or marginalized population from 9 to 14 during the pandemic to better assist undocumented immigrant women who were experiencing domestic violence but excluded from many pandemic-era public assistance programs due to their citizenship status. Additionally, the Department of Community Affairs' (DCA) Division of Housing and Community Resources (DHCR), realized that the self-certification process for rental and utility assistance was far too complex for most applicants to understand. This confusion caused an exceedingly large number of people reaching out to DHCR staff for further clarity and assistance. To deal with the tremendous increase in call volume, DHCR expanded its call center operations. DCA also created new systems to prevent fraud that did not require applicants to provide excessive documentation. These innovative fraud prevention tests included checking with utility companies about customers who were behind on payments and using addresses to check average income in the customer's vicinity. Additionally, the Department of Transportation (NJDOT) took advantage of reduced traffic on the state's roads and expanded its construction programs. In fact, NJDOT delivered its largest capital construction program in department history, honoring its commitments to and maintaining its relationships with contractors.

Updated Communication: Many agencies had to update the ways in which they communicate with the public in connection with their expanded services. These agencies also had to ensure that their communications were reaching underserved communities. For example, agencies, such as NJEDA, DCA, NJDCF, and NJDOL oversaw guidance and messaging on agency-specific COVID-19 directives and resources, such as grant and assistance programs, and subject-matter specific disease impact. (for more on public communication, see Section 5.03 Public Communication).

Both call centers and media campaigns became invaluable for agencies to share information about new programs, grants, and opportunities. NJEDA, for example, shared information with business groups and faith leaders, conducted webinars, used social media, and engaged with traditional media. These outreach efforts were supported by women- and minority-owned marketing agencies hired to target

underserved communities. Further, NJEDA used a chatbot on their website and stood up a 15-20-person call center to answer questions about its programs and application processes. DCA also operated a call center to ensure that information about housing assistance was reaching those in need of services. DCA advertised on buses, on the radio, and on social media. It also orchestrated door-knocking, phone-banking, and text-banking campaigns to get its messages out. Additionally, NJDCF launched public communications campaigns to raise awareness about child abuse and neglect and resources available through the New Jersey Children's System of Care (NJCSOC) CSOC during the pandemic. Using Instagram to specifically target youth and Facebook and LinkedIn to reach adults, NJDCF also sent out email blasts and engaged in community outreach by partnering with professional organizations such as the New Jersey School Counselor Association.

NJDOL also deployed call centers and social media campaigns to address the many questions first-time unemployment claims applicants had about applying for unemployment benefits. After realizing that they could not answer everyone's questions directly—and due to harassment of its employees—NJDOL began to drive traffic to their website through social media, phone messaging, and the Governor's press conferences and communications. NJDOL revamped its website, set up autoreply emails, created a chatbot, and created multiple guides to help people with their unemployment applications. In addition, NJDOL put out weekly press releases and the Commissioner appeared regularly on TV to communicate the Department's messages. Moreover, the Department used a call center (staffed by outside contractors) as the initial point of contact to deal with the influx of questions, most of which were focused on regarding claim status.

Process Modernization: Going into the pandemic, each agency had a varying ability to process information digitally. While some agencies processed applications and approvals through digital servers, others partially relied on physical paperwork to carry out their daily activities. These agencies generally experienced significant delays when adjusting to remote work, which ultimately led them to digitize their processes. The Election Law Enforcement Commission ("ELEC"), the NJEDA, and the NJMVC used the pandemic as an opportunity to automate crucial processes. Notably, the ELEC fulfilled one of its pre-pandemic goals by implementing electronic filing mandates. Likewise, the NJEDA adapted to a surge in demand for services by automating many tasks that had previously been done by staff. Moreover, NJMVC has more than doubled the number of transactions that can be conducted online, including automating license replacements and renewals, and adding twenty-three new transactions to its website. As part of this effort, NJMVC made its website easier to use by redesigning menu selections, adding new payment options, and increasing account security.

3. Comparison to Other States[5]

As states across the nation sought to ensure the continuity of government operations during the pandemic, they also had to decide when state workers would physically return to offices. Benchmark states took different approaches to agency employees' return to in-person work; some mandated all their agencies to return to some level of in-person work while others were more laissez-faire, letting agencies make decisions for themselves. In parallel, states had to get innovative in adapting their services so that they could maintain staff capacity and ensure their constituents could still access their services during the pandemic.

The section below reviews the different choices states made around return-to-work mandates and provides a collection of innovative case studies of agencies that adapted their services to meet pandemic-era demands.

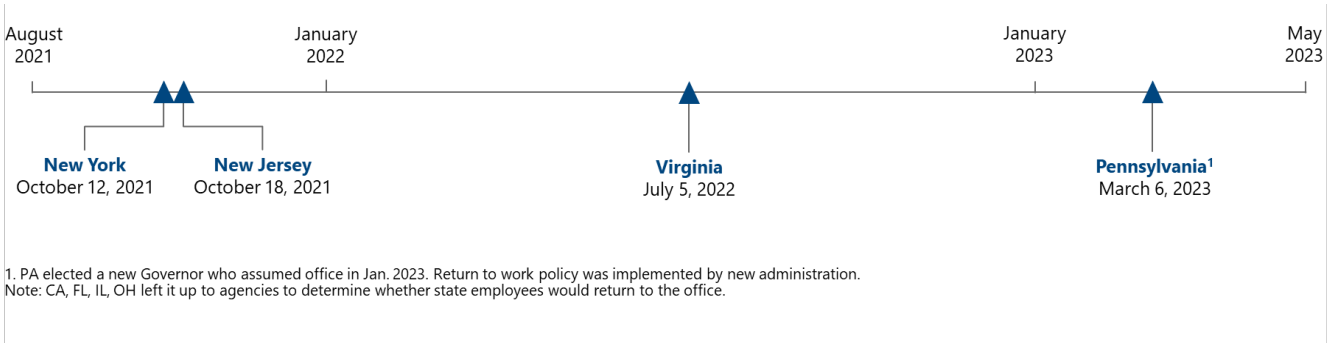
Return to work policies

States in the comparison set took one of two approaches to bringing State workers back into the office:

- Some states mandated all agency staff to return to some level of in-person work (New Jersey, New York, Pennsylvania, and Virginia); however, Governors asked state workers to return at different points in the pandemic. New Jersey and New York mandated the full-time return of state employees in October 2021; New York had initially planned for state employees to return in September 2021, but pushed the date back after certain parties considered legal action against the state for not consulting with relevant unions. Virginia mandated its state workers to return full-time much later in the pandemic, in July 2022. Pennsylvania was last in this group of states, mandating the in-person return of employees at least three times a week in March 2023 as the new Shapiro administration took office.
    - Officially, state governments mandated some form of in-person work for all state workers; however, each agency typically had some discretion on how they implemented their employees' return to office and whether they allowed flexibility for hybrid work.

[5] Benchmark states for **Chapter 5** (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia) were selected based on similar population densities, population age, initial outbreak timing. Additionally, states with diverse political leanings were chosen to showcase a range of possible priorities when it came to pandemic policies and interventions. Addition information on the selection process can be found in **Appendix.**

Exhibit 1: NJ, NY, PA, VA were the only comparison states that required all state workers to return to in-person work



1. PA elected a new Governor who assumed office in Jan. 2023. Return to work policy was implemented by new administration.
Note: CA, FL, IL, OH left it up to agencies to determine whether state employees would return to the office.

Other states (California, Florida, Illinois, and Ohio) granted state agencies the autonomy to decide when and how employees would return. In Florida, the Department of Economic Opportunity was the first agency to announce that employees would have to return to the office on October 2020, while other agencies, such as the Department of Agriculture and Consumer Services, continued allowing remote work. In Ohio, the earliest agencies began a phased return to their respective office buildings on July 2021. In June 2023, lawmakers tried to introduce a statewide budget amendment to restrict remote work for all state employees, but it was quickly removed, and Ohio's return-to-work policies remained agency dependent. Illinois and California agencies eventually also brought back a sizable portion of their employees. In Illinois, 59% of State employees were required to work in the office as of July 9, 2021, and the option to work remotely was available to 40% of employees. In California, state agencies began bringing employees back beginning in March 2021. As of October 2023, 49% of California state employees were not eligible for telework, while 38% were still remote-centered.

Case studies of service adaptation by state agencies

Across the U.S., state agencies took creative approaches to adapt their services and ensure continuity of operations. They did so by providing alternative channels to serve their constituents, developing new services to meet emergent needs, using services from the private sector, and granting leniency for services. Each of these creative approaches is showcased in a case study; it is worth noting that the sourcing of these case studies is not limited to the benchmarking set used in other sections of Chapter 5.

Providing alternative channels to serve constituents	
Ohio BMV	Ohio's Bureau of Motor Vehicles (BMV) set up an on-demand temporary tag printing service, which allowed drivers to print temporary license plates for new vehicles without having to go to the Deputy Registrar. With the new on-demand printing service, the BMV was able to eliminate crowds and lines at the height of the pandemic.
Developing new services to meet emerging needs of constituents	
DLT RHODE ISLAND	After COVID-19 displaced thousands of workers, the Rhode Island Department of Labor and Training (DLT) built a Virtual Career Center in partnership with Google Cloud, harnessing AI to connect the state's unemployed workforce with career resources and job opportunities. Rhode Island was the first state in the country to leverage artificial intelligence, machine learning, and cloud computing to bring constituents back to work.
Partnering with the private sector to deliver services quickly and at a high volume	
Information Technology Services	In New York, the Office of Information Technology Services established the Technology SWAT Partnership, which consisted of 7,300 volunteers from private organizations including Microsoft, Google, and Mastercard who helped the state build systems to respond to COVID-19. Over the course of three months, teams completed 40 projects, ranging from increasing bandwidth of the New York State DOL website to building platforms for constituents to locate testing sites. Ultimately, the systems built by the Partnership facilitated 49 million interactions between the New York state government and citizens.
Granting leniency or moratoriums for services during the height of the pandemic	
LDI	The Louisiana Department of Insurance (DOI) issued an Emergency Rule moratorium that suspended cancelations or non-renewals of all insurance types (life, auto, liability, fidelity, title, fire, crop, marine, homeowners, property and casualty, annuity, and surety) in effect on or before March 12, 2020. The moratorium kept existing insurance policies in place until after the expiration of the Emergency Rule. While other states also extended grace periods for similar types of insurance, Louisiana was the only one that issued a blanket cover for all personal and commercial insurance types.

4. Key Strengths and Challenges

In-Person Work during the Pandemic

Strength Agencies were dedicated to ensuring that their physical locations and equipment were clean for employee use. When agencies were unable to conduct adequate cleaning protocols on their own, they outsourced the cleaning to ensure that both employees and constituents were adequately protected.

Challenge The designation of "essential" vs. "non-essential" workers was a point of confusion during the pandemic, particularly since the existing designations of employees did not take into consideration pandemic-essential employees. This contributed to staffing shortages for agencies that conducted pandemic-essential services, as there was no exemption for their employees to work in person.

Changing Ways of Working

Strength Although there were some delays, most New Jersey agencies eventually ensured that their employees were set up for remote work. This included providing devices for working remotely, such as laptops and mobile phones, as well as ensuring state employees were able to access the systems and tools they needed while working remotely.

Strength Many New Jersey agencies ensured that their employees were adequately trained to use new technologies by conducting support calls and trainings for their employees. Often, these regular calls served to connect employees and foster relationships within agencies.

Challenge Many agencies found it difficult to keep up with rapidly changing guidelines (e.g., on masking, social distancing, and disinfecting protocols for workplaces, etc.). Guidelines changed frequently as understanding of the virus evolved and COVID-19 case counts fluctuated, creating confusion for agencies and employees alike. Furthermore, return-to-work guidelines were often written with a one-size-fits-all approach that did not fit differing circumstances that agencies faced. Agencies with limited physical space in their locations found it impossible to adhere to social distancing guidelines and risked endangering the health and safety of staff.

Challenge Gaps in technology and incompatible data sets made it difficult for some agencies to adequately perform their duties and track duplicative grants and fraud. Often, the need to reconcile and combine data sets with vastly different parameters led to increased workloads and frustrated employees.

Maintaining Staff Capacity

Strength Staff across government departments and agencies went above and beyond what they were expected or paid to do. Many state employees put their lives on hold to ensure that the important work their department or agency continued amidst the uncertainty, additional workload, and safety challenges posed by the pandemic.

Strength Across departments and agencies, state employees demonstrated resilience and flexibility. In addition to their core responsibilities, many employees also took on pandemic-related duties such as implementing testing and vaccine mandates or contact tracing within their department or agency.

Strength Many state agencies worked closely with their respective unions to ensure their staff were well placed to continue their work during the pandemic. Agencies that had pre-existing relationships with union leaders were able to have proactive discussions and continuous dialogue in the early stages of the pandemic, enabling rapid decision making.

Challenge Many agencies faced significant reductions in their staff capacity, leaving them unable to perform services effectively. Furthermore, CSC rule relaxations and incentive pay programs were incorporated into emergency rule modifications that involved additional levels of approval, which contributed to delays. Despite the urgency of filling vacancies, in many cases agencies were unable to hire employees due to these restrictions and administrative delays.

Challenge Although many agencies were ultimately forced to optimize their operations for remote work and improve their services for constituents, they often did so at the expense of their employee's mental health and wellbeing. While some agencies had resources for employees, many did not, leaving employees to struggle through their mental health crises on their own. This lack of support combined with nationwide gaps in mental health care left many individuals with nowhere to turn, as therapy was either unavailable, inaccessible, or too expensive.

Adaptation of Agency Services

Strength Many agencies had to innovatively adapt their services during the pandemic, particularly as they were unable to deliver services in person. These innovations, including a wide array of digital services, both allowed agencies to directly respond to the pandemic and to provide ongoing access to essential government services when face-to-face operations were interrupted. This capability was also essential in allowing the State to administer new programs digitally and will have long-term benefits for agencies to operate more seamlessly in the future.

Strength While there were a number of challenges early in the response with outdated technology and insufficient server capacity (e.g., for processing UI claims), multiple agencies used the challenge as an opportunity to accelerate the modernization of their data and technology architecture, and to move more of their operations to be Cloud-based. This has positive implications both for emergency response (e.g., better able to surge capacity) and for non-emergency government operations.

Challenge Although agency services were improved and updated in order to reach more constituents, many of New Jersey's underserved populations were left for moths with inadequate resources and support.

Challenge Many New Jersey agencies did not have Continuity of Operations Plans in place prior to the onset of the COVID-19 pandemic, or had such plans but they were insufficient because they did not anticipate the level and duration of disruption to regular operations. While operating in the COVID-19 pandemic would have been challenging still, with appropriate Continuity of Operations Plans, agencies

would have had a better starting point for adapting their ways of working and ensuring continued service provision to residents or businesses.

Challenge Outdated federal and state technology infrastructure were put under strain for some agencies due to increases in demand for their services. This limited their ability to respond to demand in a timely manner (e.g., NJDOL facing technology strain due to spikes in UI claims). This highlighted the importance of regular, non-emergency investments in data and system modernization.

The pandemic drastically altered the way that most of New Jersey's agencies operate - from how and where they conduct their work to the types of services they deliver. Although many agencies were ultimately forced to optimize their operations for remote work and improve their constituent services for constituents, they often did so at the expense of their employee's' mental health and well-being. Building on the lessons learned during the COVID-19 pandemic and strengths seen in the response, and to ensure New Jersey is less likely to encounter the challenges described in this section, the State can take a number of steps to improve government agencies ability to adapt and continue to offer crucial services in future emergencies. See Chapter 7 for multiple relevant recommendations, particularly recommendations on Inter-Agency Government Coordination and Communication (Recommendation 23 through Recommendation 28).

5. Appendix

A-1 Chronology of events in New Jersey

- March 5, 2020: The Governor placed restrictions on State-related business travel for state employees. New Jersey suspended all international travel for state employees until further notice. All domestic out-of-state travel on State-related business had to be approved by the Governor's Office, including same-day travel.
- March 9, 2020: The Governor declared a public health emergency.
- March 15, 2020: The Governor closed all motor vehicle agencies and road-testing facilities until March 30.
- March 16, 2020:
  - EO 104: The Governor announced aggressive social distancing measures to mitigate further spread of COVID-19 in New Jersey.
  - The Governor issued closures across the state of restaurants, bars, gyms, and movie theaters, and limited restaurants to only delivery and takeout. The Governor also issued a statewide curfew from 8PM to 5AM.
  - The Governor signed an Executive Order closing all schools in the State (for an unspecified period). The order also provided resources for how districts could continue to provide meals to students and created a process for virtual learning.

- March 19, 2020: The Governor instructed all departments and agencies in the State of New Jersey to use work-from-home arrangements for both essential and non-essential employees wherever feasible.
- March 21, 2020: The Governor issued a stay-at-home order EO 107, instructing New Jersey residents to stay at home except for necessary journeys, and ordering non-essential businesses to close until further notice.
- April 27, 2020: The Governor announced his vision, "The Road Back: Restoring Economic Health Through Public Health," to restart New Jersey and put the state on the road to recovery.
- May 18, 2020: As part of "The Road Back: Restoring Economic Health Through Public Health," the Governor unveiled a multi-stage approach to execute an economic restart intended to put New Jersey on the road back to recovery from COVID-19. The multi-stage blueprint, guided by the Governor's Restart and Recovery Commission and complementary Advisory Council, planned for a reopening of businesses and activities based on level of disease transmission risk and essential classification.
- June 9, 2020: The stay-at-home order was formally lifted.
- October 28, 2020: The Governor signed EO 192 to protect New Jersey's workforce by mandating compliance with social distancing and masking requirements.
- May 26, 2021: The Governor rescinded the requirement from EO 107 that businesses and non-profits accommodate telework arrangements for their workforce to the maximum extent practicable and reduce their on-site staff to the minimal number necessary for their operations.
- October 18, 2021: State workers' return to office began on a rolling basis.
- October 20, 2021: The Governor issued EO 271, instituting a vaccination or test requirement for state-contracted employees.
- March 4, 2022: The Governor lifted the Public Health Emergency through EO 292.
- April 6, 2022: NJ CSC established the Model Telework Pilot Program for State employees, which commenced on July 1, 2022.

Section 5.15 Procurement

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5.15 Procurement

1. Context and Summary

Public procurement is essential to day-to-day government operations and involves several layers of state agencies, staff, and rules. During the COVID-19 pandemic, procurement was a critical enabler of New Jersey's response: to effectively deliver New Jersey's health interventions described earlier, the State had to procure a wide range of goods and services in massive quantities. As discussed in other sections of this report, the goods and services ranged from personal protective equipment (PPE) to technology for contact tracing to additional staff to clean and sanitize state vehicles. In the context of a public health emergency, the State's ability to procure necessary goods and services was often a matter of life and death, and delays could have fatal consequences.

Despite the high stakes, procurement was often challenging during the pandemic. Public procurement in non-emergency times, both in New Jersey and elsewhere, can be complicated, involving several bureaucratic steps that require significant paperwork and multiple levels of approval. These steps are designed to ensure good use of taxpayer money, but this process had to be streamlined quickly to respond to the emergency. Although the State did so with varying degrees of success, the process still needs to be improved (see recommendations in Chapter 7).

During the pandemic, there were three primary aspects of the State's procurement process, as well as its successes and challenges:

- State and federal requirements.
- The execution of vendor contracts and purchase orders (POs).
- The technology and resources available to facilitate procurement.

Beyond New Jersey's internal procurement processes, the State also faced universal issues with supply chain shortages and federal requirements, which presented difficulties beyond the State's control. Supply chain shortages impacted the approval process for procurements and contracts and the fulfillment of orders along the provisioning chain. Furthermore, federal funding came with extensive requirements and restrictions on how they could be spent. States, including New Jersey, found that federal regulations often confined the procurement process, with purchases of goods and services requiring additional layers of review to determine eligibility and federal compliance.

1.1. Overview of the Public Procurement Process

The State's procurement process is overseen by the Division of Purchase and Property (DPP) within the Department of Treasury (Treasury), the procurement arm of New Jersey's Executive Branch. DPP is the State's central goods and services procurement (contracting rather than purchasing) agency. For example:

- DPP procures goods and services on behalf of State agencies that do not have the power or authority to make purchases or enter contracts on their own.
- The goods and services that DPP procures can be obtained by state agencies through POs based upon the procurements. State agencies, rather than DPP, make purchases from DPP-arranged contracts to fulfill their goods and service needs.
- DPP oversees the contracts into which New Jersey enters and validates compliance with the State's procurement rules – many of which were designed to ensure accountability for the use of public funds and value for money.

Some procurements also undergo an additional layer of review from the Office of the State Comptroller (OSC). Agencies are required to notify the OSC of any planned procurements exceeding $12.5M, both prior to advertisement and after contract award. For procurements exceeding $2.5M but under $12.5M, agencies are only required to submit notice to OSC after a contract is awarded.[1] In any procurement process, implementing these rules can be at odds with speed, as additional checks for compliance and value can slow down the procurement process.

The agency seeking to procure must ensure that someone on their staff is trained in procurement processes and can submit the necessary forms and obtain purchase approvals. This is particularly important for creating the specifications of a Request for Proposal (RFP), which DPP does not have the subject matter expertise to do. State agencies that do not have their own purchasing or contracting authority are required to utilize an existing state contract that meets their goods and service needs. However, if the desired goods and services are unavailable through an existing state contract, the state agency may:

1. Make purchases under the Delegated Purchasing Authority (further described below) if the purchase does not exceed the Public Bidding Threshold, or
2. Collaborate with DPP to procure goods and services if the costs are anticipated to exceed the Public Bidding Threshold.

1.1.1. Delegated Purchasing Authority

The Director of DPP has the authority to delegate certain purchases to state agencies; this is referred to as "Delegated Purchasing Authority."[2] The Director assigns authority to state agencies to make purchases when the goods or services sought are unavailable under an existing state contract and the purchase price does not exceed the Public Bidding Threshold.[3]

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[1] *Procurement*. New Jersey Office of the State Comptroller. (n.d.). https://nj.gov/comptroller/about/work/procurement/

[2] N.J.S.A. 52:25-23

[3] N.J.A.C. 17:12-1.3; see also Division of Purchase and Property, Circular: Delegated Purchasing Authority (DPA) For Goods and Services (2023). Retrieved February 29, 2024, from https://www.nj.gov/treasury/purchase/specialnotices/pdf/DPA-Circular-22-09-DPP.pdf

The Governor, in consultation with Treasury, has the authority to adjust the threshold amount for purchases and contracts that can be made without advertisement (the Public Bidding Threshold) and is required to adjust the Public Bidding Threshold every 5 years.

1.1.2. Public Bidding

In the State of New Jersey, agencies and vendors most commonly follow a competitive bidding process to select vendors that can provide goods or services. Advertising is required for purchases expected to exceed the Public Bidding Threshold and is not subject to a statutory exception. Generally, the advertisement must be made at least 7 business days in advance of the announced deadline to receive proposals.

The public bidding process typically involves the following steps[4]:

1. Agencies must prepare a procurement request form and submit it via email to the DPP's Central Intake Unit for approval. Request forms involve details about the purpose of the procurement request, background information about relevant legislation or regulations, and the scope of work for the desired goods or services.[5] Before agencies submit their requests to Treasury, they must obtain preapproval from several other agencies, including the New Jersey Office of Information Technology (NJOIT), the New Jersey Office of Homeland Security and Preparedness (NJOHSP), and the New Jersey Department of Labor (NJDOL), to ensure compliance with regulations on technology use, labor, and others.
2. Once the request is received, DPP's Central Intake Unit assigns the request to the appropriate procurement unit within DPP, where a procurement specialist reviews the scope of work. The DPP procurement staff then works collaboratively with the requesting agency's State Contract Manager to finalize the specifications of an RFP.[6] The RFP is publicly advertised in newspapers and other media.
3. Vendors develop bids and quotes in response to the issued RFP. Vendors may need to prepare extensive documentation as part of their bid submission, such as demonstrating that they meet product requirements or that their pricing is comparable to what they provide to other purchasers.
4. The bids are evaluated and then undergo a bid protest period, wherein an evaluation committee hears any bid protests.
5. The award is made to the bidder whose bid is most advantageous to the State, considering price and other factors.

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[4] Davis, A. F. (n.d.). *The Procurement Process for Goods and Services*. New Jersey Department of the Treasury. https://www.nj.gov/treasury/diversity/pdf/events/Presentation-AmyDavis.pdf

[5] https://nj.gov/treasury/purchase/forms/PB130CentralIntake.pdf *Agency Procurement Request Form*. New Jersey Department of the Treasury - Division of Purchase and Property. (2022, January 7).

[6] A Request for Proposal generally includes: (1) contract requirements and deliverables; (2) a time frame for performance; (3) a detailed scope of work and instructions for submitting a proposal; (4) a price sheet; (5) statutory requirements and forms; and (6) the basis of award. New Jersey Office of the State Comptroller. (2020, August 11). Ensuring a *transparent recovery* from COVID-19 in *NJ*: Internal Controls and Procurement Compliance. YouTube.

6. Before a contract is awarded, DPP is the "face" of the contract and leads the requesting agency through the procurement process. Once contracts are awarded, however, the requesting agency becomes the face of the contract and prepares a PO, which is sent to vendors to specify prices and confirm quantities for approved goods and/or services.

To facilitate this process, DPP utilizes an online procurement system (NJ Start), which has an existing pool of potential vendors that agencies and counties can access. NJ Start also contains information about the procurement process and training videos.

Agencies can request waivers to expedite certain aspects of the competitive bidding process, including the requirement for public advertisement of procurements. To request waivers, agencies typically:

- Prepare a waiver request, including information such as why a waiver is necessary, the costs of the procurement, and relevant statutory criteria.
- Email the request to DPP's waiver preapproval inbox, whereupon DPP reviews the request, replies with questions or requests for more information, and issues preapproval via email.
  - DPP asks for agencies to compile a package of vendor forms.
  - DPP then sends the proposed agreement to the Office of the Attorney General (NJOAG). If the vendor wants to negotiate terms, the process takes longer.
- After approval from the NJOAG, the DPP sends the request to the Treasurer, who gives final approval.

2. Key Decisions

The COVID-19 pandemic necessitated an unprecedented and massive scale of purchases to respond to the public health emergency within a short timeline. Several measures are available to New Jersey to expedite the procurement process during emergencies; these allow the State to obtain emergency-response goods and services as quickly as possible. These measures are described in the following sections.

2.1. Waivers of Advertising

In the competitive bidding process for contracts that DPP oversees, state agencies were required to advertise contracts exceeding $150K to ensure fair bidding and to give all interested and qualified vendors the opportunity to bid.[7] Based on the emergency declared in Executive Order No. 103, critical procurements were eligible for a waiver of advertising under the public exigency exception. This exception allows the State to waive the competitive procurement process in an emergency

[7] This threshold was permanently raised to $200K on January 1, 2023.

and contract for immediate delivery of the goods or services sought. Waivers are granted for public exigency when the following conditions are met[8]:

1. A potential health or safety hazard exists.
2. Homeland Security or other purchases of goods and services, which cannot be publicly advertised because of an overriding state safety or security concern.
3. A critical agency mandate, statutory, or operational requirement that had to be fulfilled immediately.

Use of the public exigency exception was critical in responding to the COVID-19 crisis, as it allowed agencies to procure certain goods and services more quickly. The exception does not have a monetary cap, and vendors could begin work as soon as the agency received preapproval from DPP. The exception was the basis of several critical goods and services obtained during the pandemic, including PPE, ventilators, COVID-19 testing, contact tracing, vaccine education outreach, vaccine information and distribution, review of Long-Term Care Facilities (LTCFs), rental assistance, childcare grants administration, and unemployment insurance (UI) call center services. DPP's Waiver Review Unit reviewed and approved more than 100 requests from state agencies for expedited waivers for nearly $1B in COVID-19-related goods and services.

2.2. Modifying Delegated Purchasing Authority (DPA)

Early in the pandemic, the State raised the delegated purchasing threshold twice in response to the emergency, making the process of purchasing products, including PPE, more expedient.

- On March 9, 2020, the Governor raised the delegated purchasing authority threshold to $100K by way of EO No. 103.
- On April 8, 2020, the Treasurer increased the threshold to $250K.

2.3. Emergency Contracts

In the wake of Hurricane Sandy, DPP identified disaster-response contracts to enable the State to respond rapidly in an emergency over time. DPP continued to update the roster of such contracts periodically. During the COVID-19 pandemic, DPP extended many of the State's existing contracts if they were needed to respond to the pandemic and mitigate potential supply chain disruptions.

2.4. Vetting Vendors

To further expedite the procurement process and reduce the chances of New Jersey being subjected to fraudulent procurement activities, DPP's Business Analytics staff became the first stop

[8]Division of Purchase and Property, Circular: Requests for Waivers of Advertising (2017, September 20). Retrieved February 29, 2024, from https://www.nj.gov/infobank/circular/cir1814.pdf

in vetting more than 3,000 vendors offering to sell PPE products to the State. DPP reviewed and researched these vendors before submitting a daily list to the New Jersey Office of Emergency Management (NJOEM) for additional review. Other agencies, including the Office of Homeland Security, the Office of State Comptroller, and the NJDOL also played supporting roles in vetting vendors offering to sell PPE.

2.5. Compliance

EO No. 166 outlined additional compliance mechanisms to ensure proper spending of funds during the pandemic. This was particularly important if projects used federal aid or recovery funds, which often came with requirements on appropriate use and risked repercussions, including federal audits and clawback of funds.

EO No. 166 authorized OSC to conduct reviews of procurements using federal recovery funds during the emergency, in addition to its pre-pandemic duties of reviewing contracts that exceeded a certain cost threshold. For projects that used pandemic recovery funds, the threshold was $150K. OSC reviewed expenditures over this amount and returned notice of compliance or noncompliance with procurement rules to the requesting agency within 10 business days. The requesting agency would then make any necessary amendments.

EO No. 166 also established the COVID-19 Compliance and Oversight Taskforce. The Taskforce oversaw Integrity Monitors (IM), or independent auditors appointed by State agencies to conduct reviews of Departments' spending of federal recovery funds. IMs published quarterly reports on federally funded project spending for review by OSC, GDRO, AG, and the Legislature. The Taskforce also created compliance guidelines for the State and led regular training sessions with agency staff on the procurement compliance process.

3. Comparison to Other States[9]

Public procurement systems in the United States vary significantly across states, reflecting a spectrum of approaches that balance efficiency, compliance, and flexibility. These systems are the result of strategic choices by the state executive and the state legislatures, which play a large role in defining procurement processes.

State government procurement models can be broadly categorized into three main types:

- Mostly centralized
- Partially centralized, with central compliance/oversight

[9] The benchmark states selected in this section (Georgia, Massachusetts, Michigan, North Carolina, Ohio, Virginia, Washington, Wisconsin) differ from the rest of **Chapter 5**, as the rationale for how the other benchmark states were selected is less relevant to a state's procurement processes. The selection criteria is explained below.

- Mostly decentralized

In general, state government procurement is decentralized compared to the federal government and private-sector organizations. This means that individual agencies have a great deal of control over how they procure goods and services subject to central compliance functions and state statutes.

Mostly centralized procurement systems have a procurement team in the "center" of government, such as a finance department or treasury, which is responsible for significant portions of the end-to-end procurement process. This might involve conducting vendor research based on needs identified by agencies, designing and managing the process for going to market, selecting vendors, awarding RFPs, and ensuring that spending is compliant. For example, a central procurement agency oversees statewide contracts and provides purchasing guidelines and support to state agencies. In states like Tennessee, the central procurement authority is responsible for most of the procurement activities and ensures that the procurement process is standardized, efficient, and compliant with state laws and regulations.

Partially centralized, with central compliance/oversight systems place a greater share of responsibility on individual agencies and have a central team that is largely focused on ensuring that those agencies adhere to public procurement regulations and fund management standards. The central team may manage statewide contracts for a set of high-value or common goods and services. Still, agencies typically have the autonomy to make purchases below a specific threshold without requiring approval from the central procurement office. This approach balances the need for standardized procurement practices with the flexibility for state agencies to issue RFPs for goods and services not met by statewide contracts. The mixed model is common across the United States and aims to harmonize procurement practices while allowing for a degree of autonomy at the agency level. Many states, including New Jersey, use this mixed model, which splits responsibilities between the central team and the agencies.[10]

In mostly decentralized procurement systems, state agencies have significant flexibility to address their specific needs without stringent centralized oversight of the contract tendering and procurement processes. This model grants agencies more control over the competitive process for contracts, emphasizing the importance of audits to ensure adherence to state procurement and bidding regulations. The decentralized approach provides agencies with maximum flexibility in issuing RFPs and structuring competitive bidding processes, catering to their unique requirements. States such as Pennsylvania and Mississippi offer greater flexibility to state agencies in managing procurement processes through a decentralized model.

[10] National Association of State Procurement Officials. (2023). *2022 Survey of State Procurement Practices Report.* Retrieved from https://cms.naspo.org/wp-content/uploads/2023/04/2022-Survey-of-State-Procurement-Practices-Report.pdf

During the COVID-19 pandemic, the urgency of public procurement efforts and the competition between states for a limited supply of goods and services (especially PPE, see **Section 5.05 PPE**) meant that states tended to adopt one or both of two strategies:

(i) Centralizing the procurement of some goods and services needed by multiple agencies.
(ii) Creating more autonomy for agencies to expedite processes.

New Jersey used both of these strategies, centralizing procurement of PPE to NJOEM and raising the DPA threshold. Other states centralized procurement of other goods and services, such as New York's efforts to procure temporary healthcare staff centrally, on behalf of hospitals, which New Jersey did not.

One proxy for the level of central oversight of agency procurement activities is the level at which the delegating purchasing authority (DPA) is set outside of an emergency situation. Higher DPA thresholds mean less oversight. As of 2022, 38 states had provisions delegating procurement authority to state agencies under certain conditions.[11] This indicates that most states lie along the spectrum of models outlined above. New Jersey's pre-pandemic DPA threshold for goods and services stood at $40K. Compared to other states with similar yearly expenditures,[12] New Jersey had a relatively low DPA threshold, meaning more agency purchases needed to be handled centrally by DPP.

Exhibit 1: Delegated purchasing authority among states with similar expenditures

State		DPA Threshold
Georgia		$1,000,000[2]
Michigan		$500,000[6]
Ohio		$50,000[2,7]
Wisconsin		$50,000 and unlimited (for selected agencies)[2,5]
New Jersey		$40,000[8]
North Carolina		$25,000[2]
Massachusetts		N/a (central procurement responsible for state-wide contracts)[2,3]

[11] National Association of State Procurement Officials. (2023). *2022 Survey of State Procurement Practices Report.* Retrieved from https://cms.naspo.org/wp-content/uploads/2023/04/2022-Survey-of-State-Procurement-Practices-Report.pdf

[12] States with yearly expenditures that were within 25% higher or lower than New Jersey's yearly expenditure were chosen to compare procurement processes.

State	DPA Threshold
Virginia	N/a (central procurement responsible for state-wide contracts)[2,4]
Washington	Varies, agency and/or commodity specific[2]

1. Based on 2017 total state spend; 2018 NASBO state expenditure report; 2. 2018 NASPO Survey of State Procurement Practices; 3. State procurement expert interview; 4. NASPO Survey of State Procurement Practices, Virginia's DGS website; 5. Wisconsin's DAO website; ; 6. As indicated by MI State Procurement Official in an interview; unlimited for Human Services; 7. Ohio Procurement Manual; 8. Delegated Purchasing Authority Circular; 9. State of Illinois, Executive Ethics Commission's website; 4 CPOs: Capital Development Board, Department of Transportation, General Services, Institutions of Higher Education

4. Key Strengths and Challenges

4.1. State Procurement Rules

Generally, while the emergency was in effect, the State was able to harness executive authority to expedite the procurement process, allowing agencies such as NJOEM to obtain emergency supplies quickly. However, other agencies encountered greater difficulty in navigating the complex variety of procurement rules. These difficulties were amplified after the emergency ended, and the procurement process returned to its less-streamlined, pre-pandemic form. Thus, complexity often led to delays in purchases.

New Jersey had existing procurement processes in place, such as the Waiver of Advertising, that helped the State meet its exigent needs. It also actively monitored procurements for compliance with applicable rules and regulations. These processes showed the following strengths and gaps:

Strength At the start of the pandemic, Treasury already had processes in place to accelerate procurement during an emergency. A key factor in these processes was the ability to issue waivers of advertising for public exigency reasons and increase the DPA threshold. The public exigency exception provided broad flexibility for agencies to seek waivers for a range of goods and services as long as agencies could argue that the procurement served an emergent need.

Strength The State had a sophisticated system to check for agency compliance with spending restrictions. The Integrity Monitors, COVID-19 Oversight and Compliance Task Force, and State Comptroller worked together to successfully audit state spending and prevent fraudulent or inappropriate spending. This was critical, as improper use of federal funds ran the risk of mandating a return of the funding to the federal government.

Strength Compliance agencies like DPP and OSC were able to balance these responsibilities, in part by drawing on their experiences from Hurricane Sandy. The COVID-19 Compliance and Oversight Taskforce re-tasked an existing IM program initiated to oversee Hurricane Sandy emergency procurement spending. The re-tasked IM program specified that IMs would monitor projects during the COVID-19 pandemic for a 6- or 9-month period.

Despite active monitoring for compliance and the flexibility of the programs and related approvals, the State experienced the following challenges:

Challenge In general, agencies lacked clarity about which departments within Treasury had procurement responsibilities. Confusion about Treasury's role (specifically, DPP) in procurement meant that agencies expected services from Treasury (e.g., releasing POs) that DPP was not equipped or authorized to provide (e.g., POs were issued by the using agency, not DPP). While Treasury published guidance on procurement processes and offered training on waivers, delegated purchasing, and other procurement topics, these resources were underutilized.

Challenge There was significant confusion among agencies about the kinds of procurement waivers Treasury made available during the pandemic and how to use them. State agencies often misunderstood that once a waiver of advertising was in effect, they could proceed with a PO without first undergoing additional review.

Challenge The emergency regulatory mechanisms used during the pandemic, such as increased monetary thresholds for preapproval or waivers, could have been expanded further, especially at the start of the pandemic response. For emergency procurements (such as for PPE), some agency leaders suggested that it would have been beneficial to be able to contract with vendors even if they were not registered with NJ Start. For statutorily required vendor forms that cannot be changed without legislative reform, DPP introduced a bill (S2745/A5611) to the legislature in March 2023 to relax some of the submission requirements, including reducing the number of forms vendors are required to submit in response to an agency's procurement request. However, the bill has not moved in the legislative process since its introduction. Notably, the changes would be applicable at all times, not just during a state of emergency.

4.2. Implementation of Contracts and Purchase Orders

In some cases, the State experienced difficulties in implementing contracts and fulfilling POs, given the inefficiencies in vendor coordination. The State was generally successful in operationalizing the procurement of PPE and other emergency supplies, especially as emergency procurements, like PPE, were centralized under NJOEM with direct support from Treasury. In general, however, contracting was often a difficult and inflexible process during the pandemic. This was a major setback when emergency purchases were needed immediately. Moreover, it was particularly challenging when the State did not have pre-existing contracts for goods and services that were essential in responding to the pandemic (e.g., supplemental healthcare personnel).

The following sections highlight the strengths and challenges in New Jersey's contracting and PO-generation processes.

Strength Having procurement staff from DPP participate in planning at the ROIC helped NJOEM's emergency command better navigate the purchase of emergency supplies. For example, NJOEM greatly benefited when Treasury sent finance and purchasing personnel to assist State Troopers responsible for buying supplies.

Strength The State was able to minimize fraud. Treasury successfully vetted vendors for PPE, producing a list of trustworthy vendors for NJOEM and the NJOAG, which supplied NJOEM with a reliable pool of vendors from which to choose. This reduced time spent on sourcing. Treasury also implemented fraud-detection checks that enabled verification of companies through checks for essential information like their EIN, basic credit assessments, and scrutiny for any complaints or flags.

Strength NJOEM had a trusted group of vendors who, when problems arose, could competently resolve issues.

While the State showed several strengths in contracts and POs, it experienced the following challenges:

Challenge Some agencies stressed that the State would have benefited from a ready repository of "on-contract" vendors, or vendors that agencies could trust. Regarding emergency goods for which contracts were already in place, the State encountered further challenges from vendors' inability to fulfill their contracts due to supply chain shortages. For example, the NJDOH was limited by its existing contract with Century22 (a temporary staffing agency), since Century22 could only provide temporary administrative staff. When the NJDOH sought to staff field medical stations or vaccine sites, they could not get the health-trained personnel they needed through Century22. The NJDOH ultimately stood up field medical stations by alternatively contracting with University Hospital and drawing on the U.S. Department of Defense, but considered the delay in doing so too great.

Challenge Although NJOEM and State Police were ultimately able to coordinate PPE donations (e.g., allocating unused PPE from schools to other needs like healthcare), the level of assessment and planning pre-pandemic (e.g., taking stock of available supplies and level of unmet need) was not sufficient to optimize the State's resources during universal supply chain challenges. The State could have procured and distributed PPE between parties more efficiently. Coordinating the PPE donations portal also posed an administrative burden and took significant effort to manage. This process could have been more efficient.

Challenge The State and its partners, such as healthcare providers receiving emergency supplies, also experienced challenges in communicating updates about POs, including delays in PPE deliveries. At times, gaps in coordination led to inefficiencies. For example, hospitals actively procured supplies themselves, often using funds from sources like the Coronavirus Aid, Relief, and Economic Security (CARES) Act or their regular channels. This resulted in a situation where delays in delivering supplies from NJOEM meant that hospitals had already obtained the needed items and no longer required the supplies being sent. This created two parallel streams of incoming requests and products, causing potential redundancy in the distribution process.

Challenge A challenge in the procurement process, which led to inefficient allocation of funds, was the absence of a mechanism to cancel POs for unfulfilled items or items that could not be delivered in a timely manner. This meant that funds were obligated to a given vendor/contract and were not available for other purposes, even when the vendor on that contract was unable to fulfill

the order or unable to fulfill it until many months later, when the goods were no longer needed. Further, the process to cancel that obligation, even if it was successful, was very time-consuming.

Challenge The contracting process was often time-consuming or confusing for vendors. Some vendors were reluctant to comply with the lengthy paperwork requirements; this caused delays. The amount of paperwork required to fulfill POs also led to administrative burdens and delays for both vendors and agencies. For example, despite the State's initiatives to expedite the procurement process, purchasing PPE involved extensive documentation, with multiple forms to be filled out by both vendors and the procurement team. This created significant workload and delays, and the limited supply of PPE was often sold out by the time the paperwork was completed.

4.3. Procurement Resources

State agencies had widespread challenges with insufficient resources to handle procurement responsibilities. DPP and other state agencies were understaffed for the significant procurement demands during the COVID-19 pandemic. Agencies also lacked sufficient staff with procurement expertise. However, the State succeeded in quickly setting up technology and infrastructure to make the procurement process more efficient during the emergency.

The State's procurement resources exhibited the following strengths:

Strength During the pandemic, centralizing the procurement of PPE and other emergency supplies under NJOEM's authority improved efficiency and coordination in procurement and management of these goods. NJOEM and State Police were able to respond quickly and operationalize emergency needs, such as the buildout of hospital capacity, even though they had to interpret and comply with some of the procurement-related processes themselves. Ultimately, NJOEM and State Police were well-positioned to oversee emergency health procurements, particularly as much of those responsibilities depended on in-person work (e.g., assessing vendor facilities to build out hospital capacity or surveying electrical capacity for ventilators), which NJOEM and State Police continued while most other State employees worked remotely. Centralizing PPE procurement in NJOEM also prevented agencies from competing against one another for limited supplies and allowed NJOEM and the NJDOH to allocate PPE where the need was greatest.

Strength The Office of Innovation (Innovation) created several online procurement tools to centralize and streamline information, including the PPE donations portal and a website for vendors to self-identify which goods or services they could provide.

Despite the State workforce's diligent efforts, New Jersey experienced the following procurement resource gaps:

Challenge Purchasing teams in agencies often lacked in-depth technical knowledge to smoothly navigate the complex procurement process. Agencies' procurement functions are often blended with other functions, so procurement knowledge is not always a primary function of their job.

Challenge In some cases, high turnover of procurement staff effectively eliminated organizational knowledge and expertise. This was particularly important for agencies' purchasing staff, who were

needed for their subject area expertise in their particular agency's functions to fill in the specifications of purchase orders.

Challenge Despite the significant increase in procurement responsibilities during COVID-19, the State was unable to have a meaningful surge in hiring procurement staff. Agencies were frequently understaffed to handle the amount of documentation required. For example, DPP had to process a significantly greater volume of procurement requests and contracts and lacked enough trained staff to respond.

Challenge The NJDOH also had trouble finding enough staff trained to navigate procurement regulations, and NJOEM added capacity by reassigning State Troopers to work in procurement to address the additional volume for PPE procurement. State Troopers who had formerly executed their road station duties were transferred to become the NJOEM procurement liaison to central purchasing, but ultimately, NJOEM still needed additional staff.

Procurement preparedness is critical to secure necessary goods and services when responding to a crisis. This was especially true for the COVID-19 pandemic, during which delays in procuring essential goods and services, like PPE, had potentially fatal consequences. Going into the pandemic, the State had robust processes in place to help meet New Jersey's needs, including those that accelerated the procurement of critical goods and services (e.g., Waiver of Advertisement). This allowed agencies like NJOEM to obtain emergency supplies like PPE quickly. However, the State still experienced significant procurement-related challenges (e.g., issues with State contract terms and conditions and inefficient mechanisms to cancel POs) that impeded purchasing, deliveries, and the efficient allocation of funds.

For further discussion on how to respond to these issues, see Recommendation 30 and Recommendation 31 within Chapter 7.

Section 5.16 Equity and Access

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5.16 Equity and Access

1. Context and Introduction

Chapter 4 and Chapter 6 of this report discuss disparities in health and economic outcomes in New Jersey across different groups. As these chapters show, the COVID-19 pandemic exacerbated existing inequities in New Jersey and contributed to the pandemic's overall impact, affecting some New Jersey populations, such as low-income communities and some racial and ethnic groups, far more than others. In addition, the sections of Chapter 5 devoted to specific interventions discuss the ways in which nearly every aspect of New Jersey's response to the pandemic implicated equity concerns.

This section addresses important equity and access issues that cut across multiple dimensions of the State's pandemic response—housing and homelessness, telemedicine, domestic violence, caring for New Jerseyans with disabilities, and achieving sustainable health equity. This section concludes with a call—heard repeatedly from those interviewed during this review—for New Jersey to address the underlying causes of the State's health disparities, not merely their symptoms.

2. Cross-Cutting Themes

2.1. Housing and Homelessness

Housing emerged as a critical equity issue during the pandemic. People of color and low-income New Jerseyans are more likely to live in overcrowded or multigenerational households, where social distancing and individual isolation after exposure to the virus can be difficult or impossible.[1]

The federal foreclosure moratorium and mortgage forbearance program, as well as New Jersey's eviction moratorium, prevented many New Jerseyans from losing their homes during the pandemic.[2] Without these programs, the widespread sudden job and income loss brought about by COVID-19 would likely have put far more New Jerseyans on the street. When the State's eviction

[1] See D'Vera Cohn, Juliana Menasce Horowitz, Rachel Minkin, Richard Fry, and Kiley Hurst, The demographics of multigenerational households, PEW RESEARCH CENTER (Mar. 24, 2022), https://www.pewresearch.org/social-trends/2022/03/24/the-demographics-of-multigenerational-households/#:~:text=Among%20major%20racial%20and%20ethnic,in%20a%20multigenerational%20family%20household

[2] Nikita Biryukov, *Eviction moratorium to lapse with year's end*, New Jersey Monitor (Dec. 28, 2021), https://newjerseymonitor.com/briefs/eviction-moratorium-to-lapse-with-years-end/; COVID-19 Housing Protections: Mortgage Forbearanace and Other Federal Efforts Have Reduced Default and Foreclosure Risks, U.S. Government Accountability Office (Jul. 12, 2021), https://www.gao.gov/products/gao-21-554

moratorium ended on January 1, 2022, the number of people experiencing homelessness in New Jersey rose immediately.[3]

Despite the State's eviction moratorium, hundreds of New Jerseyans lost their homes during the pandemic due to illegal lockouts or "self-help evictions," where landlords circumvent the legal process for evicting tenants.[4] An illegal lockout may involve a landlord changing the locks to a rental unit to prevent tenants from accessing their home. It may entail a landlord taking possession of a tenant's belongings or attempting to render the dwelling uninhabitable by shutting off gas, water, or electricity.[5] In response, Attorney General Gurbir Grewal released guidelines for law enforcement agencies to reduce the number of illegal evictions.[6] In 2021, New Jersey passed legislation to create the Office of Eviction Prevention to connect New Jerseyans in danger of losing their homes with resources and educate them about their rights.[7]

At the beginning of the pandemic, New Jerseyans who were already experiencing homelessness were extremely susceptible to the virus. Homelessness is associated with a range of health challenges – including mental health issues and substance abuse – that may interfere with an individual's ability to take proper preventative care of themselves or seek treatment for other medical conditions, including COVID-19.[8] The tremendous stress associated with homelessness is linked to poor baseline health in this population.[9]

Food insecurity is also common among people experiencing homelessness and contributes to poor health outcomes.[10] It is difficult for those experiencing homelessness to get adequate sleep, which is essential for good baseline health. People sleeping on the street are exposed to the elements and other dangers, while people in shelters may face noisy conditions and feel the need to exercise constant vigilance in guarding their possessions and protecting themselves at night.[11] Those who

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[3] Dana DiFilippo, *Homelessness climbing, with eviction moratorium over and rents up*, New Jersey Monitor (Aug. 15, 2023), https://newjerseymonitor.com/2023/08/15/homelessness-climbing-with-eviction-moratorium-over-and-rents-up/

[4] Sophie Nieto-Munoz, *N.J. announces new measures to protect from illegal lockouts during eviction moratorium*, NJ.com (Apr. 5, 2021), https://www.nj.com/coronavirus/2021/04/nj-announces-new-measures-to-protect-tenants-from-illegal-lockouts-during-eviction-moratorium.html

[5] See New Jersey Courts, Landlord/Tenant, https://www.njcourts.gov/self-help/landlord-tenant#:~:text=If%20the%20landlord%20does%20not%20have%20a%20judgment%20for%20possession,is%20also%20an%20illegal%20lockout

[6] See id.

[7] Ashley Balcerzak, *Evictions drive homelessness in NJ. Here's how a new state office is tackling that.*, northjersey.com (Dec. 19, 2023), https://www.northjersey.com/story/news/2023/12/19/evictions-drive-homelessness-nj-new-office/71617680007/

[8] Homelessness Research Institute, Population At-Risk: Homelessness and the COVID-19 Crisis, National Alliance to End Homelessness (Mar. 25, 2020), https://endhomelessness.org/wp-content/uploads/2020/03/Covid-Fact-Sheet-3.25.2020-2.pdf

[9] See id.

[10] See id.

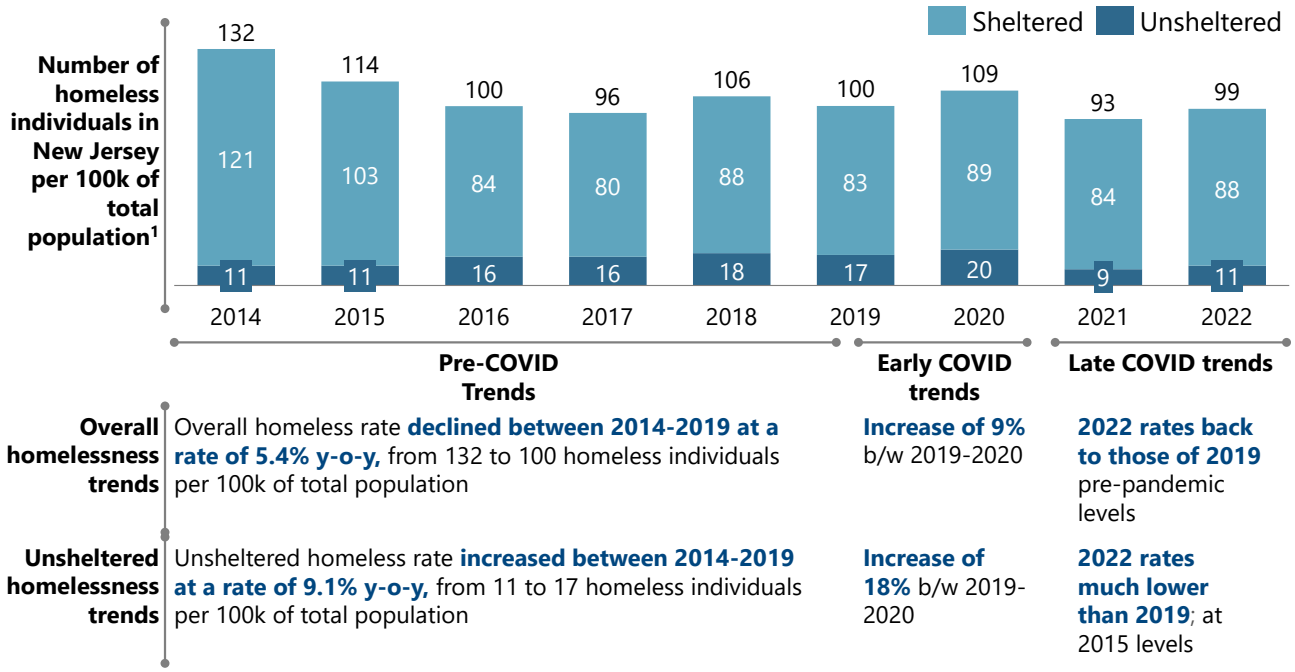
[11] See id.

live on the street or stay at shelters only at night have limited access to running water, which is necessary for basic hygiene and the frequent handwashing recommended for preventing the spread of disease.[12]

During the pandemic, CDC guidelines recommending social distancing in congregate settings forced homeless shelters to reduce capacity at a time when more capacity was needed.

Before the pandemic, rates of homelessness in New Jersey had been declining since 2014; in 2020 homelessness rates increased by 9% compared to 2019 levels. This increase was most pronounced for unsheltered homeless individuals; in 2020, unsheltered homelessness rates increased 18% compared to a 7% increase in sheltered homelessness rates, but they rose in 2020.

Exhibit 1: COVID-19 Interrupted New Jersey's improving homelessness problem

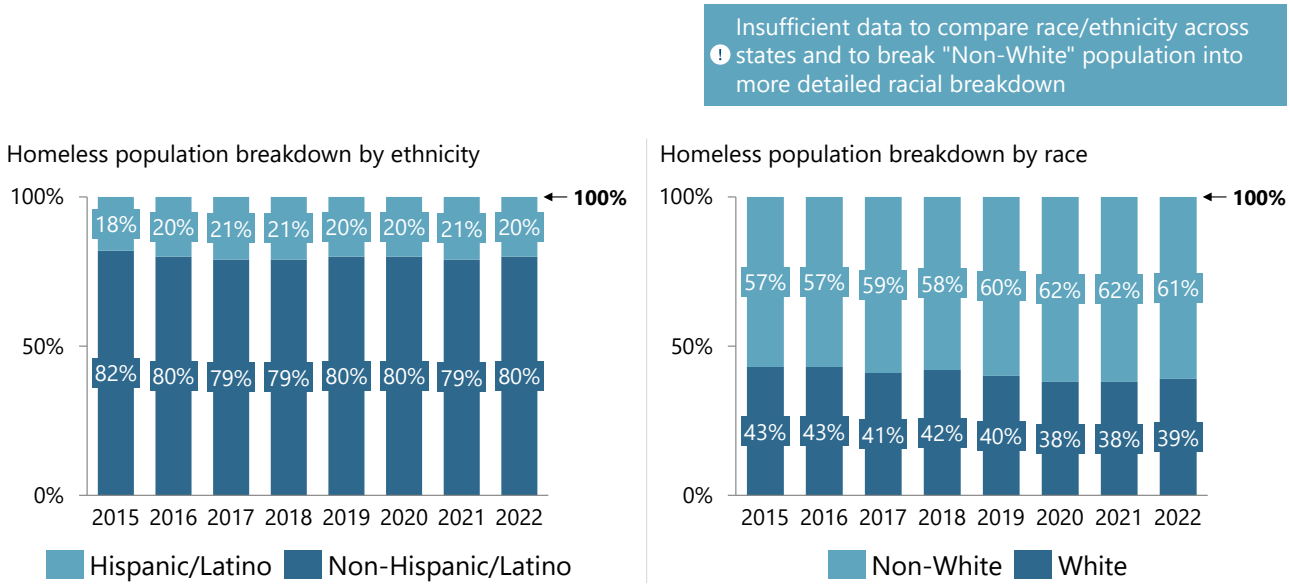


Note: Data collected through annual point-in-time count of sheltered and unsheltered people experiencing homelessness on a single night. Conducted by regional or local Continuum of Cares;
1. Calculated using 2019 census population estimates applied to each year
Source: US Department of Housing and Urban Development, US Census

These changes in homelessness rates illustrate the power of good policy. Despite the immediate increase in homelessness rates in 2020, the rate of homeless New Jersey residents sank to historic lows in 2021, likely as a result of pandemic-era policies like the state's eviction moratorium. In 2022, rates increased again to their pre-pandemic levels.

[12] See id.

Exhibit 2: Racial breakdown of homelessness



Note: Data collected through annual point-in-time count of sheltered and unsheltered people experiencing homelessness on a single night. Conducted by regional or local Continuum of Cares.
Source: US Department of Housing and Urban Development

New Jerseyans do not experience the negative health effects of homelessness equally across racial and ethnic lines. New Jerseyans of color are almost four times as likely to experience homelessness. While the percentage of homeless Latino New Jerseyans remained steady throughout the pandemic, the percentage of unsheltered homeless Latino New Jerseyans increased.[13]

2.2. Telemedicine

Telemedicine has become an increasingly popular solution for making healthcare more accessible in the United States. In interviews conducted for this review, vulnerable patients and the healthcare providers who serve them repeatedly expressed their support for the expansion of telemedicine that occurred during the COVID-19 pandemic. In March 2020, Congress began to ease federal restrictions on telemedicine, paving the way for New Jersey to pass legislation requiring health benefits plans to reimburse healthcare providers for telemedicine services at the same rate as in-person services. This made it possible for many more providers to make vital services accessible to underserved communities.

[13] See **Section 5.16 Appendix A-2**: Breakdown of Unsheltered Homelessness Population in New Jersey by Race/Ethnicity.

Telemedicine makes healthcare significantly more accessible to low-income patients.[14] Low-income patients may work two or three different jobs at a time, making it difficult to schedule an appointment that requires an in-person appearance. Low-income patients may lack access to convenient and reliable transportation to get to doctors' appointments. They may struggle with childcare issues that make it difficult to leave the home for in-person appointments. They may have trouble getting time off from work to travel to a doctor's office for an appointment.

Telemedicine also makes healthcare significantly more accessible to patients with disabilities who are immunocompromised or who struggle with mobility issues that make it difficult and time-consuming to travel to a doctor's office.

While telemedicine significantly expanded access to healthcare in New Jersey during the pandemic, it is not a panacea. Healthcare provider representatives noted in interviews that low-income patients may not always have reliable Internet access, or the hardware required for telemedicine appointments.[15] While the majority of households in New Jersey cities have fiber access, affordability is a significant barrier, with household poverty the strongest predictor of average download speed in New Jersey's five most populous cities.[16]

Interviews also revealed that overreliance on telemedicine may make it easier for certain problems to go unnoticed by healthcare professionals until it is too late. For example, in one interview, a New Jersey employee who oversees work with disadvantaged children described a teenage girl undergoing mental health counseling via Zoom who closed her laptop one day after a therapy session and immediately jumped out her bedroom window in an attempt to end her life. The girl's suicidality may have been more apparent to a counselor conducting in-person therapy, and the counselor may have been able to intervene more immediately and effectively in an in-person context.

As New Jersey considers the many benefits of expanded telehealth access, it should ensure that the digital divide does not become another barrier to obtaining quality healthcare in New Jersey. The State should also ensure that concerns over efficiency do not lead providers to rely on telemedicine when patients would be better served with in-person services.

2.3. Domestic Violence

Domestic violence against women spiked during the pandemic. In a December 2020 report published by Partners for Women and Justice ("PWJ Report"), this increase was described as a

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[14] Shah, D. A., Sall, D., Peng, W., Sharer, R., Essary, A. C., & Radhakrishnan, P. (2022). Exploring the role of telehealth in providing equitable healthcare to the vulnerable patient population during COVID-19. *Journal of Telemedicine and Telecare*. https://doi.org/10.1177/1357633x221113711 at p. 3

[15] U.S. Department of Health & Human Services. (n.d.). *Telediagnosis for acute care: Implications for the quality and safety of diagnosis*. Agency for Healthcare Research and Quality. Retrieved from https://www.ahrq.gov/patient-safety/reports/issue-briefs/teledx-5.html

[16] Project Ready. *Internet Inequity Research Report.* Retrieved from https://www.projectreadynj.org/wp-content/uploads/2023/01/Internet-Inequity-Research-Report.pdf

"shadow pandemic."[17] Poverty and domestic violence have long been linked, and the pandemic's economic effects plunged many New Jerseyans into new or deeper poverty, exacerbating domestic violence.[18] The Division on Women in the Department of Children and Families reported an increase in both the number and severity of domestic violence incidents. The authors of the PWJ Report also found that the pandemic enabled abusers to use isolation, coercion, and threats in new ways to prevent victims from seeking help to escape abuse. Victims of abuse confronted with pandemic-associated unemployment, housing instability, hunger, and increased childcare responsibilities had fewer options for escaping abusive partners. A victim with no source of income independent of an abusive partner may lack the funds to support herself and her children on her own, and may accordingly be reluctant to flee a dangerous living situation. Women are more likely to work in hospitality, education, and leisure sectors that were among those hit hardest by layoffs during the early days of the pandemic.[19] Women of color, already less economically secure before the pandemic, experienced greater economic hardship.[20] Black and Latina women were already over-represented in New Jersey's shelter system and that disparity grew during the pandemic, according to DCF's Division on Women.

Even as violence increased, capacity in New Jersey's network of domestic violence shelters decreased significantly due to CDC guidelines calling for social distancing in communal living spaces and staffing difficulties. At first, the Division on Women worked with the New Jersey Coalition to End Domestic Violence to procure hotel rooms for victims. In July, the FEMA-funded Hotel Aggregator Program became available, centralizing the process of identifying, booking, and paying for hotel rooms and greatly mitigating the strain on the traditional shelter system.[21]

Domestic violence posed special threats for undocumented immigrant women, who were excluded from many pandemic-era public assistance programs due to their citizenship status, exacerbating their economic precarity. As new arrivals to the United States, undocumented women often lack robust social support networks.[22] They often come from countries where women's rights and

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[17] Perlmutter, P. & Miles, J. (2020). *The Impact of COVID-19 Intensifies the Shadow Pandemic of Domestic Violence in New Jersey*. Partners for Women and Justice. https://www.mccarter.com/wp-content/uploads/2020/12/Partners-for-Women-and-Justice-Report-on-Pandemic-Impact.pdf

[18] While domestic violence is certainly present in more affluent communities as well, more affluent women are more likely to have the resources and social networks to escape an abusive relationship without putting herself and her children at risk of homelessness. Poverty both contributes to the conditions that engender domestic violence and limits victims' options for escaping abusive relationships.

[19] Perlmutter, P. & Miles, J. (2020). *The Impact of COVID-19 Intensifies the Shadow Pandemic of Domestic Violence in New Jersey*. Partners for Women and Justice. https://www.mccarter.com/wp-content/uploads/2020/12/Partners-for-Women-and-Justice-Report-on-Pandemic-Impact.pdf

[20] See id. at 9.

[21] OEM assisted with the implementation of this program.

[22] Observations in this paragraph are drawn from interviews with the Division on Women and Perlmutter, P. & Miles, J. (2020). *The Impact of COVID-19 Intensifies the Shadow Pandemic of Domestic Violence in New Jersey*. Partners for Women and Justice. https://www.mccarter.com/wp-content/uploads/2020/12/Partners-for-Women-and-Justice-Report-on-Pandemic-Impact.pdf

access to resources are systematically subverted to a greater extent than they are in the United States. Fearing deportation, many undocumented women are reluctant to report domestic violence to law enforcement. Undocumented women also have more difficulty renting on their own and are more likely to find themselves dependent on an abusive partner for shelter, particularly when their partners are citizens. New Jersey has several culturally specific providers that primarily serve undocumented women, but the Division on Women reported some provider discrimination against undocumented victims of abuse. For example, with no legitimate basis for doing so, some providers reportedly capped undocumented victims' shelter stays at fifteen days during the pandemic.

To meet the needs of the growing number of victims, the Division on Women increased the number of funded organizations that serve a culturally specific or marginalized population from nine to 14 during the pandemic. These organizations now serve newly immigrated Latina victims of abuse, South Asian victims, Middle Eastern and Muslim victims, Jewish victims, Caribbean victims, African American and Black victims, low-income victims, LGBTQ+ youth and adult victims, and men and boys.

2.4. Caring for New Jerseyans with Disabilities

In the early days of the pandemic, some low-income New Jerseyans with disabilities that limit their mobility or render them immunocompromised went hungry because New Jersey did not permit online retailers to process payments made via Electronic Benefits Transfers (EBT) cards for grocery delivery. Unable or unwilling to travel to brick-and-mortar grocery stores, these New Jerseyans were left to subsist on whatever they happened to have in their pantries. To address this problem, New Jersey obtained federal approval for online SNAP grocery shopping from the U.S. Department of Agriculture and authorized grocery deliveries paid for by EBT card on an emergency basis, but this authorization process took several months.

Many low-income New Jerseyans with disabilities receive essential services in their homes from personal care assistants through NJ FamilyCare. Depending on the nature of an individual's disability, her personal care assistant may assist with activities of daily living including feeding, bathing, using the toilet or bed pan, grooming, and ambulating. Personal care assistants may also assist with household duties including cleaning and shopping. The work performed by personal care assistants is vital and difficult, but it is not handsomely paid. Many personal care assistants are women of color who earn so little that they themselves qualify for medical assistance. They often must work multiple jobs to make ends meet. As a result, during the pandemic, New Jerseyans dependent upon their personal care assistants risked infection due to their personal care assistants traveling between the homes of multiple people in need of their care or between their caregiving jobs and other jobs.

2.5. Achieving Sustainable Health Equity

State officials and stakeholders repeatedly emphasized that any short-term response to a future public health emergency would fail if unaccompanied by long-term structural changes. Certain New Jersey communities were hit harder by the pandemic, in part because of preexisting disparities in the healthcare system and other disparities attributable to the social determinants of health. Fully eliminating these disparities will require a dramatic expansion of the social safety net and sweeping state and nationwide transformations in the distribution of social and economic opportunity.[23]

2.6. Accessing Healthcare

Minority communities have lower baseline health levels than White communities, in part because they face difficulties in accessing basic healthcare.[24] For example, community advocates who testified before the New Jersey COVID-19 Task Force on Racial and Health Disparities explained that low-income areas in New Jersey have a shortage of family doctors, leaving the people of color who live in those areas without ready access to primary care.[25] According to testimony, people in minority communities are more likely to visit the doctor only when they are forced to go to the emergency room, rather than staying proactively engaged with their healthcare over the course of their lifetimes. In addition, testimony indicated that lack of adequate health insurance presents a major barrier to obtaining quality healthcare in some communities of color. New Jerseyans in rural areas face many of these barriers and often lack the transportation options and financial resources to access quality healthcare regularly.[26]

According to testimony, New Jerseyans who do not speak English also have a difficult time finding healthcare providers with whom they can communicate. Not everyone is comfortable advocating for themselves, and some are hesitant to seek out the assistance of an interpreter if one is not automatically provided for them, according to testimony.

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[23] See Joo-Young Lee, Economic Inequality, Social Determinants of Health, and the Right to Social Security, HEALTH AND HUMAN RIGHTS JOURNAL 25.2 (2023), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10733760/; Hoag Levins, The U.S. Health Care Safety Net: Intact, But Still Seriously Endangered, UNIVERSITY OF PENNSYLVANIA LEONARD DAVIS INSTITUTE OF HEALTH ECONOMICS (Dec. 9, 2022), https://ldi.upenn.edu/our-work/research-updates/the-u-s-health-care-safety-net-intact-but-still-seriously-endangered/

[24] See Khiara M. Bridges, Implicit Bias and Racial Disparities in Health Care, American Bar Association Human Rights Magazine 43.3 https://www.americanbar.org/groups/crsj/publications/human_rights_magazine_home/the-state-of-healthcare-in-the-united-states/racial-disparities-in-health-care/; David R. Williams, and Toni D. Rucker, Understanding and Addressing Racial Disparities in Health Care, HEALTH CARE FINANCING REVIEW 21.4 (2000).

[25] The COVID-19 Pandemic Task Force on Racial and Health Disparities in the New Jersey Department of Health was established in 2021 to study and identify solutions for the disproportionate impact of the pandemic on the State's minority and marginalized communities.

[26] Healthcare Access in Rural Communities, Rural Health Information Hub (Jan. 31, 2024), https://www.ruralhealthinfo.org/topics/healthcare-access

2.6.1. Bias

Those who testified before the COVID-19 Task Force on Racial and Health Disparities described a general lack of cultural competency among medical professionals. Many people of color feel as though they have spent their lives being treated with insulting suspicion by healthcare providers, according to this testimony.[27, 28] They feel as though complaints by patients of color are not taken as seriously as those of White patients. This can lead to misdiagnosis or underdiagnosis of serious medical conditions requiring immediate treatment, according to testimony. [29] These experiences discourage people of color from routinely seeking preventative care, leading to worse health outcomes in general, and making people of color less likely to trust the messages they receive from doctors and public health experts about, for example, the safety and efficacy of vaccines, according to testimony.

2.6.2. Social Determinants of Health

Social determinants of health are the non-medical factors that influence health outcomes.[30] They include the economic, cultural, and environmental conditions of people's lives.[31] These conditions may directly or indirectly affect an individual's likelihood of contracting COVID-19, becoming seriously ill from COVID-19, or dying of COVID-19.

For example, Black and Latino New Jerseyans are less likely to graduate from high school and college.[32] Educational attainment often determines employment options, and those without a high school or college degree are less likely to be qualified for the kinds of jobs workers can do from

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[27] Williams, D. R., & Rucker, T. D. (2000). *Understanding and Addressing Racial Disparities in Health Care*, *21*(4), 75–90. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194634/#:~:text=A%20broad%20range%20of%20system,care%20system%20unless%20absolutely%20necessary ("A broad range of system barriers such as long waiting time, complex bureaucratic procedures, and the failure to treat patients with dignity and respect can lead to patient alienation and the avoidance of contact with the health care system unless absolutely necessary. Research has long indicated that poor persons and racial minorities are not viewed as desirable patients and health care providers deliver inferior care to persons of low [socioeconomic status.]").

[28] *See also* Cary Funk, *Black Americans' views about health disparities, experiences with health care,* PEW RESEARCH CENTER (Apr. 7, 2022), https://www.pewresearch.org/science/2022/04/07/black-americans-views-about-health-disparities-experiences-with-health-care/

[29] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4638275/

[30] See Social Determinants of Health, WORLD HEALTH ORGANIZATION, https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1 (noting that social determinants of health include income and social protection; education; unemployment and job insecurity; working life conditions; food insecurity; housing, basic amenities, and the environment; early childhood development; social inclusion and non-discrimination; structural conflict; and access to affordable health services of decent quality).

[31] See id.

[32] Statistical Atlas, Educational Attainment in New Jersey, https://statisticalatlas.com/state/New-Jersey/Educational-Attainment

the safety of their own homes.[33] Black and Latino New Jerseyans' lower levels of educational attainment therefore likely put them at greater risk of contracting COVID at work.

Certain high-density, low-income areas in New Jersey cities are "food deserts," with many people of color in those areas struggling to eat a balanced diet because they lack access to affordable, nutritious ingredients.[34] Someone who lives in such an area for a long time may accordingly be more likely to become obese and develop diabetes.[35] Obesity and diabetes are risk factors for COVID-19.[36]

Communities of color are more likely to live near busy roadways, industrial sites, hazardous waste sites, and other sources of environmental pollution that can contribute to the development of asthma, another risk factor for COVID-19.[37]

These are just a few examples of the many non-medical factors that may render different communities more susceptible to COVID-19 and more likely to experience negative health outcomes because of where they live or how much money they have. Achieving enduring health equity in New Jersey and beyond will require a concerted effort to root out inequities – not just in our hospitals, but in our streets, schools, workplaces, and homes.

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[33] Zhongyu Jian, Menghua Wang, Xi Jin, and Xin Wei, *Genetically Predicted Higher Educational Attainment Decreases the Risk of COVID-19 Susceptibility and Severity: A Mendelian Randomization Study*, Front Public Health (2021), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8732991/

[34] See Jon Hurdle, State maps 'food deserts' where healthy choices are hard to find, NJ SPOTLIGHT NEWS (Jan. 12, 2022). Retrieved from https://www.njspotlightnews.org/2022/01/nj-food-deserts-pinpointed-camden-atlantic-city-newark-paterson-lack-of-access-obesity-snap/

[35] See Johanna Key, Donna Burnett, Jeganathan Ramesh Babu, and Thangiah Geetha, The Effects of Food Environment on Obesity in Children: A Systematic Review, CHILDREN 10.1 (2023). Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9857183/

[36] See Salman Al-Sabah, Mohannad Al-Haddad, Sarah Al-Youha, Mohammad Jamal, and Sulaiman Almazedi, COVID-19: Impact of obesity and diabetes on disease severity, CLINICAL OBESITY 10.6 (2020), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7645952/#:~:text=Our%20findings%20indicate%20that%20more,as%20a%20high%E2%80%90risk%20group

[37] Who is Most Affected by Outdoor Air Pollution?, AMERICAN LUNG ASSOCIATION (Nov. 2, 2023), https://www.lung.org/clean-air/outdoors/who-is-at-risk

3. Appendix

A-1 Rate of Homelessness in New Jersey by Race/Ethnicity

Number of homeless individuals in New Jersey per 100k of total population by ethnicity and race

Insufficient data to compare race/ethnicity across states and to break "Non-White" population into more detailed racial breakdown

	Population	2019	2020	2021	2022	% Change 2019-2022
Ethnicity	Hispanic/Latino	96	106	91	95	-1.3%
	Non-Hispanic/Latino	101	109	93	99	-1.2%
Race	Non-White	213	240	205	212	-0.4%
	White	55	58	49	54	-2.5%

Note: Data collected through annual point-in-time count of sheltered and unsheltered people experiencing homelessness on a single night. Conducted by regional or local Continuum of Cares
1. Calculated using 2019 census population estimates applied to each year
Source: US Department of Housing and Urban Development, US Census

A-2 Rate of Unsheltered Homelessness in New Jersey by Race/ Ethnicity

Number of unsheltered homeless individuals in New Jersey per 100k of total population by ethnicity and race

Insufficient data to compare race/ethnicity across states and to break "Non-White" population into more detailed racial breakdown

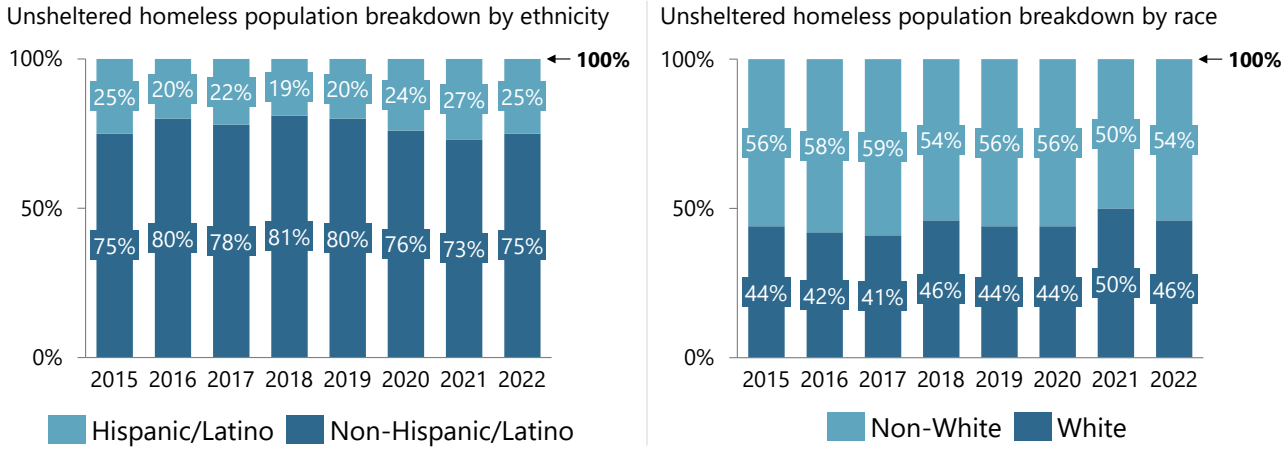
	Population	2019	2020	2021	2022	% Change 2019-2022
Ethnicity	Hispanic/Latino	16	23	12	13	-15.9%
	Non-Hispanic/Latino	17	19	8	10	-38.7%
Race	Non-White	33	40	17	21	-35.9%
	White	10	12	6	7	-32.0%

Note: Data collected through annual point-in-time count of sheltered and unsheltered people experiencing homelessness on a single night. Conducted by regional or local Continuum of Cares.
1. Calculated using 2019 census population estimates applied to each year.
Source: US Department of Housing and Urban Development, US Census

A-3 Breakdown of Unsheltered Homelessness Population in New Jersey by Race/Ethnicity

Breakdown of unsheltered homeless population in New Jersey by ethnicity and race

Insufficient data to compare race/ethnicity across states and to break "Non-White" population into more detailed racial breakdown



Note: Data collected through annual point-in-time count of sheltered and unsheltered people experiencing homelessness on a single night. Conducted by regional or local Continuum of Cares.
Source: US Department of Housing and Urban Development

Chapter 6 Congregate Settings

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6. Congregate Settings

6.1 Introduction

The COVID-19 pandemic exposed critical vulnerabilities in the healthcare sectors, with long-term care facilities (LTCFs) emerging as ground zero. LTCFs, which served predominantly as residential homes rather than acute care centers, were suddenly thrust into the frontline of a battle for which they were largely unprepared. The pandemic exposed the chronic issues plaguing these facilities: a critical lack of oversight, chronic understaffing, management challenges in many facilities, and persistent quality concerns, all of which compounded the challenges presented by the pandemic. In these settings, where people who are elderly and have pre-existing health conditions reside, the risk of rapid virus spread was elevated due to close living quarters and shared communal spaces. Residents' need for ongoing care meant constant interaction with staff, further exacerbating the likelihood of disease transmission. This situation was intensified by longstanding staffing shortages and inadequate supplies, particularly of personal protective equipment (PPE), which became acutely problematic during the pandemic's early stages.

The spread of COVID-19 in LTCFs highlighted a pronounced, industry-wide deficiency in pandemic preparedness. Designed fundamentally as residential homes and not as medical treatment centers, LTCFs were unprepared for an infectious disease outbreak of such scale and severity. They struggled to combat the spread of the virus, and many residents fell ill and died. The impact of the pandemic went far beyond the immediate physical health dangers: it profoundly affected the mental and social health of residents, staff, and family members of those residing in the facilities. This tragic situation prompts a critical examination of the systemic shortcomings in long-term care settings and underscores the need for comprehensive strategies to bolster their resilience in future health crises.

This chapter explores New Jersey's handling of the COVID-19 pandemic within long-term care and other congregate settings, and highlights preparedness and actions before and after the outbreak. This investigation focuses on the roles and operations of various agencies overseeing these settings, emphasizing their distinct functions in the broader landscape of long-term care and other selected congregate settings.

Specifically, this chapter examines the initial efforts by the New Jersey Department of Health (NJDOH) to mitigate the virus's spread in private and state-run nursing homes, and the involvement of certain state agencies with direct responsibility for managing congregate settings. These agencies include the New Jersey Department of Military and Veterans Affairs (NJDMAVA), the New Jersey Department of Corrections (NJDOC), and the New Jersey Department of Human Services (NJDHS). Each of these agencies plays a vital role in providing specialized care and services, from the NJDMAVA's management of veteran nursing homes and the NJDOC's oversight of correctional facilities, to the NJDHS's extensive support services for individuals with intellectual and developmental disabilities. This chapter analyzes major decisions, assesses the effectiveness of

the strategies used, reflects on lessons learned, and identifies areas that require enhancement in managing the pandemic's impact on long-term and congregate care environments.

By offering a detailed examination of New Jersey's response to the pandemic in congregate settings, this chapter seeks to provide a comprehensive roadmap of the complex landscape of pandemic readiness and response.

6.1.1 Congregate Care Facilities in New Jersey

Before discussing the pandemic's impact on LTCFs in New Jersey, an introduction to the legal landscape governing such facilities is helpful. A brief overview of CDC guidance, federal requirements regarding infectious disease, and New Jersey oversight related to long-term care and congregate care settings follows below.

6.1.2 The Centers for Disease Control's (CDC) Guidance for Community Congregate Living

For purposes of this chapter, we define congregate settings in accordance with the CDC guidance for community congregate living. According to the CDC, congregate settings are facilities or housing where unrelated individuals live closely and share common areas like sleeping quarters, kitchens, bathrooms, or living rooms. This definition encompasses a range of settings, including correctional and detention facilities, homeless and emergency shelters, group homes, college dormitories, seasonal worker housing, substance use treatment centers, assisted living communities, and temporary accommodations like hotels and motels.[1] This broad perspective helps in understanding the varied and complex challenges faced in managing COVID-19 across different types of congregate settings.[2]

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[1] Centers for Disease Control and Prevention. (2023, October 27). Additional information for community congregate living settings (e.g., Group Homes, Assisted Living). Retrieved from https://www.cdc.gov/coronavirus/2019-ncov/community/community-congregate-living-settings.html

[2] In New Jersey, the definition of long-term care (LTC) facilities is shaped by several statutory and regulatory sources, reflecting a range of services and settings: the NJDOH's Executive Directive (20-026) outlines the resumption of services in LTC facilities, including, e.g., all LTC facilities, assisted living residences, residential health care facilities, and dementia care homes (these settings are further delineated across various New Jersey Administrative Codes, which provide licensing and operational guidelines for each type of facility); N.J.S.A. 26:2H-12.87 defines long-term care facilities as nursing homes, assisted living residences, comprehensive personal care homes, residential health care facilities, and dementia care homes under the Health Care Facilities Planning Act, which mandates the development of outbreak response plans as a licensure condition; N.J.S.A. 26:2H-2 covers definitions under the Health Care Facilities Planning Act, including the term "private long-term health care facility," defined as nursing homes, skilled nursing homes, or intermediate care facilities presently in operation and licensed with specific criteria; the NJDOH COVID-19 Long-Term Care Facility Outbreak Reporting and Response Guidelines (April 22, 2020) define LTCFs as nursing homes, skilled nursing facilities, and assisted living facilities; EO 283

During the pandemic, the NJDOH identified a total of 819 private and state-run LTCFs across New Jersey.[3] These facilities were categorized for statistical purposes into various types, including:

- Nursing Homes: 357 facilities
- Assisted Living/Dementia Facilities: 254 facilities
- Home Health Hospices: 96 hospices
- Residential Dementia Care Homes: 41 facilities
- Psychiatric Hospitals: 16 facilities
- Assisted Living Programs: 14 programs
- Rehabilitation Facilities: 13 facilities
- Long-Term Acute Care Hospitals: 12 facilities
- Hospital-Based Subacute Units: 10 facilities
- Programs of All-Inclusive Care for the Elderly (PACE): 6 Centers

This breakdown highlights the diversity and breadth of long-term care options available in New Jersey. They range from traditional nursing homes and assisted living facilities to specialized care settings like psychiatric hospitals and PACE.

6.1.3 Federal Requirements Regarding Infectious Disease

The Centers for Medicare & Medicaid Services (CMS) oversees health care coverage for programs like Medicare, Medicaid, the Children's Health Insurance Program, and the Health Insurance Marketplace. CMS works with states to manage these programs, issuing guidance on law implementation and compliance.

Federal law mandates that LTCFs safeguard the health and rights of residents and meet Medicare and Medicaid requirements.[4] CMS certifies these facilities for participation in these programs and, along with states, checks compliance through surveys under the Social Security Act's Sections 1819 and 1919.[5]

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focuses on vaccination requirements and categorizes LTCFs under "health care settings" and defines "high-risk congregate settings" to include, e.g., correctional facilities and various licensed community residences and day programs for individuals with intellectual, developmental, or mental health conditions; N.J.A.C. 7:9A-2.1 offers a definition within the context of environmental protection, specifically concerning individual subsurface sewage disposal systems, that defines "congregate living activities" to include, e.g., nursing/rest homes and assisted living facilities.

[3] NJDOH data.

[4] United States. (n.d.). Social Security Act §§ 1819, 1919. In Title 42 of the United States Code (42 U.S.C. §§ 1395i-3, 1396r). Retrieved from https://uscode.house.gov

[5] Regulations for these requirements are outlined in federal regulations at 42 CFR part 483, subpart B (for LTCFs), and 42 CFR part 488, subpart E (for survey processes).

LTCFs have specific regulations for emergency preparedness and infection prevention and control. For emergency preparedness, they must create and regularly update an emergency plan, establish policies and procedures, maintain a communication plan, conduct training and drills, and ensure that emergency power systems are in place.[6] For infection control, facilities must maintain a program to prevent disease spread, appoint infection preventionists, develop immunization policies, manage linens to avoid infections, review and update their infection control program annually, and report COVID-19 information electronically.[7]

CMS ensures compliance through agreements with states and requires surveys on safety, emergency readiness, and infection control at least once every 15 months.[8] In New Jersey, the NJDOH checks these facilities against federal and state standards.

6.1.4 New Jersey Oversight of Congregate Settings

New Jersey law charges the NJDOH with the central responsibility for the development and administration of the State's policy with respect to all public and private health institutions.[9] Under this broad authority, the NJDOH exercises oversight over private nursing homes and state-run facilities like NJDMAVA's veterans homes.

The New Jersey Health Care Facilities Planning Act (the Act) provides that all state, county, municipal, incorporated, or unincorporated institutions that serve principally as residential health care facilities or nursing homes be subject to NJDOH oversight and regulation.[10] As part of this oversight, the Act gives the NJDOH the power to issue, restrict, and suspend the licenses of all health care services and facilities in New Jersey.[11]

The NJDOH licenses more than 2,000 regulated facilities statewide.[12] These include hospitals, nursing homes, assisted living residences, ambulatory care centers, home health care and other types of health care facilities. The issuance of a license is contingent upon the NJDOH conducting a survey of the facility for compliance with state and federal statutes and regulations.[13] New Jersey regulations also provide that the NJDOH may conduct periodic surveys of facilities on behalf of the

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[6] U.S. Department of Health and Human Services. (2023). Emergency preparedness for long-term care facilities, 42 C.F.R. § 483.73.

[7] U.S. Department of Health and Human Services. (2023). Emergency preparedness for long-term care facilities, 42 C.F.R. § 483.

[8] Id.

[9] N.J.S.A. § 26:2H-12 (West).

[10] N.J.S.A. § 26:2H-12 (West).

[11] Id.

[12] New Jersey Department of Health. (n.d.). Health Facilities: Certificate of Need and Facility Licensing. Retrieved from https://www.nj.gov/health/healthfacilities/certificate-need/

[13] N.J.A.C § 8:43E-1.3. Survey is defined as the evaluation of the quality of care and/or the fitness of the premises, staff, and services provided by a facility as conducted by the NJDOH and/or its designees to determine compliance or non-compliance with applicable State licensing regulations, statutes, or Federal Medicare/Medicaid certification regulations or statutes.

U.S. Department of Health and Human Services (USHHS) or other federal agencies to evaluate compliance with Medicare and Medicaid certification regulations.[14]

New Jersey law does not mandate a specific schedule for licensing surveys, giving the NJDOH flexibility to conduct surveys at any time.[15] The NJDOH may also conduct a survey of a facility upon the receipt of a complaint or allegation by any person with knowledge of the services rendered to patients or operations of a facility (e.g., residents or staff).[16] The NJDOH surveys on behalf of CMS are conducted on a 9-15 month cycle with a statewide average of 12 months.[17] Further, the NJDOH may conduct periodic or special inspections of licensed health care facilities to evaluate the fitness and adequacy of the facility's premises, equipment, personnel, and policies, or to ascertain whether the facility complies with all applicable state and federal licensure regulations and statutes.[18]

The NJDOH holds significant regulatory authority over LTCFs, ensuring compliance with licensure regulations through various enforcement mechanisms. In instances where a facility fails to meet the standards identified in the survey, the NJDOH may require corrective action plans describing how each deficiency will be addressed.[19] Further, the NJDOH may impose the following enforcement remedies against facilities for violations of licensure regulations or other statutory requirements:

- Civil monetary penalties
- Curtailment of admissions
- Appointment of a receiver or temporary manager
- Provisional license, suspension of license, or revocation of license
- An order to cease and desist operations
- Other remedies provided by state or federal law[20]

The scope of the NJDOH's authority broadens significantly during a Public Health Emergency. The Emergency Health Powers Act gives the Commissioner of Health powers to prevent and control the

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[14] N.J.A.C. § 8:43E-2.1. With respect to CMS compliance surveys, the State is responsible for certifying a skilled nursing facility or nursing facility's compliance or noncompliance with federal regulations. Certification for state-operated facilities, however, differs slightly. For state-operated facilities, the State conducts the survey, but the CMS Location certifies compliance or noncompliance and determines whether a facility will participate in the Medicare or Medicaid programs. See Centers for Medicare & Medicaid Services. (2024, February 27). Nursing Homes. Retrieved from https://www.cms.gov/medicare/health-safety-standards/quality-safety-oversight-general-information/nursing-homes

[15] N.J.A.C. § 8:43E-5.2. New Jersey regulations provide that "a license shall be granted for a period of one year or less." N.J.A.C. § 8:43E-5.3. Upon the expiration of that year, the license shall be renewed annually unless it has been suspended or revoked. Id.

[16] N.J.A.C. § 8:43E-2.1(e).

[17] Centers for Medicare & Medicaid Services. (2023, September 6). Nursing Home Enforcement. Retrieved from https://www.cms.gov/medicare/health-safety-standards/enforcement/nursing-home-enforcement

[18] N.J.A.C. § 8:43E-2.1(a).

[19] N.J.A.C. § 8:43E-2.4.

[20] N.J.A.C. § 8:43E-3.1.

spread of infectious disease.[21] This Act was activated early in the COVID-19 pandemic, when the Governor declared a Public Health Emergency through Executive Order (EO) 103 on March 9, 2020. The Act empowered the NJDOH to implement stringent disease prevention and control measures beyond its standard regulatory functions, such as curtailing admissions to nursing homes that were unable to adhere to safety protocols during the pandemic.

In New Jersey, oversight and regulation of the long-term care industry involves other stakeholders—in addition to the NJDOH—who help ensure that standards of care and accountability are met. Foremost among these are the Office of the State Comptroller (NJOSC) and the Office of the Long-Term Care Ombudsman (NJLTCO). The NJOSC provides financial oversight to ensure that LTCFs use resources efficiently and adhere to financial regulations and standards.[22] At the same time, the NJLTCO[23] serves as a vital advocate for residents, addressing complaints, upholding residents' rights, and promoting improvements in care quality. [24]

6.2 COVID-19's Impact on Congregate Settings in New Jersey

Few places in New Jersey felt the pandemic's deadly impact as much as nursing homes, where the virus tore through elderly and chronically ill populations. More than 16,000 residents and many staff members in New Jersey's LTCFs have died from COVID-19 since the pandemic started.[25]

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[21] NJ Rev Stat App.A:9-33, et seq., Public Health Emergency (2022); N.J. Stat. Ann 26:13-1, et seq., State of Emergency.

[22] NJOSC's Medicaid Fraud Division initiated investigations into New Jersey's long term care facilities during the pandemic. Since then, NJOSC issued three reports identifying LTCFs that consistently receive the lowest possible CMS rating and recommending changes to New Jersey's Medicaid program. Among other things, NJOSC asserts in its reports that efforts to incentivize higher quality care in nursing homes fails to meaningfully distinguish the highest and lowest rated facilities, leaving thousands of Medicaid beneficiaries in low-performing LTCFs that are repeatedly cited for serious deficiencies. Citing CMS data, NJOSC concluded that the continued receipt of Medicaid funds by such facilities incentivizes maintaining the status quo of delivering poor-quality care.

[23] The New Jersey Long-Term Care Ombudsman (NJLTCO) is an independent agency "in but not of" the New Jersey Department of the Treasury that advocates for individuals receiving long-term care. In contrast to the NJDOH's regulatory function, NJLTCO responds to complaints directly from residents. Throughout the pandemic, NJLTCO played a significant role in advocating for the rights of residents, particularly with respect to residents' access to visitors and family members and launched several initiatives to raise awareness and provide resources to residents and their families.

[24] N.J.S.A. § 52:27G-6 (West) states: "The Office of the State Long-Term Care Ombudsman shall have as its basic objective that of promoting, advocating, and insuring, as a whole and in particular cases, the adequacy of the care received, and the quality of life experienced, by elderly patients, residents and clients of facilities within this State. In determining what elements are essential to adequate care and quality of life, the ombudsman shall consider the unique medical, social and economic needs and problems of the elderly as patients, residents and clients of facilities and as citizens and community members."

[25] *COVID-19 Nursing Home Data*. Centers for Medicare & Medicaid Services Data. (2024, February 18). Retrieved from https://data.cms.gov/covid-19/covid-19-nursing-home-data/data

Further, another 125,000 COVID-19 cases amongst residents and staff have been reported from 2020 through 2022.[26]

New Jersey's LTCFs were largely unprepared and ill-equipped for even a moderate outbreak, let alone a global health crisis with unprecedented challenges. LTCFs generally lacked the financial resiliency and flexibility required to effectively respond to an evolving health crisis of COVID-19's scale and duration. Many LTCFs did not have adequate funds to keep staff on reserve, contract additional staff, procure PPE, or have flexibility in spending. These factors exacerbated disastrous health outcomes during the Initial Surge of the pandemic.[27]

Shortly after facilities were locked down and visitors and third-party support providers were forbidden from entering, the chronic understaffing in many facilities became apparent.[28] The pandemic revealed the extent to which facilities relied on third-party support to sustain operations, as staff shortages quickly reached critical levels while the virus spread through communities.[29] Employee workloads were doubled and tripled. Nursing home staff broke down as they struggled to meet the increasing demands placed upon them, including the implementation of infection control measures that were urgently needed but often unfamiliar. These desperate conditions created gaps in communication with residents and their families, leaving residents isolated and unable to seek help.

In addition, like other states, New Jersey's LTCFs encountered substantial difficulty in securing PPE and accessing adequate COVID-19 testing early in the pandemic. These difficulties hampered LTCFs' ability to manage and contain the virus's spread. The scarcity of PPE left healthcare workers and residents vulnerable to infection, while the lack of testing capacity hindered early detection and isolation of positive cases. This situation exacerbated the already critical staffing shortages, as increased exposure risk led to more staff absences and further strained the system. The result was more infection and death.

Addressing these failures is necessary to enhance the safety and preparedness of New Jersey's nursing homes and congregate settings in future health crises. To better understand these issues and the various decisions relating to the State's management of the pandemic in LTCFs (discussed later in this chapter), the following statistical analysis is instructive.

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[26] State of New Jersey. (n.d.). New Jersey COVID-19 Information Hub. Retrieved from https://covid19.nj.gov/

[27] Zoppo, A., & Everett, R. (2020, April 9). *Coronavirus is racing through N.J. Nursing Homes. A lack of healthy staff is making the crisis worse.* NJ.com. https://www.nj.com/news/2020/04/theyre-terrified-nj-nursing-homes-face-staff-shortages-amid-worker-infections.html

[28] Maxouris, C. (2021, July 6). *Covid-19 exposed the devastating consequences of staff shortages in nursing homes. But the problem isn't new*. CNN. Retrieved from https://www.cnn.com/2021/06/27/us/nursing-homes-staff-shortages/index.html

[29] Mishkin, L. (2018, July 19). *What's behind New Jersey's growing nursing shortage?* NJ Spotlight News. Retrieved from https://www.njspotlightnews.org/video/whats-behind-new-jerseys-growing-nursing-shortage/

6.2.1 COVID-19 Statistics and New Jersey LTCFs

Quantitative health outcome data sheds light on healthcare delivery in New Jersey's nursing home industry and helps facilitate strategic planning. The following section details health outcomes of New Jersey's nursing homes across varying periods of COVID-19 progression, with insights into how these institutions fared over time during the pandemic. The section then provides data contextualizing nursing home outcomes within New Jersey by correlating them with population metrics, analyzing the interplay between demographic factors and healthcare outcomes across different COVID-19 stages. Finally, the analysis extends beyond New Jersey, positioning the State's nursing homes within a broader context by comparing their outcomes to those in other states during similar COVID-19 periods.

As discussed in Chapter 4 and the Appendix to this report, New Jersey had inherent characteristics that shaped how COVID-19 progressed within the State and which impacted both the timing and severity of the disease. This includes factors like:

- Density: New Jersey is the most densely populated state. Proximity is a key factor in COVID-19 transmission.
- Multi-generational housing: New Jersey has the 11th-highest rate of multi-generational housing in the United States. This is a key factor in enabling familial spread.
- Travel hub: New Jersey hosts Newark Liberty International Airport, a major entry point into the United States, which enabled the disease to enter New Jersey from abroad. More than three million New Jerseyans travelled in January 2020, increasing the opportunity for exposure to the disease.
- Proximity to New York City: One of the earliest and largest COVID-19 outbreaks in the U.S. was in the New York City metro area, which includes more than 10 counties in Northern New Jersey.

As a result of this, New Jersey experienced its first peak in COVID-19 cases during the Initial Surge period while many states did not see their highest levels of COVID-19 until months later. These states had more time to prepare for the pandemic by learning from the experiences of states that were impacted by it first.

Beyond comparing New Jersey's outcomes to U.S. averages and totals, this analysis also compares New Jersey against a sub-set of states that also experienced higher levels of fatalities within the general population during the Initial Surge. This is particularly important when comparing outcomes during the Initial Surge (from March to June 2020).

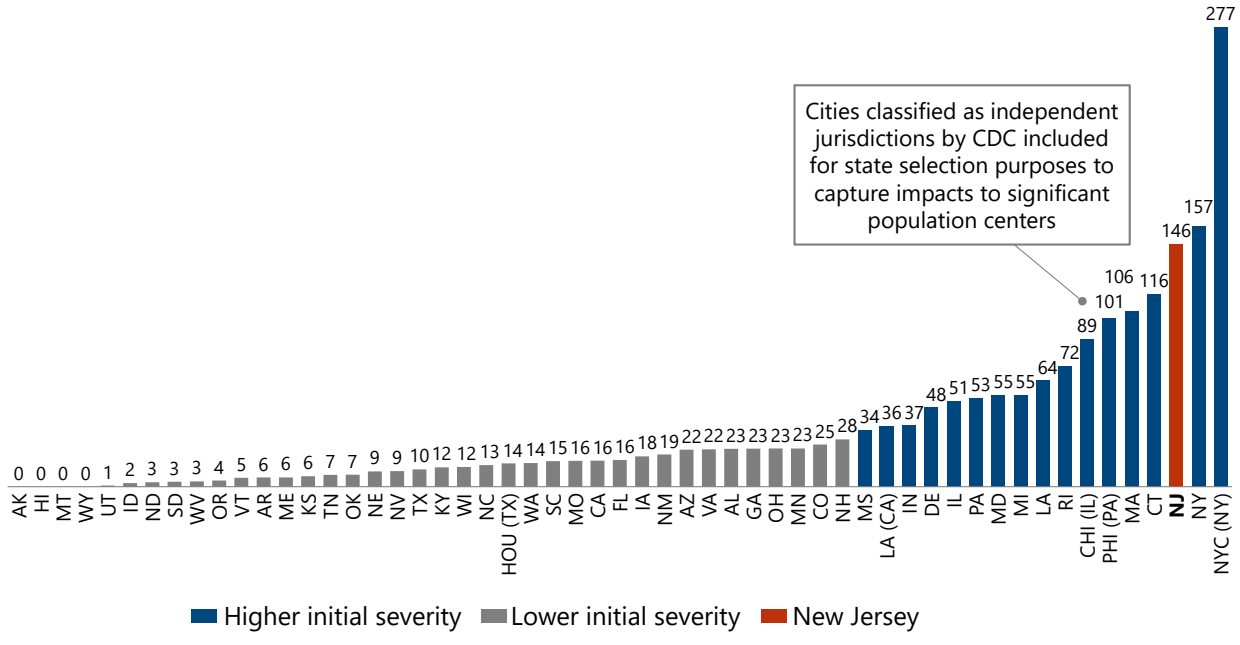
States were considered to be within a higher initial severity peer group if they represented the upper third of fatality rates in the U.S. from March to June 2020. This group includes New Jersey and 13 additional peer states. California's statewide fatality rate is outside of the upper third but is included because Los Angeles' fatality rate is within range. For three other metro/state pairs (New York City/New York, Philadelphia/Pennsylvania, Chicago/Illinois), both the metro and state fatality

rates put the state into the peer group. For Houston/Texas, both the metro and state fatality rates during this period are too low to be included in the peer group. Given the higher severity early on, these 14 states had less warning time than the remaining 36 states to prepare to manage the pandemic:

- New York
- Connecticut
- Massachusetts
- Pennsylvania
- Illinois
- Rhode Island
- Louisiana
- Michigan
- Maryland
- Delaware
- Indiana
- California (included because of high case count in Los Angeles)
- Mississippi

Exhibit 1: States and major metro areas that experienced higher severity in the Initial Surge

Fatalities reported per 100k from March 2020 to June 2020 (Initial Surge Period)



Note: Cities that are their own CDC Jurisdiction for allocation of federal COVID funding: Chicago, Houston, Los Angeles County, New York City, Philadelphia, and Washington, D.C (DC Excluded)
Source: CDC, New York Times

COVID-19 Health Outcomes in New Jersey Nursing Homes

During the Initial Surge (March 2020 - June 2020), New Jersey nursing homes were disproportionately affected: a staggering 42% of their total COVID-19 cases and 65% of all COVID-19 related fatalities occurred in this early phase of the pandemic. These statistics underscore the vulnerability of nursing home residents at the onset of the pandemic and reflect the scale of the challenge that LTCFs faced in managing infectious disease outbreaks. By later stages of the pandemic, particularly the Delta & Omicron Waves, New Jersey saw a marked improvement in fatality rates as a combination of factors took effect, including more widely available PPE, COVID-19 testing, and vaccinations, less deadly COVID-19 variants began to circulate, and nursing home staff became more familiar with infection control measures.

New Jersey Nursing Home Outcomes

Fatality rates in New Jersey's nursing homes during the COVID-19 pandemic were disproportionately high, significantly surpassing fatality rates both within the general population and among individuals aged 65 and older. This grim statistic is a testament to the heightened risk of COVID-19 transmission in environments where individuals live in close quarters, coupled with the inherently higher morbidity rates associated with advanced age and pre-existing health conditions common among nursing home residents. The confluence of these factors exacerbated the impact of the virus within these facilities and led to thousands of deaths.

Nursing home deaths accounted for nearly 30% of all COVID-19 related fatalities among individuals aged 65 and older in New Jersey throughout the surveyed timeframe between March 2020 and March 2022. During the Initial Surge, nursing home deaths were nearly 50% of 65+ fatalities. These statistics are particularly alarming and highlight the devastating potential for infectious disease outbreaks within LTCFs and the critical need for targeted interventions and policies aimed at safeguarding the health and well-being of these vulnerable populations.

As the following exhibit shows, New Jersey nursing homes had a fatality rate around ten times higher than the general 65+ population during the pandemic.

Exhibit 2: NJ COVID-19 fatalities in nursing homes as a percentage of 65+ and total population fatalities

Cumulative COVID-19 fatalities rate per 100k of subpopulation

Numbers are not absolute; scaling to 100k of population

	NJ total fatalities per 100k[1]			
	Cumulative March '20 – March '22	**Initial surge** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
Nursing homes[2]	16,256	10,511	4,525	1,219
Ages 65+[3]	1,614	718	547	348
Total[3]	332	146	112	74

1. Rates shown are cumulative for the period, and per 100k of the specific population, not total population (e.g., per 100k of nursing home residents). 2. Total number of residents calculated as an average of occupancy over entire period. 3. 65+ and total populations are according to 2019 U.S. Census estimates.
Source: CMS COVID-19 Nursing Home Data, CDC, U.S. Census

Comparison of New Jersey COVID-19 Nursing Home Outcomes with Other States

New Jersey nursing homes had higher rates of reported COVID-19 cases than other states. While cumulative cases during the pandemic were similar compared to peer states and the U.S., the exhibit below shows that the rate of infections in New Jersey nursing homes during the Initial Surge was about twice as much as seen in peer states and three times that of the U.S. (See **Chapter 4** for additional information on case reporting limitations).

Exhibit 3: COVID-19 cases in nursing homes for NJ, peer states, and U.S.

Cumulative COVID-19 cases per 100k of nursing home population

Numbers are not absolute; scaling to 100k of population

	Total nursing home cases per 100k[1]			
	Cumulative March '20 – March '22	**Initial surge[2]** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
New Jersey	81,431 14th (US) 3rd/14 (Peers)	34,105 49th (US) 13th/14 (Peers)	20,160 5th (US) 2nd/14 (Peers)	27,166 11th (US) 4th/14 (Peers)
Initial Outbreak States	87,364	17,023	40,639	29,702
U.S. Total	91,412	10,744	47,937	32,731

Note: Total number of residents calculated as an average of occupancy over entire period. 2. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include cases and fatalities as early as 1/1/20.
Source: CMS COVID-19 Nursing Home Data

This translated to higher fatalities; Exhibit 4 below compares COVID-19 fatality rates in nursing homes to peer states and the U.S. New Jersey nursing homes saw a notably higher cumulative fatality rate throughout the pandemic, which was highest during the Initial Surge. In this period, New Jersey saw around double the fatalities rate as its peer states and triple that of the U.S.

Exhibit 4: COVID-19 fatalities in nursing homes for NJ, peer states, and U.S.

Cumulative COVID-19 fatalities per 100k of nursing home population

Numbers are not absolute; scaling to 100k of population

	Total nursing home fatalities per 100k[1]			
	Cumulative March '20 – March '22	**Initial surge[2]** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
New Jersey	16,256 43rd (US) 10th/14 (Peers)	10,511 49th (US) 13th/14 (Peers)	4,525 5th (US) 2nd/14 (Peers)	1,219 7th (US) 5th/14 (Peers)
Initial Outbreak States	14,393	5,058	7,740	1,595
U.S. Total	13,663	2,958	8,833	1,872

1. Total number of residents calculated as an average of occupancy over entire period. 2. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include cases and fatalities as early as 1/1/20.
Source: CMS COVID-19 Nursing Home Data

The intensity of the case and fatality rates during the Initial Surge helps put in context the significant vulnerabilities and challenges New Jersey's healthcare system faced in managing the rapid spread of COVID-19 within congregate settings.

The pandemic's impact on New Jersey's nursing homes shifted significantly in subsequent surges, such as the Delta & Omicron Waves. During these later periods, New Jersey had comparatively lower cases and fatalities among its nursing home population than most other states.

Despite New Jersey's ability to improve its handling of subsequent surges of the pandemic, the State's severe fatality rates during the Initial Surge translate to a national ranking of 43rd in cumulative nursing home death rates. As discussed later in this chapter, New Jersey's high initial nursing home fatality rates and subsequent recovery offer valuable lessons learned in managing pandemic-related challenges in congregate settings and underscore the need for serious reform in the long-term care industry.

6.2.2 Overview of COVID-19's Progression in New Jersey LTCFs

The COVID-19 pandemic had a devastating impact on LTCFs across the United States, with New Jersey being one of the hardest-hit states. The first confirmed case of the disease in the United States was identified in an LTCF on February 28, 2020, in King County, Washington. In New Jersey's nursing homes, the pandemic quickly escalated into a critical emergency.

On March 4, 2020, New Jersey reported its first case of COVID-19.[30] Governor Murphy declared a State of Emergency and Public Health Emergency via EO 103 on March 9, 2020, underscoring the seriousness of the situation.[31] The first known COVID-19 outbreak in a New Jersey nursing home was reported shortly thereafter, on March 15, 2020, in the St. Joseph's Senior Home in Woodbridge. This marked a critical point in the State's struggle with the virus.

St. Joseph's, a private facility managed by the Little Servant Sisters of the Immaculate Conception, faced a crisis in March 2020, when numerous nun staff members suddenly fell ill. That prompted the facility to request the NJDOH's assistance.[32] By March 25, 2020, the NJDOH had mandated the closure of St. Joseph's and the relocation of its 78 residents to CareOne at Hanover in Morris County within 24 hours—bypassing standard procedures for providing notice to residents' families. St. Joseph's had no outbreak response plan, and although it made efforts to cohort[33] exposed residents, the NJDOH operated under the assumption that all residents had been exposed to COVID-19. After the move, many residents who had already been described as "frail" or "gravely ill" rapidly deteriorated—and 36 out of 78 residents died. Criticism following the evacuation focused on the NJDOH's poor oversight of the residents' fragile conditions, the absence of alternative arrangements, and the haphazard transfer of elderly individuals without proper communication.

The situation in state-run LTCFs during the pandemic's Initial Surge was no better. On March 22, 2020, a resident from Paramus Veterans Home was sent to the hospital and confirmed as COVID-19 positive six days later.[34] In addition, two residents from the Menlo Park Veterans Home were sent to the hospital within the next week. Both of these residents tested COVID-19 positive shortly

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[30] Attrino, A. G. (2020, March 5). *N.J. Coronavirus update: Fort Lee Man, 32, is first to test positive for virus in state.* NJ.com. Retrieved from https://www.nj.com/coronavirus/2020/03/nj-coronavirus-update-fort-lee-man-32-is-first-to-test-positive-for-virus-in-state.html https://www.nj.com/coronavirus/2020/03/nj-coronavirus-update-fort-lee-man-32-is-first-to-test-positive-for-virus-in-state.html

[31] Office of the Governor. (2020, March 09). Governor Murphy Declares State of Emergency, Public Health Emergency to Strengthen State Preparedness to Contain the Spread of COVID-19. Retrieved from https://www.nj.gov/governor/news/news/562020/20200309b.shtml

[32] Westhoven, W. (2020, March 26). *All 94 residents of New Jersey Nursing Home presumed positive for coronavirus*. USA Today. https://www.usatoday.com/story/news/nation/2020/03/25/whippany-nursing-home-takes-covid-19-seniors-woodbridge-facility/5081292002/; Warren, M. S. (2020, March 25). *N.J. Nursing Home shut down by coronavirus. all 79 residents moved to new facility.* NJ.com. https://www.nj.com/coronavirus/2020/03/nj-nursing-home-shut-down-by-coronavirus-all-79-residents-moved-to-new-facility.html

[33] Per the CDC, "cohort" refers to the practice of placing together (cohort) patients who are presumed to have the same infection (based on clinical presentation and diagnosis when known) in areas of the facility that are away from other patients, especially patients who are at increased risk for infection (e.g., immunocompromised patients). Centers for Disease Control and Prevention. (2023, July 11). *Isolation Precautions*. Retrieved from https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html

[34] Washburn, L., & Fallon, S. (2020, August 6). *New details reveal how Paramus veterans home became the worst of the worst during pandemic*. North Jersey Media Group. https://www.northjersey.com/story/news/watchdog/2020/08/06/covid-new-details-reveal-how-81-died-paramus-veterans-home/5555181002/

thereafter. One died at the hospital; the other returned to the Menlo Park Veterans Home, only to die there some days later.

As the pandemic progressed during the Initial Surge, staff shortages at many LTCFs quickly reached critical levels. The staff who remained were often confronted with respiratory infection outbreaks within their facilities and had virtually no training or preparation for handling a global pandemic. With clinical staff already leveraged to the hilt at most LTCFs, keeping track of and implementing rapidly evolving infection control guidance often proved impossible.

For example, on March 31, 2020, the NJDOH issued a directive to nursing homes regarding the readmission of residents with COVID-19 who had been discharged from hospitals.[35] Too few LTCFs, however, could readmit such patients while following infection control guidance and maintaining safety protocols. By April 1, the NJDOH confirmed COVID-19 cases at 93 facilities, indicating that the virus was rampant in New Jersey nursing homes. In the following days and weeks, many facilities would record double-digit fatalities, with 25 residents dead at the Menlo Park Veterans Home by April 12, 2020. On April 13, 2020, the NJDOH issued an emergency curtailment of its readmission directive and further ordered a stop to all admissions in LTCFs that were unable to meet safety protocols.[36]

By mid-April, the situation in the Paramus and Menlo Park Veterans Homes had become dire, and the National Guard was called upon to assist.[37] The staggering number of deaths in the veterans homes, discussed in detail later in this chapter, also prompted an investigation by the United States Department of Justice (USDOJ).

In what became the most highly publicized example of the desperate situation in New Jersey's nursing homes, the Andover Subacute and Rehabilitation Center (New Jersey's largest LTCF) came under intense scrutiny after an anonymous tip led police to find the unclaimed bodies of 17 residents stored in a makeshift morgue.[38] This discovery in mid-April 2020, and the numerous deaths and infections already recorded at the facility, prompted federal involvement and NJDOH intervention.

During this time, LTCFs were locked down, with all visitation, including outdoor visitation, not permitted until summer 2020. Thousands of New Jersey nursing home residents died in isolation.

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[35] New Jersey Department of Health. (2020, March 31). Hospital Discharges and Admissions to Post-Acute Care Settings. Retrieved from https://www.nj.gov/health/legal/covid19/3-31-2020%20Hospital%20Discharges%20and%20Admissions%20to%20Post-Acute%20Care%20Settings.pdf

[36] New Jersey Department of Health. (2020, April 13). Emergency Curtailment of Admissions Order. Retrieved from https://nj.gov/health/legal/covid19/4-13-20_EmergencyCurtailmentOfAdmissions.pdf

[37] Washburn, L., & Fallon, S. (2020, April 13). *At least 8 more die from coronavirus at Paramus veterans home*. North Jersey Media Group.https://www.northjersey.com/story/news/coronavirus/2020/04/13/least-8-more-die-paramus-veterans-home-dozens-more-hospitalized-covid-19-outbreak-menlo-park/2984743001/

[38] Flanagan, B. (2020, April 20). *Families want answers from Andover Subacute on covid-19 deaths*. NJ Spotlight News. https://www.njspotlightnews.org/video/families-want-answers-from-andover-subacute-on-covid-19-deaths/

Even with strict lockdowns, infection control guidance, and a cautious approach toward reopening, outbreaks still occurred.

For example, in October 2020, more than six months after the first COVID-19 case in New Jersey, the NJDOH had to halt new admissions at Somerset Woods Rehabilitation and Nursing Center in Franklin Township. This decision followed a COVID-19 outbreak, with 85 out of 111 residents and 25 staff members testing positive.[39]

For many nursing home residents in New Jersey, everyday things like visits from loved ones, group activities, communal dining, grooming, and other basic activities would not resume until well into 2021, after vaccines became widely available.

6.2.3 COVID-19 and Common Issues in Congregate Settings

As discussed throughout this chapter, the pandemic was devastating in LTCFs because it exacerbated pre-existing challenges found in many different congregate settings. This includes nursing homes, veterans homes, other LTCFs, correctional facilities, and centers for people with developmental disabilities. These facilities already faced a range of issues, making them and their residents particularly vulnerable to the devastating impacts of the pandemic.

It is important to keep these common issues in mind in reviewing New Jersey's response to the COVID-19 pandemic, both to better understand the causes of failure within many facilities and the measures that likely helped ease the incidence of infection and death in the pandemic's later surges. Indeed, consideration of these issues—and the millions who lost loved ones in facilities across the nation during the pandemic—closely informed the recommendations in this chapter. These issues include:

- Vulnerable populations: Many LTCFs provide care to individuals who are particularly vulnerable to complications or severe outcomes from COVID-19, such as the elderly, those with pre-existing health conditions, and individuals with compromised immune systems. These residents may also require more hands-on care, which exposes residents to a greater risk of spreading and contracting infection.
- Staffing shortages and turnover: Even before the pandemic, LTCFs often faced staffing shortages and high turnover rates, which impacted the quality of care. The pandemic intensified these issues, as staff members became ill or were quarantined, and the fear of infection led to further staffing challenges.
- Inadequate infection control measures: Many LTCFs were not adequately equipped or trained for stringent infection control, which is critical in managing the spread of highly infectious diseases like COVID-19. A large percentage of New Jersey's nursing homes already had documented infection control deficiencies and citations prior to the start of the

[39] Brown, L. (2020, November 3). *NJ nursing home barred from taking in residents over covid-19 outbreak*. New York Post. https://nypost.com/2020/11/03/nj-bars-nursing-home-from-taking-new-residents-over-outbreak/

pandemic, and multiple facilities lacked outbreak response plans to combat pandemic-like levels of infection.

- **High density and shared spaces:** LTCFs typically have high-density living conditions with shared spaces (e.g., dining halls and common rooms), making social distancing difficult. This environment facilitated the rapid spread of the virus among residents and staff. Many facilities house multiple occupants in a single bedroom, making effective infection control and quarantine measures impossible to achieve.
- **Resource limitations:** Most LTCFs predominantly serve as residential living centers and often had insufficient supplies of PPE, testing kits, and medical equipment, hindering effective pandemic response.
- **Regulatory and oversight challenges:** Prior to the pandemic, there were already concerns about the adequacy of regulatory oversight to ensure safety and quality of care in LTCFs. The insufficient number of staff in the NJDOH dedicated to oversight of LTCFs were hampered in their effectiveness, including on things like infection control plans. As the pandemic placed significant demands on NJDOH staff, their capacity to enforce regulations and provide guidance to facilities was further reduced.
- **Communication and coordination difficulties:** Effective communication and coordination between facilities, families, health care providers, and public health authorities were often lacking, complicating the response to the pandemic within these settings.
- **Decentralized control:** The diverse corporate structure and management models of private and publicly operated facilities throughout the country brought significant variability in resources, policies, and pandemic responses, making coordinated action and standardization of protocols more challenging.
- **Financial challenges:** Many facilities were financially vulnerable before the pandemic, limiting their ability to adequately prepare for and respond to the pandemic, including investment in necessary resources and staff. Increased costs associated with managing the pandemic (e.g., PPE, testing, and additional staffing) put further financial strain on already challenged facilities.
- **Exposure of staff:** LTCFs are often staffed by workers connected to communities that are likely to experience increased community spread.

6.3 Department of Health

6.3.1 Congregate Care Settings and the COVID-19 Pandemic

The NJDOH regulates and oversees long-term care facilities through a comprehensive framework that includes licensing, inspections, enforcement of regulations, and ongoing monitoring. The NJDOH encountered significant challenges overseeing LTCFs during the pandemic, in part because many facilities were already struggling and had limited response capabilities. New Jersey LTCFs

were hit particularly hard during the pandemic's Initial Surge, suffering the second highest fatality rates in the United States.[40]

The NJDOH's readiness and ability to serve as a hub for important communications and guidance concerning LTCFs during public health crises is vital. The goal of this subchapter is to (i) review the NJDOH's response to and key decisions during the COVID-19 pandemic in New Jersey congregate settings; (ii) consider the NJDOH's post-pandemic efforts toward improving its capabilities in this respect; and (iii) make recommendations to enhance the NJDOH's ability to support LTCFs in future crises.

6.3.2 NJDOH's Response to the Spread of COVID-19 in New Jersey LTCFs

The first lab-confirmed case of COVID-19 in the United States was reported on January 20, 2020, in a nursing home in Washington State. Around this time, both the CDC and state Departments of Health around the country began preparing for the possibility of widespread infection.

As discussed in detail previously in this report, New Jersey's statewide public health response to the emerging virus began with the establishment of the Coronavirus Task Force on February 2, 2020. The Task Force, led by NJDOH Commissioner Persichilli, was supposed to help New Jersey prepare for the coming pandemic and the coordination of healthcare facilities treating symptomatic patients. Around this time other health authorities were also warning of an imminent public health threat posed by the emerging virus, and on February 6, 2020, CMS urged healthcare facilities nationwide to review their infection control policies and practices to prevent the spread of infection.

On February 29, 2020, the first known COVID-19 death in a United States nursing home was reported in Washington State, followed by the first report of a COVID-19 case in New York City the next day. On March 2, 2020, the Governor held his first COVID-19 press conference in which, based on information available from the CDC at the time, the New Jersey public was told that the emerging virus was low risk, masks were not needed, and that transmission of the virus occurred through droplets rather than airborne transmission. All of this information would be proven wrong in the coming weeks and months.

By March 4, 2020, New Jersey reported its first confirmed COVID-19 case, with the situation escalating rapidly over the next week. On March 9, 2020, Governor Murphy declared a state of emergency in New Jersey, as 11 COVID-19 cases were confirmed statewide. As March continued, the lack of testing infrastructure made it impossible to know the full extent of the spread, but reports from the healthcare system made it increasingly clear that the risk of community transmission was extremely high. At the same time, PPE supplies were quickly depleting in New Jersey and across the country.

[40] See Exhibit 4: COVID-19 fatalities in nursing homes for NJ, peer states, and U.S.

On March 25, 2020, NJDOH Commissioner Persichilli spoke with the leadership of the Washington State Department of Health, who had been managing the country's first COVID-19 outbreak in an LTCF. Key takeaways from that conversation included the need to organize LTCFs, prioritization of PPE, planning for resource scarcity, the importance of effective PPE usage training, and the need for enhanced infection control.

By the end of March, more than 16,000 COVID-19 cases and approximately 200 deaths were recorded in New Jersey, and the dire situation in many LTCFs across the State was evident. COVID-19 infections and deaths were reported at LTCFs throughout New Jersey, with several facilities simultaneously suffering severe outbreaks and double-digit fatalities. Given that many LTCFs were primarily residential facilities, responding to the immediate crisis in their facilities while keeping up with rapidly evolving infection control guidance was a major challenge.

Some initial guidance from the NJDOH, like advice against wearing masks, had to be corrected later due to evolving information concerning the virus, adding to the general sense of confusion. Other guidance, like the NJDOH's March 31, 2020 directive to nursing homes regarding the readmission of residents with COVID-19 discharged from hospitals, had to be curtailed to avoid the risk of facilities readmitting patients while being unable to follow safety protocols. Multiple individuals working in the LTC industry during the pandemic that we spoke with independently recounted that when the NJDOH issued revised or updated guidance, there was often no clear indication of what information had changed.

Many LTCFs in New Jersey struggled with implementing infection control guidance throughout the pandemic, despite the NJDOH engaging in extensive communication efforts during the crisis. Between March and May of 2020, the NJDOH conducted more than 300 stakeholder calls with LTCFs, their associations, and the New Jersey Hospital Association. The NJDOH also participated in more than 200 press conferences to keep stakeholders informed.

As discussed in detail in this subchapter, shortly after the pandemic's Initial Surge, the NJDOH made efforts to identify lessons learned and take steps to implement reforms. As we note throughout this report, continuing this process of identifying and applying lessons learned from the pandemic will be critical to improving preparedness in future health emergencies.

The NJDOH's response to the COVID-19 pandemic in New Jersey is extensively covered earlier in this report. For the purposes of this chapter, and to put into context our recommendations for the improvement of the NJDOH's capability to support LTCFs in future crises, the NJDOH's key decisions during the pandemic regarding congregate settings follows below.

6.3.3 Key NJDOH Decisions Relating to Congregate Settings

LTCFs in New Jersey struggled during the Initial Surge of the pandemic, with the majority of LTCF resident deaths occurring during this early period. The tragic death toll in New Jersey LTCFs revealed that these facilities were neither capable nor prepared to respond to a pandemic and that NJDOH's oversight and coordination capabilities for this sector were not as robust as its capabilities vis-a-vis hospitals. Unlike the hospital system, the NJDOH had no regional coordination model for

New Jersey LTCFs to facilitate consistent implementation of infection control protocols and effective data sharing.

The NJDOH's response to the COVID-19 pandemic in New Jersey LTCFs can be divided into two periods:

1. During the Initial Surge of the pandemic, before the State retained an outside healthcare consultant to analyze and make recommendations for New Jersey's LTC system, the NJDOH focused on immediate crisis response efforts. The Department's initial LTCF COVID-19 response efforts included things such as communicating infection control guidance to LTCFs, increasing PPE supply, addressing hospital readmission issues, issuing testing protocols for residents and staff, and managing LTCF bed capacity.

2. Later in the pandemic, after receiving the outside consultant's recommendations, the NJDOH's COVID-19 response for LTCFs shifted to a more long-term, strategic approach. This later approach focused on implementing several of the consultant's recommendations, such as strengthening the Infection Control Assessment and Response (ICAR) unit and establishing the Office of LTC Resiliency with its Mission Critical Teams. These teams provide direct on-site support to LTCFs by performing assessments, addressing deficiencies, and working closely with LTC staff to implement change.

The following section analyzes the NJDOH's key decisions in response to the COVID-19 pandemic within congregate settings, organized into these two periods.

Decisions in the Initial Surge (March 2020 – June 2020)

Providing Infection Control Guidance and Resources to LTCFs

As LTCFs began preparing for the emerging threat posed by COVID-19, they turned to the NJDOH for guidance, especially regarding infection control measures. The NJDOH interpreted and disseminated CDC/CMS Guidelines to LTCFs and provided regular updates and guidance to LTCFs during this period. For example, on March 6, 2020, the NJDOH sent a reminder to LTCFs regarding their statutory responsibility to maintain infection prevention response plans. The NJDOH also supported LTCFs with infection control measures by:

- Providing training resources and educational materials on infection control practices, PPE usage, testing protocols, and vaccination information.
- Introducing visitation and screening protocols to limit visitation and implement symptom and temperature checks.
- Developing a comprehensive, widespread testing plan for LTCF residents and staff.
- Increasing distribution of PPE to LTCFs.

- Assisting with LTCF staffing support and guidance, including providing directives on hiring out-of-state certified nurse aides and coordinating support from the New Jersey National Guard and the U.S. Department of Veterans Affairs (VA) clinical staff.
- Mandating LTCFs to notify all stakeholders about outbreaks and enforce universal masking.

Nevertheless, feedback from LTCFs and external stakeholders consistently highlighted the challenges encountered in interpreting the NJDOH's guidance. The rapidly evolving nature of the virus complicated the Department's task of crafting and disseminating clear, actionable directives for LTCFs, and its communication strategy led to notable inconsistencies and confusion among LTCF administrators. This was particularly evident in the NJDOH's March 31, 2020 directive on LTC readmissions, a topic that is discussed in detail later in this section. These issues highlight the critical need for the NJDOH to refine and enhance its communication strategies, especially regarding infection control procedures.

Distributing and Managing PPE to LTCFs

At the onset of the pandemic, PPE was critical in controlling infections within LTCFs, highlighting the need for effective strategies to ensure that these vital resources are adequately supplied and managed.

Between March 26 and May 19, 2020, the NJDOH helped coordinate the distribution of 24 million pieces of PPE to LTCFs. As discussed in **Section 5.05 Personal Protective Equipment**, the NJDOH's distribution and management of PPE during the pandemic involved several key strategies. However, the NJDOH also faced some criticism regarding its distribution of PPE, particularly regarding the Department's prioritization of hospitals over LTCFs.[41]

These key strategies relevant to the LTC industry included:

- **Conducting a statewide PPE survey:** The State conducted a survey to assess the levels of PPE in various facilities, including LTCFs. This was a critical step in understanding the immediate needs and planning for effective distribution.
- **Establishing a central supply system:** To optimize the distribution and allocation of PPE to LTCFs, NJDOH worked closely with NJOEM to create a central supply system. This centralized approach allowed for more efficient and equitable distribution of resources.
- **Redirecting resources from other centers:** Ambulatory care centers and surgical centers were closed, so their PPE was secured for use in hospitals and LTCFs. This redirection of resources was a key measure in addressing acute shortages.

[41] Livio, S. K., & Sherman, T. (2020, May 20). *5,368 dead and counting: An investigation of state failures as crisis rampaged through N.J. Nursing Homes*. NJ.com. https://www.nj.com/coronavirus/2020/05/5300-dead-and-counting-an-investigation-of-state-failures-as-crisis-rampaged-through-nj-nursing-homes.html

- **Allocating PPE to healthcare facilities:** The allocation of PPE to hospitals, LTCFs, and county offices of emergency management was managed through predetermined percentages. This helped ensure a more balanced distribution of resources across different healthcare facilities.
- **Distributing PPE to LTCFs:** This included shipments from the Federal Emergency Management Agency (FEMA), supplies from the Strategic National Stockpile, and state-purchased equipment.
- **Implementing Period Automatic Replenishment (PAR) levels for PPE:** After these experiences, PAR levels were implemented to ensure adequate levels of PPE and unexpired supplies, addressing the need to never have empty shelves both operationally and strategically.

For a more detailed discussion of PPE and its role in infection control measures, please refer to **Section 5.05 Personal Protective Equipment**.

Addressing Challenges in Guiding LTCFs on Resident Readmissions from Hospitals

The NJDOH faced criticism for its initial guidance to LTCFs regarding the readmission of residents from hospitals during the Initial Surge of the pandemic. This guidance was influenced by the urgent need to prevent hospital overcrowding. Like other state Departments of Health throughout the country, the NJDOH needed to preserve hospital capacity while ensuring the safety and well-being of LTCF residents eager to return to their homes.

The NJDOH addressed this problem with a series of decisions and directives intended to provide LTCFs with a framework for safely readmitting residents who had been hospitalized due to COVID-19. These decisions and directives, which evolved as the NJDOH's understanding of the virus increased, were driven by two imperatives: (1) to alleviate the strain on healthcare facilities; and (2) to protect the most at-risk segments of the population. As discussed below, these two imperatives were not always aligned, and some LTCFs were purportedly confused by the NJDOH's directives regarding hospital readmissions.

By way of background, on March 13, 2020, CMS issued guidance "For Infection Control and Prevention of Coronavirus Disease 2019 (COVID-19) in Nursing Homes." This guidance was a blueprint for individual states to follow when determining how to best control outbreaks of COVID-19 in nursing homes and LTCFs. The guidance did not direct any nursing home to accept a COVID-19 positive patient if they were unable to do so safely. In fact, the guidance stated, "nursing homes should admit any individual that they would normally admit to their facility, including individuals from hospitals where a case of COVID-19 was/is present," as long as the facility can follow CDC guidance for Transmission-Based Precautions (TBPs).[42]

[42] Centers for Medicare & Medicaid Services. (2020a, March 13). Guidance for Infection Control and Prevention of Coronavirus Disease 2019 (COVID-19) in Nursing Homes (REVISED). https://www.cms.gov/files/document/3-13-2020-nursing-home-guidance-covid-19.pdf

On March 24, 2020, the CDC addressed three specific patient scenarios regarding the discharge of COVID-19 patients to LTCFs and assisted living facilities:

- First, patients still requiring TBPs should be moved to facilities that are well-equipped with PPE and can adhere to infection prevention and control recommendations.
- Second, patients whose TBPs have ended but who exhibit persistent COVID-19 symptoms, like a continuous cough, should be accommodated in a single room and limited to that room to minimize the risk of transmission.
- Lastly, patients who no longer need TBPs and whose symptoms have resolved can be integrated into the facility without further restrictions, indicating they pose no significant risk of spreading the virus.[43]

On March 29, 2020, the American Health Care Association (AHCA) and the National Center for Assisted Living (NCAL) issued a statement voicing significant concern over a recent New York State order that mandated nursing homes to accept patients discharged from hospitals, regardless of their COVID-19 status.[44] The AHCA and NCAL highlighted the potential risks this order posed to both the residents of LTCFs and the healthcare workers in these settings. Notably, they emphasized the challenges of preventing the spread of the virus in facilities that might not have adequate isolation protocols or sufficient PPE to handle an influx of COVID-19 positive residents.

Around this time, the NJDOH purportedly observed that LTCFs were often hesitant or outright refused to readmit residents who had been sent to the hospital to receive treatment and then discharged upon recovery. To address this issue, on March 31, 2020, the NJDOH issued a directive to LTCF administrators, providing detailed instructions on managing hospital discharges, including appropriate measures for readmitting patients, to prevent further transmission of the virus. The directive stated:

> "Patients/residents are deemed appropriate for discharge to the post-acute care setting upon a determination by the hospital physician or designee that the resident is medically stable for return.
>
> No patient/resident shall be denied re-admission or admission to the post-acute care setting solely based on a confirmed diagnosis of COVID-19. Persons under investigation for COVID-19 who have undergone testing in the hospital shall not be discharged until results are available. Post-acute care facilities are prohibited from

[43] Centers for Disease Control and Prevention. (2020, February 11). *Discontinuation of Transmission-Based Precautions and Disposition of Patients with COVID-19 in Healthcare Settings (Interim Guidance)*. Coronavirus Disease 2019 (COVID-19). https://web.archive.org/web/20200325024933/https:/www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-hospitalized-patients.html

[44] AMDA, AHCA & NCAL. (2020a, March 29). Statement on State Advisories re: Hospital Discharges and Admissions to Nursing Homes and Assisted Living Communities. https://www.fmda.org/COVID/Organizational-Efforts/AMDA-Statement-on-the-March-25-NYSDOH-Advisory.pdf

requiring a hospitalized patient/resident who is determined medically stable to be tested for COVID-19 prior to admission or readmission."[45]

The directive was accompanied by a chart explaining various steps facilities could take to reduce the risk of infection depending on a readmitted patient's COVID-19 status and the presence or absence of other COVID-19 cases within the facility. That same day, NJDOH Commissioner Judith Persichilli held a teleconference call with LTCF administrators, during which she clarified that the State was not unconditionally instructing LTCFs to readmit residents after hospitalization. Rather, this instruction was contingent upon facilities having adequate PPE, sufficient staffing, and the capability to isolate COVID-19 positive patients. The Commissioner emphasized during the call that LTCF administrators should inform the NJDOH of PPE shortages or structural limitations that hindered the separation of infected patients.

Several LTCF administrators voiced concerns regarding the directive during the March 31 teleconference call. One of the primary issues raised was the scarcity of tests, which hampered administrators' ability to adequately screen new residents. This limitation heightened the risk of asymptomatic spread of COVID-19, potentially leading to outbreaks within their facilities. Additionally, some administrators interpreted the directive as a mandate that prevented them from denying admission to individuals solely based on a COVID-19 diagnosis. This further complicated their efforts to manage and contain the virus.

This resulting confusion surrounding the directive was exemplified in a letter sent by the administration of one facility to families, friends, and staff.[46] The letter stated, "By order of the Commissioner of Health, all facilities, including ours, are required to accept new residents discharged from the hospital who have tested positive for COVID-19 but have recovered sufficiently to no longer require hospitalization."

On the other hand, the Health Care Association of New Jersey (HCANJ) sent an alert to its members on April 1, 2020, highlighting specific conditions for readmissions outlined in the NJDOH directive.[47] While the NJDOH has cited HCANJ's alert as evidence that its March 31 directive was not a mandate for LTCFs to accept residents discharged from hospitals, it is clear that at least some facilities interpreted it that way.

Following the issuance of the NJDOH directive on March 31, a large number of nursing homes communicated their inability to accept new admissions to the NJDOH. In fact, the very same day

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[45] New Jersey Department of Health. (2020, March 31). Hospital Discharges and Admissions to Post-Acute Care Settings. Retrieved from https://www.nj.gov/health/healthfacilities/documents/CN/temp_waivers/Hospital Discharges_andAdmissions_toPost-AcuteCareSettings.pdf

[46] Fallon, S. (2020, April 6). *To free up hospital beds, officials need NJ nursing homes to take back COVID-19 patients.* NorthJersey.com. https://www.northjersey.com/story/news/coronavirus/2020/04/06/coronavirus-nj-nursing-homes-must-take-virus-patients-back/2942149001/

[47] Email from Health Care Association Of New Jersey re: Important admissions information from NJDOH and HCANJ. (n.d.) Retrieved from https://myemail.constantcontact.com/Important-admissions-information-from-NJDOH-and-HCANJ.html?soid=1100567090206&aid=Dwm7Wm40OsM

the directive was issued, 99 facilities reported to the NJDOH that they were not taking in new admissions. This number would grow to 305 facilities by late April 2020, indicating that the LTC industry as a whole was struggling to manage incoming patients during the Initial Surge.

The large number of LTCFs that were unable to readmit residents after their hospitalization raised significant concerns for the NJDOH. On April 13, 2020, the Department issued an "Emergency Conditional Curtailment of Admissions Order" which superseded its March 31 directive.[48] The April 13 Order required all nursing homes and assisted living facilities to evaluate their outbreak response plans and incorporate cohorting plans to ensure appropriate social distancing for residents. The Order included restrictions that limited admissions or readmissions based on the facility's ability to effectively cohort residents, follow CDC guidance for infection prevention and control, and maintain adequate staffing.

The confusion surrounding the NJDOH's directives concerning hospital readmissions described above underscores the need for clear communication strategies and strong coordination among healthcare facilities during public health emergencies.

Procuring Additional Bed Space for LTCF Residents

Bed space for LTCF residents was a major issue during the pandemic. The issue became severe after LTCFs started informing the NJDOH that they could not comply with the March 31 readmissions guidance and accept residents back from hospitals. This was a rapidly evolving period, and as of early March 2020 the NJDOH had not planned for the need of additional bed space within LTCFs, as it had with respect to acute care hospitals. In response, the NJDOH negotiated with three LTCFs to expand bed space for residents discharged from hospitals. This strategy took time to implement, although it addressed the dual issues of hospital overcrowding and LTCFs' capacity constraints.

On March 30, 2020, the NJDOH finalized a contract with CareOne to establish 707 COVID-19 designated beds. These beds were specifically for nursing home patients being discharged from hospitals, thereby diverting residents from overcrowded LTCFs while providing some relief to hospitals from potential overcapacity.

The NJDOH then contracted with Alaris and Genesis to establish an additional 522 COVID-19 designated beds for nursing homes patients discharged from hospitals to divert residents from LTCFs. This expansion of bed capacity was facilitated across 10 dedicated COVID-19 LTCFs in New Jersey:

- CareOne Facilities:
  - New Milford: 225 beds

[48] New Jersey Department of Health. (2020, April 13). Emergency Curtailment of Admissions Order. Retrieved from https://nj.gov/health/legal/covid19/4-13-20_EmergencyCurtailmentOfAdmissions.pdf

  - Evesham: 144 beds
  - Wellington: 128 beds
  - Livingston: 116 beds
  - Hanover: 94 beds

- Alaris Facilities:
  - Hamilton Park: 250 beds
  - Chateau: 62 beds
  - Care Connection: 24 beds

- Genesis Facilities:
  - Powerback Rehab Voorhees: 124 beds
  - Powerback Rehab Piscataway: 62 beds

This initiative added approximately 1,000 beds to the State's LTC bed capacity. In total, more than 1,300 long-term care residents were accommodated in these contracted spaces, with an additional 800 being catered to in field medical stations. By expanding bed capacity, the NJDOH helped LTCFs isolate residents based on their COVID-19 status, improving infection control practices and reducing the risk of virus transmission within facilities.

Conducting Surveys and Investigating Complaints

In March 2020, CMS suspended non-emergency state LTCF survey inspections, although it permitted surveys related to infection control, as well as other serious health and safety threats. The suspension of surveys hampered the NJDOH's oversight of LTCFs, especially during a critical time when LTCFs struggled to control virus outbreaks.

In response to the growing number of crises in LTCFs, the NJDOH resumed its surveys of LTCFs to inspect infection control and serious health and safety threats.[49] By the end of April 2020, NJDOH surveyors inspected 60 LTCFs. These surveys were valuable in assessing LTCFs' response to COVID-19, infection control, staffing levels, PPE availability, and outbreak response plans.

[49] Office of Inspector General, & Grimm, C. A., New Jersey Could Better Ensure That Nursing Homes Comply with Federal Requirements For Life Safety, Emergency Preparedness, And Infection Control. Retrieved March 1, 2024, from https://oig.hhs.gov/oas/reports/region2/22201004.pdf. "Consequently, State survey agencies (including New Jersey's) experienced a backlog of standard surveys. During this period, CMS shifted its oversight to infection control surveys, which are more limited in scope than standard surveys. States, including New Jersey, also continued to conduct surveys for more serious nursing home complaints. In August 2020, CMS authorized States to resume standard surveys "as soon as they have the resources (e.g., staff and/or Personal Protective Equipment) to do so."

On June 1, 2020, CMS imposed new, elevated survey requirements for state survey agencies related to infection control and COVID-19 outbreaks in LTCFs.[50] These requirements focused on assessing LTCFs' preparedness, adherence to infection prevention practices, and their ability to manage and prevent the spread of COVID-19. These enhanced survey requirements posed a supply challenge for the NJDOH, as it had a limited number of qualified surveyors with which to take on this task.

The NJDOH's Facility Survey and Field Operations conducted 1,353 investigations from March 2020 to March 2022. These efforts resulted in 613 deficiencies being identified and $2.2M in penalties against 79 providers.[51] However, the NJDOH's lack of surveyors required it to contract out many surveys to meet the high volume of inspections demanded.

The NJDOH also investigated 758 complaints at LTCFs. The NJDOH has historically struggled in managing backlogged complaints, including 700 high-priority cases, some of which are more than two years old.

The pandemic highlighted the necessity for the NJDOH to continuously enhance its survey and complaint response processes. Without the necessary staff, the NJDOH will continue to face challenges in overseeing LTCFs.

Requiring LTCFs to Implement COVID-19 Testing Protocols

The NJDOH's approach to testing in LTCFs during the COVID-19 pandemic involved several phases and strategies, guided by executive orders and directives. While tests were not widely available during the Initial Surge and results from PCR tests took time to obtain, key aspects of the NJDOH's testing approach for LTCFs included:

Mandatory Testing through Executive Order: On May 12, 2020, NJDOH issued Executive Directive 20-13, which mandated COVID-19 testing in all LTCFs.[52] This directive also required facilities to submit an attestation for the development of a COVID-19 testing plan by May 19, 2020.[53]

Distribution of Test Kits and Universal Testing: The first distribution of test kits to LTCFs occurred by May 15, 2020. By June, most LTCFs had completed universal baseline testing of their residents and staff, with approximately 65,000 tests completed. In May 2020 alone, 82,000 COVID-19 tests were administered to residents, and 107,000 tests were given to staff.

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[50] Centers for Medicare & Medicaid Services. (2020, June 01). RESCIND Revised COVID-19 Survey Activities, CARES Act Funding, Enhanced Enforcement for Infection Control deficiencies, and Quality Improvement Activities in Nursing Homes. Retrieved from https://www.cms.gov/files/document/qso-20-31-all-rescinded.pdf%20

[51] Koloff, A., Balcerzak, A., & Miller, J. J. (2020, April 16). NJ sends team to help Andover nursing home where bodies piled up after coronavirus deaths. NorthJersey.com. Retrieved from https://www.northjersey.com/story/news/coronavirus/2020/04/16/coronavirus-nj-state-sends-team-help-andover-nursing-home/5144923002/

[52] New Jersey Department of Health. (2020, May 12). Executive Directive 20-013: COVID-19 Testing at Licensed Long-Term Care Facilities, Assisted Living Residences, Comprehensive Personal Care Homes, Residential Health Care Facilities, And Dementia Care Homes. Retrieved from https://www.nj.gov/health/legal/covid19/05-12-2020_LTC_COVID19testing.pdf

[53] Id.

- Executive Directive Requirements:
  - Testing of all residents and staff, including non-direct care workers, by May 26, 2020.
  - Retesting of all negative results within 3-7 days.
  - Continued testing over time in line with CDC guidelines.
  - Submission of testing plans, including post-testing and return to work protocols, to the NJDOH by May 19, 2020.
  - Potential consequences for non-compliance, including license suspension.

- Phased LTC Testing in Partnership with Healthcare Systems:
  - *Phase 1:* A pilot program in South Jersey with Cooper University Health Care tested around 4,000 residents and staff at 16 South Jersey LTC facilities. The results showed a 9.8% positivity rate among staff and 22.4% among residents. This phase provided guidance on infection control, cohorting, and retesting policies.
  - *Phase 2:* Focused on facilities with fewer than five cases, involving partnerships with healthcare systems across the State.
  - *Phase 3:* Targeted facilities with 6-25 cases.
  - *Phase 4:* Included all other facilities.

Evolution of Guidance and Response: Initially, the guidance from health authorities was to separate symptomatic patients from those without symptoms. However, as understanding of the asymptomatic spread of COVID-19 evolved, the response strategy shifted. It became clear that comprehensive testing was necessary to effectively identify and control the spread of the virus within LTCFs. This shift in strategy was crucial in addressing the unique challenges posed by the asymptomatic transmission of COVID-19.

It should be noted, however, that the NJDOH's approach to testing in LTCFs during the early stages of the COVID-19 pandemic was met with several challenges and criticisms. For example, at the outset of the pandemic, there was a notable shortage of COVID-19 testing capacity. This scarcity led to the prioritization of testing for hospitals, adversely impacting LTCFs. The limited availability of tests in these facilities hindered early detection and containment efforts, particularly among these vulnerable populations.

Additionally, there was criticism regarding the delay in implementing widespread testing in LTCFs. This delay was significant because comprehensive testing could have identified asymptomatic carriers of the virus, a critical aspect of implementing effective infection control measures. Identifying these carriers was essential for controlling the spread of COVID-19, especially given the high-risk nature of LTCF residents.

Finally, when New Jersey mandated testing in LTCFs on May 12, 2020, it was noted that several other states had already implemented similar measures. States like Delaware, Maryland, New York,

Oklahoma, South Carolina, West Virginia, Wisconsin, and Tennessee moved quicker in rolling out widespread testing in their LTCFs. Pennsylvania and Connecticut announced their testing initiatives around the same time as New Jersey.[54]

For a more detailed discussion of testing, please refer to Section 5.08 Testing.

Creating LTCF Staffing Initiatives

At the beginning of the pandemic, LTCFs were severely impacted by staff shortages as employees fell ill. This not only affected the quality of care but also transformed these facilities into high-risk environments for infections. Despite the passage of time, these issues persist, with both assisted living and LTCFs continuing to face significant staffing challenges that compromise infection control efforts. The NJDOH lacks both the mandate and resources to directly support staffing in the healthcare system, including in LTCFs. Nevertheless, during the pandemic, the NJDOH made efforts to provide staffing solutions to mitigate these challenges, even though staffing LTCFs is not its primary responsibility.

The NJDOH made efforts to recruit volunteers to address staffing shortages, including reaching out to retired medical professionals. However, this initiative encountered mixed success and faced several logistical hurdles. In an attempt to streamline the process, the NJDOH shared a list of nurses and other staff members, gathered from a volunteer portal, with facilities across New Jersey. The NJDOH also launched a program involving student nurses to augment staffing LTCFs. This program aimed to bolster the workforce in LTCFs, which were particularly strained during the pandemic.

Despite these efforts, the NJDOH faced challenges in providing this staffing assistance, as it does not have a mandate to provide staff. Although there was some success in recruiting former medical professionals, attempts to utilize a volunteer nursing list were not effective. The volunteer portal, ideally, should have been managed by the NJ Department of Labor, suggesting a need for better organizational alignment in emergency situations. To address these issues, it's recommended that LTCFs have emergency staffing plans ready for activation. This involves having contracts for temporary staff that can be adjusted flexibly, allowing for scaling up or down as needed.

The NJDOH also created initiatives to bolster the Certified Nursing Assistant (CNA) workforce. Starting on March 22, 2020, the NJDOH passed a series of CNA waivers to address shortages, especially in LTCFs. These waivers included extending certifications expiring between March 1 and May 31 by 90 days, authorization for LTCFs to hire out of state CNAs, allowing LTCFs to hire medical technician and home health aides to function in CNA roles, and allowing LTCFs to hire nursing students who had completed required coursework to work as aids as well as individuals who had taken an 8-hour online training program.

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[54] Livio, S. K., & Sherman, T. (2020, May 20). *5,368 dead and counting: An investigation of state failures as crisis rampaged through N.J. Nursing Homes*. NJ.com. https://www.nj.com/coronavirus/2020/05/5300-dead-and-counting-an-investigation-of-state-failures-as-crisis-rampaged-through-nj-nursing-homes.html

Utilizing the National Guard

The deployment of the National Guard to assist with duties in LTCFs was critical in addressing the staffing crisis. Although it had never been used in this role, the National Guard provided both clinical and non-clinical support in LTCFs. Non-clinical duties included assisting as nurses' aides, performing janitorial work, providing culinary services, and handling logistics.[55] While the presence of the National Guard was beneficial, there were limitations due to the Guard not being able to provide resident care.

The timeline of the National Guard's deployment has been criticized.[56] On May 7, the State announced the deployment of 120 National Guard soldiers to LTCFs, a move perceived by some as delayed, especially when compared to actions taken in other states (e.g., Maryland). The Maryland Governor had already deployed the National Guard the week of April 6, highlighting a prompt response to the crisis in LTCFs. This difference is notable and underscores the need for quick action during health emergencies.

The NJDOH's Retention of an Outside Consultant

In May 2020, as the impact of COVID-19 on nursing home residents and staff became increasingly severe, the State retained Manatt Health for a rapid evaluation of New Jersey's response within the LTC sector. Manatt was tasked with providing both immediate and forward-looking recommendations to improve the LTC system's quality, resilience, and safety.

By June 2020, Manatt had presented its report, which offered comprehensive guidance affecting both NJDHS and the NJDOH. A significant emphasis of the report was on the critical need for robust inter-agency coordination and communication. The report further stressed the importance of a unified LTC policy, encompassing aspects like financing, licensing, oversight, and regulation, all orchestrated across various NJDOH offices.

The Manatt report outlined key components essential for a strong, resilient LTC system, including:

- Enhanced communication and collaboration
- High-quality, safe facilities
- Regulatory oversight and support alignment
- Comprehensive emergency preparedness

[55] Friedman, M. (2020, May 7). *Murphy deploys 120 National Guard troops to New Jersey's long-term care facilities*. Politico. https://www.politico.com/states/new-jersey/story/2020/05/07/murphy-deploys-120-national-guard-troops-to-new-jerseys-long-term-care-facilities-1283044

[56] Livio, S. K., & Sherman, T. (2020, May 20). *5,368 dead and counting: An investigation of state failures as crisis rampaged through N.J. Nursing Homes*. NJ.com. https://www.nj.com/coronavirus/2020/05/5300-dead-and-counting-an-investigation-of-state-failures-as-crisis-rampaged-through-nj-nursing-homes.html

The Manatt report also put forth targeted recommendations designed to enhance the efficacy and resilience of New Jersey's LTC system in response to the challenges posed by the pandemic. These recommendations were strategically categorized into four key dimensions, with the aim of addressing immediate issues and laying a foundation for long-term improvements in the sector:

- Strengthening emergency response capacity
- Stabilizing facilities and bolstering the workforce
- Increasing transparency and accountability
- Building a more resilient and higher-quality LTC system

In response to the Manatt report recommendations, New Jersey enacted a series of legislative measures. These laws enacted in the months following Manatt's report were pivotal in shaping New Jersey's response to the crisis and directly influenced the operations and strategies of the NJDOH. These bills, aimed at addressing various facets of the pandemic's effect on LTCFs, ranged from enhancing safety protocols and infection control measures to improving staffing levels and ensuring better communication between healthcare providers, residents, and their families. Through these reforms, the NJDOH was provided the tools to better manage and mitigate the impact of the virus in LTCFs.

Following the Manatt report recommendations, the NJDOH and NJDHS partnered to address LTC issues. This partnership was important, given that NJDHS exerts considerable influence over the LTC sector through its establishment of Medicaid funding criteria. The NJDOH and NJDHS have created a quality improvement group dedicated to identifying and implementing strategies to increase the standard of care in LTCFs.

Within a year following the Manatt report, the NJDOH implemented all the recommendations designated to it. Under the leadership of the NJDOH Commissioner, a "whole of health" response strategy was formulated to fortify the LTC sector. This period also saw the development of a strategy for the creation of the Office of Long-Term Care Resiliency, including funding Mission Critical Teams to support LTCFs. An overview of these key decisions follows.

Decisions Made After June 2020

Strengthening the Infection Control Assessment & Response (ICAR) Unit to Perform LTCF Assessments

COVID-19 exposed the unpreparedness of LTCFs, especially regarding proper infection control policies. Historically, LTCFs experienced a high rate of infection control deficiencies in CMS surveys. In response to these challenges, the NJDOH strengthened the ICAR unit under the NJDOH's Communicable Disease Service by obtaining more funding. Composed of subject matter experts, the ICAR Unit provides specialized assessments and consultations on infection prevention and control to healthcare facilities, with a focus on improving patient and personnel safety and quality

of care. During COVID-19, the NJDOH's ICAR teams performed 96 assessments and 718 prevention outreaches in LTCFs.[57]

Establishing the Office of Long-Term Care Resiliency to Provide Direct Support to LTCFs

One of the most important decisions the NJDOH made in response to the Manatt report was establishing the Office of Long-Term Care Resiliency (OLTCR) in October 2020. The OLTCR is positioned under the Department's Integrated Health Services branch (the branch that coordinates and integrates New Jersey's delivery of primary healthcare, including chronic disease prevention, treatment, and management). This was done to keep OLTCR strategically separate from the Survey and regulatory side of NJDOH. The OLTCR provides LTCFs with industry experts capable of providing valuable educational resources and support to the long-term care industry.

OLTCR's primary role is to act as a liaison to the long-term care industry, particularly during infectious disease outbreaks. It offers a range of resources, shares best practices, and delivers training and education. Its mission encompasses providing support and resources to LTCFs, including disseminating information on outbreaks, vaccination rates, visitation policies, and trends in provider compliance with guidelines for visitation and communal activities.

A key component of OLTCR is its Mission Critical Teams. These teams – composed of nurses who act as consultants rather than health surveyors or regulators – are dedicated to mentoring, coaching, reviewing plans, and examining schedules. They engage directly with LTCFs to perform comprehensive assessments, address deficiencies, and work closely with staff, including CNAs, to implement practical changes.

The OLTCR employs the Fast Tool, which utilizes 10 different data elements to evaluate LTCFs. A steering committee, comprising the NJLTC Ombudsman and representatives from the NJDHS, reviews these data elements. Facilities are ranked on a 10-point scale, with a minimum score of 7/10 required for the Mission Critical Team to intervene. Currently, participation in this program is voluntary, but proposed legislation may mandate involvement.

The Mission Critical Teams follow a structured and comprehensive approach when intervening in a LTCF. Initially, a licensed nursing home administrator leads the team to the LTCF and outlines the available resources and support, and subsequently assigns specific team members to various tasks. The Team's activities include reviewing meetings, policies, procedures, and the results of the last survey, including any citations. The Team conducts thorough tours of the facility, examines records, and participates in regular meetings and processes. This immersive approach allows the Team to accurately analyze the facility's operations, recommend improvements, and model best practices. Furthermore, the Team provides the facility with essential tools and guidance on implementing these recommended practices, ensuring a hands-on and effective support system.

[57] New Jersey Department of Health. (n.d.) Discussion Points. Retrieved from https://pub.njleg.state.nj.us/publications/budget/governors-budget/2023/DOH_response_2023.pdf

Through the OLTCR and the Mission-Critical Teams, the NJDOH has taken an important step in its "whole of health" strategy to strengthen and support LTCFs.

Establishing the LTC Emergency Operations Center

Another key NJDOH decision after the Manatt report was the establishment of the Long-Term Care Emergency Operations Center (LTCEOC). The LTCEOC was created by law as part of a broader effort to reform New Jersey's long-term care infrastructure and emergency response capabilities. This center represented a significant step in New Jersey's response to emergencies in LTCFs, especially in the wake of the COVID-19 pandemic.

The LTCEOC's features included:

- Centralized Coordination and Command: The LTCEOC functioned as the central point for managing New Jersey's response efforts in LTCFs during the pandemic. It ensured a unified and tightly managed response, providing consistent direction for coordinating resources and communications.
- Diverse Expert Staffing: The center was staffed by a team of experts, including representatives from LTC and nursing home facilities, professionals in infection control, specialists in disability and elder care, and the NJLTCO. This diverse team allowed for a comprehensive approach to handling various aspects of the pandemic response in LTCFs.
- Real-Time Information and Feedback Mechanisms: The LTCEOC obtained real-time information from LTCFs to stay informed of emerging situations. It also established feedback loops, including an advisory council, to effectively manage emerging issues and emergencies. This approach enabled the center to respond swiftly to changing circumstances and needs within LTCFs.
- Distribution of PPE and Fit Test Kits: One of the LTCEOC's significant achievements was the distribution of substantial quantities of PPE and N95 fit test kits. The center distributed approximately 75 million pieces of PPE and 500,000 N95 fit test kits, playing a crucial role in protecting healthcare workers and residents in LTCFs.
- Supporting NJOEM and LTC Resiliency Surge: The LTCEOC supported NJOEM and contributed to the LTC resiliency surge. This collaborative effort was instrumental in strengthening the overall emergency preparedness and response capacity of New Jersey's LTC sector.

The Center helped the NJDOH mitigate the impact of COVID-19 in LTCFs by creating a coordinated, efficient, and effective response center. The LTCEOC underscored the importance of a centralized command structure to help LTCFs in a public health emergency.

Implementing Data Collection Systems

The NJDOH's strategy for handling the pandemic in LTCFs relied heavily on data collection and technology to create responsive and effective strategies.

As recommended in the Manatt report, the NJDOH established an interoperability system linking 650 LTCFs with the Health Information Network (NJ HIN) to facilitate the exchange of health data. This system was crucial for reporting and tracking purposes and enhanced communication between the NJDOH and LTCFs.

The New Jersey Communicable Disease Services survey was employed to track various critical data points in LTCFs, including resident bed use, resident cases and deaths, staff cases and deaths, and outbreak surveillance.

The NJDOH worked to create LTC data dashboards as a result of the pandemic:

- Internal LTC Dashboard: The NJDOH developed an internal dashboard specifically for LTCFs, facilitating outreach to nursing homes and providing a centralized platform for monitoring critical data.
- External Public Dashboard: An external dashboard disseminated significant data, providing valuable information to LTCFs and the public. The NJDOH continues to assess the need for additional metrics to enhance this tool.

The implementation of these systems allowed the NJDOH to conduct daily monitoring of LTCFs, including tracking supplies and disease progression. Notably, 99.99% of LTCFs were connected, enabling bidirectional data sharing with acute care facilities and other healthcare entities. An ongoing challenge remains, however, because the current system does not store data.

Utilizing Third-Party Resources to Supplement State & Federal Guidance Offered to LTCFs

One of the Manatt report recommendations was for the NJDOH to improve the safety and quality infrastructure in LTCFs. In response, the NJDOH utilized Project ECHO (Extension for Community Healthcare Outcomes), an innovative healthcare initiative to provide best-practice care through sharing medical knowledge and expanding the capacity of healthcare systems. Originally developed at the University of New Mexico, Project ECHO employs a telementoring model that connects primary care clinicians with specialists in various fields through videoconferencing.[58] During these sessions, primary care providers receive expert mentorship, collaborate in case discussions, and participate in didactic presentations, enhancing their skills and knowledge.

The NJDOH used Project ECHO to help LTCFs respond to COVID-19, including:

- Training and capacity building: The NJDOH leveraged Project ECHO to enhance staff capabilities at LTCFs, given the LTCFs' challenges during the pandemic (e.g., managing infection control and dealing with staffing shortages). Project ECHO served as a platform for training and skill development.

[58] *Home*. Project ECHO. (2024, February 5). https://projectecho.unm.edu/

- **Remote support and consultation:** By connecting LTCF staff with specialists and experts, Project ECHO facilitated remote consultation and support. This was particularly valuable in addressing COVID-19 related challenges, where on-the-ground expertise was needed quickly.
- **Sharing best practices and protocols:** Project ECHO sessions disseminated best practices, up-to-date protocols, and guidelines specific to COVID-19 management in LTCFs.
- **Enhancing collaboration:** Project ECHO fostered a collaborative environment where LTCF staff could learn from experts and peers, share experiences, and discuss complex cases. This approach was critical in addressing the unique challenges posed by the pandemic.
- **Expanding reach:** Project ECHO's telementoring model enabled the NJDOH to reach numerous LTCFs simultaneously, ensuring that even facilities in remote or underserved areas had access to expert guidance and support.

Project ECHO helped the NJDOH meet its goal of providing LTCFs with support and training to obtain a coordinated and informed response to COVID-19.

Prioritizing LTCF Residents in the NJDOH's Strategic Vaccination Plans

The NJDOH implemented a strategic vaccine distribution plan that prioritized LTCFs in the earliest phases of the vaccine rollout. This decision reflected the high risk of virus transmission in LTCFs and corresponded with the wider goal of attaining substantial vaccination coverage among this vulnerable population. A key target set by the NJDOH was to achieve a 90% vaccination rate in residents and staff.This target reflected the NJDOH's goal to protect LTC residents and set a precedent in public health crisis management. Through its efforts, the NJDOH achieved 91.2% full vaccination in residents as of September 6, 2021.

The implementation of this plan involved coordination with federal programs, local health departments (LHDs), and LTCF management, ensuring the efficient delivery and administration of vaccines to LTCFs. The NJDOH collaborated closely with the Federal Pharmacy Partnership for Long-Term Care Program, administering more than 145,000 doses to residents and more than 127,000 to staff by April 28, 2021.

The NJDOH was able to track vaccination rates through tools like CDS surveys, ensuring high coverage in LTCFs. The NJDOH also used ad-hoc surveys to assess LTCFs' readiness for booster doses and ongoing vaccination progress.

A significant challenge encountered in this process was vaccine hesitancy among residents and staff. To tackle this, the NJDOH launched various strategies aimed at increasing vaccine acceptance. These included educational campaigns to dispel myths and provide accurate information, and initiatives for community and medical leaders to endorse the safety and efficacy of the vaccines.

For a more detailed discussion on vaccination information and distribution, please refer to **Section 5.10 Vaccinations**.

Easing Restrictions in LTCFs

In August 2020, the NJDOH released benchmarks for LTCFs that sought to allow visitors and resume normal operations. The benchmarks balanced protective measures against COVID-19 with residents' well-being. This was a challenge, and at times, the NJDOH was criticized for creating aggressive measures without considering residents' well-being and mental health.

The NJDOH tried to strike a balance between the necessity of easing restrictions in LTCFs and resuming everyday operations, and the critical need for comprehensive preparation of LTCFs against the possibility of a second wave or isolated COVID-19 outbreaks.

On January 6, 2021, the NJDOH issued updated guidance for the reopening of LTCFs. This guidance mirrored that of the CDC and CMS, and eased restrictions because of declining COVID-19 cases and rising vaccination rates. The NJDOH determined that easing restrictions required a phased approach, based on outbreak status and LTCF's ability to meet certain criteria.[59] Key elements of this guidance included:

- LTCFs were mandated to develop detailed outbreak plans, delineating strategies for management and communication during infectious disease outbreaks.
- The guidance emphasized comprehensive infection prevention and control measures within the facilities.
- Specific directives were issued for visitor screening, including adherence to mask-wearing, social distancing, and other safety practices.
- LTCFs were advised to maintain sufficient PPE stockpiles and adhere to the NJDOH's data reporting requirements.

These measures were designed to create a safe and effective transition towards normalcy in LTCFs, balancing the need to protect residents with the easing of restrictive measures.

Providing Guidance Regarding End of Life, Compassionate Care, and Essential Caregiver Visitation

The NJDOH also faced a critical decision regarding the sensitive area of end-of-life visitation policies. Once again, the Department tried to balance maintaining safety protocols and providing the necessary human connection and comfort to residents and their families during the most challenging times.

On January 6, 2021, the NJDOH issued Executive Directive 20-026 that provided a framework for essential caregiver visitation within LTCFs under specific circumstances. The Executive Directive outlined the key points for the resumption of services in LTCFs, emphasizing the importance of facilitating connections between residents and their loved ones while adhering to necessary health and safety protocols.

[59] New Jersey Department of Health. (2020, December 16). Executive Directive 20-026. Retrieved from https://www.nj.gov/health/legal/covid19/12-16-20_ExecutiveDirectiveNo20-006_AllocationPolicy.revised.pdf

In addition to the directive, NJDOH Commissioner Persichilli announced a plan to gradually lift the 150-day lockdown imposed on LTCFs. This plan allowed designated caregivers to enter residents' rooms, marking a significant move towards normalcy while ensuring the health and safety of both residents and visitors. The gradual lifting of lockdown measures represented a phased approach to reinstating essential caregiver initiatives, acknowledging the profound impact of isolation on the wellbeing of LTC residents and the critical role of family and caregivers in their lives.

The phased approach to caregiver visits included:

- Phase Zero – Initial Visitation Rules: Detail the rules for essential caregiver visits in the first phase (phase zero), including limitations on frequency and duration, and conditions such as the resident's COVID-19 status. Essential caregiver visits in phase zero will be limited to once per week for a maximum of two hours if the resident is COVID-19 negative, asymptomatic, or recovered from the disease.
- Subsequent Phases – Requirements for Expansion: In the next two phases of re-opening, operators must attest they have adequate staffing and personal protective equipment, and that there has not been an infection inside the facility for 28 days. When these conditions are met these caregiver visits may occur twice a week for a maximum of four hours.

A key component of this preparedness involved facilities providing attestations to the NJDOH, affirming that they have met specific health and safety requirements. These requirements included having updated outbreak plans in place, ensuring the availability of sufficient staff to manage and maintain care standards, and securing an adequate supply of PPE to protect both residents and visitors. This attestation process was designed to ensure that facilities were adequately prepared to handle visitations without compromising the safety and well-being of residents, staff, and visitors.

By requiring such attestations, the NJDOH sought to maintain a high level of vigilance and preparedness, minimizing the risk of COVID-19 outbreaks within LTCFs as they cautiously moved towards allowing more in-person interactions.

As New Jersey moves forward after the pandemic, there is pending legislation to help address the crucial aspects of end-of-life visitation and the roles of essential caregivers in LTCFs. The pending legislation S1825, known as the "Essential Caregiver" bill, mandates LTCFs to create person-centered care plans that not only prioritize the well-being of residents but also secure their right to maintain meaningful connections through specific forms of visitation.[60] By integrating these measures, the Essential Caregiver Bill aims to ensure that the dignity, autonomy, and emotional

[60] The current proposed legislation for 2024-2025 is S1825. The bill requires long-term care facilities to develop person-centered care plans for residents and establishes right to certain forms of visitation for long-term care residents.1/9/2024 - Introduced in the senate, Referred to the Senate Health, Human Services & Senior Citizen Committee. S.B. A5012 S1825, 221 Sess. (N.J. 2024). Retrieved from https://pub.njleg.state.nj.us/Bills/2024/S2000/1825_I1.PDF

health of LTC residents are upheld, marking a progressive shift towards more compassionate and personalized care standards.

6.3.4 NJDOH Managed Congregate Care Facilities

The NJDOH's Integrated Health Services Branch oversees a system of four inpatient psychiatric hospitals. The NJDOH's responsibility to provide care to patients in these facilities faced unique challenges during the pandemic, however, the NJDOH maintained relatively low COVID-19 case numbers across its four hospitals, which collectively served approximately 1,200 patients at the peak of the pandemic. The NJDOH reported only nine staff and 16 patient fatalities due to COVID-19 in its psychiatric hospitals through the end of 2023.

In terms of infection control capabilities, a key advantage of the NJDOH's psychiatric hospitals, compared to most other LTCFs, is their medical infrastructure. Equipped with specialized infection control staff and medical doctors, these hospitals were far more prepared to implement and adhere to stringent health safety protocols than most nursing homes. Additionally, the NJDOH's psychiatric hospitals benefited from strong leadership with substantial clinical and healthcare experience throughout the organization.

While the residential populations in the NJDOH psychiatric hospitals differ from those in nursing homes and most other congregate settings in the State, the advantages noted above helped the NJDOH maintain low COVID-19 case and fatality numbers during the pandemic. The NJDOH psychiatric hospitals provide a real-world example of effective pandemic management within congregate settings. Through early and decisive interventions, effective implementation of safety protocols, and the guidance of experienced leadership, these facilities fared better in protecting the health of both patients and staff in comparison to most other LTCFs.

6.3.5 Looking Ahead

As set forth above, many LTCFs in New Jersey were unprepared for a global pandemic, and the NJDOH encountered significant challenges overseeing and supporting these facilities as they tried to combat a deadly virus. After the initial crisis began to stabilize, the NJDOH shifted to a more strategic approach to address the underlying issues within the long-term care industry that contributed to the high fatality and infection rates observed during the pandemic's Initial Surge. While the NJDOH has subsequently made strong improvements in supporting LTCFs, we recommend that more work be done.

By building on its progress, the NJDOH can become a model for how to oversee and regulate long-term care, and, more importantly, provide greater protection for New Jersey's most vulnerable populations in future health emergencies.

6.3.6 Recommendations

Recommendation 1: Expand and Enhance the Office of Long-Term Care Resiliency and Mission Critical Teams

The establishment of the NJDOH's OLTCR marked a pivotal step toward fortifying the infrastructure supporting long-term care. The OLTCR enhanced New Jersey's delivery of primary healthcare through improved efficiency, coordination, and integration, with a particular focus on chronic disease prevention, treatment, and management. This strategic positioning, distinctly separate from the dimensions of the NJDOH, fostered a more collaborative and supportive relationship with the long-term care industry.

As a resource available to LTCFs seeking to improve their services, OLTCR's Mission Critical Teams have tremendous potential for promoting quality care in New Jersey nursing homes. However, while the creation of the OLTCR marks a strong step toward improving New Jersey's nursing home industry, there are challenges that must be addressed to maximize the OLTCR's ability to effect change.

Initially, the NJDOH planned for five Mission Critical Teams in each of New Jersey's three regions, with each team staffed with four members. In total, 15 teams of four members each to cover more than 600 facilities is ambitious; however, to date many of these positions remain unfilled. Moreover, the workload for these teams was significantly underestimated, and team member recruitment has been hindered by non-competitive salaries, nursing shortages, lack of financial incentives, and cumbersome civil service rules that further handicap New Jersey's ability to recruit talent in a fast-paced and highly competitive job market like healthcare. As a result, the OLTCR's Mission Critical Teams have been understaffed and underutilized since their inception.

To bolster the effectiveness of OLTCR and Mission Critical Teams, the following steps should be considered.

Increase Funding and Staffing: Additional funding should be secured to expand the number of positions in the OLTCR and Mission-Critical Teams. Having had the benefit of the OLTCR and Mission Critical Teams being in operation, the NJDOH should determine which additional positions are required to provide the teams with adequate staffing to effectively respond to the needs of LTCFs throughout New Jersey.

Streamline the Recruitment Process: Civil service rules should be revised to streamline the hiring process for OLTCR and Mission Critical Teams so that vacancies can be filled, and so that New Jersey can effectively compete for talent in high demand. This includes reevaluating job classifications where necessary and expediting the approval process for new positions.

Create Competitive Compensation and Incentives: The healthcare job market is competitive, and the competition for skilled professionals with healthcare experience has only increased following COVID-19. Moreover, America's aging population will likely spur additional growth in the nursing home sector which will, in turn, demand more resources from the OLTCR. For the OLTCR to

effectively accomplish its mission in the future, the State will need to review and adjust the OLTCR salary structure and offer incentives to attract and retain skilled professionals, especially in nursing roles.

Regionalize Mission Critical Teams: A primary benefit of Mission Critical Teams is their ability to serve as a trusted and reliable resource for nursing homes. Promoting a productive relationship between Mission Critical Teams and nursing homes is encouraging facilities to take advantage of Mission Critical Teams early and often. The NJDOH should consider regionalizing these teams to improve their efficiency and ability to support more facilities within specific areas of New Jersey, while ensuring teams share knowledge with each other. These regionalized Mission-Critical Teams should be coordinated with and integrated into the State's broader Pandemic Response Plan and should regularly engage in training exercises and other collaboration with relevant state and local entities.

Diversify Team Composition: To increase its reach and positive impact on the quality of care in nursing homes, the NJDOH should consider expanding skill sets within teams by including social workers, clinical nutritionists, occupational life safety staff, and other relevant professionals to address a wider range of needs within LTCFs. Among other benefits, diversifying Mission Critical Team capabilities will likely enhance their ability to address patient and family grievances and manage discharge planning, two areas that are typically overseen by social workers.

By implementing these recommendations, the NJDOH can significantly improve the operational efficiency and impact of the OLTCR and Mission Critical Teams, ensuring better preparedness and response in managing LTCFs.

Recommendation 2: Enhance Communication and Provide Clearer Guidance

A key lesson learned from the pandemic is the critical impact of effective communication between health departments during crisis situations. There were significant communication breakdowns between the NJDOH and the long-term care industry, which resulted in considerable confusion and frustration.[61] The widespread nature of this problem underscores the need for a comprehensive review and overhaul in communication strategies and management guidelines across all healthcare facilities, especially during times of crisis when guidance may rapidly evolve and responsiveness is vital to saving lives.

To prepare for future emergencies, it is essential that the NJDOH establish a more robust communication strategy, particularly in the context of rapidly changing health crises. This strategy should focus on the following core activities:

Clear and Timely Updates: In times of emergency, it is imperative that the NJDOH ensure that all updates and changes to crisis management guidelines are communicated clearly and promptly to

[61] State of New Jersey Commission of Investigation. (2023, October). *An Investigation into the State of New Jersey's COVID-19 Response at the Veterans Memorial Homes* p. 5-6. Retrieved from https://www.nj.gov/sci/pdf/Pandemic%20Report.pdf

all relevant parties, including LTCFs and other health facilities. During this investigation, a common complaint from individuals within the LTCF industry was that it was difficult to keep track of rapidly changing guidance from the State, and that updated directives did not plainly indicate new or modified information. In the future, when the NJDOH issues guidance or directives, any updated, revised, or modified information should be clearly identifiable. For example, revised information should appear in red ink or highlighting, and, where appropriate, superseded guidance should be indicated as such with strikethrough or other means.

Additionally, stronger efforts must be made to ensure that state directives and guidance promptly follow related guidance from CMS and other federal authorities. The NJDOH must be prepared to serve as providers' primary resource for up-to-date health guidance during times of emergency.

Dedicated Communication Channels: The NJDOH invested significant resources during the pandemic to ensure adequate communication with hospitals, LTCFs, and other interested parties. The NJDOH should make an effort to ensure that the capabilities it has developed are not lost. To that end, the NJDOH should study its communication efforts during the pandemic to establish dedicated communication channels that facilitate swift and direct information exchange between the NJDOH, NJDMAVA, private LTCFs, and other key stakeholders. The NJDOH should be prepared to issue regular briefings or updates during times of emergency to keep all parties informed about evolving situations and management strategies. Provider and LTCF conference calls and emergency email bulletins are useful and reliable tools during times of uncertainty.

Infection control guidance, including LTCF guidance related to visitation, quarantine protocols, and communal activities, should be streamlined for conformity with prevailing federal guidance and issued in a user-friendly format that can be understood by clinical care workers, as well as non-clinical staff, residents, families, and other interested parties.

In addition to ensuring that top-down communication channels are readily available in times of emergency to provide constructive guidance to providers and LTCFs, the NJDOH should ensure that effective feedback mechanisms are in place to quickly identify and address any communication issues that may arise during times of crisis. The NJDOH should provide guidance to LTCFs regarding the content and recommended format of the communications to ensure consistency. On the other hand, both private and state-run LTCFs must be encouraged to ensure that there exists an effective means communicating important information between facilities, residents, families, and stakeholders. Such communication should be promoted in multiple formats (verbal and written), multiple means (in-facility postings, online, text message, email, postal mail, telephone), and in clear language.

Finally, the NJDOH should make greater use of existing healthcare coordination networks that could facilitate dissemination of important information during times of crisis, such as industry associations and unions. By addressing these communication challenges, the NJDOH can significantly improve coordination and response effectiveness in future health emergencies.

Recommendation 3: Study and Expand the Regional Coordination Model for LTCFs

The COVID-19 pandemic underscored a valuable lesson regarding New Jersey's utilization of the regional medical coordination center (MCC) model to manage the crisis within hospitals. New Jersey has used the MCC model for disaster response, similar to FEMA's MOCCs, which proved effective for coordinating capacity and communication across hospitals during the pandemic.

Historically, there has been insufficient integration of nursing homes within the broader healthcare system. This disconnection manifests in several critical ways, including ineffective transitions between facilities and hospitals when patients are admitted or discharged and lack of interoperability between electronic health records systems.

The Manatt report[62] suggested the expansion of New Jersey's regional coordination model (MCC) to LTCFs, since that system proved effective for coordinating capacity and communication across hospitals during the pandemic.

In response, the NJDOH explored creating a similar MCC model for LTCFs. The NJDOH facilitated collaboration between LTCFs and acute care hospitals, which included educational support and clinical coaching to LTCFs. This initiative saw the NJDOH allocate approximately $3.6M to eight acute care hospitals, which in turn benefited 118 LTCFs by facilitating partnerships with hospitals for consultation on infectious disease and infection control. The NJDOH ultimately discontinued the initiative.

To further improve the integration of LTCFs within the broader healthcare system, the following steps should be considered.

Expand Regional MCC Model to LTCFs: New Jersey should study the benefits and feasibility of adapting the regional MCC model for LTCFs. This will entail identifying and securing additional funding sources, potentially in collaboration with FEMA and other relevant organizations, to support the expansion of this model and the development of efficient mechanisms for communication and resource sharing between LTCFs and acute care hospitals within the regional MCC framework. The provision of educational support and clinical coaching from hospitals to LTCFs should be promoted, particularly in areas such as infection control and emergency preparedness.

Conduct Continual Assessments and Adaptations: The effectiveness of the regional coordination model should be assessed continually so that necessary modifications can be made based on evolving healthcare needs and emergency situations.

[62] As noted elsewhere in this Report, New Jersey previously retained Manatt to conduct a review of the impact of COVID-19 on nursing homes in the State and make recommendations to the State. In June of 2020, Manatt released its report, which outlined a number of actionable recommendations designed to reduce the impact of future COVID-19 outbreaks and strengthen the State's long-term care system.

By studying and potentially expanding the regional coordination model for LTCFs, the NJDOH can foster a more integrated and responsive healthcare system, ultimately benefiting residents in LTCFs.

Recommendation 4: Formalize and Test Plan for Emergency Expansion of LTC Bed Capacity

The pandemic underscored a crucial lesson for the NJDOH: the importance of managing the delicate balance between hospital overcrowding and LTCFs' capacity limitations. Within a day of the NJDOH's March 31, 2020 readmissions directive, 99 LTCFs communicated to the NJDOH their inability to accommodate more patients. Reacting quickly, the NJDOH expanded LTCF bed space by securing agreements with three facilities to house individuals discharged from hospitals. However, implementing this strategy took time – a valuable commodity in the first days of the pandemic.

The NJDOH's response highlighted the need for advanced capacity planning. Additionally, the swift negotiation for additional bed space emphasized the importance of being flexible and adaptable in managing health crises. Further, the NJDOH could have explored alternative solutions, such as leveraging New Jersey's underutilized field hospitals, to enhance its crisis response strategy.

To further improve healthcare system resilience and patient care during a health crisis, the following steps should be considered.

Conduct Pre-Crisis Capacity Assessment: The NJDOH should conduct regular capacity assessments of LTCFs to ensure readiness for future health crises, including potential surges in patient numbers.

Form Strategic Partnerships: Establish formal partnerships with LTCFs and hospitals to streamline patient transfers and share resources efficiently during emergencies. See Recommendation 3: Study and Expand the Regional Coordination Model for LTCFs.

Utilize Alternative Facilities: In anticipation of future health crises, the NJDOH should maintain plans to rapidly mobilize field hospitals and designate specialized LTCFs capable of managing infected patients, ensuring these facilities are equipped and staffed to handle such situations.

Develop Policy Framework for Rapid Response: Develop a comprehensive policy framework that includes clear guidelines for rapid expansion of bed space, ensuring that both public health and patient care standards are upheld during crises.

Implement Training and Preparedness Programs: Implement training programs for LTCFs on infection control and emergency preparedness, including mock drills simulating scenarios based on issues encountered during the pandemic.

Recommendation 5: Establish Dedicated Crisis Response Teams for Long-Term Care Facility Support within the NJDOH

During the pandemic, the lack of dedicated staff for specific emergency roles led to challenges in managing the NJDOH's response efforts. Key personnel, including leadership, were overburdened with multiple roles, affecting the efficiency and effectiveness of the response.

To enhance its crisis response capabilities, the NJDOH should consider organizational changes such as:

Forming Dedicated Teams: Consistent with recommendations regarding cross-training and crisis response elsewhere in this report, the NJDOH should consider designating structured teams that can be activated during times of crisis with specific roles and responsibilities. This would include teams dedicated to writing guidance, handling stakeholder communications, and managing other critical tasks. It is critical that such teams are assigned clear and distinct duties so that members are not overwhelmed with multiple roles. To that end, each team should have a specific focus area, such as logistics, communication, or medical response.

Best practices from established emergency response models like those used by FEMA may be particularly instructive. Processes for effective information sharing and coordinated action should be established and sufficient staffing and resources must be secured so teams are able to fulfill their roles.

Taking Steps to Combat Delayed Medical Care in Emergency Situations: During the pandemic, medical care in LTCFs was often significantly delayed. To combat this issue, the NJDOH should promote the use of Advanced Practice Nurses in LTCFs and the presence of on-site Registered Nurses (RNs), particularly during off-hours.

Conducting Regular Training and Exercises: Consistent with the other recommendations in this report, tabletop exercises should be used regularly to train and evaluate Crisis Response Teams. Doing so will help identify areas for improvement and ensure preparedness for real-life scenarios.

Engaging Stakeholders: A team should be dedicated to stakeholder communication to address complaints and concerns effectively, and keep all parties informed and engaged.

By creating structured response teams with clearly defined roles, the NJDOH can significantly improve its readiness and effectiveness in handling future crises, while reducing the burden on individuals who otherwise juggle multiple responsibilities.

Recommendation 6: Enhance Survey Capabilities and Address Recruitment Challenges

The NJDOH's oversight function is critical in identifying and addressing issues in LTCFs. The lessons learned from the pandemic highlight the necessity for the Department to continuously enhance its survey and complaint response processes. However, the NJDOH has struggled to recruit, fill, and retain surveyors, which underscores the challenges faced in maintaining a robust oversight mechanism.

Therefore, a critical need exists to increase the number of surveyors to ensure effective healthcare oversight. LTCFs that can reliably meet regulatory standards during non-emergency situations are better prepared during times of crisis, and CMS surveys are the primary tool for ensuring that standards of care are met within New Jersey LTCFs. While survey groups are often the only "boots on the ground" able to check whether facilities are adequately staffed and conducting appropriate infection control and other emergency training, comprehensively covering the many LTCFs across New Jersey remains a challenge.

Despite the critical necessity for more surveyors to adequately monitor and ensure the quality of care in LTCFs, the NJDOH has encountered significant recruitment challenges. These challenges – overly-rigid qualification requirements and non-competitive salaries – hinder the expansion of the NJDOH's survey capabilities. To strengthen the Department's healthcare oversight capacity, particularly in preparation for future emergencies, the following steps should be considered.

Introduce Competitive Salary Structures: Survey teams must include appropriately credentialed healthcare professionals that are in high demand in today's job market. To recruit and retain necessary talent, the NJDOH should review and adjust compensation and benefits for surveyor positions. Competitive compensation is crucial to attract and retain skilled professionals, especially in comparison to the private sector and other states.

Conduct Focused Recruitment Drives: The NJDOH should implement a targeted recruitment campaigns to raise awareness about surveyor roles and the critical impact they have on healthcare quality and safety. To maximize the efficacy of this messaging, these recruitment campaigns should highlight revisions to surveyor compensation, benefits, and qualification standards.

Invest in Training and Development Programs: Establish comprehensive training programs for new recruits, ensuring that they are well-prepared for their roles. This could also include ongoing professional development opportunities to enhance their skills and knowledge.

Diversify Survey Teams: While maintaining high standards and adhering to relevant federal requirements, the NJDOH should consider enhancing the reach of its survey teams by including additional, appropriately qualified professionals with diverse healthcare backgrounds.

Prioritize Residents' Rights in State Surveys: The NJDOH, through its surveyors and LTC Resiliency Office, should increase efforts to ensure that LTCF residents' rights are respected and that their voices are heard. To promote this effort, the NJDOH's surveyors should receive training on prioritizing residents' rights when surveying facilities. For example, surveyors should be encouraged to attend resident council meetings while conducting surveys and to coordinate with the NJLTCO as needed. To better ensure that LTCF residents have the ability to voice concerns in the event of a future infection outbreak that requires temporary cessation of group activities, surveyors should evaluate whether residents have adequate technology and means to conduct remote council meetings and contact the NJLTCO.

By taking these steps, the NJDOH can effectively increase and strengthen its workforce of surveyors, thereby enhancing its capability to conduct thorough and timely health facility inspections and oversight.

Recommendation 7: Grant the NJDOH Authority for Mission Critical Teams Access to LTCFs

The NJDOH's establishment of Mission Critical Teams represents a significant advancement in the approach to healthcare crisis management and support. The formation of these teams underscores the importance of specialized, rapid-response units that are equipped to provide immediate, on-the-ground support and expertise to facilities grappling with acute healthcare crises.

In addition to engaging directly with LTCFs regarding the value that Mission Critical Teams can bring to their facilities, the NJDOH should be given explicit authority to access facilities to increase the effectiveness of Mission Critical Teams and ensure a more comprehensive response to crises. Currently, coordination with Mission Critical Teams is voluntary, and LTCFs can deny access to these teams, even if there are early signals of challenges that could turn into serious problems during an emergency. To maximize the reach of Mission Critical Teams, the NJDOH must be given the authority to access LTCFs when needed to provide critical oversight and assistance.

To implement this change, the following steps should be considered.

Consider Legislative or Regulatory Action: New Jersey should consider proposed legislation or regulatory changes to grant the NJDOH clear authority to send Mission Critical Teams into facilities, especially during health emergencies.[63] This authority should be well-defined to ensure that it is exercised appropriately and effectively. The State should also evaluate ways to increase Mission Critical Team access to facilities reluctant to voluntarily providing such access, either by way of granting specific authority to access facilities regardless of consent, or by incentivizing access through penalties for facilities cited during surveys after having denied a request for access. Once these changes are implemented, they should be clearly communicated to all LTCFs.

Provide Enhanced Training on Safety, Legal, and Ethical Guidelines: The NJDOH should ensure that Mission Critical Teams are provided with comprehensive training on not only safety issues and infection control, but also the legal and ethical implications of the NJDOH's authority to access LTCFs to ensure respectful and effective interactions with facilities, staff, and residents. The NJDOH should consider training Mission Critical Teams to emphasize a collaborative approach with LTCFs while exercising their authority, paying particular attention to providing support and resources to enhance care quality and safety. The NJDOH should consider implementing mechanisms to monitor the implementation of this authority and gather feedback from LTCFs to continuously improve the process.

By granting the NJDOH explicit authority to dispatch Mission Critical Teams to LTCFs during crises, the NJDOH can ensure more timely and effective interventions. This authority will enable the Department to provide essential support to LTCFs, significantly benefiting both residents and staff in critical times.

[63] Proposed bill A1865 establishes "Mission Critical Long-Term Care Teams"; provides for identification of and intervention at long-term care facilities at risk of operational and financial distress.

Recommendation 8: Create Mission Critical Teams that Respond to Financial Resiliency

The NJDOH's observation that LTCFs broadly lacked the financial resiliency and flexibility necessary to effectively respond to a health crisis of the scale and duration of COVID-19 underscores a critical lesson in healthcare preparedness and sustainability. Further, the financial instability of LTCFs poses significant risks to their operational viability and the well-being of residents. Early intervention is critical to mitigate the negative impact of financial distress on LTCF residents.

To enhance the financial resiliency of LTCFs, the following measures are recommended.

Require Greater Financial Transparency from Nursing Homes: A significant portion of nursing home revenue comes from Medicaid reimbursement. There are bills pending in the New Jersey legislature that would require all nursing home owners to provide consolidated financial statements, not only for individual nursing homes but for all parent corporations, wholly-owned subsidiaries, and related parties.[64] New Jersey should strongly consider these bills as a means of collecting data on nursing homes and identifying financially distressed or otherwise potentially problematic facilities.

Conduct Comprehensive Financial Analyses: The NJDOH should continue its efforts to examine the nursing home industry in New Jersey and consider enhancing its ability to conduct thorough financial assessments of LTCFs. This could potentially entail providing existing teams within the NJDOH, such as one or more Mission Critical Teams, with additional resources and staff needed to examine balance sheets, operations, vendor contracts, and other pertinent information. To guide its use of resources for this endeavor, the NJDOH should engage consultants as needed to (i) assist with best practices regarding the analysis of financial markers and other data that reliably predict the success or failure in LTCFs; and (ii) perform a comparative analysis with other states to identify best practices in LTCF financial management and crisis intervention. Investment in technological infrastructure should be made so that financial information, such as expenditures, revenues, vendors, and payroll data, can be analyzed efficiently.

Develop Early Intervention Strategies: Strategies for early intervention in facilities showing signs of financial distress should be considered to prevent closures that adversely affect residents. To this end, New Jersey should consider passing 2024-2025 session bill S1952, A1862, which gives the NJDOH the authority to hire management services for a facility when significant, chronic quality issues are identified, at the facility's expense.

Deter Unsuitable Actors From New Jersey's LTC Industry: The problems associated with chronically poor-performing providers are well-documented. Other agencies, such as the NJOSC, have

[64] The proposed legislation states: "Related Party" may include, but shall not be limited to: home offices; management organizations; owners of real estate; entities that provide staffing, therapy, pharmaceutical, marketing, administrative management, consulting, and insurance services; providers of supplies and equipment; financial advisors and consultants; banking and financial entities; and all parent companies, holding companies, and sister organizations. See A.B. A1872, 221 Sess. (NJ. 2024). https://pub.njleg.gov/Bills/2024/A2000/1872_I1.HTM; S.B. 1948, 221 Sess. (N.J. 2024). https://pub.njleg.gov/Bills/2024/S2000/1948_I1.HTM

recently issued reports concerning the prevalence of low-rated and chronically underperforming facilities in New Jersey's LTC Industry. It is important to continue monitoring LTCFs in New Jersey to protect the public.

The NJDOH should take proactive steps to combat this issue, including establishing a pool of qualified receivers to manage LTCFs in distress to ensure continuity of care and operational stability for residents. The NJDOH should also revise and strengthen reporting requirements for LTCFs regarding their finances as a way of enhancing its ability to identify potential issues, including the risk of closure, in a timely manner. Taking these steps will enable the NJDOH to identify and address facilities in distress earlier and better protect residents.

Prepare Emergency Response Teams for Facility Closure: The NJDOH should make efforts to ensure that Mission Critical Teams are ready and able to respond to the imminent closure of a facility to mitigate impacts on residents and staff. Such efforts should be coordinated with law enforcement and the NJOSC as needed to combat fraud, waste, and abuse.

Condition Future Reimbursement Rate Increases: To incentivize increased quality of care in LTCFs, New Jersey should consider making future reimbursement rate increases conditional through a quality incentive program. Factors should include adequate staffing ratios and facility track records with NJDOH surveys, among others. To enhace the effectiveness of such measures, New Jersey will need to increase funding for the Mission Critical Teams, OLTCR, and NJLTCO, all of which play critical roles in promoting quality of care in New Jersey nursing homes.

By implementing these recommendations, New Jersey can improve the financial health and stability of its LTCFs, ultimately enhancing the quality of care and safety for residents and the ability to respond in a crisis.

Recommendation 9: Consider Ways to Promote Visitation and Support, Along with Infection Control in LTCFs, When Planning for Future Health Crises

A critical lesson learned from the pandemic was that the NJDOH's strict lockdown of LTCFs, while necessary from an infection-control viewpoint, severely affected the well-being of residents and their families, particularly during end-of-life situations.

At the onset of the pandemic, the NJDOH instituted stringent restrictions on visitation and third-party caregiver access in LTCFs. These measures, while crucial for infection control, did not come without significant challenges for both LTCF residents and staff.

For example, the exclusion of aides and hospice workers from LTCFs imposed an additional burden on existing staff. These employees, already grappling with the ramifications of illness and quarantine within their own families and among their ranks, had to shoulder an increased workload. This intensified the strain on facility resources and personnel.

For families of LTCF residents, particularly in end-of-life situations, the impact was profound. The NJDOH's strict policy on end-of-life visitation deeply affected both patients and their families.

Limiting the presence of loved ones during these poignant moments often exacerbated the emotional distress experienced during an already challenging time.

The NJDOH's policies were implemented with the intention of mitigating infection risks and likely saved lives. However, the consequent hardships to facility staff, residents, and family underscore the need to explore creative ways of promoting visitation and support during future health crises. This will no doubt involve careful consideration of the emotional well-being of residents and families, the practical challenges faced by LTCF staff, and the critical need for maintaining strict infection control measures to prevent infection and save lives.

COVID-19 presented unique challenges due to the unavailability of PPE, and public health crises are, by nature, usually unpredictable. However, the NJDOH should consider the following principles when crafting guidance for future health emergencies to mitigate the emotional and practical strain that is necessarily created by curtailing access to LTCFs.

Develop Guidance for End-of-Life Visits During Public Health Emergencies: In anticipation of future infectious disease outbreaks and other public health emergencies, the NJDOH should identify key factors that should be considered when crafting guidance on visitation restrictions during an emergency, such as PPE availability and mode of disease transmission. Identifying these considerations in advance could potentially aid the development of infection-control measures that would allow family members to be more present during a patient's end-of-life care. Restrictions on the number of visitors and the length of visitation hours for end-of-life visits must be considered carefully, and the NJDOH should plan to provide LTCFs with guidance on how end-of-life visitation can occur safely during public health crises through use of PPE or other measures, if possible.

Develop Essential Caregiver Policies: Implement an "Essential Caregiver" law or policy that could allow certain third-party caregivers to continue to provide critical support during health emergencies while adhering to the safety staff's infection-control and safety standards. This would help alleviate the workload on facility staff and ensure continuous care for residents.

Establish Structured Visitation Protocols: Establish structured visitation protocols that balance the need for safety with the mental and emotional well-being of residents. This could include scheduled visits, health screenings for visitors, and designated areas for visitation that minimize risk. The NJDOH should also provide guidance to staff from LHDs regarding federal and state guidance concerning freedom of movement for LTCF residents. As a part of this process, the NJDOH should work with the NJLTCO to facilitate educational interactions between providers, LHDs, and resident advocates so that residents' rights and interests are clearly understood. Lockdown and visitation restrictions should be tailored based on real-time risk assessments that consider factors such as local infection rates and vaccination status.

Grant Access to the NJLTC Ombudsman During Lockdowns: As a major advocacy group for LTCF residents, the NJLTCO should be permitted to access LTCFs during lockdown periods. Its presence can be essential in safeguarding residents' rights and addressing their concerns. The NJDOH should coordinate with the NJLTCO on infection control practices so that the same standards applicable to facility staff are adhered to and the risk of infection is minimized.

Ensure LTCF Residents Have Reliable Access to Phone and Internet: While state regulations require phone and internet access for LTCF residents, as well as space for private conversations, many facilities do not have reliable Wi-Fi access. Residents' ability to reliably communicate is critical to ensuring accountability and continuity of care during emergencies, and a priority should be to ensure that facilities are providing residents with reliable access.

Promote Access to Mental Health Care & Grief Support: A consistent theme communicated by stakeholders was that residents lacked mental health support and that facilities did not have the resources to adequately contend with mental health issues during the pandemic. At the same time, LTCF workers were placed under tremendous strain from chronic staffing challenges and pandemic-related stresses that all front-line workers faced.

To help residents and staff weather increased stress and anxiety in future emergencies, New Jersey should explore increased funding for community-based mental health providers that could support LTCF residents. In addition, New Jersey should identify ways to promote more robust training for LTCF staff regarding mental health issues for residents, co-workers, and self-care. LTCFs should also be required to ensure that specialized services, such as substance use disorder treatment and mental health services, are provided to residents during emergencies.

Pass the Essential Caregiver Bill, S1825: The State should strongly consider passing the Essential Caregiver Bill, which would permit every nursing home resident to designate at least two people who can visit them at all times, even during public health emergencies, as long as they adhere to the facility's infectious disease requirements. Many residents rely on family members and caregivers for critical day-to-day support, the absence of which is felt even more strongly during a crisis that impacts LTCF staff levels. Ensuring continued access to such support to the extent possible during a PHE is vital to the care of New Jersey's LTCF residents.

Reform Visitation Policies to Balance Infection Control with Isolation: Early action to stop the spread of COVID-19 was vital. However, saving lives through quarantine and isolation took a toll on the mental and emotional health of many residents. The NJDOH should collaborate with LTCFs and stakeholders to explore options to balance the mental health and dignity of LTCF residents with life-saving infection control measures in the event of a public health emergency. The following options (among others) should be considered:

1. Adjusting restrictions on end-of-life visits and developing guidance for facilities to allow such visits to the greatest extent possible without subjecting other residents to unacceptable risk.
2. Ensuring that the NJLTCO has continued access to LTCFs during public health emergencies through appropriate infection control protocols regarding PPE, social distancing, and so forth.
3. Allowing communal activities and dining during public health emergencies to the extent that doing so safely is possible with appropriate social distancing and masking.
4. Evaluate ways to permit outside volunteers (e.g., therapists, clergy) to safely access LTCFs to provide support to residents and staff.

By carefully considering alternatives to complete lockdowns, the NJDOH will help LTCFs better respond to future health crises. Investing in such planning now will help ensure safety during future emergencies, while catering to the well-being and needs of both residents and staff.

Recommendation 10: Curtail Admissions in Understaffed Long-Term Care Facilities

At the start of the pandemic, many LTCFs were already minimally staffed or below the resident-to-staff ratios required by regulation. Understaffing in LTCFs poses significant risks to resident care and safety. Traditional responses, such as imposing fines, may not effectively address the root problem and can lead to additional challenges.

The NJDOH should consider using its authority to curtail admissions in LTCFs when they are experiencing critical understaffing issues. Curtailment of admissions should be considered carefully and balanced with an individual facility's track record, factors beyond a facility's control (e.g., industry-wide shortages in particular positions), and necessities borne from regional issues such as hospital capacity, which must be considered in managing emergency situations. The possibility of curtailment will compel New Jersey LTCFs to prioritize compliance with regulatory staffing ratios, enhance the efficacy of fines and citations, and help promote lasting improvements in staffing levels.

Accordingly, the NJDOH should consider the following:

Monitor and Assess Staffing Ratios: The NJDOH should explore implementing measures to more frequently monitor staffing levels in LTCFs for compliance with staffing ratio requirements. In evaluating this information, both acuity staffing and minimum direct-care staffing ratios should be assessed. For cases in which facilities chronically fail to meet minimum staffing ratios or where good cause otherwise exists to do so, the NJDOH should consider exercising its authority to curtail admissions until adequate staffing levels are restored.

Effectively Use Admissions Curtailment as an Enforcement Mechanism: Curtailment of admissions should not be used as a punitive measure. Instead, curtailment should be employed as one of several enforcement mechanisms to encourage New Jersey facilities to improve their staff ratio compliance and seek assistance from the NJDOH's OLTCR early. As a general matter, enforcement mechanisms like the curtailment of admissions and imposition of fines should be implemented quickly upon discovery of serious deficiencies, and the basis for exercising such authority must be clearly communicated to affected facilities, along with guidance on steps to restore compliance. Similarly, the staffing status of facilities under curtailment should be monitored closely for eligibility to resume admissions.

Maintain Public Transparency: To promote compliance and accountability, public transparency should be maintained regarding facilities subject to admissions curtailment, along with information regarding the reason for such action. Public transparency and facility confidentiality, including competitive business details, should be balanced.

Incentivize Exceeding Minimum Standards: To incentivize compliance and quality of care, the State should consider increased reimbursement through the Quality Incentive Payment Plan for facilities

that consistently exceed minimum staffing ratios. New Jersey should similarly explore ways to incentivize the proliferation of facilities with inherent advantages in terms of staffing ratios, individualized care, and infection control.

Large institutional-style facilities with hundreds of beds are difficult to manage. Staff and resident cohorting, and other infection control challenges during pandemics, are well documented. Smaller, less institutional models with private rooms and dedicated caregivers should be encouraged through funding initiatives like the Quality Incentive Payment Plan, which allows higher Medicaid payments for facilities that meet certain criteria. Similarly, New Jersey should consider increasing rates for Assisted Living Residences that accept a high percentage of Medicaid residents.

Recommendation 11: Increase Testing and Evaluation of LTCF Infectious Disease Plans

The pandemic serves as a stark warning about LCTFs' inherent susceptibility to infectious disease outbreaks. Ensuring that LTCFs have robust infectious disease outbreak plans in place is critical.

The NJDOH should increase efforts to test and evaluate LTCFs' infectious disease plans through its existing survey framework. To do this, the Department should consider supplementing the assessment of infectious disease plans into the regular LTCF survey process conducted by the NJDOH. The NJDOH should prioritize its survey process so that is sufficiently robust to both ensure that LTCFs have infectious disease plans, and that their plans incorporate all necessary elements. In addition, LTCF staff should be regularly trained in implementing the plan's measures and demonstrate competency. This would ensure that every facility's plan is reviewed and tested for effectiveness.

The NJDOH should consider the following recommendations.

Develop Comprehensive Evaluation Criteria: A comprehensive set of criteria for evaluating infectious disease plans should be developed, including aspects such as preparedness for outbreaks, infection control measures, staff training, and contingency planning. The evaluation process should contemplate the provision of actionable feedback to LTCFs post-evaluation, highlighting strengths and areas for improvement. LTCFs should be required to address cited areas of their infectious disease plans promptly.

Promote Best Practices: To guide LTCFs in crafting robust infectious disease plans, the NJDOH should identify and disseminate a model infectious disease outbreak plan, as well as best practices in infectious disease management across the LTCF network to foster collective improvement. The NJDOH should consider introducing forums for knowledge sharing across LTCFs, as well as providing templates and standard components of infectious disease outbreak plans. With ongoing NJDOH monitoring and support, LTCFs can make sure to continuously update and improve their infectious disease plans in line with evolving best practices and guidelines.

By systematically testing and evaluating LTCF infectious disease plans, the NJDOH can significantly contribute to enhancing the preparedness and response capabilities of facilities, thereby safeguarding the health and safety of residents.

6.4 Department of Military and Veterans Affairs

6.4.1 Context: Introduction and Agency Overview

The number of lives lost in New Jersey's veterans homes during the pandemic is simply unacceptable. The State failed its veterans during the pandemic, and personal stories of tragedy from these facilities are heartbreaking. At least 80 residents died from COVID-19 at Menlo Park, 95 residents at Paramus, and 25 residents at Vineland.[65] This subchapter focuses on the COVID-19 outbreak in New Jersey's veterans homes, analyzing the NJDMAVA's failure to uphold its responsibility to residents and their families during the pandemic, reviewing the State's reform efforts to date, and making recommendations for further improvement.

The NJDMAVA is the primary liaison between the federal government and the State on military affairs.[66] The Department provides trained and ready forces for quick deployment in civil and miliary operations. The Adjutant General, serving as both the leader of the NJDMAVA and the agency's Commissioner, commands more than 8,400 Soldiers and Airmen in the New Jersey National Guard. She also leads the administration of programs and services for approximately 338,000 New Jersey veterans, their spouses, and Gold Star Families.

The Adjutant General also oversees and manages the State's three Veterans Memorial Homes: Paramus Veterans Home in Bergen County, Veterans Memorial Home at Menlo Park in Middlesex County, and Vineland Veterans Home in Cumberland County.[67] These three facilities are operated directly by the State, and the residents of these veterans homes rely on the State of New Jersey to provide them with a home, ensure their health and safety, and look after their basic needs.

At the onset of the pandemic, New Jersey's three veterans homes housed over 900 residents. To date, over 200 residents died from COVID-19. Several staff members also died. While the number of deaths in these facilities during the pandemic is astounding, the statistics do not convey the deep sense of pain and suffering we felt from people we spoke with who lost loved ones (this holds true not just for those who lost loved ones in the veterans homes, but for practically everyone that lost parents or loved ones in nursing homes during the pandemic). Almost without exception, families spoke of how they are haunted by thoughts of their loved ones dying alone, without their families, after weeks and months of isolation, neglect, and despair.

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[65] *Department of Military and Veterans Affairs*. COVID-19 Status. (n.d.). https://www.nj.gov/military/covid19.shtml

[66] Wikimedia Foundation. (2024, February 13). *New Jersey Department of Military and Veterans Affairs*. Wikipedia. https://en.wikipedia.org/wiki/New_Jersey_Department_of_Military_and_Veterans_Affairs

[67] Chapter 138 of session laws of 1988 transferred the responsibility for administering the State veterans nursing facilities from the Commissioner of the Department of Human Services to the Adjutant General of NJDMAVA.

Residents died in unprecedented numbers in the Menlo Park and Paramus veterans homes during the pandemic, with the final death toll attributable to the virus in these facilities still unclear.[68] During the pandemic, the Menlo Park Veterans Home sustained some of the highest death rates amongst all nursing homes in the country. However, the actual losses from COVID-19 are likely higher. As discussed later in this section, questionable practices by the facility's leadership led to significant underreporting of deaths from COVID-19. While about 100 residents normally pass away at each veterans home in a typical year, over 90 residents died in April 2020 alone at each of the two northern veterans homes. Staff at Paramus later reported a profound sense of helplessness and lack of leadership during this time, fearing they would "die with the residents".[69]

As discussed in this section, when the first COVID-19 case was confirmed in New Jersey in March 2020, the NJDMAVA and its veterans homes were unprepared for a major infectious disease outbreak. Menlo Park and Paramus – located close to the epicenter of the COVID-19 outbreak in New York City – suffered shockingly high death tolls in the first months of the pandemic. A review of these facilities' mismanagement of the crisis during the Initial Surge, covered extensively here and in other reports, reads as a profile in incompetence. At a time when strong leadership and coordination within and amongst State agencies was needed to save lives, these qualities were severely lacking in the Menlo Park and Paramus veterans homes, with distrust between management and staff resulting in dysfunction and the failure to protect and care for residents during the pandemic's most devastating period.

The high number of deaths in New Jersey's veterans homes during the pandemic was caused by a combination of factors: incompetence; inadequate training; poor management by individuals with minimal healthcare knowledge; insufficient infection control measures; communal-based physical infrastructure not conducive to isolation protocols; longstanding staff shortages; and negligence and dysfunction at multiple levels. The State made several efforts to alleviate the crises in Paramus and Menlo Park during the pandemic, including deploying the National Guard to those facilities and passing reform legislation, and continues to explore options to improve conditions in these facilities. These mitigation and reform efforts were and are important, however, they did not come soon enough for the people who died or lost loved ones, or for the residents who were living in the veterans homes during the pandemic.

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[68] The exact number of Covid-19 fatalities at the veterans' homes is unknown. As the U.S. Department of Justice noted in its report, "Due to limited testing and a failure to systemically track probable COVID-19 deaths, it is impossible to determine the exact number of Veterans Homes residents who died of COVID-19 during the pandemic's first wave in 2020. But it is clear that the number of deaths during COVID's early months was substantially higher than the numbers publicly disclosed, and substantially higher than at other facilities." United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 6). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

[69] Washburn, L. (2020, April 10). *Paramus veterans home in crisis mode: 37 people dead in 2 weeks, National Guard deployed*. North Jersey Media Group. https://www.northjersey.com/story/news/coronavirus/2020/04/08/nj-coronavirus-outbreak-paramus-veterans-home-kills-least-10/2971899001/

A direct appeal to the NJDOH Commissioner for help "to protect the lives and dignity" of veterans from the President of the Resident Council of Menlo Park Veterans Home during the middle of the pandemic underscores the need for comprehensive reform. In his S.O.S. letter, this veteran interviewed during our investigation wrote of the residents' complete lack of confidence in the facility's leadership and how residents had been "locked up" in their rooms for six months with no visitation or social contact, no access to basic grooming services, and deficient clinical staff to care for them. Our veterans deserve better.

As part of our investigation, we met with NJDMAVA officials and reviewed documents concerning the situation at the veterans homes during the pandemic. We also toured all three NJDMAVA veterans homes and spoke with staff and residents at each facility. Additionally, we met with multiple advocates, family members, and former residents of the veterans homes, many of whom shared with us terrible stories of loss.

During our investigation, the USDOJ and the New Jersey State Commission of Investigation (SCI) released reports regarding the Paramus and Menlo Park Veterans Homes' handling of the pandemic (the USDOJ and SCI did not review Vineland). The USDOJ found in its September 7, 2023 report, among other things, that the Menlo Park and Paramus Veterans Homes violated residents' Constitutional rights, systematically failed to provide adequate clinical care to their residents, and exposed residents to a substantial risk of harm. In its report, the USDOJ made a series of recommendations, and discussions between the State and the USDOJ regarding an agreement that would include the appointment of a monitor to provide additional oversight of the homes are ongoing. The SCI's October 3, 2023 report also identified many problems at Menlo Park and Paramus discussed here, and it too made recommendations for improved preparedness and oversight. Our independent investigation confirmed the findings of the USDOJ and SCI, and they are accepted here.

While the NJDMAVA has enacted considerable enhancements in the oversight and management of its veterans homes since the start of the pandemic, more must be done to integrate the NJDMAVA's veterans homes into the State's overall crisis response. Later in this subchapter, we propose a series of recommendations designed to further improve coordination, care quality, and prevent future tragedies.

Veterans Memorial Homes

The veterans homes are LTCFs that provide skilled nursing care to veterans and their families. The facilities are home to veterans honorably discharged from the United States military, their spouses, and spouses and parents of service members killed in action during wartime. The spectrum of care required for residents varies. Some residents have severe cognitive impairment that require substantial assistance with the regular activities of daily living. As with most nursing homes, the veterans homes are, first and foremost, residential living centers and are not acute care facilities.

As with other LTCFs, the NJDOH oversees and regulates the veterans homes. The U.S. Department of Veterans Affairs (VA) also inspects the veterans homes annually. The primary methods of VA

oversight are annual facility-based surveys, audits, and reconciliation of records conducted by the VA medical center.[70] The VA has no authority over the management or control of any state veterans homes, although it can require veterans homes to produce documentation related to policies, practices, and claimed reimbursements.[71]

The NJDMAVA's Director of Veterans Healthcare Services is responsible for overseeing New Jersey's three veterans homes.[72] Traditionally, the Director comes from a military background but in the past most people lacked significant experience in clinical and long-term care.

Each veterans home has a Chief Executive Officer who oversees the administrative, medical and support staff of the facility. Before the pandemic, the Paramus and Menlo Park CEOs did not possess expertise in clinical and long-term care. Clinical managers, such as the director of nursing, report to the assistant CEO for clinical services. For non-clinical services, the department heads, such as the supervisors of social services, recreation, nutrition, and physical therapy, report to another assistant CEO.[73]

Characteristics of Veterans Memorial Homes

Menlo Park Veterans Memorial Home

Menlo Park, a two-story facility established in 1999, is situated on 109 acres in Middlesex County and has 312 beds. The design of the facility is centered around a "Town Square" featuring common areas and recreational facilities, with resident living areas and services surrounding this core. To cater to residents with dementia, Menlo Park features two special needs units.[74] At the time of the pandemic, accommodations at the facility primarily consisted of double occupancy rooms, where two rooms share a half bathroom. Shower and bathing areas are communal and located separately from bedrooms. As discussed later in this section, such shared spaces would present significant challenges during the pandemic in terms of cohorting and the implementation of infection control measures.

[70] The VA survey process for state veterans homes is similar to the survey process utilized by the Centers for Medicare & Medicaid Services (CMS) for long-term care facilities.
[71] Congressional Research Service. (2020, October 01). In Focus – State Veterans Homes. Retrieved from https://crsreports.congress.gov/product/pdf/IF/IF11656/1
[72] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus. Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf
[73] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 3). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf
[74] *DMAVA*. Menlo Park. (n.d.). https://www.nj.gov/military/veterans/memorial-homes/menlo-park/

As of March 2020, Menlo Park was operating near its full capacity.[75] By February 2024, the number of residents at Menlo Park had decreased to 152.[76] To date, 80 residents died from COVID-19 according to the NJDMAVA's official records.[77]

New Jersey Veterans Home at Paramus

Located in northeastern Bergen County, the Paramus Veterans Home occupies a 23-acre site. Opened on August 4, 1986, it is the oldest of the three veterans homes. The facility is designed to accommodate 336 residents and consists of two residential buildings. These buildings are connected by a hallway lined with residential rooms on both sides. Each wing of the residential building houses approximately 30 double occupancy rooms, with two rooms adjoining a shared half bathroom. Additionally, there is a communal shower room for each residence wing, located separately. Like Menlo Park, the prevalence of communal living arrangements in the Paramus Veterans Home, along with the single hallway connecting the facility's two residential buildings, significantly impeded the implementation of infection control measures during the pandemic.

In March 2020, Paramus was almost at full capacity.[78] As of February 2024, there were 202 residents at Paramus.[79] To date, 95 residents died from COVID-19 at Paramus according to the NJDMAVA's official records.[80]

Vineland Memorial Veterans Home

Established in 1899, the Vineland Veterans Home is New Jersey's oldest continuously operating veterans home. Today, Vineland is a state-of-the-art facility, having replaced its original building in 2005 on the same site. This modern design sets it apart from the older, hospital-like structures of the Menlo Park and Paramus veterans homes. Unlike Menlo Park and Paramus, Vineland was not the subject of investigations by the USDOJ and SCI.

The facility at Vineland can house up to 300 residents. It offers 28 apartment-style rooms and 60 large, semi-private units, along with a specialized 32-bed unit for dementia patients. Unique amenities include a movie theater, a bowling alley, and a bank. Enhanced by significant donations and private partnerships, the facility also boasts an outdoor patio and semi-enclosed area in the courtyard.

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[75] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 3). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

[76] NJDMAVA data.

[77] Department of Military and Veterans Affairs. COVID-19 Status. (n.d.). https://www.nj.gov/military/covid19.shtml

[78] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 3). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

[79] NJDMAVA data.

[80] Department of Military and Veterans Affairs. COVID-19 Status. (n.d.). https://www.nj.gov/military/covid19.shtml

The Vineland Veterans Home also features an enclosed auditorium outfitted with a separate HVAC system that was put to use during the pandemic as a makeshift infirmary. Vineland's physical infrastructure proved to be an advantage in terms of cohorting and quarantining residents during the pandemic and distinguished the facility from Menlo Park and Paramus. In March 2020, Vineland had 291 residents.[81] As of February 2024, the number of residents in the facility was 216.[82] To date, 25 residents died at Vineland from COVID-19 according to the NJDMAVA's official records.[83]

6.4.2 COVID-19 Statistics and the New Jersey Veterans Homes

In this section, we first analyze infections and deaths in the veterans homes across varying periods of COVID-19. We then compare infections and deaths in New Jersey's veterans homes with veterans homes in other states during equivalent pandemic periods. This nationwide comparison highlights the poor performance of New Jersey's veterans homes.

As we review the statistics, it is important to remember that there is a strong likelihood that COVID-19 fatalities in New Jersey's veterans homes during the pandemic are underreported.[84] While the NJDOH established criteria for classifying probable COVID-19 deaths, there were internal discussions within the NJDMAVA during the pandemic regarding whether to attribute deaths to COVID-19 in official reports.[85] In one highly publicized instance of potential underreporting that perhaps best exemplifies this issue, a Paramus official reported a resident's death to his supervisor by stating that the resident died "with COVID-19 not because of COVID-19."[86]

COVID-19 Infection and Fatalities in New Jersey Veterans Homes

41% of COVID-19 cases and 71% of COVID-19 related deaths in New Jersey's veterans home occurred during the Initial Surge of the virus (March 2020 through June 2020). As the following exhibits show, veterans homes in New Jersey also saw higher COVID-19 cases than most other states which also translated to a higher fatality rate. During the Initial Surge, New Jersey veterans

[81] NJDMAVA data.
[82] NJDMAVA data.
[83] Department of Military and Veterans Affairs. COVID-19 Status. (n.d.). https://www.nj.gov/military/covid19.shtml
[84] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (pp. 6-7). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf
[85] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 6). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf
[86] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 5). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

homes had a fatality rate over two times higher than other peer states and four times higher than the U.S., ranking 36th out of 38 nationwide in both case and fatality rates.

During the second surge of the pandemic, New Jersey's veterans homes ranked at the median level compared to their peers, ranking 13th out of 38 nationwide in case and fatality rates. New Jersey's veterans homes continued to struggle, however, with COVID-19 cases climbing again during the Delta and Omicron Waves in June 2021 through March of 2022. New Jersey's ranking dropped again during this period to 17th out of 38 in cases and 31st out of 38 in fatalities.

Exhibit 5: COVID-19 cases in veterans nursing homes for New Jersey, peer states, and U.S.

Cumulative COVID-19 cases per 1k of veterans nursing home population

Numbers are not absolute; scaling to 1,000 of population

	Total veteran nursing home cases per 1k residents[1]			
	Cumulative March '20 – March '22	**Initial surge[2]** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
New Jersey	545 17th/38 (US) 6th/11 (Peers)	226 36th/38 (US) 9th/11 (Peers)	113 13th/38 (US) 5th/11 (Peers)	207 17th/38 (US) 6th/11 (Peers)
Initial Outbreak States[3]	626	144	259	223
U.S. Total[4]	660	87	330	243

Note: Weekly trends not visualized due to low numbers of cases and fatalities. 1. Total number of residents calculated as an average of occupancy over entire period; 2. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include cases as early as 1/1/20; 3. Includes the 11 initial outbreak states with certified veteran nursing homes that report data; 4. Includes all 38 states with certified veteran nursing homes that report data.
Source: CMS COVID-19 Nursing Home Data

Exhibit 6: COVID-19 fatalities in veterans nursing homes for New Jersey, peers, and U.S.

Cumulative COVID-19 fatalities per 1k of veteran nursing home population

Numbers are not absolute; scaling to 1,000 of population

	Total veteran nursing home fatalities per 1k residents[1]			
	Cumulative March '20 – March '22	**Initial surge[2]** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
New Jersey	207 32nd/38 (US) 8th/11 (Peers)	146 36th/38 (US) 9th/11 (Peers)	32 13th/38 (US) 6th/11 (Peers)	29 31st/38 (US) 10th/11(Peers)
Initial Outbreak States[3]	157	61	79	17
U.S. Total[4]	132	33	82	18

Note: Weekly trends not visualized due to low numbers of cases and fatalities. 1. Total number of residents calculated as an average of occupancy over entire period; 2. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include fatalities as early as 1/1/20; 3. Includes the 11 initial outbreak states with certified veteran nursing homes that report data; 4. Includes all 38 states with certified veteran nursing homes that report data.
Source: CMS COVID-19 Nursing Home Data

Within New Jersey, the northern veterans homes in Paramus and Menlo Park had early and severe outbreaks, with some of the highest case and death rates of all LTCFs in the State. In contrast, Vineland, located in the southern part of the State, was not hit until later in the pandemic. This was in line with the overall disease progression in the state. The fatality rate at Paramus during the pandemic's Initial Surge in March 2020 through June 2020 was an astonishing 35 times higher than Vineland's, while Menlo Park's fatality rate was nearly five times higher than Vineland's during this period.

The grim discrepancy between the infection and fatality rates at the two northern veterans homes and the Vineland veterans home during the Initial Surge of the pandemic likely stems from several factors: the location of Menlo Park and Paramus near the pandemic's epicenter in the New York metropolitan area; the physical layout and infrastructure of the Menlo Park and Paramus veterans homes; and the lack of healthcare experience by the administrators at the two northern facilities compared to Vineland, where the CEO had significant prior healthcare and LTC experience.

During the Second Surge in June 2020 through May of 2021, the Menlo Park and Paramus veterans homes suffered less COVID-19 cases and deaths. Menlo Park and Paramus struggled again during the Delta and Omicron surges, however, reflecting the vulnerability of the veterans homes throughout the pandemic.

The following exhibit shows a comparison of fatalities across each veteran nursing home facility in New Jersey.

Exhibit 7: COVID-19 fatalities in New Jersey's veterans nursing homes for each pandemic period by facility

Cumulative COVID-19 fatalities per 1k veterans nursing home population by facility

Numbers are not absolute; scaling to 1,000 of population. Absolute numbers can be found in Appendix

	Total veteran nursing home fatalities per 1k residents[1]			
	Cumulative March '20 – March '22	**Initial surge[2]** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
Paramus	430	414	0	16
Menlo Park	190	54	65	71
Vineland	51	12	32	8

DOJ Report

- The **Paramus and Menlo Park** facilities have been **investigated by the DOJ** for deficient care throughout the pandemic
- The report states that the facilities were **unprepared to keep their residents safe** and problems have continued to the present, with issues regarding staff training and **infection control protocol**

1. Total number of residents calculated as an average of occupancy over entire period; 2. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include fatalities as early as 1/1/20.
Source: CMS COVID-19 Nursing Home Data; Associated Press

As in many LTCFs, combatting the highly infectious COVID-19 disease in New Jersey's veterans homes remains an ongoing battle. A discussion of the challenges faced by the NJDMAVA and the steps taken to address those challenges to date follows.

6.4.3 NJDMAVA's Response to COVID-19 in the Veterans Homes

During the onset of the pandemic, the NJDMAVA was unprepared for managing the crisis, especially in the Paramus and Menlo Park veterans homes. The NJDMAVA failed to provide adequate oversight and support, exacerbating the crisis as these homes struggled with the rapid spread of the virus.

The NJDMAVA's crisis management during the pandemic was inadequate, including its failure to coordinate response among the three veterans homes. The results were catastrophic, with a dire shortage of PPE, ineffective infection control practices, and a critical staffing shortage fueling deadly outbreaks, particularly in the early months of the pandemic. In one highly publicized article, the Wall Street Journal wrote of how beleaguered staff resorted to building "makeshift fortifications" in a futile attempt to contain the virus during this period, hanging a piece of plastic

across a hall as residents and staff fell ill throughout the facility.[87] Management at the facilities botched infection control guidance, discouraging the use of masks and causing their staff to lose confidence in leadership.

Menlo Park and Paramus were especially unprepared and would be overwhelmed during the pandemic's initial surge. We heard stories of decorated World War II and Korean War veterans receiving minimal and inadequate care, dying alone from a virus that was allowed to spread unchecked. The struggling facilities left residents' families in the dark, many of whom lost loved ones during the lack of communication and transparency.

The following subsections highlight problems in the NJDMAVA and the veterans homes that led to these failures, and detail the NJDMAVA's response to COVID-19 at several levels: as an organization; at Menlo Park; at Paramus; and at Vineland.

Challenges Before the Pandemic

Even before the pandemic struck, the NJDMAVA and its veterans homes suffered from numerous problems, most of which stemmed from systemic lack of oversight, deficient expertise, and dysfunctional operational culture.

The NJDMAVA did not prioritize its oversight and management of the veterans homes. The veterans homes were largely treated as autonomous entities, with minimal oversight from the NJDMAVA's headquarters. This neglect created and fed a fundamental problem: tasks were delegated without the necessary support or proper supervision, making it next to impossible to pinpoint who was responsible for implementing policies and ensuring standards were met. As a result, these facilities were plagued with a lack of accountability.

At the time of the Initial Surge, the leadership within the NJDMAVA, particularly the Director of Healthcare Services who was responsible for overseeing the veterans homes, lacked expertise in healthcare and nursing home management. This critical deficiency would become painfully evident during the pandemic, when the organization's lack of healthcare expertise would compromise the quality of its decision-making and coordination at a time when clear guidance was most needed.

Another major obstacle was the NJDMAVA's operational culture, which encouraged an autonomous and isolated environment within each of the veterans homes. This culture was detrimental as it discouraged collaboration and information sharing among the three facilities. Sharing collective insights, knowledge, and best practices among the veterans homes could have been instrumental during the pandemic, but the pre-existing operational culture stifled any potential for such collaboration and improvement.

[87] Weaver, C., & Eckert, N. (2020, October 6). *How a New Jersey Nursing Home Suffered One of America's Deadliest Outbreaks*. The Wall Street Journal. https://www.wsj.com/graphics/covid-nursing-home-death-veterans-menlo-park/

Moreover, the NJDMAVA failed to invest in its technological infrastructure. The veterans homes relied mostly on paper medical charts and did not have widespread capabilities for telehealth or electronic communication throughout their facilities. The absence of modern electronic medical records systems in the veterans homes would prove to be a major obstacle for the short-staffed veterans homes struggling with a major public health crisis. The absence of such technology not only compromised quality of care, but also contributed to communication breakdowns and failures with families seeking information about the status of their loved ones. Similarly, WiFi was lacking or non-existent in the facilities, making direct communication next to impossible for residents quarantined in their rooms during the pandemic. Almost every individual we met with during our investigation would note the severe isolation suffered by residents during the pandemic, many of whom did not even have access to personal phones or electronic devices to stay in touch with their loved ones.

In addition to the NJDMAVA's organizational difficulties, the individual veterans homes had their own distinct challenges.

Menlo Park and Paramus were older facilities, with double occupancy rooms, shared half bathrooms, and residential hallways oriented around shared common areas. This physical layout and outdated infrastructure made it difficult to handle isolation or quarantine situations.[88] Indeed, even before the onset of the COVID-19 pandemic, Menlo Park and Paramus struggled to meet infection control standards. In 2019 and the early months of 2020, Menlo Park faced scrutiny for multiple instances where staff did not follow appropriate infection control protocols. Similarly, a CMS survey conducted in April 2020 indicated immediate jeopardy violations in Paramus's infection control practices.[89]

All three facilities struggled to compete for qualified staff with private facilities that could often offer higher compensation. Recent changes to the NJDMAVA's staffing structure for the veterans homes in the years prior to the pandemic likely did not help the situation. Before 2018, each facility had a full-time doctor and nurse practitioners on staff to provide clinical care. However, as a cost-saving measure, the NJDMAVA changed this staffing structure by replacing them with a consultant medical director, assisted by a nurse practitioner, and during the pandemic such clinical workers would be in short supply.[90]

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[88] State of New Jersey Commission of Investigation. (2023, October). An Investigation into the State of New Jersey's COVID-19 Response at the Veterans Memorial Homes (p. 2). Retrieved from https://www.nj.gov/sci/pdf/Pandemic%20Report.pdf

[89] Immediate jeopardy represents a situation in which entity noncompliance has placed the health and safety of recipients in its care at risk for serious injury, serious harm, serious impairment, or death. United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 3, 37). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

[90] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 35). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

All of these pre-pandemic problems would be magnified by the COVID-19 crisis, leading to disastrous consequences.

Organizational Response to COVID-19

By February 2020, the NJDMAVA was aware of the dangers posed by COVID-19. On February 6, 2020, CMS urged healthcare facilities to be proactive in preparing for the emerging threat posed by COVID-19. The guidance issued underscored the critical importance of infection control measures, stating:

"Because coronavirus infections can rapidly appear and spread, facilities must take steps to prepare, including reviewing their infection control policies and practices to prevent the spread of infection."[91]

The guidance emphasized the need for staff to comply with basic infection control practices, including hand hygiene.[92] Despite early warnings, the NJDMAVA did not conduct a thorough reassessment of its infection control policies and practices—a step that was critically necessary.

By late February 2020, the Director of Veterans Healthcare Services emailed the CEOs of the veterans homes to conduct an inventory check of crucial PPE, including gloves and face masks. So, by February of 2020 the NJDMAVA was on notice of a potential demand for PPE. This initial action suggests an awareness of the potential for widespread infection among the NJDMAVA's administration at the time, and that there was growing concern about the virus's potential impact.

Following the widely publicized outbreak of COVID-19 in a Washington state nursing home in early March, the deadly risk the virus posed to nursing homes should have been clear. By March 3, the NJDOH issued a COVID-19 public health advisory aimed specifically at LTCFs. Within days of the NJDOH health advisory, NJDMAVA began implementing specific infection control measures, but such efforts were woefully inadequate to prevent the spread of the virus in the facilities. New Jersey's first confirmed COVID-19 case was reported on March 4, and by March 5, veterans home staff were equipped with the CDC's COVID-19 risk assessment tools, and measures to educate and protect the community were visibly in place. Signs promoting cough etiquette and handwashing procedures were displayed in the facilities, and a screening process for visitors was put into effect. The Governor declared a state of emergency on March 9, and universities and other institutions throughout the state began to announce plans for stopping or restricting communal gatherings that could promote the spread of the virus.

The situation escalated quickly. On March 12, three days after a state of emergency had been declared and over a week after New Jersey's first case of COVID-19 had been confirmed and the State had restricted international and domestic travel for State employees, the NJDMAVA's Director

[91] Wright, D. (2020, February 6). Information for healthcare facilities concerning 2019 Novel Coronavirus Illness (2019-nCoV). CMS Center for Clinical Standards and Quality/Quality, Safety, and Oversight Group. [Letter to State Survey Agency Directors].
[92] Id.

of Veterans Healthcare Services ordered the veterans homes closed to visitors. He would soon provide daily updates on the virus, emphasizing adherence to the CMS guidelines for COVID-19 management. By March 17, temperature checks and screening questionnaires were required for anyone entering the homes.

As COVID-19 hit the country, there was an absence of clear directives on PPE usage in the NJDMAVA's veterans homes, leading to confusion and discussions among leadership regarding mask policies for staff. Amid the confusion surrounding mask-wearing guidelines in March 2020, the NJDMAVA adopted stringent policies on mask wearing. Even in late March 2020, when the potential benefits of masking were widely publicized and acknowledged, the NJDMAVA discouraged mask use and treated unauthorized mask-wearing among employees as a disciplinary matter. It was not until March 30, when the NJDOH mandated universal masking for all nursing home staff, that the NJDMAVA established a coherent policy.

By late March 2020, the severe threat of COVID-19 was evident, with cases confirmed in both Paramus and Menlo Park. Efforts to prevent the virus's spread included not accepting new residents and a policy against readmitting those who tested positive. Infection control and management strategies were needed during this time, but the NJDMAVA was unable to ensure such guidance was effectively implemented.

As the virus spread in Paramus and Menlo Park, the NJDMAVA failed to ensure that the CEOs of the homes maintained adequate communication with staff during the initial surge of the virus.[93] The NJDMAVA also provided minimal and unclear guidance to residents and their families after learning of the first COVID-19 cases in its veterans homes. In Paramus, the NJDMAVA's veterans home Facebook page merely mentioned a confirmed case and said that a residential unit was closed without providing additional information, and providing no further communication to family members in the subsequent days. In Menlo Park, as late as April 6, 2020, the NJDMAVA had not publicly confirmed the positive cases in that facility or provided additional updates about the virus outbreak.[94]

Staff shortages in the veterans homes quickly became a major problem. By April 3, 2020, the NJDMAVA tried to increase staffing by sending the veterans homes a list of volunteer nurses who could assist in the veterans homes. On April 8, 2020, the NJDMAVA reported its staffing shortages to the Governor's Office, and the Governor subsequently authorized the deployment of the New Jersey National Guard to Menlo Park and Paramus to provide support to the ailing facilities.

On April 11, 2020, the U.S. Veterans Affairs sent nurses to Menlo Park and Paramus to provide desperately needed medical expertise and guidance, particularly in safely transferring and

[93] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 12). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf
[94] Id. at 15.

reintegrating recovered COVID-19 patients. The VA nurses also assisted with implementing universal testing, which began on April 22, 2020. The arrival of the New Jersey National Guard and VA nurses at Menlo Park and Paramus Veterans Homes marked a well overdue turning point in the homes' efforts to competently manage their ongoing staffing crises. However, throughout the pandemic the NJDMAVA would struggle to oversee and manage its veterans homes, and, as discussed below, infection control deficiencies would persist despite the agency's efforts.

By October 14, 2020, the NJDMAVA's Director of Veterans Health Services resigned. Two days later, Governor Murphy announced a change in leadership with the replacement of the NJDMAVA's Adjutant General. These steps marked the beginning of a broader effort to overhaul the management and operational practices in New Jersey's veterans homes.[95]

Menlo Park's Response to COVID-19

Discussions about the COVID-19 virus began in Menlo Park as early as February 2020. It was during a Resident Council meeting on February 25 when the CEO first addressed the looming threat, telling residents that the NJDMAVA had contacted the State but no immediate steps were being taken yet at the facility. She sought to provide reassurance to residents and staff by inexplicably claiming the virus strain in the U.S. differed from that in China.

Mismanagement of Menlo Park's COVID-19 response started early and persisted through the pandemic. In March 2020, Menlo Park's CEO discouraged mask wearing by outside personnel and staff who came into the facility. For example, she asked outside pharmacy personnel and ambulance workers entering the facility to stop sending employees wearing masks, stating: "[w]hen my staff see this they get worried and want to wear masks."[96] There were also at least two incidents where Menlo Park's CEO prohibited staff who wanted to wear masks in the facility.

In late March 2020, the facility experienced its first COVID-19 cases when two residents were hospitalized on consecutive days, March 28 and 29. By March 31, both were confirmed to have COVID-19. One resident would pass away in the hospital that same day, while other would be readmitted to Menlo Park only to die in early April. By this point, Menlo Park Veterans Home was suffering major staffing shortages as the virus spread through communities and staff lost confidence in the facility's leadership. The facility's inability to get a handle on the situation would soon become painfully evident.

As the virus began to spread uncontrolled throughout the facility, Menlo Park's administrator struggled to implement infection control policies. This included simple guidance such as consistent handwashing and basic hygiene practices, as well the implementation of clear cohorting and quarantine directives to slow the spread of the virus and protect uninfected residents. One

[95] Reform efforts related to NJDMAVA's veterans' homes are discussed in greater detail later in this section.
[96] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 14). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

example of this oversight occurred in early April 2020. The facility sought to segregate COVID-19 positive residents by relocating them to one side of its Stars & Stripes Unit, typically designated as a secure area for individuals with dementia, however, there was a delay in relocating all asymptomatic residents from that section. As a result, uninfected individuals were exposed to the virus, demonstrating the facility's ineptitude in implementing basic infection control procedures.[97]

In April 2020, Menlo Park's staffing shortages reached critical levels. Less than two weeks following the confirmation of its first COVID-19 cases, certain staff shifts had a ratio of one nurse to one hundred residents.[98] The calamitous staffing situation led to communication breakdowns, compounded by the facility's lack of modern electronic medical case management systems. The facility failed to properly inform families about the facility's first confirmed COVID-19 cases, and families struggled to obtain information about the status and condition of residents as the pandemic progressed.

The death toll at Menlo Park during the initial surge of the pandemic was unacceptable and tragic. By July 2020, the State reported 65 COVID-19 deaths at Menlo Park, however, these numbers excluded probable COVID-19 deaths, which likely bring the number of deaths to at least 101 residents.[99]

Even after the initial surge of the virus, Menlo Park continued to struggle to manage and contain the virus. On August 29, 2020, the Resident Council President, who we spoke with during our investigation, wrote a publicized letter to the NJDOH Commissioner and New Jersey legislators raising concerns over, among other things, poor management and leadership, insufficient testing, inadequate staffing, lack of communication, and the isolation of residents. By October 14, 2020, the CEO of Menlo Park would resign, along with the NJDMAVA's Director of Veterans Health Services.

Even with the change in leadership, Menlo Park would continue to encounter difficulty. In November 2021, during the onset of the Omicron wave, 123 residents and 295 employees contracted the virus, leading to 25 deaths. Less than one year later, in September 2022, Menlo Park would be placed in "Immediate Jeopardy" status by CMS after its clinical care was found to be unsafe.[100] In November 2022, federal funding and admissions were suspended. These repeated crises would lead to Governor Murphy replacing the CEO of Menlo Park and directing the NJDMAVA in November 2022 to hire a qualified external vendor to revamp operations. This intervention led to substantive changes in leadership and the implementation of enhanced training initiatives.

As a result of these measures, and support from the NJDOH's Mission Critical Team from November 2022 through October 2023, Menlo Park was lifted from Immediate Jeopardy status in February 2023, and admissions were permitted to resume.

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[97] Id. at 10.
[98] Id. at 12.
[99] Id. at 6.
[100] Id. at 37.

Paramus's Response to COVID-19

Located near the epicenter of COVID-19 during the initial surge of the pandemic, Paramus suffered an earlier and more intense outbreak compared to facilities in more rural settings like Vineland. High community transmission rates complicated efforts to control the virus's spread within Paramus, a challenge magnified by the facility's older physical infrastructure and layout which impeded effective infection control measures.

Leadership at Paramus did not have sufficient experience in crisis management and infection control. This deficiency was evident in the absence of a dedicated infection control nurse and nurse educator at the pandemic's onset, roles critical for managing health crises. Further, the absence of a Certified Infection Control (CIC) nurse – a position that is now filled – was a major setback at the start of the pandemic.

From the beginning, Paramus struggled to contain the virus and implement strong infection control procedures. On March 15, 2020, Paramus decided to close the entrance to its Building Two (one of the two buildings that comprised the facility) as part of an effort to create a single COVID-19 screening point. However, this decision inadvertently increased infection risks by requiring staff, some of whom worked with COVID-19 positive residents, to walk through active resident units.[101]

The first confirmed COVID-19 case in Paramus occurred on March 22, 2020, when a resident from the Valor Unit was sent to the hospital and subsequently tested positive for the virus on March 28.[102] This resident returned to the Valor Unit under hospice care on March 31, only to pass away on April 27. On March 31, 2020, six more residents tested positive for the virus, indicating that the disease had become rampant in the facility.[103]

Paramus encountered numerous problems as it tried to curb the spread of the virus. In an effort to isolate infected residents, it designated a specific wing of its Valor Unit exclusively for COVID-19 positive residents, starting around March 31, 2020.[104] However, it struggled to fully isolate the Valor Unit from the rest of the facility, including failing to promptly relocate COVID-19 negative and asymptomatic individuals out of the COVID-19 unit. Like the other NJDMAVA veterans homes, Paramus's depleted staff and lack of modern electronic medical records technology impeded communication and prompt and effective care.

A particularly disgraceful incident highlighted the consequences of these challenges. Two COVID-19 positive residents had their identification bracelets mistakenly switched after being moved to the Valor Unit, leading to the wrong family being notified of a resident's death. This mix-up was only discovered by the family through the funeral home. The other resident whose family had been

[101] Id. at 14.
[102] Id. at 5.
[103] Id.
[104] Id. at 9.

incorrectly informed of his death would pass away a short time later. Paramus subsequently halted all room changes.

The crisis intensified, and by April 8 the National Guard deployed 36 medics to Paramus to assist with nursing duties. This support was urgently needed, as 24 residents had died from the virus by April 13.

A CMS survey conducted on April 22, 2020 uncovered significant lapses in Paramus' infection control procedures.[105] Among other things, CMS cited a failure to adequately group residents by infection status as well as ineffective procedures for distinguishing presumptive positive COVID-19 cases from confirmed cases. These deficiencies made it impossible to enhance the protection of uninfected residents by assigning dedicated staff to COVID-19 positive residents, further impeding the facility's ability to effectively protect its residents and manage the pandemic.[106]

VA nurses deployed to the Paramus Veterans Home in April 2020 offered vital assistance, and directly witnessed several critical deficiencies. Like CMS, they noted the absence of a protocol for segregating COVID-19 positive residents from those that were uninfected, and identified significant communication breakdowns among and between nursing leadership and other department heads. They also observed lax infection control practices, particularly concerning the use of PPE, that contributed to the high rate of infections and fatalities at the facility during the pandemic's Initial Surge.[107]

The Governor removed Paramus's CEO in October of 2020, but the facility continued to struggle to control the virus throughout the pandemic. During the USDOJ's investigation, officials that visited the facility in 2022 noted grossly inadequate PPE practices that were apparent from the entrance of the facility, with security guards stationed in the reception area charged with ensuring visitors observe screening protocols not wearing masks or PPE of any kind.[108]

Vineland's Response to COVID-19

Vineland lost 25 residents to COVID-19 during the pandemic, and was not the subject of the investigations by the USDOJ or SCI. In contrast to Menlo Park and Paramus, Vineland had lower infection and fatality rates, benefiting from its location further away from the virus's epicenter, its modern infrastructure, and more experienced leadership.

COVID-19 hit northern New Jersey first, which gave Vineland time to prepare for the impending crisis. Vineland's first COVID-19 case was reported on Aril 7, 2020, about a week after the first confirmed cases in the northern veterans homes. The virus's delayed arrival in Vineland gave the administration precious time to devise and execute infection control measures.

[105] Id. at 10.
[106] Id. at 10.
[107] Id. at 8.
[108] Id. at 19.

The facility's modern design, featuring personal half bathrooms in each resident's room, played a significant role in minimizing shared spaces and reducing virus transmission. Coupled with the generally lower infection rates in southern New Jersey, these features enabled more efficient cohorting of residents.

A strategic move by Vineland was the conversion of its auditorium into a specialized COVID-19 unit. This adaptation was key for early case detection and management, accommodating up to 12 residents with movable barriers for space flexibility and a dedicated HVAC system to prevent cross-contamination.

In contrast to Menlo Park and Paramus, Vineland was led by a CEO with significant healthcare and long-term care experience who had been with the facility since 2009. Vineland's CEO had served as the Director of Nursing before being appointed to the position of CEO in 2016. This strong healthcare background and familiarity with the facility provided invaluable insight into managing the crisis and was further enhanced by the knowledge of a Certified Infection Control Practitioner at the facility to lead the COVID-19 response. Having such experience available, particularly at the leadership level, facilitated the interpretation and implementation of guidance from NJDOH, the CDC, and CMS during the crisis.

Vineland faced staffing challenges but was able to manage the problem more effectively than the other veterans homes. Still, the National Guard was deployed to Vineland from May to June 2020, highlighting the serious staff shortages in all three New Jersey veterans homes during the pandemic's Initial Surge.

Unlike Menlo Park and Paramus, Vineland had adequate supplies of PPE at the start of the pandemic. It also adopted a more commonsense and accommodating approach to mask-wearing. Vineland ensured protective equipment was available by providing cloth masks upon request and allowed its staff to wear masks without restrictions. This decision was instrumental in avoiding the conflicts and issues that plagued Menlo Park.

The CEO of Vineland also implemented a proactive and collaborative communication strategy, actively engaging with union leaders to address the mask issue. This approach was complemented by the organization of town hall meetings and the involvement of HR in facilitating open and transparent communication with employees.

Additionally, Vineland's effective pandemic response was marked by its collaborative efforts with the Inspira Health Network, highlighting the effectiveness of collaborative healthcare approaches in fighting the pandemic. This combination of factors—location, infrastructure, leadership, and collaboration—helped Vineland achieve comparatively lower fatality rates.

While Vineland demonstrated considerable success in its pandemic response, the facility was not immune to considerable challenges posed by the virus. Despite rigorous efforts, the virus led to the loss of 25 lives at Vineland, emphasizing the harsh realities of the pandemic, even in a well-managed nursing home.

6.4.4 Key Decisions

The following is a review of the NJDMAVA's critical decisions during the COVID-19 pandemic, focusing on significant failures, challenges faced, and reform efforts.

Addressing NJDMAVA's Lack of Infection Control Policies

New Jersey's veterans homes had policies and procedures prior to COVID-19 related to infection control, but none were adequate for the pandemic. This created a major problem for the NJDMAVA and the veterans homes that led to high rates of infection and death during the pandemic, especially in the Initial Surge.

The response to COVID-19 within the NJDMAVA and its veterans homes, particularly Paramus and Menlo Park, was marked by significant failures in policy-making and implementation due to a lack of healthcare expertise and leadership. Despite CDC and NJDOH guidelines on cohorting COVID-19 positive residents to control the virus's spread, the Paramus and Menlo Park facilities struggled with implementing such measures effectively. Initial delays in closing common areas and improper use of protective gear among staff led increased the risk of infection and allowed the virus to spread more freely.

The NJDMAVA's Director of Veterans Healthcare Services during the pandemic was ineffective in communicating infection control policies to the CEOs of the veterans homes. Instead of being the primary source for infection control guidance, the NJDMAVA's Central Office developed infection control policies through a dual-track approach, where both the NJDMAVA Central Office and each of the individual veterans homes were involved. This led to inconsistencies in policies, and confusion over which policies were applicable at each facility, hindering the organization's overall response to the pandemic.

Inadequate oversight of the veterans homes by the NJDMAVA's leadership during the pandemic caused considerable problems. The NJDMAVA's Central Office assigned the responsibility of policy implementation to the individual veterans homes, expecting the CEOs to comply and take charge. However, this delegation came with a lack of oversight, resulting in a failure to ensure that policies were implemented safely and correctly. Making matters worse, the CEOs at the Paramus and Menlo Park facilities largely viewed their roles as simply passing along policy guidance from the NJDMAVA's Central Office to their staff, without taking ownership over ensuring policies were effectively implemented.

The NJDMAVA's lack of coordination in policy development, oversight, and implementation led to a multi-level leadership failure, creating gaps in the execution of infection control measures.

During the Initial Surge of the pandemic, the NJDMAVA, led by the Director of Veterans Healthcare Services who did not have a background in healthcare, attempted to follow the NJDOH and CDC guidelines regarding infection control. The Director sent COVID-19 guidance to the CEOs of the veterans homes as the virus swept across the State, but the veterans homes, particularly Paramus

and Menlo Park, would have persistent difficulty implementing infection control measures during the pandemic.[109]

According to some NJDMAVA officials, the NJDOH guidance was inconsistent, leading to uncertainty among the staff at the NJDMAVA and within the veterans homes. This ambiguity was exacerbated by frequent changes to guidance as health officials' understanding of the virus developed, which in turn required adjustments to infection control protocols without clear, consistent direction. While the situation required administrators to be flexible and responsive, they were often left navigating these changes without explicit guidance.

Some NJDMAVA officials we spoke with during our investigation also expressed frustration over a lack of direct and specific support from the NJDOH during the early months of the pandemic. The primary communication methods utilized by the NJDOH, such as email updates and weekly calls, provided limited opportunities to seek clarification on healthcare guidance. Without direct support, the NJDMAVA and the veterans home CEOs had to rely heavily on their own interpretation of NJDOH guidance and directives. This created a challenge for the CEOs at Paramus and Menlo Park who lacked significant healthcare experience, unlike the leadership at Vineland.

In response to the infection control problems experienced in the veterans homes during the pandemic, the NJDMAVA took the following steps, among others:

Hiring Infection Control Preventionist: As mentioned earlier in this report, during the pandemic the State retained Manatt Health to provide recommendations to improve the LTC system's quality, resiliency, and safety. After Manatt issued its report and recommendations, the NJDMAVA obtained an infection control preventionist for the agency. This role, filled by a nurse from the National Guard, was responsible for identifying and implementing necessary infection control measures.

Infectious Disease Outbreak Response Plan: Recognizing the shortcomings in its infection control response during the COVID-19 pandemic, the NJDMAVA created an infectious disease outbreak response plan with input from NJDOH's Office of Long-Term Care Resiliency (OLTRC), which did not exist during the pandemic's initial surge. The plan has been revised, most recently as May 2023, to reflect current best practices and guidance. The NJDMAVA's Outbreak Response Plan is designed to protect residents, families, and staff from harm resulting from an outbreak of an infectious disease.[110] The NJDMAVA's Outbreak Response Plan addresses the following topics:

- Sets out Infection Preventionist duties.
- Requires designated area to cohort residents.
- Establishes PPE requirements.

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[109] State of New Jersey Commission of Investigation. (2023, October). An Investigation into the State of New Jersey's COVID-19 Response at the Veterans Memorial Homes (pp. 5-6). Retrieved from https://www.nj.gov/sci/pdf/Pandemic%20Report.pdf

[110] New Jersey Department of Military and Veterans Affairs. (2023, May). Infectious Disease Outbreak Response Plan. New Jersey Veterans Memorial Homes. Retrieved from https://www.nj.gov/military/veterans/memorial-homes/assets/documents/Infectious%20Disease%20Outbreak%20Response%20Plan.pdf

- Outlines staff infection control procedures and training.
- Provides communications procedures.
- Contains core practices of infection prevention and control.

Establishing PPE Procedures

At the onset of the pandemic, the NJDMAVA and the veterans homes faced critical challenges regarding PPE. These difficulties included shortages of PPE, inadequate training in its proper usage, and the failure of staff to follow PPE protocols.

The situation varied significantly across different facilities. At Menlo Park and Paramus, there were reports of severe PPE shortages, with staff members resorting to makeshift solutions such as using plastic bags for protection.[111] This contrasted sharply with Vineland, where a surplus of equipment was reported, with no notable shortages.[112] However, there was insignificant coordination within the NJDMAVA to allocate resources between the three facilities to provide relief where it was most needed.

Masking Policy Incidents

In the midst of the confusion surrounding mask-wearing guidelines in March 2020, the NJDMAVA adopted a stringent approach. They actively discouraged mask use and even treated unauthorized mask-wearing among employees as a matter for disciplinary action. The NJDMAVA's position regarding mask-wearing changed abruptly when NJDOH mandated universal mask-wearing on March 30, 2020. However, the NJDMAVA's initial rigid policy regarding mask wearing led to growing anger and distrust among the staff, exacerbating challenges for the agency as the crisis continued to unfold.

On March 11, 2020, the first mask incident occurred. The NJDMAVA and the leaders of Menlo Park and Paramus veterans homes perceived mask wearing by external providers, particularly ambulance workers, as a threat to their initial policy prohibiting staff from using masks. Menlo Park's ambulance company threatened to cease transporting residents unless their workers were allowed to wear masks. When Menlo Park's CEO consulted with the other CEOs, the CEO of Vineland advised against making this a contentious issue while the Paramus CEO expressed opposition to ambulance workers wearing masks. The overly rigid approach at Menlo Park and Paramus would create conflict, particularly as staff members increasingly sought to wear masks in response to the escalating threat of the virus.

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[111] State of New Jersey Commission of Investigation. (2023, October). An Investigation into the State of New Jersey's COVID-19 Response at the Veterans Memorial Homes (p. 4). Retrieved from https://www.nj.gov/sci/pdf/Pandemic%20Report.pdf

[112] Id.

Initially, the NJDMAVA treated unauthorized mask-wearing by staff as a disciplinary matter rather than a health and safety concern.[113] This created an adversarial relationship between management and staff members who were seeking to protect themselves from infection. As COVID-19 spread across the country, the NJDMAVA's Central Office endorsed Paramus and Menlo Park's decision to prohibit staff members from wearing masks.[114] This blanket ban was applied without exceptions for high-risk individuals, reflecting a lack of alignment with emerging public health guidance that increasingly recommended mask-wearing in long-term care facilities.[115]

The NJDMAVA revised its policy on March 25, 2020, to allow mask-wearing under specific conditions, such as in facility hallways and when in direct contact with symptomatic residents.[116] The NJDMAVA would revise its policy again the next day to extend the availability of masks to staff who were ill or caring for individuals that are sick or under quarantine. This revision, however, did not embrace the changing public health guidelines that were advocating broader mask usage to mitigate the spread of the virus, especially in high-risk environments like LTCFs.

There were two widely reported incidents involving Menlo Park staff who wanted to wear masks in the facility.

The first incident involved a kitchen employee who, out of concern for his own health, wanted to wear a mask but was subsequently sent home for refusing to comply with the no-mask policy. In response to being sent home, the employee sought medical advice and obtained a doctor's note recommending mask usage due to a health condition. Despite the doctor's recommendation, the NJDMAVA's Employee Relations Office decided that the kitchen employee must return to work without a mask. The rationale provided was that allowing him to wear a mask would set a bad precedent, leading to other employees seeking medical notes to wear masks.

The second notable incident at Menlo Park involved a nurse who was also a union representative. She went to a nursing station, accessed a locked cabinet behind the supervisors' desk, and distributed masks to staff members not working in the facility's COVID-19 isolation unit who were not authorized to receive masks under the NJDMAVA's policy at the time.

The NJDMAVA, contacted the Governor's Office of Employee Relations (GOER) for guidance. GOER consulted with the Governor's Office, and around the time of these deliberations, the CDC issued updated guidelines on masks and gloves that clarified their necessity in congregate settings and guided GOER's recommendations to the NJDMAVA.

Regarding the first incident involving the kitchen worker, GOER advised the NJDMAVA that it should not prohibit employees with medical justifications from wearing wear masks. As for the

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[113] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 13). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

[114] Id.

[115] Id. at 14.

[116] Id.

second incident with the nurse, the NJDMAVA initially characterized the issue as "mask insubordination," however, GOER identified the underlying issue as the right to access essential protective equipment. GOER does not normally involve itself in disciplinary actions, which are typically handled at the departmental level. Nevertheless, due to the unique situation posed by the COVID-19 pandemic, GOER advised the NJDMAVA that the nurse's actions were inappropriate because she accessed an unauthorized area and suggested the possibility of progressive discipline. The NJDMAVA ultimately did not impose disciplinary action on any employee.

Revision to Masking Policy

Following these events, the NJDMAVA revised its masking policy after the NJDOH mandated universal masking on March 30, 2020. However, the masking incidents highlighted broader concerns about the leadership at the NJDMAVA. Mistrust between leadership at the NJDMAVA and staff contributed to severe staffing problems in the first months of the pandemic, as discussed throughout this section.

In comparison to Menlo Park, Vineland adopted a more commonsense approach to mask-wearing and allowed its staff to wear masks without any restrictions. Vineland also ensured protective equipment was available by providing cloth masks upon request, while securely storing the limited supply of surgical grade and N95 masks. Moreover, the CEO of Vineland engaged with union leaders to address concerns about safety and used town hall meetings with HR to facilitate transparent communication with employees.

The NJDMAVA now incorporates specific strategies into its Infectious Disease Outbreak Response Plan to prevent future PPE crises. This includes maintaining a robust stockpile of essential PPE items such as isolation gowns, face shields, surgical masks, disposable N95 respirators, and gloves at each veterans home. The stockpile aims to sustain a minimum eight-week supply, calculated based on the maximum usage rate during a COVID-19 or similar pandemic situation. Additionally, provisions have been made for an off-site accessible supply, ensuring preparedness for any future healthcare emergencies.

Communication Failures

The NJDMAVA and the veterans homes failed to communicate with staff, residents, and residents' families regarding the evolving conditions and protocols during the COVID-19 pandemic.

Regarding staff, leadership at the Paramus and Menlo Park veterans homes during the pandemic often displayed indifference or hostility towards the concerns of employees providing direct resident care. For example, in one instance an NJDMAVA leader considered disciplining employees who called out sick due to underlying health conditions, demonstrating a misunderstanding of the crisis's severity at the facilities.[117]

[117] Id. at 13.

During this report's investigation, residents of many LTCFs, including residents at the NJDMAVA's veterans homes, would often speak of their facilities' persistent communication failures during the pandemic. For these individuals, months of isolation and often sub-adequate care was difficult to bear, and the lack of communication from facilities added to feelings of indignity. A veterans home Resident Council President we met with wrote a letter to the NJDOH Commissioner and State legislators during the pandemic highlighted this issue: "[t]ransparency in communication in all areas of operations, especially those that pertain directly to us Veterans is exceedingly rare. We deserve the right to be informed on all matters that affect our safety and quality of life. We also deserve honest and sincere explanations as to why or why not actions are taken. And the right to appeal those actionable decisions."

Communication with families during the pandemic was sorely lacking. While social workers often communicate with families about residents' status and care, in the pandemic's early weeks many were absent from work.[118] As a result, families could not receive updates and reassurances about their loved ones during a time of great uncertainty.

The NJDMAVA was already aware of a COVID-19 case in the Paramus veterans home on March 28, 2020, but their communication to families was minimal and unclear. The NJDMAVA Veterans Homes Facebook page and website, updated by the Director of Veterans Healthcare Services on March 29, merely mentioned a confirmed case and a closed unit in Paramus without specifying which unit was affected. No further comprehensive communication was provided in the subsequent days.

Similarly, when the first resident at Menlo Park tested positive on March 31, there was no update on either the Facebook page or the website. As late as April 6, 2020, the NJDMAVA had not publicly acknowledged confirmation of the virus in Menlo Park.[119] It wasn't until April 7 that the Menlo Park CEO sent a letter to families to inform them that COVID-19 was inside the facility, one week after the first resident died from the virus.

A critical lack of communication tools and IT infrastructure significantly hampered communication efforts during the pandemic. Employees often resorted to using their personal cellphones to create internet hotspots around the facility, enabling residents to Facetime with their relatives. The facilities were not equipped for video conferencing with residents' families, lacking both the necessary hardware and Wi-Fi capabilities.

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[118] State of New Jersey Commission of Investigation. (2023, October). An Investigation into the State of New Jersey's COVID-19 Response at the Veterans Memorial Homes (p. 6). Retrieved from https://www.nj.gov/sci/pdf/Pandemic%20Report.pdf

[119] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 15). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

Implementing Testing Protocols

As noted earlier, a lack of COVID-19 testing impacted the veterans homes' ability to control the virus. The veterans homes were not able to perform universal resident testing until late April 2020. Without the benefit of wide-spread testing capabilities, these facilities struggled to identify and quarantine infected individuals in the early months of the pandemic, leading to virus transmission amongst residents and staff.

While later testing procedures contributed to better cohorting and social distancing measures in the veterans homes, both Paramus and Menlo Park struggled with testing protocols in later COVID-19 outbreaks.[120]

Staffing Shortages

As noted throughout this subchapter, New Jersey's veterans homes faced incredible staffing challenges during the pandemic. In Paramus and Menlo Park, employee attendance rates dropped by nearly half during the pandemic's Initial Surge.[121] From the first week of March 2020 to mid-to-late April, Paramus experienced a 100% increase in employee call-out rates. Menlo Park's call-out rate spiked to a 480% during this period.[122] The staffing deficiencies quickly reached unsustainable levels, and on April 11, 2020, it was reported to the Governor's Office that the Menlo Park Veterans Home had only one nurse per shift.

Staff shortages during the pandemic were due to the following factors:

- Fear of contracting the virus at work.
- Confusion over absence and work from home policies.
- Dysfunctional management.
- Inability to provide staff with incentives for reporting to work during the pandemic.
- Pre-pandemic staff shortages, particularly in areas such as nursing.
- Inability to compete with private sector healthcare and long-term care compensation.
- Inability to provide bonus pay, hazard pay, or any other financial incentive to staff for covering shifts.

Additional details regarding staffing shortages at the veterans homes during the pandemic and actions taken to address them follow below.

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[120] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 20). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

[121] Id. at 4.

[122] Id.

Confusion Regarding "Essential Employee" Status

Confusion regarding the "essential" or "non-essential" status of employees caused major staffing problems for the NJDMAVA during the pandemic. In the early days of the pandemic, CSC issued a letter establishing relaxed sick leave rules for Civil Service or State employees for COVID-19 related absences. The relaxed rules enabled these employees to stay home from work without using their accumulated paid time off.[123] This caused confusion about the policy in the veterans homes because direct care staff were both State employees – whose employment parameters are governed by the Civil Service Commission – as well as "essential personnel" as designated by the NJDMAVA, and therefore required to report to work during emergencies.

At Paramus, the CEO viewed every role as vital to maintain operations, but staffing levels at that facility still plummeted by 30% during the pandemic. The NJDMAVA officials later reported that they failed to hold employees to their essential status during the pandemic because they did not believe they had authority to require employees report to work in light of communications from Civil Service Commission and the NJDOH.[124]

Deployment of National Guard to Veterans Homes

With severely depleted staff, the veterans homes were in dire need of assistance soon after the COVID-19 virus entered New Jersey in March of 2020. Executive Order 103, issued on March 9, 2020, authorized the activation of the National Guard, which is known for its operational strength and rapid deployment capabilities. However, the National Guard did not deploy to Menlo Park until almost a month later on or about April 9, 2020, when National Guard medics were deployed to the Paramus and Menlo Park veterans homes to bolster the remaining staff.

At the peak of the National Guard's response, there were 130 National Guardsmen in each veterans home, with approximately 40 medics deployed to Paramus and 35 medics deployed to Menlo Park to help with nursing duties. National Guardsmen that were not medics were given emergency approval by the NJDOH to serve in certified nursing assistant (CNA) roles. The National Guard was present in all three veterans homes, and the NJDMAVA continued to rely on the National Guard throughout the pandemic to augment their staff by assisting with non-medical tasks.

During our investigation, both staff and residents at the veterans homes expressed gratitude for the assistance of the National Guardsmen, whose presence brought some relief during a period otherwise marked by isolation and loss. Their contributions included helping with residents' daily activities, such as mobility assistance, personal care, meal preparation, and the testing and screening of staff, residents, and visitors.

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[123] State of New Jersey Commission of Investigation. (2023, October). An Investigation into the State of New Jersey's COVID-19 Response at the Veterans Memorial Homes (p. 3). Retrieved from https://www.nj.gov/sci/pdf/Pandemic%20Report.pdf

[124] State of New Jersey Commission of Investigation. (2023, October). An Investigation into the State of New Jersey's COVID-19 Response at the Veterans Memorial Homes (pp. 3-4). Retrieved from https://www.nj.gov/sci/pdf/Pandemic%20Report.pdf

Deployment of Federal VA Nursing Staff to Veterans Homes

In April 2020, the federal VA deployed 90 nurses to the Menlo Park Veterans Home to provide relief in light of facility's severe lack of nursing staff. The VA also sent nurses to the Paramus Veterans Home, and their intervention was crucial in mitigating the initial outbreak New Jersey's veterans homes. Upon their departure in June of 2020, the VA provided detailed recommendations to the NJDMAVA to maintain the advancements made during the VA's deployment. However, the NJDMAVA faced challenges in sustaining these standards and did not fully adopt the VA's comprehensive guidelines.[125]

The VA noted that while Paramus and Menlo Park staff members were committed to resident care, they lacked essential training and understanding in infection prevention. To address this, the VA sent additional personnel, including nurses, to provide crucial training on basic infection control practices, appropriate staffing for emergency operations, and efficient tracking of supplies. The VA nurses observed significant issues with PPE usage in Paramus and Menlo Park, such as staff not wearing masks correctly or at all and lacking understanding about changing PPE when moving between resident rooms. The VA nurses observed both supervisors and food service workers neglecting necessary protective measures, and that there were no in-service training sessions offered at the veterans homes on the proper use of PPE. In response to these shortcomings, the VA and other health officials initiated frequent training sessions, starting April 20, to educate veterans home staff on these subjects.

Efforts to Hire Additional Staff

In an effort to address the staffing shortages, the NJDOH provided the NJDMAVA with a list of registered nurses (RNs) and licensed practical nurses (LPNs), which NJDMAVA staff used to recruit additional personnel. The NJDMAVA also considered the option of utilizing nursing students to support its workforce during the critical periods of the pandemic. These efforts did not alleviate the staffing shortage. The NJDMAVA also attempted to hire temporary staff; however, according to the NJDMAVA personnel we interviewed this effort largely failed because the agency was unable to offer competitive rates.[126]

Staffing-Related Updates to NJDMAVA's Outbreak Response Plan

Since the pandemic's Initial Surge, the NJDMAVA has designed a staffing plan as part of its Outbreak Response Plan. This plan addresses staffing shortages caused by COVID-19 or other health emergencies. The staffing plan encompasses a number of key strategies, including:

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[125] New Jersey Department of Military and Veterans Affairs. (2023, May). Infectious Disease Outbreak Response Plan. New Jersey Veterans Memorial Homes (pp. 4, 11). Retrieved from https://www.nj.gov/military/veterans/memorial-homes/assets/documents/Infectious%20Disease%20Outbreak%20Response%20Plan.pdf

[126] Id. at 5.

- Overtime shifts will be offered to Veterans Home staff.
- Procurement of Agency personnel.
- Enlist the assistance of National Guard and VA staff (as available) to assist with facility needs.
- Utilize per diem staff (facility per diem staff or from the NJDOH per diem staff list).
- Engage in active recruitment efforts to hire additional personnel.
- Allow staff to return to work in accordance following CDC guidance: CDC Strategies to Mitigate Healthcare Personnel Staffing Shortages.

6.4.5 State Reforms to NJDMAVA Veterans Memorial Homes

The Governor and New Jersey's legislature have passed reforms and proposed modifications to the State's veterans homes. The Governor signed eight bills relating to the veterans homes into law on September 16, 2021. This legislation reformed the management and oversight of the homes by, among other things, requiring that the Director of the Division of Veterans Healthcare Services at the NJDMAVA have prior clinical and long-term care experience, requiring that the administrators at each of the three veterans homes have prior experience in clinical settings, and strengthening residents' rights.

On November 30, 2022, the Governor announced an effort to initiate major management modifications at the homes, including instructing the NJDMAVA to release a Request for Proposal (RFP) to find a vendor capable of providing private management and consulting services at the homes. Thereafter, on October 4, 2023, weeks after the USDOJ released its report, the Governor announced his intention to pursue a significant overhaul of the NJDMAVA's oversight and management of the homes by forming a new cabinet-level department specifically tasked with that responsibility. An integral part of this reform is the proposed introduction of a "veterans advocate" role, designed to work in tandem with the existing patient advocate and NJLTCO.

Reform Legislation

On October 23, 2020, Governor Murphy signed two bills related to LTC industry reforms, based on recommendations from the Manatt report. These reforms sought to bring accountability to the long-term care industry and protect the residents, staff, and families that depend on these facilities.

Additionally, in light of the challenges faced by veterans homes during the pandemic, lawmakers passed eight laws specifically designed to reform these facilities, safeguard residents, support their families, and better prepare the State for any upcoming public health crisis.[127] These eights bills were ultimately signed into law by the Governor on September 16, 2021.[128] Overall, the eight bills introduce pragmatic changes, including mandating that administrators of veterans homes possess

[127] *Multiple-bill package to better safeguard veterans homes passes the Senate*. NJ Senate Democrats. (2021, July 1). https://www.njsendems.org/multiple-bill-package-to-better-safeguard-veterans-homes-passes-the-senate/
[128] Office of the Governor. (2021, September 16). Governor Murphy takes action on legislation. State of New Jersey. Retrieved from https://nj.gov/governor/news/news/562021/approved/20210916d.shtml

previous clinical work experience, enhancing communication with families and guardians, and promoting increased transparency within the NJDMAVA.[129]

The eight laws enacted key reforms, including:

- Requiring the administrator and assistant administrator at each veterans home to have prior work experience in a clinical setting.[130]
- Requiring veterans homes to communicate resident updates with family members through at least two communication means, including paper mail, email, text and voice call.[131]
- Allowing family members to remove a resident from a NJDMAVA home under certain emergency circumstances; this was not permitted during the pandemic because of the strict infection control requirements.[132]
- Requiring veterans homes to hold quarterly town hall meetings with family members, or other resident guardians.[133]
- Requiring the NJDMAVA to create a "resident advocate" position within state government for each veterans home; this person is charged with advocating in residents' behalf on issues with operations at each of the homes, similar to the nursing home advocates that New Jersey deployed in recent years.[134]
- Requiring State veterans facilities to provide payroll-based journal information to the NJLTCO.[135] This information will enable a better assessment of staffing levels at these LTCFs, and make sure that quality care is given to veterans at any given time of the day.
- Requiring the Director of Division of Veterans Healthcare Services in the NJDMAVA to have prior clinical and long-term care experience.[136]
- Requiring the Adjutant General of the NJDMAVA to send weekly reports to the state health commissioner regarding the status of veterans homes whenever a Public Health Emergency occurs, pursuant to the "Emergency Health Powers Act", thereby allowing for coordination and planning between the veterans homes and the NJDMAVA.[137]

[129] New Jersey Senate Democrats. (n.d.). Multiple-bill package to better safeguard veterans homes passes the Senate. Retrieved from https://www.njsendems.org/multiple-bill-package-to-better-safeguard-veterans-homes-passes-the-senate/
[130] New Jersey Legislature. (2020-2021). A-5853/S-3903.
[131] New Jersey Legislature. (2020-2021). A-5852/S-3904.
[132] New Jersey Legislature. (2020-2021). A-5851/S-3905.
[133] New Jersey Legislature. (2020-2021). A-5850/S-3906.
[134] New Jersey Legislature. (2020-2021). A-5855/S-3908.
[135] New Jersey Legislature. (2020-2021). A-5854/S-3907.
[136] New Jersey Legislature. (2020-2021). A-5856/S-3909.
[137] New Jersey Legislature. (2020-2021). A-5849/S-3918. Under the Covid-19 public health emergency, the bill required such reports through December 31, 2021.

Also included in the reform legislation is a pending bill that proposes the establishment of an Office of the Inspector General for Veterans' Facilities.[138] This office would be specifically charged with the investigation of complaints regarding policies and practices in veterans facilities and would be empowered to conduct thorough evaluations, inspections, and investigations to help ensure the safety and well-being of veterans in State facilities.

Procuring Consulting Services for Veterans Memorial Homes

As noted above, since the pandemic's initial surge the Governor has announced reforms to New Jersey's veterans homes, including appointing qualified administrative staff to provide consulting and management services to these facilities. In response, the NJDMAVA issued an RFP on December 20, 2022 to identify a vendor capable of leading these initiatives. Regarding the Menlo Park Veterans Home, the RFP further requested that the vendor take on management duties and assemble an administrative team for the Chief Executive Officer and Chief Nursing Officer roles.

By April 18, 2023, the State had finalized contracts with two healthcare consulting firms to fulfill these contracts. Interim Quality Partners LLC (doing business as Honor Aging) was awarded a two-year contract to provide management and consulting services at Menlo Park, as well as consulting services at Vineland.[139] Further, Care Plus Bergen was awarded a contract to provide on-site consultant services to Paramus. As a result of these efforts, all three veterans homes have access to resources and are now led by individuals possessing relevant long-term care and healthcare experience that would have greatly enhanced their pre-pandemic preparedness and ability to effectively respond during the crisis.

6.4.6 Government Investigations and Private Litigation

The inept response to COVID-19 and ensuing loss of life at the NJDMAVA's Menlo Park and Paramus veterans homes during the pandemic has led to investigations and reports by both the USDOJ and the SCI, as well as civil litigation.

United States Department of Justice Investigation of Paramus and Menlo Park

On October 27, 2020, the Department of Justice initiated an investigation under the Civil Rights of Institutionalized Persons Act (CRIPA), 42 U.S.C. § 1997, focusing on the Paramus and Menlo Park veterans homes. The investigation focused on assessing the unpreparedness and failures of the NJDMAVA and the management of these facilities. The investigation found that the State's

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[138] Proposed in A5108 S3257, 219 Leg. Sess. (N.J. 2020). https://pub.njleg.state.nj.us/Bills/2020/A9999/5108_I1.PDF; A319 S67, 220 Leg. Sess. (N.J. 2022). https://pub.njleg.state.nj.us/Bills/2022/A0500/319_I1.PDF; A1293 S902, 221 Leg. Sess. (N.J. 2024). https://pub.njleg.state.nj.us/Bills/2024/A1500/1293_I1.PDF

[139] Pryor, E. G., III. (2023, April 18). Re: Bid solicitation: Administrative management and consulting services for the New Jersey Department of Military and Veterans Affairs Nursing Home Facilities. New Jersey Department of Military and Veterans Affairs. https://www.nj.gov/military/admin/departments/fiscal/documents/DMAVA%20Homes%20Management%20and%20Consulting%20Services.pdf

persistent inability to enforce fundamental infection control measures and offer sufficient medical care to residents of the veterans homes constitutes a violation of the constitutional rights of the residents of these facilities.

The USDOJ issued its report on September 7, 2023.[140] The USDOJ's report unveiled a series of profound failings within the NJDMAVA's veterans homes, encompassing resident safety, leadership and management, infection control, staffing, communication, training, testing, and clinical care. These issues collectively depict a troubling environment of neglect and mismanagement, adversely affecting the health and safety of residents.

The report concluded that resident safety had been compromised by inconsistent monitoring, inadequate care plans, failures in fall prevention, issues in medication administration, and poor treatment of injuries. Leadership and management deficiencies were highlighted, including a lack of critical review and learning from past failures, insufficient oversight, and a failure to establish clear accountability and ownership of policy implementation and clinical outcomes. The report contrasts the homes' current clinical care structure, which relies on outside clinicians, with the approach used prior to 2018 when each facility had a full-time medical director and physician's assistant on staff.

The report particularly criticized the homes' infection control measures, including the failure to effectively cohort residents, inadequate social distancing and monitoring, improper use of PPE, and a general failure to adhere to basic infection control practices. These deficiencies were exacerbated by severe staffing shortages, driven by ineffective management and poor communication, particularly during the pandemic's early stages.

The report noted that communication within the veterans homes was lacking, with insufficient coordination between nursing leaders and other department heads. Training for staff on infection prevention and control was criticized as insufficient, reflecting poorly on the NJDMAVA's commitment to staff preparedness. Testing protocols were also found wanting, with practices that deviated from standard care and efficacy limited due to delays.

The USDOJ report criticized systemic shortcomings within the NJDMAVA's veterans homes, where a lack of effective leadership, inadequate care, and poor preparedness have undermined the well-being of its residents, necessitating urgent and comprehensive reforms. The report suggested a number of remedial measures in areas such as infection control, general medical and physical health care, quality management, and oversight and accountability.

State of New Jersey Commission of Investigation Report on Paramus and Menlo Park

The SCI conducted a separate investigation of the NJDMAVA veterans homes and issued a report on October 3, 2023, that described many of the same deep-rooted issues identified by the

[140] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus. Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

USDOJ.[141] The SCI began investigating the State's pandemic response in the veterans homes in October 2020.

The report contained tragic stories showing the inadequate communication with residents' families, resulting in misinformation and lack of information regarding their loved ones' conditions. One story took place in April 2020 and involved a resident's daughter who spoke with a nurse practitioner at Menlo Park and was told her father was fine, only to learn that he died 24 hours later.[142] Another story involved the Paramus facility where a son of a resident said that communication from the staff "dwindled to the point that it was nearly nonexistent."[143] The family member was unable to obtain information about the health of his father, who contracted COVID-19 and died.[144]

Like the USDOJ, SCI noted that staffing shortages were a serious problem, with a severe lack of nurses and frontline staff that left the facilities unable to provide basic care. The SCI report found that efforts to address these shortages, such as hiring agency nurses and deploying the New Jersey National Guard and VA nurses, were mismanaged. The SCI report also found that infection control guidance from the CDC was not effectively communicated by State health officials, leading to confusion and hampering the homes' pandemic response efforts.

The SCI report further found that the physical layouts of the Menlo Park and Paramus veterans homes posed major challenges in isolating and quarantining residents, an issue that we personally observed while touring the facilities.

Private Litigation

The State faced a number a number of lawsuits because of the failures and unacceptable deaths in the veterans homes during COVID-19. In early 2022, the State agreed to pay approximately $69 million to settle lawsuits involving the families of 190 deceased residents from the Menlo Park and Paramus veterans homes.[145]

Numerous other lawsuits have been filed against the State, the NJDMAVA, and various veterans homes by staff members and family. These lawsuits allege, among other things, some disciplinary measures against staff using masks without authorization, requiring COVID-19 positive employees

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[141] State of New Jersey Commission of Investigation. (2023, October). An Investigation into the State of New Jersey's COVID-19 Response at the Veterans Memorial Homes. Retrieved from https://www.nj.gov/sci/pdf/Pandemic%20Report.pdf

[142] Id. at 6.

[143] Id.

[144] Id.

[145] Sherman, T. (2023, February 15). Sherman, T. (2023, February 15). *State to pay out nearly $16m to families over Covid deaths in N.J. veteran's homes, admits no wrongdoing*. NJ.com. https://www.nj.com/politics/2022/08/state-to-pay-out-nearly-16m-to-families-over-covid-deaths-in-nj-veterans-homes-admits-no-wrongdoing.html; Sherman, T. (2021, December 23). *In major settlement, N.J. agrees to pay $52.9m to families over Covid deaths in state's hard-hit Veterans Homes*. NJ.com. https://www.nj.com/news/2021/12/nj-agrees-to-pay-529m-to-families-over-covid-deaths-in-states-hard-hit-veterans-homes.html

to continue working, and failing to communicate the emergence of COVID-19 symptoms in both residents and employees.

6.4.7 NJDMAVA's Remedial Measures

The NJDMAVA has taken several critical steps to address problems identified during the pandemic and enhance the operational standards of its veterans homes. During our review, we met with members of the NJDMAVA's current leadership and staff and visited its three veterans homes. Some of the NJDMAVA's efforts toward reform following the tragic events of the pandemic are listed below.

Prioritizing Healthcare Experience

In a significant shift towards prioritizing healthcare expertise, in April 2023 the NJDMAVA appointed a Director of Veterans Healthcare Services with extensive clinical healthcare experience. This move represents a significant departure from previous practices where this position was often filled by individuals who were primarily military service members without a healthcare background or experience in the operation and management of nursing homes.

The NJDMAVA has also prioritized healthcare expertise in the management of its nursing homes. All current veterans home CEOs have prior experience in managing and operating nursing homes, ensuring that the leadership at each facility is well-versed in the specific challenges and requirements of nursing home management.

Further, the NJDMAVA has bolstered the infection control capabilities at each facility, including hiring experienced infection control staff.

Previously, each facility had only one infection control staff member; now, the number has increased to between three and four. Importantly, every facility is equipped with a board-certified infection control specialist and the staffing team includes nurses who are certified in infection control. While Vineland always had such a specialist, Paramus faced challenges when it was unable to fill the specialist position after the position became vacant in the beginning of the pandemic. To address this, the size of these infection control teams was increased, a decision made independently and not as a direct response to NJDOH mandates. Finally, all nurse supervisors in the three homes have undertaken a CDC course in infection control, ensuring that frontline staff possess crucial knowledge in this area.

Enhancing Communication with Veterans Homes

The NJDMAVA has encouraged the three veterans homes to collaborate on personnel, information, and resources among its three veterans homes, which have historically operated independently with minimal interaction.

The NJDMAVA has also taken strides to enhance communication among the three veterans homes, including implementing an internal audit program. This program is designed to ensure that each veterans home is adequately prepared for and can successfully pass their annual NJDOH surveys.

As part of this initiative, a clinical specialist and quality assurance nurse from the central office conduct weekly inspections at each of the veterans homes. These inspections are focused on specific survey topics outlined by the American Association of Post-Acute Care Nursing.

This approach not only boosts the preparedness of each home for regulatory reviews but also fosters a culture of continuous improvement and shared best practices, enhancing the overall quality of care provided to the residents.

Developing Stronger Infection Control and Compliance Protocols

The NJDMAVA has undertaken comprehensive measures to strengthen infection control and compliance protocols across its veterans homes, addressing key concerns from the USDOJ report. The Director of Veterans Healthcare Services has played a pivotal role in this, creating veterans home-specific clinical policies, including those for infection control, based on approved guidelines. The Director now actively monitors the compliance of the veterans homes with these protocols, ensuring their effective implementation and staff competency.[146]

The NJDMAVA has developed a comprehensive infection outbreak control plan for all facilities. This plan has been reviewed by the NJDOH Office of Long-Term Care Resiliency and is tested annually through a tabletop exercise.

The CEO and Assistant CEO of each veterans home must conduct daily walkthroughs of their facilities, identifying and promptly addressing any issues. These observations are reported to the Quality Assurance and Performance Improvement (QAPI) coordinator for further action.

To further enhance compliance and preparedness, the NJDMAVA conducts mock surveys. Leaders and clinical staff from one facility visit another to conduct these inspections, simulating a CMS survey. The results of these mock surveys are shared among the veterans homes, fostering a culture of self-assessment and continuous improvement.

Other infection control measures include the implementation of air filtration systems and hand-sanitizing stations throughout the facilities. Additionally, the Paramus home has recently completed the installation of a new HVAC system, further improving the facility's environment.

Hiring Resident Advocates

In response to the reform legislation, the NJDMAVA is in the process of hiring resident advocates for each veterans home, a significant step towards enhancing resident care and satisfaction. These advocates will have a direct reporting relationship to the Director, ensuring their autonomy and effectiveness. These advocates will play a crucial role in identifying and addressing the unmet

[146] United States Department of Justice. (2023, September 7). Investigation of the New Jersey Veterans Memorial Homes at Menlo Park and Paramus (p. 18). Retrieved from https://content.govdelivery.com/attachments/USDOJUSAO/2023/09/07/file_attachments/2607463/NJVeteransHomesFindings.Report.pdf

needs of residents, acting as a voice for them to improve their quality of life and care the veterans homes.

Implementing Capital Improvement Plans

The NJDMAVA is implementing significant capital improvement plans at the Paramus and Menlo Park veterans homes, which were among the most affected during the pandemic. These plans are partly funded by federal VA grant money. A key aspect of these improvements is the conversion of double occupancy rooms into single occupancy rooms, aiming to make 85% of each facility single-room based. This transformation has received financial support from the New Jersey legislature.

These capital improvements are not just infrastructural but are also geared towards enhancing the quality of care and living conditions for the residents. The shift to single occupancy rooms is a direct response to the challenges posed by the pandemic and represents a significant step in ensuring better health and safety standards within these facilities. This change is expected to result in a decrease in the overall census of these facilities, meaning that the staff will be responsible for fewer residents.

The project to convert rooms at Menlo Park is anticipated to be completed by 2025. However, a specific completion date for the same renovations at Paramus has not been determined yet. Further, over the next five years, the NJDMAVA aims to transition Vineland from double to single occupancy rooms. However, given Vineland's existing ability to isolate and cohort patients effectively, it has been assigned a lower priority in comparison to the projects at Menlo Park and Paramus.

Improving Technology

The NJDMAVA is undertaking substantial technological upgrades across all three veterans homes to enhance communication and efficiency. A significant enhancement is the introduction of Wi-Fi across all facilities, which will greatly improve communication capabilities for staff, residents, and visitors. The NJDMAVA is also updating its digital phone systems and building enhanced video capabilities. These upgrades are crucial for keeping pace with telehealth advancements, enabling remote social services care, and facilitating communication between residents and their loved ones.

Another major technological advancement is the transition to an electronic medical records system. This shift marks a move away from the outdated paper-based record-keeping system, offering a more efficient, reliable, and accessible way for staff to manage and convey residents' medical information.

In terms of visitor and staff management, the NJDMAVA has implemented the AccuShield system. This electronic screening tool asks screening questions and records temperatures before granting admittance to visitors, staff, volunteers, and residents, enhancing the safety protocols at the entrance of each facility.

The NJDMAVA hopes to soon implement Tiger Connect, a secure texting platform that enhances the homes' telehealth capabilities. The platform also enables efficient sharing of vital information,

such as PDFs of lab results, directly with physicians. This not only streamlines communication but also greatly facilitates the telehealth process.

Once completed, these technological improvements, alongside the physical renovations like the conversion of rooms to single occupancy, will position all three veterans homes as premier nursing facilities. These efforts reflect the NJDMAVA's commitment to providing modern, efficient, and high-quality care environments for its residents.

Emphasizing Training

The NJDMAVA has placed an emphasis on training to improve the quality of care in its veterans homes. A key component of this training initiative is the annual infection control training for staff. This training covers crucial topics such as COVID-19, the proper use of PPE, cohorting strategies, and fundamental practices like hand-washing. Such comprehensive training ensures that staff are well-equipped to maintain high standards of hygiene and infection control.

The NJDMAVA has also introduced a learning management system (LMS), which has significantly aided its training efforts. The LMS enables online competencies, allowing us to track and identify any gaps in staff training. This helps the NJDMAVA tailor training programs as needed.

In addition to infection control, the NJDMAVA has emphasized retraining staff in core competencies and clinical skills. As part of these efforts, the NJDMAVA developed its own SBAR (Situation-Background-Assessment-Recommendation) form, an interaction form that lists essential details nurses need before calling a physician. This retraining is vital to ensure that all personnel are up-to-date with the latest best practices and protocols in veteran care.

The Vineland facility is practicing this enhanced training approach through its innovative training environment. This setup features an actual resident room, complete with a real bed, food tray, medical equipment, and a mannequin. This unique training space is used to simulate real-life scenarios, highlighting common clinical and policy issues. Such immersive training methods are instrumental in reinforcing critical skills and knowledge among the staff, thereby improving the overall care and service provided to the residents.

Increasing Staff Compensation

Certified Nursing Assistants (CNAs) play a critical role in providing quality care to residents. Consequently, the NJDMAVA has undertaken a significant initiative to increase the pay of CNAs working in the veterans homes. In collaboration with the Civil Service Commission, the NJDMAVA worked to update the job title and, consequently, the pay scale for CNAs in the veterans homes. This revised pay structure is part of a broader strategy to make the veterans homes more competitive as employers. By offering increased compensation, the NJDMAVA aims to improve its ability to recruit and retain skilled employees.

6.4.8 Looking Ahead

As the State continues its reform efforts, it is imperative to acknowledge the precursors that led to the unacceptable conditions that prevailed in New Jersey's veterans homes during the pandemic. Lack of key personnel with healthcare and long-term care experience, understaffing, inadequate infrastructure, and poor coordination were all major issues.

By acknowledging these fundamental problems, future efforts toward reform can complement the progress already made by the NJDMAVA and significantly elevate the quality of care, operational efficiency, and overall welfare of residents in New Jersey's veterans homes. Addressing the root causes of past failures, including enhancing healthcare expertise among staff, should be paramount. The recommendations below stem from the State's dedication to continuous, responsible, and transparent improvement, and are intended to help foster an environment of excellence within the veterans homes.

6.4.9 Recommendations for Preparedness for Future Health Emergencies

Recommendation 1: Move Oversight of Veterans Homes out of the NJDMAVA into a New, Cabinet-Level Agency

The pandemic highlighted the critical role of healthcare expertise in the administration of LTCFs. As State lawmakers have recently acknowledged, a fundamental shift in the oversight of veterans homes is required to promote quality healthcare at those facilities.[147] We agree with lawmakers' recommendations that the NJDMAVA, traditionally focused on military-related matters like coordinating the New Jersey Army and New Jersey Air National Guard and veterans outreach programs, should not serve as a nursing home operator. The recommendation proposes the transfer of veterans homes oversight from the NJDMAVA to a new cabinet-level agency or commission, which would effectively split the NJDMAVA into two agencies: one dedicated to military-related matters and another for veterans affairs. This new, veterans affairs-focused entity would have specific authority and responsibility for managing and overseeing veterans homes.

Recommendation 2: Design Formal Operational Plans for Use of the New Jersey National Guard in LTCFs During Emergencies

While the first recommendation advocates for the transfer of oversight for veterans homes from the NJDMAVA to a new cabinet-level agency or commission, it is essential to recognize the enduring importance of the New Jersey National Guard in this proposed structure. The pandemic has underscored the Guard's invaluable contribution to LTCFs, especially veterans homes, by showcasing their operational efficiency and swift mobilization for logistical, administrative, and

[147] Office of the Governor. (2023, October 04). Governor Murphy and Senators Vitale, Cryan, Diegnan, and Lagana Announce Collaboration on Veterans' Services Reform. Retrieved from https://www.nj.gov/governor/news/news/562023/20231004c.shtml

emergency support. Therefore, even with the shift in oversight, the National Guard should remain a pivotal resource in crisis response, ensuring that veterans homes continue to benefit from their expertise and rapid deployment capabilities in times of need.

While the initial deployment of the National Guard was a significant step in combatting the virus, it also presents an opportunity to refine the State's approach for even swifter action in future crises. To prepare for a future health crisis, the State should work with the NJDMAVA to develop a formalized plan for earlier deployment of the National Guard in veterans homes.

For example, the NJDMAVA should develop a plan to train National Guardsmen in aiding LTCF residents, preferably with collaboration and input from relevant stakeholders such as the NJLTCO and other LTCF associations. The compassion shown by the men and women of the New Jersey National Guard deployed to veterans homes during the pandemic was inspiring, and National Guardsmen should receive the necessary resources and training to maximize the impact of their service during times of crisis. This proactive approach will ensure timely and efficient support, enhancing preparedness and response capabilities in managing health emergencies.

Recommendation 3: Clarify the Essential Status of Medical and Frontline Workers

At the pandemic's start, the NJDMAVA faced challenges in enforcing the essential status of employees due to perceptions that such enforcement was unfeasible, influenced by communications from the Civil Service Commission and the NJDOH.

To avoid this challenge in a future emergency, any state government directives pertaining to public health emergencies in the future should explicitly state that nurses and other frontline staff at the three veterans homes are essential workers. The contributions of such employees are vital to the safe and effective operation of New Jersey veterans homes, and directives granting such employees what could be interpreted as broad permission to call out of work during emergencies can quickly create disastrous staffing shortages. It is imperative that any future directives leave no room for ambiguity about the essential status of these workers, ensuring their in-person presence and active involvement during critical times.

Recommendation 4: Create a Staffing System to Attract and Retain Workers

The pandemic illuminated the severe staffing difficulties that arise during a health crisis, yet the NJDMAVA's staffing problems were apparent even before the pandemic. This situation highlights the pressing need to attract and retain staff within the long-term care industry.

To ensure future preparedness, a system must be created to attract and retain workers in New Jersey's veterans homes. The NJDMAVA should strive to provide competitive compensation for both management and staff at the veterans homes, aligning with private sector. By considering the totality of benefits and incentives offered to its employees – including, e.g., compensation (salary, bonuses, opportunities for raises), benefits (healthcare, flexibility, vacation, leave), and organizational culture (atmosphere, professional development, prospects for advancement) – the

NJDMAVA will be better able to attract and retain talented and dedicated workers for New Jersey veterans homes.

By carefully considering and revising its employee compensation structure, the NJDMAVA will be better able to retain existing staff and attract skilled professionals that can bring valuable expertise and experience to the veterans homes. As part of this process, the NJDMAVA should explore an incentive or bonus program for employees beyond standard compensation methods. The NJDMAVA observed that offering overtime pay did not effectively incentivize employees to work shifts in the veterans homes.[148] To address this, the NJDMAVA should consider more meaningful and motivating incentives to encourage staff commitment and reduce turnover. Such measures are vital in building a dedicated and stable workforce, ensuring the continued high quality of care for veterans home residents.

Recommendation 5: Create a Career Ladder for Veterans Homes Staff

One solution to address the NJDMAVA's staffing issues is the creation of a robust career ladder system through opportunities like tuition reimbursement and grant opportunities could significantly aid in staff development and retention. Instances where CNAs have successfully advanced to become RNs are just one example of potential career growth, and efforts should be made to ensure that NJDMAVA employees see clear opportunities for advancement. Likewise, the NJDMAVA should explore ways to encourage employees to seek advanced degrees or certifications to increase the depth of its staff capabilities from within the organization.

Addressing the hiring and retention crisis among nurses is crucial, especially in light of the findings by Health Affairs that 100,000 U.S. nurses left the profession in 2021, the largest exodus in four decades. The nursing workforce saw a 1.8% decline between 2019 and 2021 due to factors like burnout exacerbated by the COVID-19 public health emergency, early retirements, and increased staffing shortages. To combat this, the NJDMAVA should consider leveraging the federal VA's Hiring and Retention of Nurses program. This program offers financial support to state veterans homes with documented nursing shortages, covering up to 50% of the cost of employee incentive programs (excluding standard benefits like salaries). Implementing dynamic bonuses or other financial incentives could have significantly mitigated the impact of the pandemic on staffing levels. As the industry increasingly adopts such practices, the NJDMAVA will need to follow suit to remain competitive and effectively address staffing challenges.

Recommendation 6: Reform the Procurement Process

A key lesson learned is the importance of procurement flexibility within the NJDMAVA for vendor contracts, especially for direct clinical staff.

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[148] State of New Jersey Commission of Investigation. (2023, October). An Investigation into the State of New Jersey's COVID-19 Response at the Veterans Memorial Homes (p. 4). Retrieved from https://www.nj.gov/sci/pdf/Pandemic%20Report.pdf

The procurement process within the NJDMAVA, specifically regarding vendor contracts for nursing staff, needs reform. The need for flexibility, particularly with respect to establishing standing contracts with multiple approved vendors, was evident during the pandemic. The sudden spike in demand for certain services, such as nursing and other healthcare services, placed the NJDMAVA in a position where it had to scramble to compete with other healthcare providers for additional personnel. Inflexible procurement rules create a significant handicap in such scenarios.

The NJDMAVA faces a challenge under current procurement rules, which limit it to using a single approved vendor. This constraint becomes problematic when the primary vendor cannot meet staffing needs, forcing the NJDMAVA into a cumbersome process to approve an additional vendor and causing delays in obtaining essential personnel. Allowing the NJDMAVA to engage with multiple vendors or have a list of pre-approved vendors for nursing assistance would significantly improve its crisis response capabilities. Procurement reforms enabling this flexibility would permit the NJDMAVA to quickly mobilize extra healthcare workers as required, ensuring continuous, quality care for veterans home residents during public health emergencies and other urgent scenarios.

The need to adjust contract rates for temporary healthcare workers during public health emergencies or crises is essential. To guarantee continuous care for residents, it's advised that procurement policies consider suspending or temporarily raising contract rates for these workers in response to State and/or federal emergencies. Implementing such policies would enable the NJDMAVA to efficiently secure the temporary staff needed in crisis situations. Additionally, emergency preparedness plans should feature a clear guide for altering these rates, facilitating a quick and effective response. Moreover, the State should regularly review its contract rates for temporary healthcare workers to ensure they remain competitive. This evaluation is crucial to determine if the per diem pay for skilled healthcare workers is sufficient to attract high-quality temporary workers. Adjusting these rates accordingly would be a strategic move to ensure the veterans homes are well-equipped with skilled personnel, especially during challenging periods.

6.5 Department Of Corrections

6.5.1 Context: Introduction and Agency Overview

The New Jersey Department of Corrections (NJDOC) is the State's second-largest Department, with a budget of $1B and approximately 7,000 employees. The NJDOC oversees approximately 12,000 state-sentenced people housed across nine correctional facilities, 11 Residential Community Release Programs, and one Assessment Center. Its declared mission is to advance public safety and promote successful reintegration in a dignified, safe, secure, rehabilitative, and gender-informed environment, supported by a professional, trained, and diverse workforce, enhanced by community engagement.

Early on in the pandemic, New Jersey had the highest death rate for incarcerated individuals in the nation. By the end of the pandemic, COVID-19 would result in the deaths of more than 60

incarcerated individuals. Mirroring trends observed in other New Jersey congregate settings, the majority of the NJDOC's COVID-19 deaths occurred during the pandemic's Initial Surge, with 43 of the 66 deaths occurring by May 2020. The racial breakdown of these deceased individuals included 39 Black, 18 White, four Latino, two Asian, and one Native American, which is approximately reflective of the racial composition of the NJDOC's overall incarcerated population.[149] The majority of the incarcerated individuals who died from COVID-19 were in their 60s or older, although the youngest victim of COVID-19 was just 35 years old. Of those who died, 47 had comorbidities, making them more susceptible to severe illness from the virus.

These deaths prompted lawsuits, protests, and demonstrations, including the #SayTheirNames Funeral Procession on May 28, 2020, during which more than 450 passenger-filled cars gathered to honor the lives lost and demand the expansion and acceleration of early release programs.[150]

6.5.2 COVID-19 Statistics and Correctional Facilities

Analysis of health outcomes in New Jersey correctional facilities across different stages of disease progression provides helpful context to understanding how these facilities fared in managing the pandemic's challenges. In particular, such analysis spotlights the high rates of infection and death suffered by New Jersey's incarcerated population during the pandemic's Initial Surge. Similarly, comparing New Jersey's correctional health outcomes with those of other states provides a broader perspective of how different institutions addressed the pandemic's challenges over time.

COVID-19 Infections and Fatalities in New Jersey Correctional Facilities

Like other congregate settings and states, New Jersey's correctional facilities had significantly higher COVID-19 infection and fatality rates than the general population, particularly during the pandemic's Initial Surge. As the following exhibits show, correctional facilities had about nine times the case rates and nearly double the fatality rate as the general population during this period, reflecting the higher transmission rates in congregate settings. The charts below show that COVID-19 case rates were higher for incarcerated persons than for the general population during all phases of the pandemic. While death rates for incarcerated people were higher during the Initial Surge, they were lower than in the general population by the second surge as infection management and treatment approaches improved.

[149] Information about the race of one incarcerated individual who died of COVID-19 was unavailable.
[150] *#saytheirnames - NJ-PJW*. New Jersey Prison Justice Watch. (n.d.). https://njpjw.org/saytheirnames

Exhibit 8: Total COVID-19 cases in New Jersey's correctional facilities for each pandemic period compared to the general population

Cumulative COVID-19 cases in New Jersey's general population and correctional facilities per 100k of total population

Numbers are not absolute; scaling to 100K of population. Absolute numbers can be found in Appendix

	NJ COVID-19 Cases in Correctional Facilities Across Populations *(% distribution across periods)*			
	Cumulative March '20 – March '22	**Initial surge** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
Incarcerated population	35,475 (100%)	16,981 (48%)	18,495 (52%)	*Data for Delta/ Omicron period not available*
General population	10,941 (100%)	1,847 (17%)	9,094 (83%)	

Note: The Marshall Project data was collected from prison agencies directly and verified with officials. Incarceration data includes adult and juvenile state facilities, federal facilities, and immigration detention facilities.
Source: The Marshall Project

Exhibit 9: Total COVID-19 fatalities in New Jersey's correctional facilities for each pandemic period compared to general population

Cumulative COVID-19 fatalities in New Jersey's general population and correctional facilities per 100k of total population

Numbers are not absolute; scaling to 100K of population. Absolute numbers can be found in Appendix

	NJ COVID-19 Fatalities in Correctional Facilities Across Populations *(% distribution across periods)*			
	Cumulative March '20 – March '22	**Initial surge** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
Incarcerated population	342 (100%)	277 (81%)	65 (19%)	*Data for Delta/ Omicron period not available*
General population	270 (100%)	153 (57%)	117 (43%)	

Note: The Marshall Project data was collected from prison agencies directly and verified with officials. Incarceration data includes adult and juvenile state facilities, federal facilities, and immigration detention facilities. The Marshall Project did not include data for Delta and Omicron stage (Jun '21 – Mar '22).
Source: The Marshall Project

State Comparisons

In the pandemic's early phase, infection and fatality rates in New Jersey's correctional facilities were among the highest in the United States, leaving New Jersey with the highest fatality rate in the nation for this population. This is in line with New Jersey's high fatality rates amongst the general population (see Chapter 4 for additional detail). As the following exhibits show, during later surges, the fatality rates and rankings in New Jersey correctional facilities significantly improved and the state achieved one of the lowest fatality rates nationwide. As discussed later, this subsequent improvement in performance likely reflects the implementation of lessons learned during initial outbreaks, in addition to nationwide improvements regarding access to COVID-19 testing, PPE, and vaccination.

Exhibit 10: COVID-19 cases in correctional facilities for New Jersey, peer states, and U.S.

Cumulative COVID-19 cases per 100k of correctional facility population

Numbers are not absolute; scaling to 100k of population

	Total correctional facility cases per 100k			
	Cumulative March '20 – March '22	**Initial surge[2]** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
New Jersey	35,475 23rd (US) 7th/14 (Peers)	16,981 50th (US) 14th/14 (Peers)	18,495 9th (US) 3rd/14 (Peers)	*Data for Delta/ Omicron period not available*
Initial Outbreak States	39,976	4,462	35,514	
U.S. Total[1]	35,149	4,224	30,925	

Note: The Marshall Project data was collected from prison agencies directly and verified with officials. Incarceration data includes adult and juvenile state facilities, federal facilities, and immigration detention facilities. The Marshall Project did not include data for Delta and Omicron stage (Jun '21 – Mar '22). 1. Includes Federal correctional facilities.
Source: The Marshall Project

Exhibit 11: Total COVID-19 fatalities in correctional facilities for each pandemic period for New Jersey, peer states, and U.S.

Cumulative COVID-19 cases per 100k of correctional facility population

Numbers are not absolute; scaling to 100k of population

	Total correctional facility fatalities per 100k			
	Cumulative March '20 – March '22	**Initial surge[2]** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
New Jersey	342 43rd (US) 12th/14 (Peers)	277 50th (US) 14th/14 (Peers)	65 4th (US) 2nd/14 (Peers)	*Data for Delta/ Omicron period not available*
Initial Outbreak States	258	64	193	
U.S. Total[1]	235	52	182	

Note: The Marshall Project data was collected from prison agencies directly and verified with officials. Incarceration data includes adult and juvenile state facilities, federal facilities, and immigration detention facilities. The Marshall Project did not include data for Delta and Omicron stage (Jun '21 – Mar '22). 1. Includes Federal correctional facilities.
Source: The Marshall Project

6.5.3 NJDOC's Response to COVID-19 in Correctional Facilities

Planning and Preparedness

As the virus spread across New Jersey, the NJDOC had to implement unprecedented health and safety measures to protect both the incarcerated population and its staff members. Despite sharing many common challenges with other agencies in terms of preparedness, the unique environment of correctional facilities presented distinct obstacles that required tailored approaches to infection control, testing, and vaccination efforts. This section provides an overview of the NJDOC's response to COVID-19. Prior to the COVID-19 outbreak, the NJDOC lacked a comprehensive pandemic plan. The existing plans, developed in response to the avian flu, were geared towards diseases like avian flu, tuberculosis, smallpox, and Legionnaire's disease, and proved inadequate for the COVID-19 health crisis. These plans were based on scenarios affecting only a small portion of the population for a limited duration, typically one season, and did not anticipate a pandemic of COVID-19's scale or duration. They also failed to consider situations that would overwhelm current infirmary resources, such as the need for dedicated isolation and quarantine units.

Before March 2020, the NJDOC relied on two critical policies for managing health crises: a disease containment policy and influenza policy, both overseen by the Special Operations Group (SOG). As the COVID-19 pandemic unfolded, these existing policies were consolidated and replaced by a new

comprehensive approach, the Pandemic Disease Containment Internal Management Procedure. This revised strategy addressed pandemic diseases and merged prior infection control efforts into a unified procedure. While developing the Pandemic Disease Containment policy, however, the NJDOC did not specify a formal structure for assigning responsibility for the development of an infection control plan. This oversight in planning would cause confusion later regarding who should lead and handle the important job of making and carrying out the NJDOC's infection control plan.

The NJDOC also identified several Health Services Unit policies and procedures as pertinent during the pandemic, including policies for healthcare emergencies, emergency response bags, notifications in emergencies, emergency response, disaster readiness and response, disaster supply kits, and disaster plans.

The SOG had several key responsibilities during the pandemic: it ordered and distributed PPE, conducted COVID-19 testing for staff and individuals in residential community reintegration programs, managed and tracked incarcerated individuals on emergency home confinement, planned vaccination clinics, and responded to emergency needs within the Department.

Infection Control Measures

As the virus spread throughout New Jersey, the NJDOC found itself facing an unprecedented challenge of safeguarding the health and wellbeing of both incarcerated persons and staff within its facilities. Recognizing that correctional facilities were highly susceptible, the NJDOC developed a multi-faceted strategy to combat the spread of COVID-19. From the outset, their approach was twofold: to minimize the potential for the virus to enter the facilities and to mitigate its impact should it get in.

Working under the guidance of Rutgers University Correctional Health Care (UCHC), the NJDOC developed an infectious control plan tailored to the unique complexities of the correctional environment. The NJDOC's Director of Psychiatry, Addictions, and Mental Health reached out to UCHC for a basic infection control framework. This framework served as a foundation for the NJDOC management team to develop a comprehensive plan. In shaping their approach, the NJDOC relied on healthcare data, including positivity and death rates, along with the CDC's guidelines on infectiousness. The collaborative effort was critical, as implementing clinical recommendations directly into correctional settings was complex. The initial plans provided by UCHC required significant adaptations to align with the complexities and unique challenges of New Jersey's prison system, ensuring that the strategies were practical and effective for the correctional environment.

Central to UCHC's strategy was the enhancement of hygiene and safety protocols. Social distancing and mandatory masking became the new norms, transforming daily routines and interactions. Once available, weekly COVID-19 testing for both staff and incarcerated persons was instituted, serving as an early warning system to detect and isolate cases promptly.

The NJDOC adapted its visitation program, trying to strike a balance between maintaining relationships and safeguarding health. This resulted in the NJDOC implementing outdoor visits, reduced visitor capacities, appointment-based scheduling, and health screenings.

The NJDOC adjusted education and rehabilitation programs—vital for the incarcerated persons' personal growth and reintegration prospects—to fit the new health directives. Class sizes were reduced and digital platforms were embraced where possible. This ensured the continuity of critical services despite the challenges posed by the pandemic.

Additionally, the NJDOC temporarily adjusted intake and transfer procedures, paused non-essential construction, and moved staff meetings online. These measures not only reduced the risk of viral transmission but also reflected an effort to safeguard the well-being of the incarcerated population and the staff.

Quarantine and Isolation Protocols

Protocols for Incarcerated Persons

Implementing quarantine and isolation measures proved difficult at the NJDOC facilities, as incarcerated persons typically live in multi-person cells with shared eating, recreation, and programming spaces. Quarantine and isolation are tools that must be adjusted in a correctional setting because it is not physically possible to isolate the 18,000 individuals in the NJDOC's custody. As a result, the NJDOC assigned incarcerated individuals within each facility to cohorts.

On March 11, 2020, before any incarcerated persons had tested positive for COVID-19, the NJDOC announced that it was:

- Implementing health screenings and temperature check protocols for individuals who were being transferred to NJDOC facilities.
- Restricting the transfer of symptomatic persons incarcerated at county facilities.
- Providing medically supported PPE, where and when determined to be medically necessary.
- Enhancing sanitization and education efforts to mitigate the spread of germs.
- Preparing medical quarantines to be utilized if prescribed by medical personnel.[151]

The NJDOC maintained quarantine and medical isolation accommodations for both asymptomatic and symptomatic incarcerated persons across its facilities, but housing assignments remained in place unless there was a medical need for specialized housing such as medical quarantine or medical isolation.[152] The NJDOC conducted temperature scans and gave all individuals entering its facilities a questionnaire about recent travel activity and COVID-19 exposure.[153] In addition, group

[151] *#saytheirnames - NJ-PJW*. New Jersey Prison Justice Watch. (n.d.). https://njpjw.org/saytheirnames
[152] New Jersey Department of Corrections. (n.d.). COVID-19 updates. Retrieved from https://www.nj.gov/corrections/pages/COVID19Updates.shtml
[153] Id.

activities, dining, recreation, religious gatherings, and education were either suspended or modified to minimize potential exposure and encourage social distancing among incarcerated persons.[154]

Whenever an incarcerated person exhibited potential COVID-19 symptoms, the NJDOC's medical team collaborated with the NJDOH to decide on the appropriate actions for each case. Options included placing the individual in quarantine, medical isolation, or transferring them to a hospital if necessary. Throughout most of the pandemic, the NJDOC adhered to CDC guidelines, requiring a 2-week quarantine for anyone who had been in close contact with a COVID-19 case. "Close contact" was defined as being within six feet of someone who tested positive for a total of 15 minutes or more over 24 hours. Starting from February 20, 2023, the NJDOC no longer required automatic quarantine for those who had been in contact with COVID-19 positive individuals. Instead, the determination of who should be tested or quarantined was based on their proximity to the infected individual or findings from contact tracing, with testing recommended on or after the fifth day following the last exposure.

Protocols for Staff

Implementing quarantine and isolation measures for the 8,000 NJDOC employees, the vast majority of whom could not perform their assigned duties remotely, proved challenging as well.

To accommodate for social distancing, the NJDOC implemented flexible work arrangements for the limited number of non-essential personnel that included a reduced and rotational workforce. On May 5, 2020, the NJDOC announced that it was obtaining full-service non-congregate housing for its staff members with exposure to the virus through a program offered by the New Jersey Office of Emergency Management (NJOEM) and FEMA.[155] The temporary housing was designed to utilize available hotels and provide a safe place for those exposed to COVID-19, thereby minimizing the risk to immediate family members or living companions of NJDOC employees.[156]

NJDOC employees who tested positive were instructed to self-quarantine or self-isolate at home or in the non-congregate housing that was made available for impacted staff wishing to recover in a safe space, and the NJDOC notified individuals who had been in contact with the infected staff member so that those exposed could also self-quarantine, as directed by the NJDOH.[157]

The NJDOC reported that the mandatory isolation requirements for staff members who tested positive created staffing deficiencies that ranged from challenging to near-crisis levels, and during

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[154] Id.

[155] New Jersey Department of Corrections. (2020, May 1). New Jersey Department of Corrections to begin universal COVID-19 testing and launches non-congregate housing program for first responders. Retrieved from https://www.nj.gov/corrections/pdf/PressRelease_PS/200501_NJDOCUniversalTestingandNon-Congregate HousingProgram.pdf

[156] Id.

[157] New Jersey Department of Corrections (2020, October 6). COVID-19 Updates. Retrieved from https://web.archive.org/web/20201016183325/https://www.nj.gov/corrections/pages/index.shtml

the periods when infection numbers were the highest, this had a cascading effect on the placement of incarcerated persons into quarantine and isolation, thereby creating a deficiency in bed space.

Decision-Making Authority and Interactions with Key Government Agencies

The NJDOC experienced unique challenges of applying NJDOH and CDC guidance within correctional facilities. Specifically, the prison setting environment complicated the implementation of guidelines meant for LTCFs. The NJDOH's reliance on CDC directives, which lacked correction-specific advice, was seen as problematic. The NJDOH was not familiar with the prison environment and lacked the necessary insight to develop applicable guidance.

There was frustration among some NJDOC staff regarding their efforts to seek specific guidance and input from the NJDOH on infection control plans. Responses from the NJDOH often referred to the CDC website or stated that the NJDOH could not approve or deny proposed plans. Additionally, there was no joint training provided by the NJDOH to adapt infection control recommendations to correctional facilities. During this period, however, the NJDOC was able to collaborate with infectious disease specialists from Rutgers University. Like other state agencies, during the pandemic, the NJDOC often had to rely on external guidance that was needed but usually not tailored to the Department's specific circumstances. The resulting effort to reconcile such broad guidance with the reality of the NJDOC's correctional settings caused delays in decision making.

Masking Procedures

The NJDOC wanted to implement masking procedures as early as February 2020, in anticipation of COVID-19. However, it encountered difficulty in securing masks early in the pandemic, before the NJOEM was able to stockpile and supply masks to the NJDOC. As a result, masks distributed to incarcerated persons during the pandemic were generally cloth or surgical and built by other incarcerated persons.

NJDOC staff are required to wear masks when they are around incarcerated persons who have or might have COVID-19. The NJDOC staff also wear masks in places like medical, mental health, and dental areas, and in isolation or quarantine units. Similarly, the NJDOC staff in healthcare areas may need to wear surgical masks if there is a high number of hospital cases or an outbreak. While the NJDOC now maintains a small stockpile of masks, it would rely on NJOEM to supply masks in a future health emergency.

If incarcerated persons have a confirmed case of COVID-19, they are given N95 masks if they need to be moved. They are also encouraged to wear masks outside their sleeping areas when the COVID-19 community transmission level is high. The NJDOC ensures that masks are available for everyone in healthcare areas so that people can wear them if they want to, even if not required. This policy is intended to maintain the health and safety of both staff and incarcerated persons, especially under conditions that present a higher risk of COVID-19 transmission.

PPE Supplies

Before the COVID-19 pandemic, the NJDOC maintained a small PPE stockpile that was not tailored to infectious disease outbreaks. Once the pandemic hit, the NJDOC, like other agencies, faced supply chain issues that made obtaining items readily available before the pandemic prohibitively expensive, if not impossible. Some NJDOC officials reported that NJDOC was not initially prioritized for PPE but received supplies which were considered excess elsewhere. The NJDOC also created some of its own PPE from readily available supplies.

The NJDOC was also responsible for supplying its contracted Residential Community Reintegration Program locations (and occasionally the Juvenile Justice Commission) with PPE. The SOG was responsible for ordering PPE items during the pandemic and leveraged its partnership with NJOEM to assist in obtaining critical PPE items from NJOEM's stockpile. Practically speaking, this process worked as follows:

- As PPE supplies were needed, the NJDOC would send a resource request to the NJOEM.
- In response, NJOEM would ship the supplies to the NJDOC's storage warehouse in Trenton.
- If NJOEM was backed up on deliveries, the NJDOC would send staff to NJOEM's warehouse to pick up supplies.

In addition to the masking requirements described above, NJDOC staff are also required to wear eye protection, gloves, and gowns when seeing infirmary patients with confirmed or suspected COVID-19, or when entering isolation or quarantine units. Currently, the NJDOC maintains a 3-month supply of PPE at a pandemic-level burn rate for future emergencies, but reports that it needs a larger storage facility for PPE items in the future, as the warehouse it is using is a temporary solution.[158]

COVID-19 Testing Procedures

On May 1, 2020, the NJDOC, in collaboration with Rutgers UCHC and Accurate Diagnostics Lab, launched an extensive COVID-19 testing initiative. This initiative provided on-site testing for staff, incarcerated persons, and residents across all the NJDOC facilities and halfway houses. Approximately 8,000 staff members and nearly 18,000 incarcerated persons, including those pending release and those who had previously tested positive, were set to be tested either weekly or bi-weekly as part of this initiative. The implementation of mandatory, weekly COVID-19 testing was a major undertaking from a staffing and logistical standpoint, and the testing program reportedly cost up to $1M per week to administer.

[158] New Jersey Department of Corrections (2020, June 8). COVID-19 Updates. Retrieved from https://web.archive.org/web/20200608032811/https://www.nj.gov/corrections/pages/COVID19Updates.shtml (Archived June 8, 2020)

The PCR testing kits employed in this endeavor were developed by RUCDR Infinite Biologics, a laboratory associated with Rutgers University. Implementation of the testing protocol began sequentially in each facility, starting with those in the northern region of New Jersey, which was heavily impacted by the pandemic at the time, and including individuals in the Department's Residential Community Release Program facilities. The turnaround time for test results initially took 7-8 days; however, the establishment of a dedicated wet lab exclusively for the NJDOC significantly reduced the timeframe to two days. This improvement in turnaround time enhanced the NJDOC's ability to adapt its pandemic response strategies based on the latest data.

During this period, the NJDOC's HR department oversaw the tracking of COVID-19 testing. This involved monitoring the lab portal three times daily, issuing notifications for positive cases among staff, and coordinating with healthcare providers. HR also collaborated with the New Jersey Office of Information Technology (NJOIT) to link lab results with NJDOC databases to ensure that testing rosters were continually updated. Additionally, they were responsible for providing testing data to the Research and Compliance division for public reporting on the NJDOC website. This comprehensive program helped the NJDOC mitigate the spread of COVID-19 within its facilities and protect the health of both the incarcerated population and staff.

For incarcerated persons in the NJDOC's Residential Community Release Program, testing positive for COVID-19 resulted in being sent back to prison for quarantine. During the investigation for this report, certain formerly incarcerated persons we spoke with claimed that, on occasion, some incarcerated persons attempted to avoid testing positive for COVID-19 for fear of being sent to medical isolation or quarantine. Separately, the Office of the New Jersey Ombudsperson reported cases in which the NJDOC staff may have sought positive COVID-19 test results to avoid work shifts, highlighting challenges faced by both incarcerated persons and staff that were mirrored elsewhere in society during the pandemic.

In February 2023, following CDC guidance, the NJDOC updated its testing protocols, stating that routine testing of asymptomatic incarcerated persons was no longer necessary. However, the NJDOC continues to test individuals showing symptoms of COVID-19 and individuals who have been in contact with someone who tested positive. To date, the NJDOC has conducted more than one million COVID-19 tests.[159]

Efforts to Address Staffing Issues

Before February 2020, the NJDOC was already facing staffing challenges, with numerous vacancies waiting for approval from the Governor's Office to be filled. As in other congregate settings, the onset of the pandemic significantly exacerbated these pre-existing staffing challenges. NJDOC staff exposed to the virus or testing positive had to isolate, leading to staffing levels that ranged from merely challenging to near-crisis level. Despite efforts to safeguard its employees, more than

[159] New Jersey Department of Corrections. (2023, October 5). Visitation and Mitigation Update. Retrieved from https://www.nj.gov/corrections/pages/COVID_Rev2.html

10,200 NJDOC staff members tested positive for COVID-19. During the initial outbreak, one interviewed employee reported that up to 85% of the custodial staff were absent due to illness.

Staffing shortages affected all divisions and severely impacted the NJDOC's operations. The staffing situation during the pandemic led to reduced activities for incarcerated persons and mandatory overtime for officers. Maintenance and the Division of Programs also faced significant challenges, leading them to focus only on services required by law.

The NJDOC had emergency Continuity of Operations (COOP) Plans, but they did not account for a significant portion of staff to work remotely. Given the agency's round-the-clock operation and the essential nature of most of its employees, the potential for remote work was limited. Additionally, existing civil service regulations did not allow for remote work arrangements when the pandemic began. A few non-custodial staff members were allowed to work remotely in the effort to introduce hybrid work models where possible. However, this shift encountered obstacles, including how to remotely deliver services like education and chaplaincy to incarcerated persons, technological limitations within facilities, and inadequate IT infrastructure.

As in other congregate settings, the short-staffed conditions in many New Jersey correctional facilities during the pandemic was a source of tremendous stress. In response to these challenges, the NJDOC partnered with Rutgers University to launch 4BLUENJ, a 24/7 helpline tailored to correctional staff's unique stresses, operated by individuals with corrections experience and training.

Throughout the pandemic, individual facility wardens had to develop plans to reconfigure facilities and staffing schedules to address issues noted above, with measures varying depending on each facility's layout. The NJDOC's current pandemic plans do not address staffing issues. Rather, they operate with the presumption that the NJDOC will be fully staffed. As noted in the recommendations in this report, the NJDOC's emergency plans should be updated to include contingency planning for staffing shortages due to not only pandemics, but all events that could conceivably reduce staffing numbers.

State Initiatives to Release Incarcerated Persons

The State instituted two initiatives designed to reduce the population incarcerated in New Jersey prisons during the pandemic: (1) EO 124[160] and (2) the Public Health Emergency Credit Act (PHECA).[161]

[160] Murphy, P. (2020, April 10). Executive Order 124. State of New Jersey. Retrieved from https://nj.gov/infobank/eo/056murphy/pdf/EO-124.pdf

[161] Public Health Emergency Credit Act , Pub. L. 2020-C.111 S25194R (2020). Retrieved from https://pub.njleg.gov/bills/2020/PL20/111_.HTM

Executive Order 124

On April 10, 2020, in an effort to address social distancing challenges in correctional settings and prioritize the needs of medically exposed incarcerated persons, Governor Murphy signed EO 124, creating the Emergency Medical Review Committee to make recommendations on which incarcerated persons should be released out of New Jersey correctional facilities and instead placed on temporary home confinement.[162] The NJDOC reported that approximately 3,000 individuals met the criteria for consideration, which precluded those who had committed "a serious offense" and included individuals:

- Aged 60 years or older
- With high-risk medical conditions, per CDC COVID-19 guidance
- Who will complete their sentences within the next three months
- Who were denied parole within the last year[163]

Pursuant to N.J.S.A, 30:4-91.3b, those convicted of murder, manslaughter, sexual assault, robbery, kidnapping, or aggravated assault were prohibited from participating in the program, as were those incarcerated for an offense subject to provisions of the No Early Release Act N.J.S.A 2C: 43-7.2.[164]

The NJDOC had a detailed process for determining eligibility for temporary home confinement. Initially, the Department compiled a list of individuals who met the set criteria. This list was then forwarded to an Emergency Medical Review Committee, which reviewed each case file on a rolling basis, with a 7-day deadline to recommend whether each person should be considered for home confinement. The Committee's review process included a safety assessment of the home environment, in-person visits to potential home confinement locations, and consideration of feedback from prosecutors and victims. Despite the Committee's recommendations, the NJDOC's Commissioner made the final decision within three days on whether to grant emergency medical home confinement, but inclusion on the referral list did not ensure release. Once approved, the SOG was responsible for managing and tracking those on Emergency Home Confinement.

To date, 422 incarcerated persons were approved for temporary emergency medical home confinement, 369 of which have been released.[165]

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[162] New Jersey Department of Corrections. (2020, April 10). Governor Murphy signs executive order to establish a process to grant temporary reprieve to certain at-risk inmates. Retrieved from https://www.nj.gov/corrections/pdf/PressRelease_PS/200414_ICYMIGovenorMurphySignsExecutiveOrderTemporaryReprieveAt-RiskInmates.pdf

[163] New Jersey Department of Corrections. (n.d.). COVID-19 updates. Retrieved from https://www.nj.gov/corrections/pages/COVID19Updates.shtml

[164] New Jersey Department of Corrections. (n.d.). COVID-19 updates. Retrieved from https://www.nj.gov/corrections/pages/COVID19Updates.shtml

[165] Id.

PHECA

On October 19, 2020, Governor Murphy enacted S2519, a law designed to reduce the prison sentences of eligible incarcerated persons through the awarding of public health emergency credits. This initiative, which started on November 4, 2020, allowed those nearing the end of their sentences—specifically, those with a maximum release date within one year and not convicted of murder, aggravated assault, or certain sexual offenses—to accrue credits towards their sentence remission. For every month served during the declared emergency, individuals could earn 122 days (4 months) of credit, up to a total of 244 days (8 months) for the entire emergency period. Additionally, the law mandated that the NJDOC Commissioner provide those being released with reentry information, including details on services, programs, and organizations that could assist in their transition back into society. It also required providing incarcerated persons with information about Medicaid, housing, identification, and other benefits and services for which they might be eligible, starting 30 days before their release. More than 2,000 individuals were released in a single day on November 4, 2020 when the legislation went into effect[166] and 3,675 have been released as of March 31, 2021.[167]

PHECA created significant confusion, both within the NJDOC and among the incarcerated, their concerned loved ones, and the greater public. Some individuals who were incarcerated during the pandemic questioned the logic and fairness of the PHECA criteria, noting that everyone was incarcerated under the same conditions during the same pandemic, but only some earned extra credits toward release. Some staff at the NJDOC reported that there would have been less operational challenges had there been more consultation with the NJDOC regarding the development and implementation of release procedures. The NJDOC reported that the Act resulted in an immense strain on resources to prepare the incarcerated population for release, and that ensuring incarcerated persons were provided with information concerning Medicaid eligibility, housing, identification, and eligibility for other benefits and services within three weeks stretched the limits of departmental resources.

Individuals interviewed that were incarcerated during the pandemic echoed this sentiment, noting that many incarcerated persons—some of whom had been incarcerated for decades and had no family or loved ones to support them—became homeless upon reentering society. The NJDOC officials, formerly incarcerated persons, and representatives from stakeholder organizations we met with during our investigation all largely agreed that more robust funding and support for organizations providing reentry services for returning citizens is greatly needed.

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[166] Tully, T. (2020, November 4). *2,258 N.J. Prisoners will be released in a single day*. The New York Times. https://www.nytimes.com/2020/11/04/nyregion/nj-prisoner-release-covid.html

[167] Parmely, S. (2021, May 11). Has 'COVID time' legislation worked, and what does it mean fo NJ'scriminal justice reform future? New Jersey Law Journal https://www.law.com/njlawjournal/2021/05/11/has-covid-time-legislation-worked-and-what-does-it-mean-for-njs-criminal-justice-reform-future

Restricting Visitation

On March 14, 2020, the NJDOC temporarily halted non-legal visits for 30 days to curb the spread of COVID-19. In an effort to mitigate the impact of this measure, the NJDOC increased access to other communication methods, such as free phone calls, JPay kiosk usage, and postage for incarcerated persons.

Visitation was reinstituted, suspended, and modified a number of times during the pandemic. The NJDOC reported that even when an incarcerated person is in medical isolation or quarantine, access to communication devices is made available and sanitized after each use.[168]

Several individuals we interviewed who were incarcerated during the pandemic reported to have experienced a starkly different reality. These individuals claimed that access to alternative forms of communication significantly diminished when visitations were suspended. They also reported instances of contracting COVID-19 while being subject to severe communication restrictions, leaving their families uninformed about their health status until recovery.

Formerly incarcerated persons we met with also reported that JPay kiosks frequently malfunctioned, phone access was sporadic and sometimes unavailable for extended periods, and logistical challenges hindered the distribution of free postage stamps. One interviewee recounted observing undelivered mail accumulating within the facility, and suggested that some the NJDOC staff were reluctant to handle letters from incarcerated persons due to fear of infection.

The NJDOC announced that it would be returning to pre-pandemic indoor, contact visitation guidelines effective May 6, 2023. However, all NJDOC institutions have continued pandemic-era policies requiring pre-visit scheduling by appointment only, with visitation policies subject to revision, to contain outbreaks or adjust to community transmission levels.[169]

Communication with Incarcerated Persons, Staff, and Public

The pandemic required the NJDOC to communicate important information about its COVID-19 response and ongoing operations to various audiences, including the public, its employees and the unions representing them, and the incarcerated persons in NJDOC custody.

The NJDOC communicated with the public through press releases; its website; social media posts to its Facebook, Instagram, Twitter accounts; and media inquiry responses. Key press releases were translated into Spanish to enhance accessibility. However, some employees interviewed noted that the NJDOC struggled with public communications. In particular, these employees noted that there

[168] New Jersey Department of Corrections. (2021, June 14). Indoor Visit Notification. Retrieved from https://web.archive.org/web/20210919051202/https://www.nj.gov/corrections/pdf/OffenderPublications/210423_OutdoorVisitBinder.pdf

[169] NJDOC data.

was confusion regarding policies and logistics surrounding the release of incarcerated persons under the PHECA and EO 124.

The NJDOC communicated with its staff through informational videos, emails, signs, and posters, and a FAQ document was published on its intranet with information for employees. However, the NJDOC encountered hurdles in communicating with its own staff, as approximately 60% of corrections officers do not have email due to IT licensing constraints. One NJDOC employee interviewed noted that it was ironic that the NJDOC was better able to communicate with those incarcerated through the JPay system than it was with its own staff. The NJDOC communicated with unions through scheduled conference calls.

The NJDOC communicated pandemic-related information to the incarcerated persons in its custody using the J-Pay system, signs and posters, an FAQ page designed for those incarcerated on the Department's intranet site, and administrative staff, who walked around the units to communicate information directly.

Vaccine rollout

At the time of this report, the NJDOC has achieved a vaccination rate of approximately 73% among its staff and approximately 61% among its incarcerated population.[170] To reach these numbers, the NJDOC distributed a total of 31,516 vaccine doses, including first and second doses, as well as booster shots.[171] The SOG within the NJDOC played a central role in organizing vaccination clinics, facing early challenges such as vaccine storage. The Pfizer vaccine's stringent temperature requirements led to a preference for the Moderna vaccine, which was easier to store.

Vaccine demand initially outstripped supply, leading the NJDOC to distribute its initial allotment evenly between staff and incarcerated persons. The COVID-19 vaccine was "strongly recommended" but was never mandated among the incarcerated population, and despite initial demand for the vaccine, many individuals within the incarcerated population were reportedly reluctant to get vaccinated. Some of the NJDOC staff interviewed for this report observed that this was particularly true among Black incarcerated individuals. Possible reasons for this hesitancy included fear of the NJDOC experimenting on its incarcerated population, concerns over the vaccine's novelty, past negative experiences with prison healthcare, misinformation, and a desire for autonomy. Incentives such as eligibility for work assignments, recreation time, and commissary credits were used to persuade those hesitant to get vaccinated, though some formerly incarcerated individuals interviewed reported not receiving promised credits. When Department staff noticed that certain races of incarcerated persons were hesitant to get vaccinated, the NJDOC created videos featuring Black staff donning PPE and getting vaccinated, Black physicians explaining COVID-19 related topics and showing themselves getting vaccinated, and a Black incarcerated volunteer being vaccinated.

[170] NJDOC data.
[171] NJDOC data.

Vaccine hesitancy was also noted among the NJDOC staff. In response, EO 283[172] was issued by Governor Murphy on January 19, 2022, requiring correctional facility staff to show proof of vaccination or face a disciplinary process, including possible termination. The NJDOC staff interviewed reported many requests for religious and medical exemptions from the COVID-19 vaccine requirement among the NJDOC employees.

Impact of Quarantine, Social Distance Measures, and Lockdown Procedures

The NJDOC initially suspended all programming for incarcerated persons. While a limited number of educational programs led by external instructors were eventually able to resume with modifications, the NJDOC's lack of Internet connectivity and staffing shortages rendered the vast majority of educational, social services, chaplaincy, health, and work programs inoperable during the pandemic. Nearly every corrections facility operation was impacted, and all "nonessential" medical trips and in-person visits were suspended.[173] As part of the NJDOC's efforts to socially distance the populations in its custody, incarcerated persons were precluded from working and gathering in communal spaces such as cafeterias and recreation yards, and were instead confined to their housing units approximately 23 hours per day. Some individuals interviewed for this report, who were incarcerated during the pandemic, explained that they ate all meals in their housing units and were only permitted to leave to shower, but that limited staff in facilities meant that incarcerated persons were often not able to shower regularly. Interviewees reported severely restricted food options during the pandemic's Initial Surge, with no ability to purchase additional supplies from prison commissaries. Some interviewees also reported that the depleted correctional staff during the pandemic created more opportunities for misconduct by staff and incarcerated persons.

NJDOC officials and staff interviewed also reported enduring tremendous amounts of stress and trauma during the pandemic, especially during the Initial Surge. One official who worked as a warden when the pandemic hit recounted how, during the Initial Surge, she slept in her office for extended periods to meet the constant barrage of challenges faced by the NJDOC staff and the incarcerated population as the crisis developed. Like other state agencies during the pandemic, the combination of fear and uncertainty, severe staff shortages, limited resources, increased responsibilities, and a public health emergency created extreme working conditions.

Several individuals interviewed – both from the NJDOC's staff and the formerly incarcerated – reflected that additional mental health support and resources for those within New Jersey's correctional facilities during the pandemic were sorely needed.

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[172] Murphy, P. (2021, May 7). Executive Order 283. State of New Jersey. Retrieved from https://www.nj.gov/infobank/eo/056murphy/pdf/EO-283.pdf

[173] New Jersey Department of Corrections | Official Website. (n.d.). https://www.nj.gov/corrections/pages/index.shtml

6.5.4 NJDOC Key Decisions

Quarantine and Isolation

Much of the CDC's pandemic-era guidance for congregate living settings was not well-suited to correctional facilities. Guidance that made sense in, for example, a nursing home context was not easily translated to the corrections context, where social distancing was impossible and incarcerated persons did not generally have access to their own private rooms for extended periods of isolation following exposure to the COVID-19 virus. Because the NJDOC was unable to individually isolate each and every incarcerated person exposed to the virus, it treated entire units as one entity, isolating thirty-person groups that had likely been exposed to the virus at the same time or in the same place.

In the early days of the pandemic, the NJDOC adopted a "23/1" model, with incarcerated persons spending all but one hour per day locked in their cells. Additionally, the complexities of managing some semblance of quarantine and isolation meant that it was more difficult to meet the basic needs of incarcerated persons, such as varied food or access to showers.

Masking

The NJDOC had limited access to masks and other PPE during the Initial Surge of the pandemic before supplies became more available. Guards were often equipped with N95 masks, while the incarcerated population were provided with cloth or regular surgical masks. Use of higher-grade masks, such as N95 masks, were prioritized for certain situations, such as the transfer of incarcerated persons confirmed with COVID-19. During the Initial Surge of the pandemic, when masks and PPE were not widely available, the NJDOC involved incarcerated persons in the production of cloth masks that were distributed amongst the incarcerated population.

Testing

The NJDOC established a mandatory testing protocol for incarcerated persons and correctional facility staff.[174] This protocol allowed the NJDOC to be relatively transparent on their website about the number of active infections in New Jersey's correctional facility system. The NJDOC's partnership with an outside laboratory and efforts to ensure consistent and fast testing of staff and the incarcerated population, described previously in this section, significantly enhanced the NJDOC's ability to adapt its pandemic response strategies based on the most up to date data. Like other organizations, the NJDOC still faced challenges in the administration of COVID-19 testing, with both incarcerated persons and staff reportedly attempting to interfere with test results at times to avoid or take advantage of the NJDOC's COVID-19 exposure policies.

[174] See Section 6.5.3, "NJDOC's Response to COVID-19 in Correctional Facilities" for dates.

Vaccination

In determining how to distribute vaccines when its supply was limited, the NJDOC chose to make half of the vaccines it had available to incarcerated persons and half available to staff.[175] The NJDOC wanted to be sensitive to vaccine hesitancy, particularly in incarcerated persons and staff members of color who, may be less inclined to trust the medical establishment given horrific past episodes of medical experimentation on incarcerated people of color in the United States.[176] To encourage those hesitant to overcome their misgivings about the vaccine, the NJDOC created videos of the vaccine being administered to an incarcerated person of color and a staff member of color. The NJDOC also offered incentives in the form of commissary money or food. Despite these efforts, just 61% of the NJDOC's incarcerated persons were fully vaccinated by 2023. 73% of the NJDOC staff members received at least one dose of a two-dose vaccine, or the single dose Johnson & Johnson vaccine.

Visitation

Once in-person visitation was suspended at the NJDOC facilities, the NJDOC worked with vendors to provide free phone calls, email, and postage stamps to incarcerated persons[177] The NJDOC also worked with vendors to identify innovative methods for alleviating the isolation experienced by incarcerated persons during the pandemic. For example, one collaboration with a vendor made it possible for incarcerated persons to exchange video clips with their families.

However, some individuals we interviewed that were incarcerated during the pandemic reported that access to phones was extremely limited during the first several months of the pandemic. These individuals also reported that during this time mail delivery was often significantly delayed.

As the NJDOC began permitting in-person visits to resume after the worst of the pandemic had passed, it introduced new restrictions, such as requiring visitors to schedule visits with incarcerated persons in advance.

Technology

The NJDOC's technological infrastructure was seriously outdated. Many NJDOC staff members did not have email addresses, complicating the NJDOC's ability to efficiently share information with all its staff regarding changing policies and procedures. The pandemic prompted the NJDOC to upgrade some of its technology, installing WiFi in many of its facilities for the first time and making it possible for incarcerated persons to meet with their attorneys via teleconference. The NJDOC

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[175] See Section 6.5.3, "NJDOC's Response to COVID-19 in Correctional Facilities" for dates.

[176] See, e.g., Brown, J., & Sarisohn, H. (2022, October 7). *Philadelphia apologizes for history of prison experiments on black men, hopes to rectify medical mistrust within community*. CNN. https://www.cnn.com/2022/10/07/us/philadelphia-apologizes-prison-experiments-black-men-reaj/index.html

[177] See Section 6.5.3, "NJDOC's Response to COVID-19 in Correctional Facilities" for dates of visitation policy changes.

officials reported that incarcerated persons were given greater access to Internet-connected kiosks where they had access to email during the pandemic, however, some people who were incarcerated during this period that we interviewed reported that these kiosks were frequently out of order.

Programming

In-person religious and educational programming was suspended for parts of the pandemic. To minimize the disruption to incarcerated persons' educations, the NJDOC offered some independent virtual programming.

Interfacility Transfers

For the first year of the pandemic, the NJDOC did not accept incarcerated persons from county jails. Instead, it paid the jails to continue to hold those incarcerated individuals. At the height of the pandemic, the NJDOC was paying county jails approximately $3.5M per month to house incarcerated persons. The NJDOC also severely curtailed the number of transfers between its own facilities. If an incarcerated person needed to be transferred, the individual was quarantined upon arrival to prevent potential spread of infection.

Access to Medical Care

As was the case in the general population during the pandemic, access to medical care not directly related to COVID-19 was limited. Oncological care for incarcerated individuals, for example, was fully suspended during the early days of the pandemic. To eliminate additional barriers to obtaining care, the NJDOC suspended its traditional five-dollar copay for incarcerated persons seeking medical treatment.

Mental Health of Incarcerated Persons

The NJDOC took steps to minimize the pandemic's impact on the mental health of incarcerated persons. While the NJDOC lacked the technological infrastructure to give incarcerated persons access to video calls, it permitted incarcerated persons to have telephone calls with mental health professionals during the pandemic. To ensure privacy and confidentiality, incarcerated persons were at times brought to staff offices for these calls. While it is impossible to quantify the impact of this policy, it may well have contributed to the 0% suicide rate in New Jersey's correctional facilities during the pandemic reported by NJDOC.

Interaction with Governor's Office and Other Agencies

The scale of the crisis the NJDOC faced during the pandemic was immense, and immediate action was sometimes necessary. Because approval from the Governor's Office was required for many

time-sensitive decisions impacting the health of incarcerated persons and the NJDOC staff, any perceived delay in that process was profoundly felt.[178]

During our review, we learned of difficult situations where the NJDOC officials felt compelled to exercise their judgment and take initiative rather than standby for full approval per the standard operating procedure. Examples include setting up contact tracing programs in correctional facilities, making face masks in correctional facility workshops, and distributing those masks to incarcerated persons, all before obtaining approval from the Governor's Office. Similarly, the NJDOC closed its facilities to outside visitors and restricted the movement of facility staff and incarcerated persons before obtaining approval from the Governor's Office.

On other key decisions, such as the availability of Public Health Emergency Credits, some individuals we interviewed suggested that there was insufficient coordination between the Governor's Office and the NJDOC. As previously discussed, the short time between the law's enactment and its implementation deadline presented a major challenge for the NJDOC, as the NJDOC was responsible for planning the release of thousands of incarcerated individuals, all of whom had to be furnished with the information needed to qualify for housing, Medicaid, and other benefits within just a few weeks. The Emergency Home Confinement program also fell into this category.

6.5.5 Looking Ahead

Many people died in New Jersey's correctional facilities during the Initial Surge of the pandemic. The lack of infection control guidance tailored to correctional facilities was a major obstacle for the NJDOC during the pandemic, and, as set forth above, greater coordination between the NJDOC and other agencies would have been beneficial during certain key decisions. By addressing these deficiencies and applying lessons learned from the NJDOC's response to the pandemic, the State can better ensure future preparedness in its correctional facilities.

6.5.6 Recommendations for Preparedness for Future Health Emergencies

Recommendation 1: Increase Collaboration with the NJDOH to Strengthen the NJDOC's Infectious Disease Outbreak Response Plan

Correctional facilities present unique challenges to infection control that are not found in other congregate settings. As a result, broad guidance designed for nursing homes, hospitals, and other facilities are not always adapted to correctional facilities due to unique operational and other challenges. To ensure that the NJDOC can safely manage another infectious disease outbreak, the NJDOC will need more than tailored guidance from health authorities designed for congregate settings in general.

[178] See Section 6.5.3, "NJDOC's Response to COVID-19 in Correctional Facilities" for full scope of the crisis and required response.

Collaboration between the NJDOH and the NJDOC should be increased to help ensure that the NJDOC's infectious disease outbreak response plans sufficiently account for the unique challenges and limitations that set the NJDOC apart from other congregate settings. To achieve this goal, experts from the NJDOH will likely need to collaborate with the NJDOC on-site to review the NJDOC's infectious disease outbreak response plan competently and understand the factors that must be accounted for when implementing infection control guidance within correctional facilities.

Recommendation 2: Formalize Lessons Learned During the Pandemic in the NJDOC's Revised Infectious Disease Response Plan

The NJDOC demonstrated commendable ingenuity during the pandemic in responding to certain infection control challenges, such as developing a practice of cohorting new arrivals of incarcerated persons based on the county or municipal facilities from which they came from. Additionally, the NJDOC, like other agencies, was forced to adapt to staff reductions as the pandemic spread through its correctional facilities. Still, too many lives were lost in New Jersey's prisons during the pandemic, and lessons learned during the crisis must not go to waste.

The NJDOC should ensure that these operational lessons learned are recorded in its infectious disease response planning and can be implemented, as needed, in the future. To that end, the NJDOC should ensure that knowledge gained from effective cohorting practices developed during the pandemic are preserved, and that its contingency planning accounts for scenarios where staff levels are significantly reduced. Similarly, the NJDOC should create written policies implementing lessons learned from furlough and credit programs used during the pandemic.

Recommendation 3: Develop Plans for the Safe Release of Certain Incarcerated Persons in Public Health Crises

A key lesson from the NJDOC's experience with executing the Governor's initiatives for the release of incarcerated persons due to COVID-19 is the importance of having enough time to prepare and plan. For example, the Public Health Emergency Credits (PHEC) law's rapid enactment and the tight deadline for its implementation posed a substantial challenge for the NJDOC. This experience highlights the importance of allowing sufficient time for comprehensive planning and coordination.

To ensure preparedness for crises, it is vital that agencies like the NJDOC conduct adequate table-top exercises for disaster planning and create playbooks with guidance and actions that can be implemented in times of emergency. In addition to planning for issues arising in or related to its correctional facilities, the NJDOC must also be involved in drills and exercises that contemplate the potential release of certain incarcerated persons for safety reasons due to a public health crisis. Such planning must be comprehensive and include the involvement of other agencies to ensure continuity of necessary medical and other services to released persons and to minimize any possible risk to public safety or strain on the healthcare system.

Recommendation 4: Increase Cooperation with Community Based Organizations

Another vital lesson from the COVID-19 release initiatives is the importance of ensuring sufficient support and resources for those reentering society. Many released individuals, including some who had spent decades in incarceration without family support, encountered homelessness, highlighting the need for better resources and preparation for reintegration.

The NJDOC should increase efforts to collaborate with community-based organizations to help ensure that released individuals can return to society and get support they need. While the NJDOC is currently partnered with more than 30 organizations, this effort should be continually reevaluated to address reentry support beyond normal case management, employment, and education. For example, many released individuals have limited support networks and face significant difficulty finding housing. Such challenges are compounded during public health crises.

Recommendation 5: Enhanced Communication with Governor's Office

The pandemic highlighted the crucial need for the NJDOC to be closely involved in discussions with the Governor's Office, ensuring timely and direct communication for decision-making and implementation processes that impact the NJDOC operations.

Therefore, we recommend that the NJDOC and the Governor's Office develop a formal policy to improve communication and collaboration and ensure the NJDOC is actively involved in decision-making processes affecting New Jersey prisons. This policy is especially critical in times of emergency. This policy should streamline the approval process for emergency actions, making it more efficient and predictable. Moreover, the Governor's Office should maintain oversight and be readily available to address challenges and support the NJDOC in crisis situations, enabling swift decisions critical for saving lives.

Recommendation 6: Invest in Necessary Technology

Like other public agencies, the NJDOC has struggled with procuring resources for technological investments. This lack of investment hindered the NJDOC's operations during the pandemic when many other sectors of society transitioned to increased reliance on technology to fulfill basic communication needs and continued delivery of services. As a result, the NJDOC faced limitations during the pandemic communicating not only with the public, but with its own employees.

The NJDOC's investment in necessary technology should continue, with priority given to ensuring that the NJDOC is adequately supported in its efforts to enhance telehealth services with video capability. Additionally, the NJDOC will need adequate funding to implement a secure internet-based system for incarcerated persons that permits access to resources that will increase successful reentry, such as job training, online education, and employment searches.

6.6 NJDHS - Division of Developmental Disabilities[179]

6.6.1 Context: Introduction and Agency Overview

Mission Statement

The NJDHS is the State's largest agency. It serves about 2.1 million New Jerseyans, or about one of every five State residents and one out of every three children. NJDHS specifically serves older residents, individuals and families with low and moderate incomes, people with developmental disabilities or late-onset disabilities, people who are blind, visually impaired, deaf, hard of hearing or deaf-blind, immigrants and refugees, families needing healthcare, child support, and assistance affording child-care, individuals with substance abuse and mental health conditions; and families facing catastrophic medical expenses for their children.

NJDHS's Division of Developmental Disabilities (DDD)

The NJDHS-DDD provides support and services to approximately 25,500 individuals with intellectual and developmental disabilities in the community. About a third of these people reside in licensed residential settings, such as group homes or supervised apartments, while the remaining individuals live in unlicensed settings that include, among others, family homes and independent living facilities. Service plans are completed utilizing third party Support Coordination Agencies, and services are rendered by various DDD/Medicaid approved providers (e.g., residential, day, employment, assistive tech) employing an estimated 30,000 direct support professionals.

NJDHS/DDD's Developmental Centers

The NJDHS, through DDD, operates five Intermediate Care Facilities or Developmental Centers (DCs). The DCs are state-run intermediate-care facilities, akin to long term care facilities, which provide services to more than 1,000 residents with intellectual and developmental disabilities. The facilities employ a workforce of about 4,000 employees, who provide services to residents 24/7. Most DC residents require specialized support for complex medical and behavioral needs. DC residents also have intensive needs related to their intellectual and developmental disabilities due to co-occurring mental health, behavioral health and/or medical needs. The total cumulative census of all five DCs was 1,015 as of December 2023.

The primary responsibilities of NJDHS-DDD in relation to COVID-19 and the developmental centers were to: (1) ensure the health and safety of residents and staff; (2) ensure residents and their families were kept updated and informed regarding the impact that COVID-19 was having at their respective facilities; (3) ensure communication with NJDOH and local health departments; and (4)

[179] NJDHS has been discussed in other chapters of this report. For purposes of this section, we focus on the Division of Developmental Disabilities (DDD) within NJDHS, and specifically DDD's role in operating and overseeing Intermediate Care Facilities or Developmental Centers (DCs).

provide COVID-19 primary series and booster vaccinations to residents and staff when available. During the pandemic, DDD lost 44 DC residents and 233 intellectual and developmental disability (IDD) group home residents to COVID-19.

The five DCs in New Jersey are:

- The Green Brook Regional Center (GRC), located in Somerset County, is the only specialized geriatric center among the five developmental centers. It provides residential treatment and rehabilitation services for men and women with intellectual and developmental disabilities aged 55 and above.
- The Hunterdon Developmental Center (HDC)[180] is located on 102 acres in Clinton, Hunterdon County. HDC provides a broad spectrum of behavioral, medical and habilitation services to women and men with intellectual and developmental disabilities.
- The New Lisbon Developmental Center (NLDC)[181] is located in New Lisbon, Burlington County, on an 1,896-acre tract of land on the edge of the New Jersey Pinelands. It provides a comprehensive system of care for women and men with intellectual and developmental disabilities since 1977.
- The Vineland Developmental Center (VDC)[182] is located in Cumberland County. VDC provides a comprehensive array of residential, habilitation, behavioral and health care services for women and men with intellectual and developmental disabilities.
- The Woodbine Developmental Center (WDC)[183] is located on 250 acres of land in Woodbine, Cape May County. WDC provides a wide range of habilitation, behavioral and medical services, and support to men with developmental disabilities.

6.6.2 NJDHS-DDD Demographic & COVID-19 Health Outcome Statistics

As shown in the exhibits below, the majority of residents in NJDHS developmental centers are middle aged or older, and the number of COVID-19 cases by percentage of population at the centers typically exceeded ninety percent. This is noteworthy both because the case rate is very high and because COVID-19 fatalities as a percentage of cases at NJDHS development centers is lower than nursing homes and veterans homes, with a total of 44 deaths out of 941 recorded cases.

[180] Division of Developmental Disabilities. (n.d.). Developmental Centers. https://www.nj.gov/humanservices/ddd/individuals/developmental/
[181] Id.
[182] Id.
[183] Id.

Exhibit 12: Developmental Centers – Age Group by Facility

Number of individuals living in developmental centers, per specified age group as of 12/15/2023

	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	Total
Greenbrook	<11	<11	<11	<11	28	16	<11	<11	59
Hunterdon	<11	11	25	91	176	43	<11	<11	360
New Lisbon	<11	15	25	62	83	45	<11	<11	244
Vineland	<11	<11	14	32	57	29	<11	<11	149
Woodbine	<11	12	18	52	77	32	<11	<11	203
Total	**25**	**45**	**82**	**244**	**421**	**165**	**25**	**8**	**1015**

Note: Due to Federal Limited Data Set requirements, values less than 11 are suppressed.
Source: New Jersey Division of Developmental Disabilities

Exhibit 13: COVID-19 health outcomes in New Jersey developmental centers, by facility

Cumulative COVID-19 case and fatality rates in New Jersey developmental centers

	Residents	Resident Cases		Resident Fatalities[1]	
	Population	Total cases	Cases as % of DC population	Total fatalities	Fatalities as % of DC population
Hunterdon	368	329	89%	7	2%
New Lisbon	242	223	92%	11	5%
Woodbine	206	194	94%	11	5%
Vineland	149	139	93%	10	7%
Greenbrook	61	56	92%	5	8%
Total	1026	941	92%	44	4%

1. Includes number of deaths where COVID is listed in death certificate. Excludes number of recovered positive residents who passed away (COVID not on death certificate) and number of non-positive residents who passed away.
Source: New Jersey DHS

As discussed in further detail below, a key reason for this difference in outcomes between nursing homes and developmental centers lies in the physical differences between the two types of facilities. In contrast to most nursing homes, many residential living areas in the developmental

centers are spread amongst multiple, smaller buildings or "cottages" that present natural advantages in terms of social distancing and infection control in comparison to large, dormitory-style institutional buildings that a house greater number of residents using shared living areas.

6.6.3 NJDHS's Response to COVID-19 in Developmental Centers

Challenges Before the Pandemic

Regarding preparedness at the start of the pandemic, the NJDHS's various divisions and the NJOEM had contingency plans in place for various types of disasters. However, the NJDHS as a whole – similar to other agencies – was not fully prepared for the unprecedented scope or length of the public health emergency presented by COVID-19.

The NJDHS's senior leadership, comprised of the Commissioner, Deputy Commissioners, Chief of Staff and Assistant Commissioners, in addition to the NJOEM were responsible for preparing the Department for emergencies. The NJDHS regularly participated in disaster planning and tabletop exercises with other agencies,[184] however, the NJDHS was not the lead agency responsible for public health emergency planning. Still, prior to COVID-19 reaching New Jersey and a month before pandemic-related restrictions were imposed in the United States, NJDHS representatives, aware of the situation abroad, started pre-planning for a potential emergency.

Aware of the potential need to implement continuity-of-operations plans for most of its workforce to work remotely, the NJDHS mobilized technology, including laptops and cell phones, to staff who did not have them. Many staff members were already equipped to work remotely so the NJDHS was able to quickly transition to remote work. However, certain legacy systems, specifically those in social service programs and finance, did not permit remote interaction. Additionally, more than half of Human Services employees were in direct care work or in other positions that require onsite work.

Staffing and infrastructure presented challenges for the NJDHS even prior to the pandemic. Like other agencies, the NJDHS was (and still is) unable to offer competitive rates to prospective employees. In addition, maintaining its aging physical infrastructure proved to be costly in multiple ways. For example, at the New Lisbon Developmental Center, many interior walls within the facility did not reach the ceilings, leaving open spaces between rooms and limiting their ability to control transmission of this airborne virus. Maintenance costs for these structures are also constant, although agency representatives reported that the large spaces at each of the centers probably allowed for better social distancing of residents.

[184] NJDHS, in close collaboration with the State Office of Emergency Management and the New Jersey State Police, was the agency responsible for mass sheltering in instances of natural disasters, and the Disaster and Terrorism Branch within the Division of Mental Health and Addiction Services has rapid-response capabilities for mental health services in times of emergency.

Response During Pandemic

For developmental center residents, the facilities in which they reside are their permanent homes and are not places they can simply leave. The pandemic abruptly altered residents' daily routines, bringing changes that are challenging for most individuals but particularly so for those with intellectual and developmental disabilities who are most comfortable with regular routine and may have serious difficulty understanding such a situation. Among other things, the pandemic meant an immediate halt to external outings and visitations, confining residents to their rooms. Furthermore, the appearance of staff in PPE presented an unfamiliar and potentially unsettling change for residents.

In response to the challenges faced by DC residents, their families/guardians, visitors, and staff, the NJDHS-DDD implemented several measures aimed at ensuring safety and maintaining effective communication. Among these measures was the posting of an Outbreak Response Plan (ORP) on the NJDHS website that provided clear and consistent information that each center adhered to during the pandemic. The ORP provided information on actions taken at the centers in circumstances where there was an outbreak of infectious disease (e.g., COVID-19, Influenza), and each center adapted the general guidance it received to its particular setting. The Department also used the existing Social Services Department at each developmental center to communicate necessary information about residents to their loved ones. Other specific measures are listed below.

The NJDHS also proactively released a series of guidance materials and subsequent updates to its developmental centers, each specifically tailored to address concerns within the Developmental Disabilities sector. This guidance material was made readily available through the NJDHS COVID-19 website. The guidance provided includes, but is not limited to, the following key areas:

DDD Closures Related to COVID-19[185]

On Friday, March 13, 2020, the NJDHS-DDD decided to close all Division-funded, facility-based day program settings beginning on March 17, 2020. The Agency directed the Operators to immediately discontinue community outings facilitated by any Division provider, with exceptions for health and safety related circumstances.[186]

To facilitate understanding of the directive, the DDD's FAQ page clearly explained various terms and procedures. For example, providers were not allowed to transport or gather individuals from multiple residences to a single location for shared service delivery to eliminate groups of individuals from congregating together. Residential providers, however, were allowed to continue to plan home and community activities for individuals who lived together, much as other

[185] Division of Developmental Disabilities COVID-19 FAQ. (2020b, March 16). https://www.state.nj.us/humanservices/ddd/documents/DDD-COVID19-FAQ-2020-03-16.pdf

[186] The directive can be found here: *Division update on COVID-19*. Division of Developmental Disabilities. (2020, March 13). https://nj.gov/humanservices/ddd/documents/division-update-COVID19-03132020.pdf

households were doing during that time. Activities were tailored to the interests of individuals and based on their health and safety needs, but providers were also cautioned to avoid large gatherings or areas where groups of people congregated.

Additional guidance related to the DDD closures addressed a wide variety of other issues, including issues specific to residential providers, redeployment of closed day program staff to residential programs upon completion of appropriate (e.g., emergency evacuation, special needs of residents, on call systems, fire alarm systems), funding to holders of closed day habilitation certifications, options for people who lived in a group home or supervised apartment with closed day programs, and guidance for families wishing to visit loved ones in residential settings (residents could visit their extended families in their homes, but families were cautioned that they may have to continue caring for the resident for long periods of time should the resident get sick with or get exposed to COVID-19).

The webpage also informed about the availability of various offices during the pandemic (such as the DDD, Licensing office, support coordinators), and provided updates about efforts made to hire additional staff. Critically, the FAQ ended with general information regarding signs and symptoms of COVID-19, and recommendations regarding hygiene, testing, and care of COVID-19 patients.

Guidance for Individuals and Families[187]

The NJDHS also published an online document titled "Guidance for Individuals and Families," updated as of May 5, 2020, which served as a comprehensive resource for families navigating the challenges posed by the COVID-19 pandemic. This guide aimed to provide immediate access to a variety of resources, helping families stay informed and prepared. Key components of the guide included links to authoritative health websites such as the New Jersey Department of Health and the CDC, education on basic prevention measures, planning for prolonged quarantine, identification of COVID-19 signs and symptoms, and actions to take if symptoms appear. By providing these resources in a central location and in clear language, the guide aimed to equip families with the knowledge and tools needed to effectively manage their health and safety during the pandemic, ensuring they were well-prepared to deal with the ongoing situation.

Universal Masking and Cohorting of Staff[188]

NJDHS also released a guide on the universal masking and cohorting of staff. The guide replicated the CDC's recommendation for the implementation of policies for the universal use of facemasks for healthcare professionals in settings providing 24/7 care to individuals with developmental disabilities to minimize the spread of COVID-19. This policy summarized the various types of masks available, along with the CDC's guidance for use and conservation, and attached a link to a

[187] New Jersey Department of Human Services. (2020, April 14). COVID-19 policy guidance: Universal masking and cohorting of staff. Retrieved from https://www.nj.gov/humanservices/ddd/documents/covid19-universal-masking-policy.pdf
[188] Id.

comprehensive CDC training on all types of personal protective equipment.[189] It also set up rules for staff cohorting.

The NJDHS's policy on universal facemask wearing provided that:

1. All staff should wear a facemask when working. The type of facemask will depend on both the type of care being delivered and the type of mask available. Other PPE should also be used when appropriate and available.
2. Staff members in close contact with COVID-19 positive residents should wear an N95 respirator to protect staff members from infection, or a surgical mask when N95 respirators were not available.
3. Other staff members, including direct care staff that were on duty but whose assignment for the shift did not require close contact with COVID-19 positive residents, were directed to wear a surgical mask to limit particle exhalation by the wearer. Cloth masks were the alternative, with the suggestion that they were washed daily.
4. In case supply of respirators or masks was limited, the guidelines provided guidance on extended use and limited reuse of masks.

The policy also encouraged cohorting of staff by implementing the following rules:

1. It discouraged staff from working for other employers that may bring them into close contact with potential COVID-19 positive individuals.
2. Assigned staff to a single work location.
3. Directed that COVID-19 positive residents were to be isolating or cohorting at specific locations.
4. Directed that, if a staff member worked with a resident that became COVID-19 positive, that staff member would only work with COVID-19 positive residents. Other staff members at the site would provide care to the well individuals.

Temporary Overtime for Self-Directed Employees[190]

In response to the COVID-19 PHE, the DDD temporarily allowed self-directed employees (SDEs) to work overtime (40+ hours/week) when needed to ensure the individual's health and safety. Wherever possible, SDEs were directed to only work hours that had been prior authorized in an approved plan. SDE overtime hours were paid at time and one-half the SDE's base wage.

[189] The training is available at: Centers for Disease Control and Prevention. (2014, November 17). Ebola: Personal protective equipment (PPE) donning and doffing procedures. Retrieved from https://www.cdc.gov/vhf/ebola/hcp/ppe-training/comprehensive-ppe-training.html

[190] New Jersey Department of Human Services. (2020, April 3). Temporary self-directed employee (SDE) overtime. Retrieved from https://www.nj.gov/humanservices/ddd/documents/covid19-temporary-sde-overtime.pdf

Vaccination for Residents and Staff of Congregate Residential Settings[191]

The NJDHS-DDD partnered with Walmart to provide COVID-19 vaccination to residents of DDD facilities. The program was open to staff and eligible individuals with intellectual and/or developmental disabilities (IDD) and/or traumatic brain injury (TBI) living in congregate residential settings.

Walmart identified 34 of its New Jersey locations to provide COVID-19 vaccination, including booster(s), to residents with IDD and/or TBI as well as staff. Online scheduling of vaccination appointments required each person being vaccinated to have their own unique email address and consent from the individual or their guardian.

There were three different alternatives for obtaining consent for vaccination:

- First, consent could be provided by the residents themselves when they had the capacity to sign the written consent form, or by the assigned guardian(s) when the guardian was available to sign.
- Second, when a resident's guardian provided verbal consent for vaccination but couldn't submit a hard copy in time, Walmart implemented a process where the provider documented the consent and could request a hard copy for records. A provider representative then filled out and signed the Walmart Attestation of Verbal Guardian Consent form, negating the need for written consent, and noted "Verbal Consent Form Attached" on required forms. These documents, along with any proof of vaccination, were presented at the vaccination appointment.
- Third, in circumstances where a resident could not obtain consent because their legally appointed guardian was deceased, incapacitated, or they were awaiting appointment of a guardian, the DDD was required to help. To do that, the provider would document that guardian consent could not be obtained and each situation would be reviewed on a case-by-case basis. For all situations, a physician had to certify that the vaccination was essential and beneficial to the resident's general health and welfare using the Certification of Licensed Physician form.

COVID-19 Vaccination Requirements[192]

On March 2, 2022, Governor Murphy signed EO 290, which updated and clarified timeframes for requiring covered workers at health care facilities and high-risk congregate settings to be up to date with their COVID-19 vaccinations, including having received a booster shot. This impacted many settings, including licensed community residences for individuals with IDD and TBI (e.g.,

[191] New Jersey Department of Human Services. (2022, September 16). Walmart COVID-19 Primary Series and Booster Vaccine Program for Residents with IDD, TBI and Their Staff. Retrieved from https://www.nj.gov/humanservices/ddd/documents/covid19-walmart-idd-tbi-residents-in-congregate-settings.pdf

[192] New Jersey Department of Human Services. (2022). Executive Order 290 Communication. Retrieved from https://www.nj.gov/humanservices/ddd/documents/EO290_Comm.pdf

group homes and supervised apartments), certified day programs for individuals with IDD and TBI, and Support Coordination Agencies.

All covered workers employed in high-risk congregate settings had to submit proof that they were up to date with their vaccination by May 11, 2022, including any booster for which they were eligible. Workers who became newly eligible for a booster shot after the May 11, 2022 deadline were required to submit proof of their booster shot within three weeks of becoming eligible.

EO 290 also required a covered setting to take steps toward bringing a noncompliant covered worker into compliance as part of the disciplinary policy required by EO 283 (2022), within two weeks of the May 11, 2022 deadline.

6.6.4 NJDHS's Key Decisions

Developing Developmental Center Specific Health Guidance

The NJDHS had to overcome various challenges regarding official guidance during the COVID-19 outbreak. Specific CDC or other public health guidance for congregate community IDD residential and day settings was not as abundant as it was for nursing homes. The NJDOH guidance similarly did not cover the unique characteristics of the DCs. The official guidance generally did not account for the differences in infrastructure (*e.g.*, the DCs are not a single building but five distinct large buildings which allowed for social distancing in a way that nursing homes did not), neither did it consider the unique population that the DDD serves. Therefore, policy (at various points in the pandemic) was derived from best practices in settings not devoted to the care of persons with IDD. This caused some frustration from families.

In response, the NJDHS adapted the guidance and also proactively created policies on masking, social distancing, COVID-19 testing and vaccination. It is more likely than not that the NJDHS had to account for the frequently changing guidance from CDC on COVID-19, and also had to adapt the little specific or helpful guidance regarding persons who have had an inability to mask due to disability.

There was also no specific guidance for persons with IDD residing in congregate living arrangements (non-healthcare). The congregate care guidance seemed to always address the wrong setting: for example, one cannot operate IDD group homes or DCs similar to prisons. The NJDHS made efforts to comply with official directives, however, taking proactive measures to comply with directives that were not always applicable to developmental centers. The DDD eventually created its own 2020 COVID-19 Response Plan for the New Jersey Developmental Centers which specifically adapted various guidelines to their particular needs. They noted that "[t]he centers have *adapted* protocols as needed throughout the pandemic due to new information learned about COVID-19, operational experience and the addition of new resources." (emphasis added).

The NJDHS also decided to hire an Infectious Disease expert on staff who would be available to the DDD. Their role was to review the latest information about emerging health challenges and offer

guidance on how to best prepare. While the job title was new and the position was created in response to health guidance received during the pandemic, the role itself already existed and was functional at the agency level, which is likely to have given the DDD a head start in mitigating the impact of the virus. The DDD also updated and revised congregate day services policy as needed throughout the pandemic and maintained compliance with emerging requirements from State and federal partners.

Collaborating with State Partners

The DDD reported that State partners it engaged with were collaborative and helpful. Examples include: (1) the assistance of the Communicable Disease Service at the NJDOH in policy review; (2) the assistance of the Governor's Office in approval of various policies; (3) collaboration with DCF on how they were approaching COVID-19 in their programs; (4) the NJOEM and their assistance in the provision of PPE; (5) collaboration with the Division of Medical Assistance and Health Services related to applying for and obtaining approvals from the federal government for COVID-19 flexibilities; (6) the NJDOH on COVID-19 Test Kits; and (7) Epidemiologist at Rutgers University to determine best practices related to COVID-19.

Collecting COVID-19 Data from Developmental Centers

The NJDHS collected data on COVID-19 infection data from staff and residents at each Developmental Center to help inform decisions. The NJDHS also ensured communication with state and local Departments of Health, including requiring that each DC complete daily reporting to health departments. COVID-19 Activity Level Reports, for understandable reasons, always used data from previous weeks. This led to frustration from some stakeholders in that they felt the information was outdated by design.

Surge Planning

The NJDHS required residential providers to engage in COVID-19 Surge Planning. This provided the ability for residential providers to utilize closed day programs such as:

- An alternate residential location in their Surge Plans in the event alternate space was not available.
- A space to take group home residents to enrich their daily routine during the time when outings were not permissible due to COVID-19.

Communication occurred directly and frequently between senior leaders, the Commissioner, Deputy Commissioners and Chief of Staff, and the appropriate liaisons in the Governor's Office. Weekly touch points were scheduled with various team members and direct communication happened more frequently on an as-needed basis.

Daily communication with state and local departments of health also occurred. The varied locations of each DC across different counties led to inconsistencies in how local health departments managed and responded to the COVID-19 pandemic, creating a drift in approaches and guidelines. The DDD addressed all issues through discussion with State, the NJDOH and DCs, which informed their local health departments that another county was approaching various matters differently. In time, the daily communications became every other day meetings, but they were maintained even after the pandemic subsided. Currently, the conversations take place on a weekly basis and DDD representatives report an improvement in their working relationship with local health departments.

The NJDHS made efforts to ensure that residents and their families were kept updated on the impact that COVID-19 was having at the respective facilities. In response to ED 20-026, the communication plan started with the initial publication in October 2020 of the COVID-19 Response Plan on DDD developmental center website, outlining policies in that regard ("In any instance where a resident tests positive for COVID-19, or comes in close contact with a resident or staff who tests positive, the center will reach out within 24 hours of the positive test result to inform the family/guardian"). The NJDHS also created and launched an online, public COVID-19 Dashboard to display the number of COVID-19 cases and deaths of residents among Licensed Residential Settings, Own Home, Out of State and Developmental Centers. The Dashboard was updated weekly from April 12, 2020, through October 30, 2022, after which it was published monthly.[193]

The NJDHS also created a system where each DC's Social Work Department contacted all resident families weekly with updates for the respective center. It released comprehensive FAQ for families, guardians, and residents of the DCs.[194] Some facilities provided updates via mass text messages, and the Assistant Commissioner met with several residents' families.

The DDD tried to understand what residents' families and other stakeholders needed to know. To that end, it collected feedback through help desks, webinars, and regular 1:1 calls with stakeholders, and tailored its messaging accordingly. One downside reported was that, as more organizations moved to virtual meetings, network speeds were sometimes strained during webinars causing frustration of stakeholders.

In addition to communication with families and staff, the DDD also maintained weekly, then biweekly, then monthly live zoom meetings for providers. Additionally, it worked with trade organizations (e.g., Alliance for the Betterment of Citizens with Disabilities, The Arc) and the DD Council to help communicate messaging and to collect feedback.

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[193] The most recent dashboard can be found here: New Jersey Department of Human Services, Division of Developmental Disabilities. (2023, June 4). Coronavirus Disease 2019 (COVID-19) dashboard. Retrieved from https://www.nj.gov/humanservices/ddd/documents/covid19-ddd-dashboard.pdf

[194] New Jersey Department of Human Services, Division of Developmental Disabilities. (2020, March 30). Frequently asked questions for families, guardians, and residents of developmental centers. Retrieved from https://nj.gov/humanservices/ddd/documents/covid19-developmental-center-faq.pdf

Staffing

Like other agencies, the NJDHS experienced staffing shortages and vacancies unable to be filled for Direct Support Professionals (DSPs) and Self-Directed Employees (SDEs). Employees were absent for the same predictable reasons: they were either sick with COVID-19, waiting for testing results, or had simply been exposed to COVID-19 and had to quarantine, among other reasons. Some employees were just not willing to work in a field that required the provision of hands on/close contact care, due to health concerns regarding COVID-19. The staffing problem was related not only to availability but to a decline in staff member morale and fear for not only their safety, but the safety of their families and the residents they served.

Another issue that the NJDHS encountered is the relatively low wage levels of employment in residential care centers vs other parts of the care economy (e.g., hospitals, LTCFs) which compete for the same workers. These jobs can be intensely physical and emotionally draining. Despite all the issues they faced, the DCs were able to meet all required staffing ratios throughout the pandemic, as there was often a core group of staff who rose to the challenge when various employees were fearful or otherwise unavailable.

The experienced CEOs running the five DCs played a crucial role in addressing these issues. The Agency benefited from these sources of institutional knowledge, relationships with other staff and vendors, and particular knowledge of strengths and weaknesses regarding each center. Agency representatives noted various flexibilities related to employment and staffing (e.g., the State lifted the cap on temporary Employment Services), which allowed them to quickly supplement staff when needed.

The 2020 COVID-19 Response Plan highlighted a distinct advantage of DCs over nursing homes, emphasizing their preparedness for staffing shortages due to weather, COVID-19, or other factors. This preparedness includes the capability to re-deploy staff from non-residential to residential areas, share staffing resources among centers as necessary, and hire temporary staff to ensure continuous care. Several notable aspects of the NJDHS's response to staffing challenges presented during the pandemic are discussed below.

Staff Policy Changes. Part of the NJDHS's success in managing staffing challenges may be attributed to their implementation of staffing policy changes. At the outset of the pandemic, the NJDHS provided flexibilities for parent(s)/spouse(s)/guardian(s) to be designated SDEs, and made this a permanent policy change in 2022. It also allowed overtime to be available for SDEs.

When required, due to the emergent nature of the pandemic, the NJDHS engaged in the reassignment and decentralization of staff to allow them to perform work different than their titles required, just to meet critical resident care and sanitation needs. The DCs evaluated all required additional duties and assigned to existing departments/staff at the facility. Due to this, all centers were able to complete the required additional duties within their existing staffing resources. This was due to things like regular group programming (e.g., Day Services), visitation, etc. either ceasing or occurring with less of a need for staff. These staff members were then redeployed to other areas.

Wage Increases. *A*dditionally, from March 17, 2020 through December 31, 2021, the NJDHS provided a 20% wage increase for group home providers due to day services being closed and residents remaining in their respective group homes during the day. It also put in place a temporary wage increase of approximately $3 per hour for Direct Support Professionals employed in congregate residential settings during the most difficult 9 months of the pandemic, May 1, 2020 to July 31, 2020, and again October 1, 2020 to March 31, 2021. The NJDHS also provided enhanced payments to staff working in resident living areas during the height of the pandemic.The NJDHS also put into place an enhanced wage for regular and overtime hours between March 28, 2020, through June 30, 2020, to ensure staffing, which was funded through federal COVID-19 funding. It also allowed permanent part-time employees to earn overtime.

Hiring. *The* NJDHS modified staff hiring processes and enabled rapid hiring of DSPs and SDEs. It also implemented an accelerated employee onboarding process to make meeting staffing needs more efficient. But the agency did report difficulties hiring because of the uncompetitive rates that they were and still are able to offer to prospective employees.

Virtual Work Opportunities. *A*t the beginning of the pandemic, the NJDHS provided flexibility for some DDD services to be provided virtually and outside of typical daytime hours. They issued IT equipment to staff so that they could work from home efficiently. In 2022, it made a permanent policy change to allow up to 12 hours a week of virtual classes.

The agency had to deal with particular challenges for staff operations: creating policy and procedures that reflected a remote work environment, streamlining processes, operating with functions that remained paper-based such as personnel files, and moving to electronic systems-virtual training. While it was helpful to have universal procedures and systems, there was a lag time in creating and communicating the new universal procedures. According to the NJDHS's June 21, 2023, Outbreak Response Plan, the DCs are now prepared in the event of a staffing shortage. They have the ability to hire temporary staff as needed, re-deploy staff from non-resident areas to resident areas, and share staffing resources with each other.

Infection Prevention and Control

The NJDHS dealt with infection prevention and control on more than one front, as noted below.

Formation of Facility-Specific COVID-19 Committees. The NJDHS established a COVID-19 Committee at each DC, a unique and pivotal decision among congregate care facilities, specifically designed to manage all aspects of the COVID-19 response and to bolster the efforts of existing Infection Control Committees.

Hygiene. The NJDHS educated all residents and staff on hand hygiene, including hand hygiene after contact with respiratory secretions, with regular reinforcement, as well as cleaning and disinfection procedures. It enhanced and imposed more frequent cleaning of highly trafficked areas and surfaces and established protocols for COVID-19 contact tracing.

PPE. The five DCs routinely obtained PPE to support their operations even prior to COVID-19. Because of existing relationships with vendors, they were able to obtain PPE during the pandemic

at times when supply was available. The DCs also had previously established relationships with PPE suppliers, so they were also able to procure PPE, even if it was not sufficient for their needs. This prevented the DCs from having to rely solely on the central NJOEM supplier for their PPE.

Closures. On March 13, 2020, NJDHS temporarily closed congregate day programs. Reopening guidance was released on March 29, 2021, directing that programs could re-open as soon as they were in compliance with the requirements. Due to a surge in COVID-19, the DDD again closed all congregate day programs from November 25, 2020–March 2021.

Visitation. Due to the nature of the public health emergency and to curtail the spread of COVID-19, the DDD required that all in-person visitation be temporarily paused in DDD-licensed congregate residential settings in March 2020. In June 2020, it released a policy allowing the resumption of limited visitation within these settings, as well as off-site visits. Throughout the pandemic, the DDD published numerous updates to its residential visitation rules.

Through its COVID-19 Response Plan, the NJDHS allowed compassionate care and other visit types during the height of the pandemic, and allowed a return to regular visitation as vaccination became available. To compensate for policies limiting visitation, the NJDHS also shifted to the use of virtual communication wherever possible. For example, the NJDHS purchased and distributed iPads to facilitate communication between residents and their families.

Staff Cohorting.[195] The NJDHS-DDD followed guidance that largely avoided cohorting of staff by implementing the following rules:

- Staff were discouraged from working for other employers that may bring them into close contact with potential individuals with active cases of COVID-19.
- The NJDHS assigned staff to a single work location.
- COVID-19 positive residents were isolated for cohorting at specific locations.
- The NJDHS directed that, if a staff member worked with a resident that became COVID-19 positive, that staff member would only work with COVID-19 positive residents while other staff members at the site would provide care to the non-infected residents.

Social Distancing. The NJDHS re-enforced universal precautions and social distancing, to the extent practical based on person-centered needs. Where prudent, the NJDHS retrofitted physical spaces with physical barriers for infection control.

The NJDHS-DDD separated resident living units at each DC as follows: (1) recovered positive, (2) always negative, (3) exposure (quarantine), and (4) active positive (isolation). The practice was detailed at each level, with specific testing protocols. As DDD representatives explained, their approach was "time-based" rather than "symptom-based."

[195] See supra, Section 6.6.3. NJDHS's Response to COVID-19 in Developmental Centers.

The NJDHS completed several projects to increase protection against transmission. For the New Lisbon DC, the NJDHS raised the facility's partial walls to the ceiling in resident living areas to prevent uncontrolled air circulation between rooms and facilitate social distancing. For the Hunterdon DC, the NJDHS created a negative pressure isolation room for COVID-19 positive residents. Additionally, the NJDHS established an environmental ventilation action plan to reduce the risk of transmission at its centers.

Masking. The NJDHS created a Respiratory Protection Program at all DCs, including a Fit Testing Program for the correct usage of the N-95 masks. Notably, this was not required under DC/IID regulations and likely increased the benefit of having PPE on-site and available by minimizing user error issues.

Testing. At the start of the pandemic when PCR testing was new, obtaining results took days, and in some cases, weeks. This delay could cause further spread of COVID-19 but was eventually resolved as testing became more efficient and widely available.

In November 2020, the NJDHS contracted with Quest Diagnostics to provide COVID-19 test kits for residents of licensed residential settings and their staff. The NJDHS provided COVID-19 testing for symptomatic residents and those exposed to COVID-19 (outbreak testing). The NJDHS also obtained approval for each center to be CLIA approved for COVID-19 testing, including compliance with data collection and documentation standards. The DDD's developmental centers were the first institutions in New Jersey to utilize the COVID-19 saliva tests from Rutgers University for staff in April 2020. The NJDHS utilized COVID-19 non-saliva tests from other vendors for residents.

Vaccination. The NJDHS worked on enforcement of various Executive Directives and Orders related to vaccination of Support Coordinators, staff working in Certified Day Programs and staff working in Licensed Residential Settings.

The NJDHS required all DC staff to be up-to-date with their COVID-19 vaccinations (including booster) or be regularly tested if they have been granted a legally required exemption. Some staff members refused to get vaccinated. However, staff vaccination rates were still high because of the EO requiring certain staff in certain settings to be vaccinated.

Another issue that the NJDHS encountered was that not all DCs were signed up for the Federal Vaccination Program. While signing up for the federal program was delayed, the NJDHS did not believe that vaccination overall was delayed due to their partnership with Walmart. For both the vaccine and the booster, the NJDHS facilitated multiple clinic dates on site, time to receive vaccination off site, and time to recover from the vaccination side effects (as applicable). The NJDHS also coordinated the actual vaccination in terms of physical space and scheduling, so persons were not present in large groups at the same time.

In early 2022, the NJDHS implemented a monthly survey for providers of Support Coordination, Licensed Residential Services, and Certified Day Services to report Vaccination rates of their staff. The January 2023 survey results for Licensed Residential Providers are as follows:

- 97% of residents have received primary series, 99% have received booster, 92% have received Bivalent Booster
- 97% of staff have received primary series, 94% have received booster, 14% have received Bivalent Booster.

Outbreak Response Plans. The NJDHS developed robust outbreak response plans throughout the pandemic. The core principles of NJDHS's June 21, 2023, Outbreak Response Plan are noted below.

- Leadership Support
- Education and Training of Staff on Infection Prevention
- Resident and Visitor Education
- Performance Monitoring and Feedback
- Standard Precautions to Minimize Potential Exposures
- Transmission Based Precautions
- Temporary Invasive Medical Devices for Clinical Management[196]
- Occupational Health

6.6.5 Looking Ahead

There are several lessons to be learned from the NJDHS's handling of COVID-19 in its developmental centers that can be applied broadly to other congregate centers. For example, the fact that the NJDHS's DCs were mostly run by individuals that were promoted to leadership roles from within the organization likely brought institutional knowledge and experience that was lacking in other facilities. Additionally, the NJDHS exhibited in several instances a prioritization of developing guidance tailored to the needs of its unique resident population, such as crating specific guidance that accounted for differences in physical infrastructure and other distinguishing features. Further, the DDD made a number of varied but complimentary efforts toward ensuring adequate communication during the pandemic, such as posting DC Outbreak Response Plans available to residents and families, leveraging existing resources within each DC to maintain open channels of communications with families, launching an online COVID-19 dashboard, and utilizing multiple mediums, such as webinars, telephone calls, and text messages.

The following recommendations are specific to the NJDHS's oversight of the Developmental Centers based on our investigation.

[196] Assessment of the medical necessity of any invasive medical device (e.g., vascular catheter, indwelling urinary catheter, feeding tubes, ventilator, surgical drain) to identify the earliest opportunity for safe removal.

6.6.6 Recommendations for Preparedness for Future Health Emergencies

Recommendation 1: Prioritize IDD Population when Issuing Guidance and when Collaborating with Various Stakeholders

Guidance was scarce for the NJDHS's Developmental Centers, and it failed to consider the specific health issues that the unique IDD population faced. The DDD had to adapt the CDC, State, and local guidance to fit the needs of population with IDD, and to the DDD's specific infrastructure. It is recommended that, upon release of health policies, the specific population and the smaller DC settings are considered in terms of applicability.

Recommendation 2: Invest in Infrastructure, Staff, and Technology

Agency representatives reported that one of the biggest challenges they faced (and continue to face) was the cumulation of (1) old infrastructure, useful as a setting but needing frequent maintenance, and (2) obsolete technology.

Since the infrastructure is old and large, the agency constantly incurs costs on improvements, and these costs are unavoidable. But the Agency recognizes that the large spaces were some of the biggest advantages they had during the pandemic because they allowed for proper isolation. Given that the unique setting of the DCs fits almost perfectly with the unique challenges faced by the IDD residents, it is our recommendation that New Jersey increase funding for maintenance costs, which will allow DCs to properly function without sacrificing other needs, and to maintain a quarantine/isolation space plan available in case of another infectious disease outbreak.

Investing in technology on behalf of this agency seems inevitable. The Agency operates on paper records with decade old technology, and their buildings are not equipped with WiFi. Technology can and should be used to increase efficiency. We also recommend robust technology training for agency staff.

Recommendation 3: Attract and Retain Top Talent

The Agency reported that, at an objective level, it could not and still cannot attract and maintain staff because they do not offer competitive market rates. We recommend that New Jersey provide additional funds for salary increases and/or to attract new talent. However, funding alone will not be enough to alleviate the issue. Similar to other agencies, part of the DDD's workforce can easily switch to a work-from-home setting, but another part of the workforce can perform services in person only and should therefore qualify for essential personnel status. The State may consider incentives for in-person workers, such as paying additionally for in-person presence and make such payment separate from wages, or review CSC pay scales to compensate staff at a higher level for in-person work as opposed to virtual. The personnel that works from home could be allowed greater flexibility for work schedules, such as alternate work week, 10-hour days (four days on and three days off). The Agency should continue to allow for hybrid work as it was demonstrated that

staff were as productive working in that capacity as they were in person (in many cases, more work was actually completed as commute time was no longer a factor).

Recommendation 4: Increase Communication and Collaboration with Sister Agencies.

Constant communication with various stakeholders, including sister agencies, continues to this day. It is recommended that New Jersey implement tabletop exercises to better educate other Departments on the DCs as a setting, so they are aware of their similarities and differences as compared to nursing facilities. In addition, because it has already proved effective, it is recommended that local health departments meet on a regular cadence to discuss best practices, given the current variations in how local health departments operate.

It may also prove beneficial to work with partners at sister agencies to coordinate messaging on directives that impact the IDD population. For example, it may prove useful to work with hospital settings to include DC staff, along with the guardian/family of the resident when making decisions around DNR orders. The DCs provide a level of care that can prolong the life of individuals with IDD that may not be known to hospitals.

6.7 Appendices

Appendix A: Quantitative Health Outcomes in New Jersey's Nursing Homes

A-1 Total COVID-19 health outcomes in New Jersey's nursing homes for each pandemic period

Cumulative COVID-19 cases and fatalities in New Jersey per 100k of nursing home population

Numbers are not absolute; scaling to 100K of population. Absolute numbers can be found in Appendix

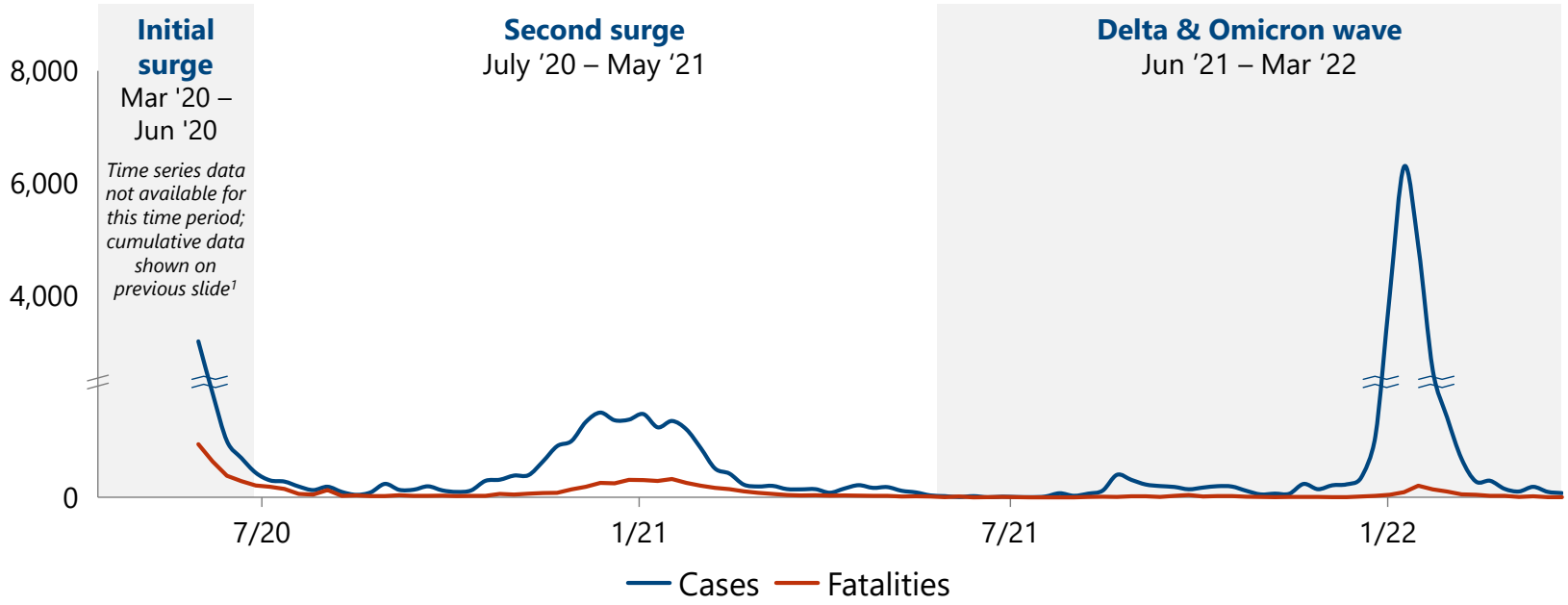
	NJ COVID-19 Impact in Nursing Homes Across Metrics[1] *(% distribution across periods)*			
	Cumulative March '20 – March '22	**Initial surge[2]** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
Nursing homes cases	81,431 (100%)	34,105 (42%)	20,160 (25%)	27,166 (33%)
Nursing homes fatalities	16,256 (100%)	10,551 (65%)	4,525 (28%)	1,219 (8%)
Fatalities / Cases	20%	31%	22%	4%

Data may not entirely represent actual fatalities given:
1. Data is **self-reported** by each nursing home facility creating potential for inconsistencies across nursing homes
2. Reported fatalities include the number of residents with **suspected or laboratory positive COVID-19** who died in the facility or another location, leading to difficulty in assigning exact cause of death

Note: Hospitalization data not included as reporting is incomplete.
1. Total number of residents calculated as an average of occupancy over entire period. 2. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include cases and fatalities as early as 1/1/20.
Source: CMS COVID-19 Nursing Home Data

A-2 COVID-19 health outcomes in New Jersey's nursing homes throughout the pandemic

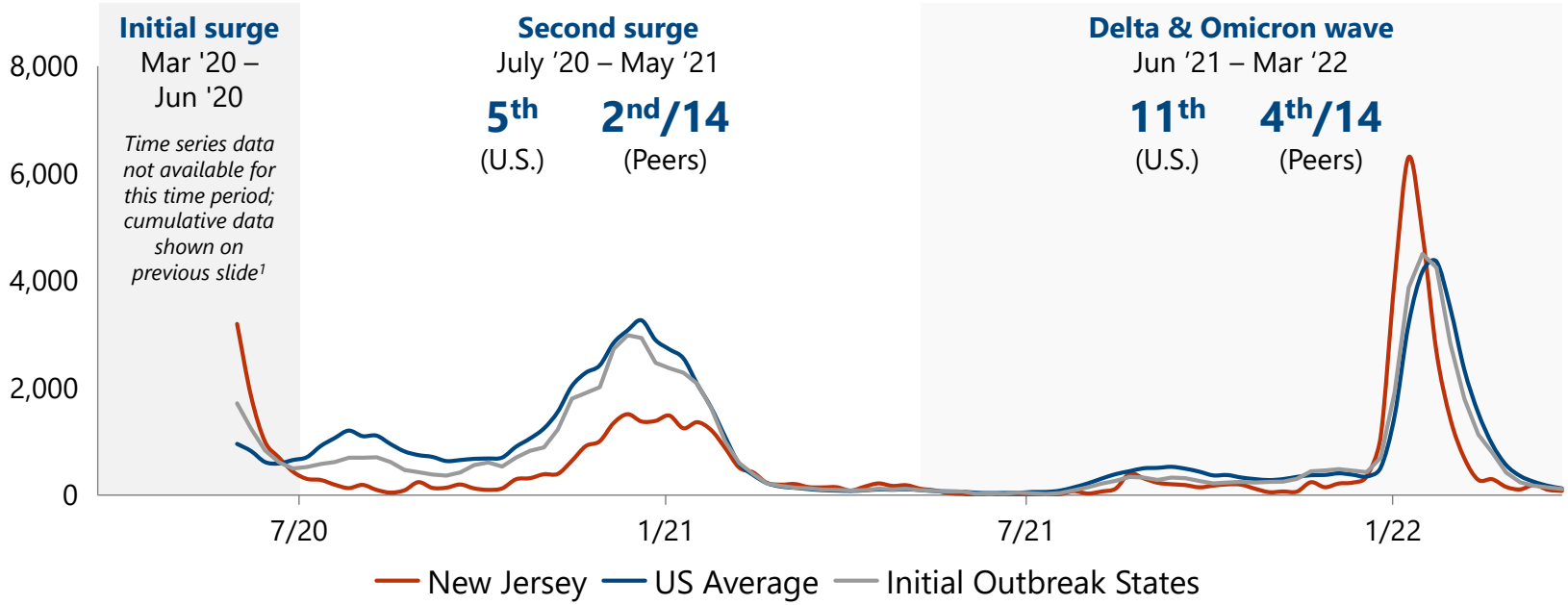
Weekly COVID-19 cases and fatalities in nursing homes per 100k nursing home residents.



Note: Total number of residents calculated as an average of statewide occupancy over the course of the same period; US Average weighted by state population; Note: Nursing homes included in the dataset are certified Medicare skilled nursing facilities/Medicaid nursing facilities, and does not include non-CMS regulated facilities, such as assisted living communities. 1. Weekly data begins 5/31/2020; a cumulative measure of counts up to 5/24/20, including as early as 1/1/2020, is reported in 5/24/2020.
Source: CMS COVID-19 Nursing Home Data

A-3 Weekly COVID-19 cases in nursing homes

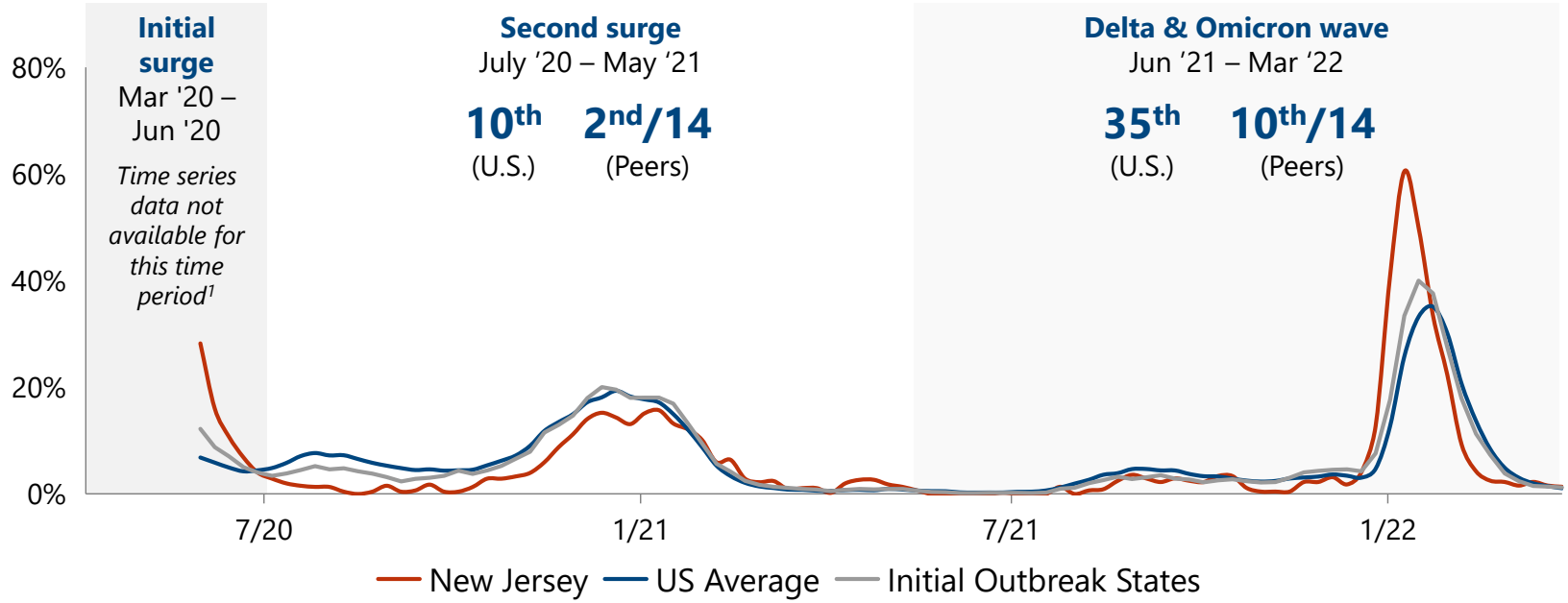
Weekly COVID-19 cases in nursing homes per 100k nursing home residents, including NJ rank within time periods



Note: Total number of residents calculated as an average of statewide occupancy over the course of the same period; US Average weighted by state population; Nursing homes included in the dataset are certified Medicare skilled nursing facilities/Medicaid nursing facilities, and does not include facilities not regulated by CMS, such as assisted living communities; Ranking of cumulative cases per 100k over the time period 1. Weekly data begins 5/31/2020; a cumulative measure of counts up to 5/24/20, including as early as 1/1/2020, is reported in 5/24/2020. Ranking for the Initial Surge is excluded to reduce potential data inconsistencies between states.
Source: CMS COVID-19 Nursing Home Data

A-4 Share of nursing homes with active COVID-19 cases

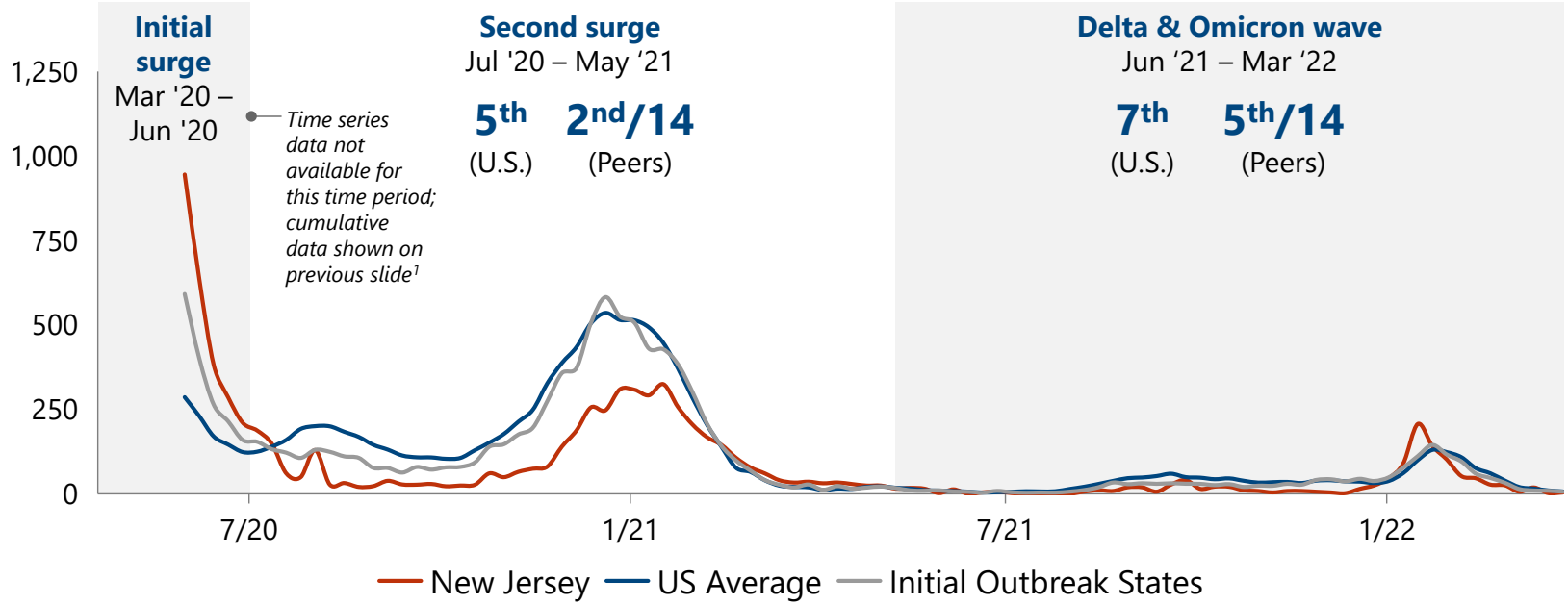
The percent of nursing homes with 3 or more cases, including New Jersey rank within time periods.



Note: US Average weighted by state population; Nursing homes included in the dataset are certified Medicare skilled nursing facilities/Medicaid nursing facilities, and does not include facilities not regulated by CMS, such as assisted living communities; Percent with 3 or more cases as a percentage of total reporting; Ranking of cumulative cases per 100k over the time period; 1. Weekly data begins 5/31/2020; a cumulative measure of counts up to 5/24/20, including as early as 1/1/2020, is reported in 5/24/2020.
Source: CMS COVID-19 Nursing Home Data

A-5 Weekly COVID-19 deaths in nursing homes

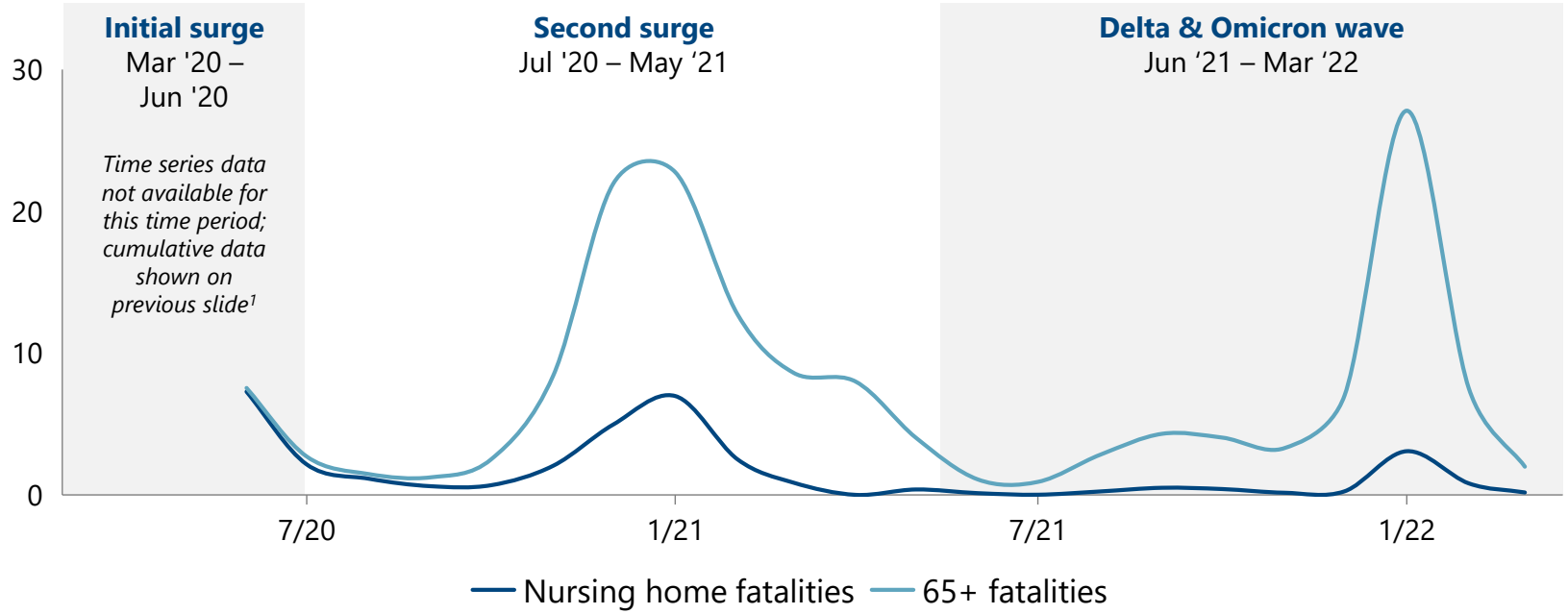
Weekly nursing home deaths per 100k residents, including NJ rank within time periods



Note: Rankings reflect NJ's performance relative to other states. A higher rank (e.g. #50) is "bad" as it implies a higher rate of illness or deaths than the other 49 states; Ranking represents state averages across the whole time period of weekly average of deaths per facility per state 1. Weekly data unavailable prior to late May 2020, as data was reported cumulatively for week of May 24, 2020 and may include counts as early as 1/1/20.
Source: CMS COVID-19 Nursing Home Data

A-6 New Jersey COVID-19 fatalities in nursing homes and total 65+ population

New Jersey monthly fatalities for nursing homes and aged 65+, per 100k of total population



1. Time series data unavailable prior to late May 2020, as data was reported cumulatively for week of May 24, 2020.
Source: CMS COVID-19 Nursing Home Data

A-7 Nursing homes as share of total NJ COVID-19 fatalities

Cumulative COVID-19 nursing home fatalities as percentage of cumulative COVID-19 fatalities for total population

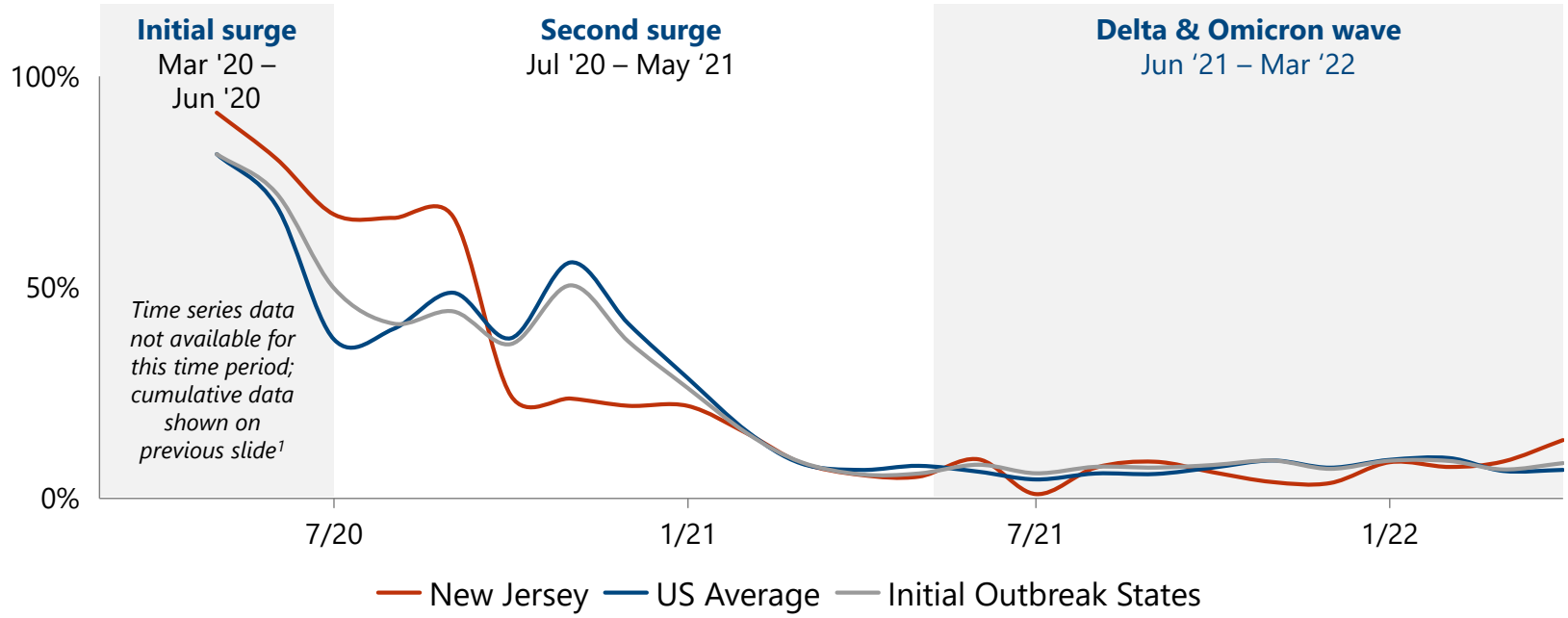
Numbers are not absolute; scaling to 100k of population

	Nursing home deaths as % of total population deaths			
	Cumulative March '20 – March '22	**Initial surge** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** June '21 – March '22
New Jersey	24%	36%	19%	8%
Initial Outbreak States	26%	47%	30%	9%
U.S. Total	23%	40%	31%	8%

Source: CMS COVID-19 Nursing Home Data, CDC

A-8 Nursing homes share of total monthly COVID-19 deaths

Percent of total monthly deaths from nursing homes



1. Time series data unavailable prior to late May 2020, as data was reported cumulatively for week of May 24, 2020
Source: CMS COVID-19 Nursing Home Data

Appendix B: Quantitative Health Outcomes Analysis related to New Jersey's Veterans Nursing Homes

B-1 COVID-19 cases in NJ's veteran nursing homes for each pandemic period

Cumulative COVID-19 cases and fatalities in New Jersey per 1k of veteran nursing home population

Numbers are not absolute; scaling to 1,000 of population

	NJ COVID-19 Impact in Veteran Nursing Homes Across Metrics[1] *(% distribution across periods)*			
	Cumulative March '20 – March '22	**Initial surge[2]** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta & Omicron** Jun '21 – March '22
Veteran nursing homes cases	545 (100%)	226 (41%)	113 (21%)	207 (38%)
Veteran nursing homes fatalities	207 (100%)	146 (71%)	32 (15%)	29 (14%)

Data may not entirely represent actual fatalities given:

1. Data is **self-reported** by each nursing home facility creating potential for inconsistencies across nursing homes
2. Reported fatalities include the number of residents with **suspected or laboratory positive COVID-19** who died in the facility or another location, leading to difficulty in assigning exact cause of death

Note: Hospitalization data not included as reporting is incomplete. Note: Weekly trends not visualized due to low numbers of cases and fatalities.
1. Total number of residents calculated as an average of occupancy over entire period; 2. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include cases and fatalities as early as 1/1/20.
Source: CMS COVID-19 Nursing Home Data

B-2 COVID-19 cases in NJ's veteran nursing homes for each pandemic period

Cumulative COVID-19 cases in veteran nursing home population by facility

Numbers are absolute

	Total veteran nursing home cases			
	Cumulative March '20 – March '22	**Initial surge**[1] March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta/Omicron** June '21 – March '22
Paramus	193	124	16	53
Menlo Park	83	13	9	61
Vineland	67	5	46	16

1. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include cases as early as 1/1/20
Source: CMS COVID-19 Nursing Home Data

B-3 COVID-19 fatalities in NJ's veteran nursing homes for each pandemic period

Numbers are absolute

	Total veteran nursing home fatalities			
	Cumulative March '20 – March '22	**Initial surge**[1] March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta/Omicron** June '21 – March '22
Paramus	82	79	0	3
Menlo Park	35	10	12	13
Vineland	13	3	8	2

1. CMS data begins at the end of May; the first week where data is reported (the week of 5/24) is a cumulative measure that may include fatalities as early as 1/1/20.
Source: CMS COVID-19 Nursing Home Data

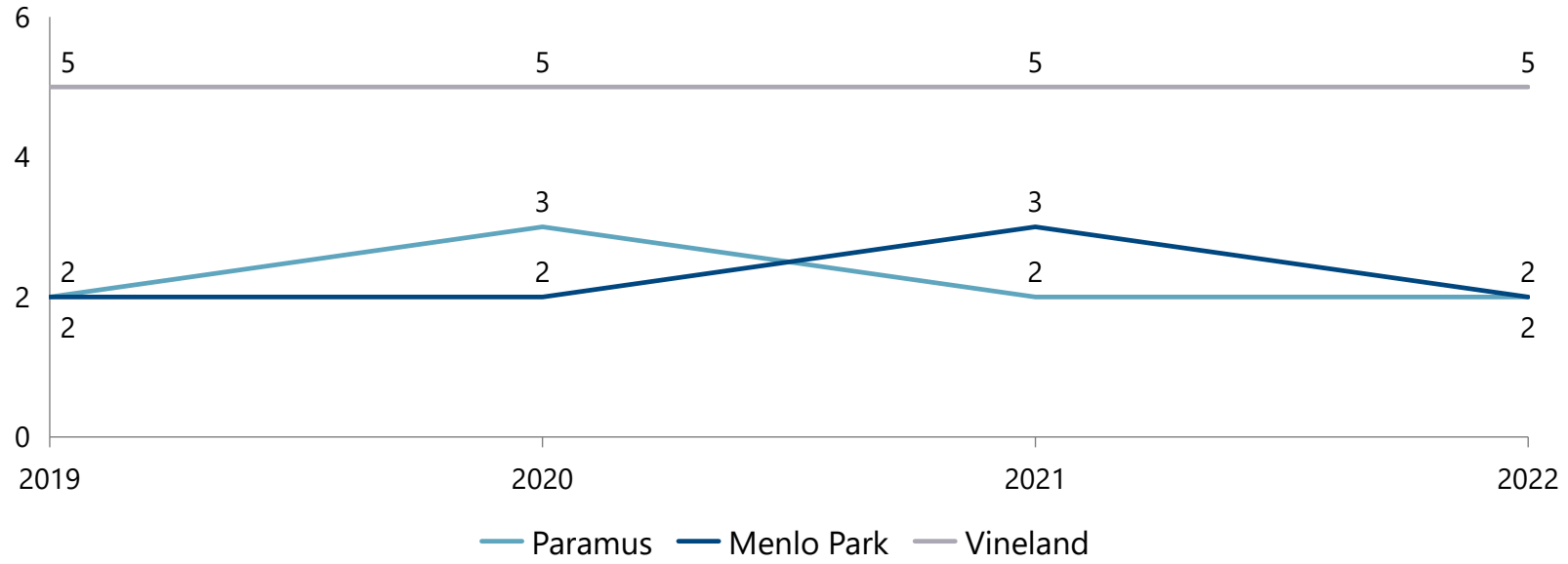
B-4 CMS Five Star Rating system definitions

Dimension	Definition
Health inspection	• Score is based on three most recent **health inspections**, **complaint and control deficiencies** over past three years, and **repeat visits** required to verify corrections have brought facility back into compliance • Onsite health inspections occur on an annual basis (on average) - Inspections are unannounced and conducted by team of health care professions over several days who assess whether nursing home is in compliance with federal requirements - Comprehensive assessment covers: resident rights, quality of life, medication management, skin care, resident assessment, nursing home administration, environment, and kitchen/food services
Staffing	Score is based on: • Case-mix adjusted Registered Nurse (RN) and total **nurse staffing hours** (RNs, Licensed Practical Nurses, Certified Nurse Aids) **per resident per day** in a three-month period (weekdays and weekends)[1] • Case-mix adjusted total **nurse staffing hours** (RNs, Licensed Practical Nurses, Certified Nurse Aids) **per resident per day** on the **weekend** in a three-month period[1] • Total nurse, RN, and administrator **turnover** over a twelve-month period
Quality	Score is based on set of 16 long- and short-stay **measures describing care provided in nursing homes**. Sample of measures include: • Hospitalizations, emergency department visits, residents whose ability to move independently worsened, residents with pressure ulcers, residents experiencing 1+ falls with major injury, residents who got an antipsychotic medication, rate of successful return to home/community from a skilled nursing facility

1. Daily resident census is used as the denominator of the reported nursing staffing ratios.
Source: CMS Nursing Home Compare Technical Users' Guide

B-5 New Jersey veteran nursing homes' total CMS scores between 2019 and 2022

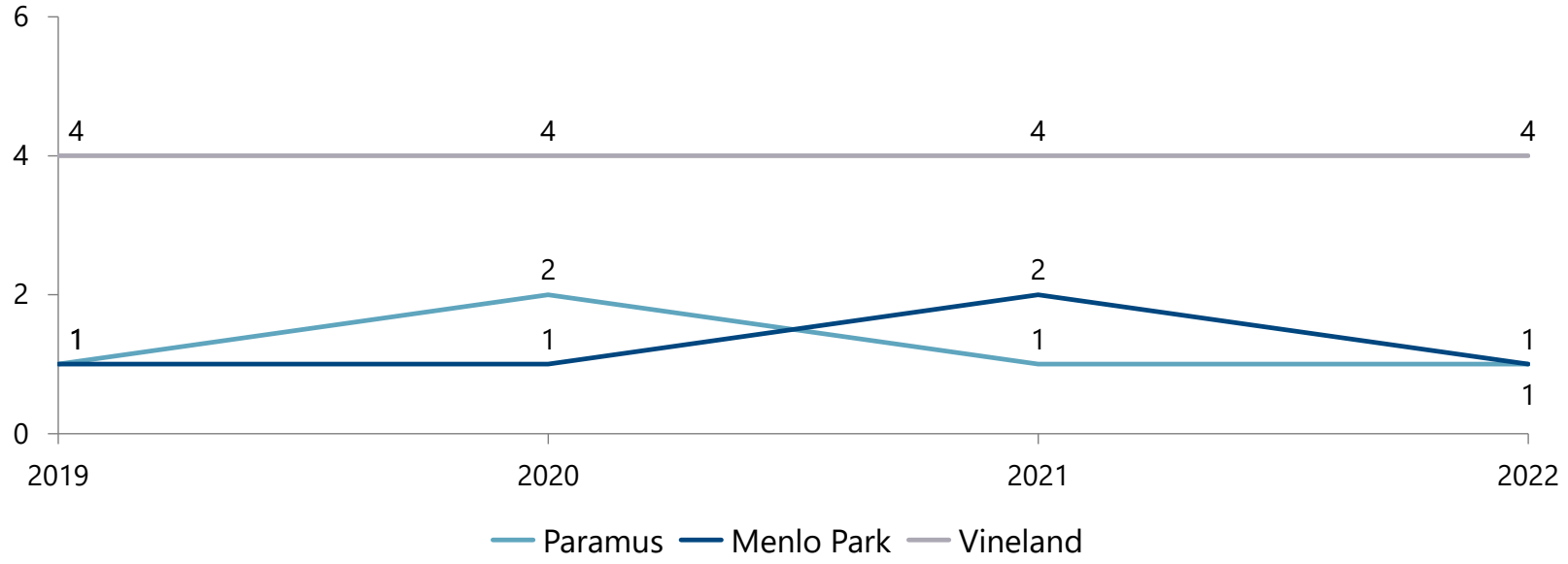
Overall scores (out of 5) for veteran nursing homes in New Jersey by facility



Source: CMS Nursing Home Compare Dataset (2016-2023)

B-6 New Jersey's veteran nursing home CMS scores for inspection dimension

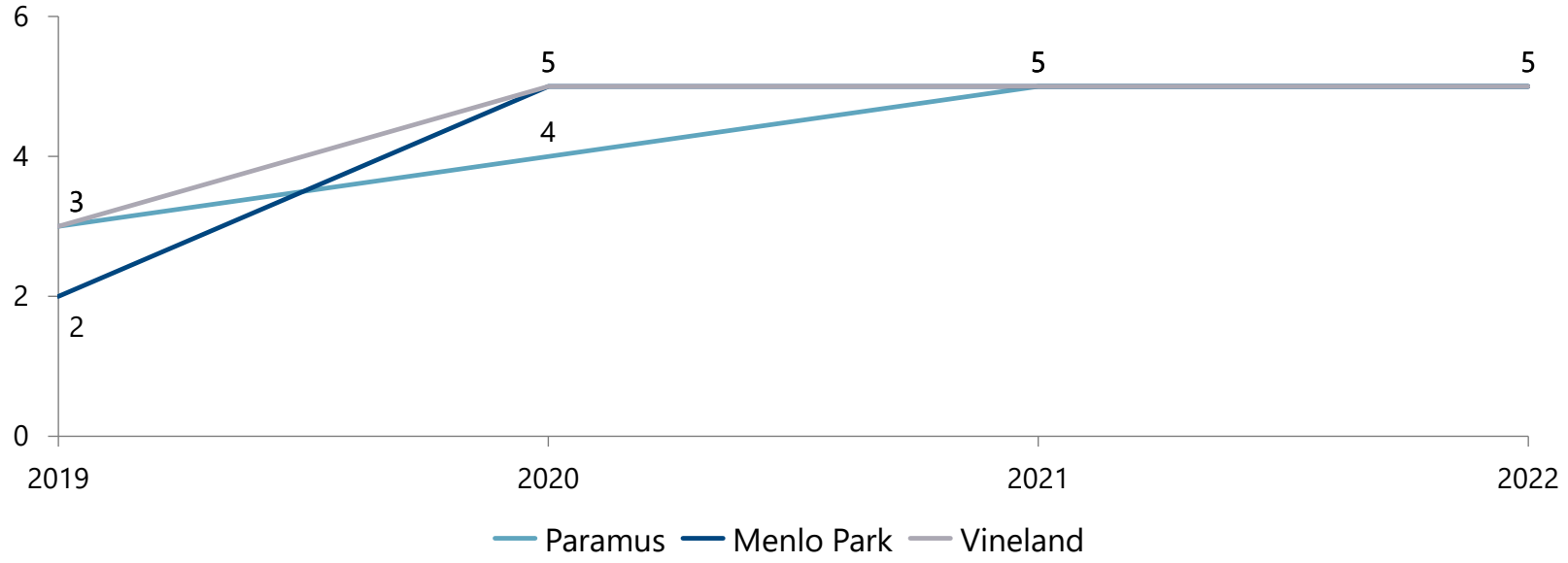
Inspection scores (out of 5) for veteran nursing homes in New Jersey



Source: CMS Nursing Home Compare Dataset (2016-2023)

B-7 New Jersey's veteran nursing home CMS scores for staffing dimension

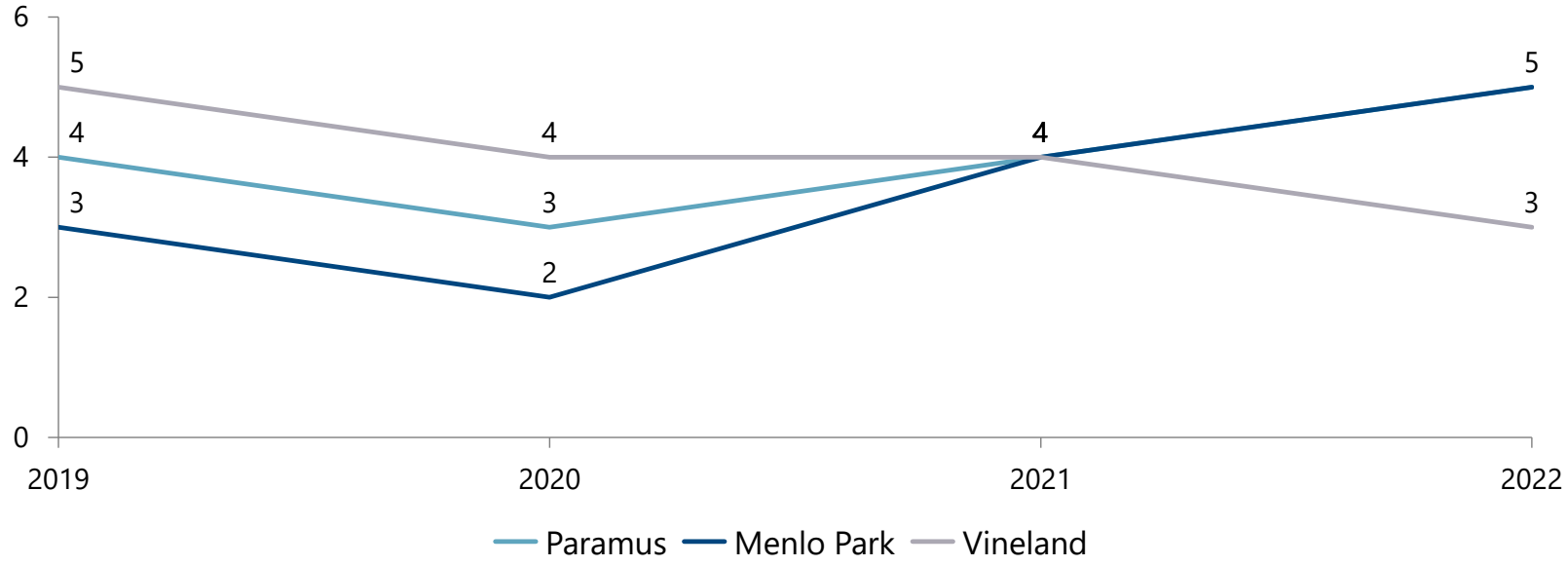
Staffing scores (out of 5) for veteran nursing homes in New Jersey



Source: CMS Nursing Home Compare Dataset (2016-2023)

B-8 New Jersey's veteran nursing home CMS scores for quality dimension

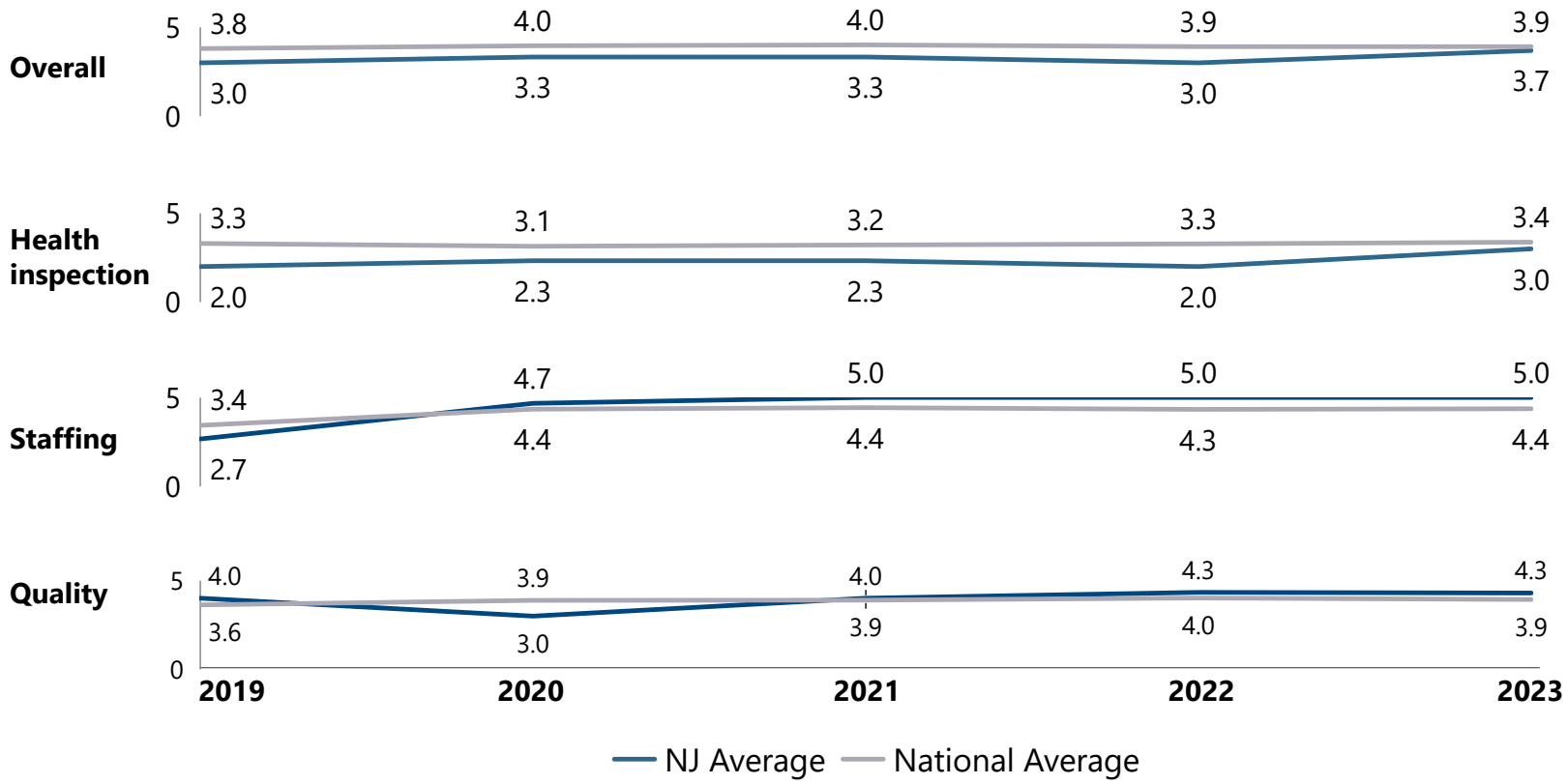
Quality scores (out of 5) for veteran nursing homes in New Jersey



Source: CMS Nursing Home Compare Dataset (2016-2023)

B-9 New Jersey veteran nursing homes' average total and by dimension CMS scores between 2019 and 2023

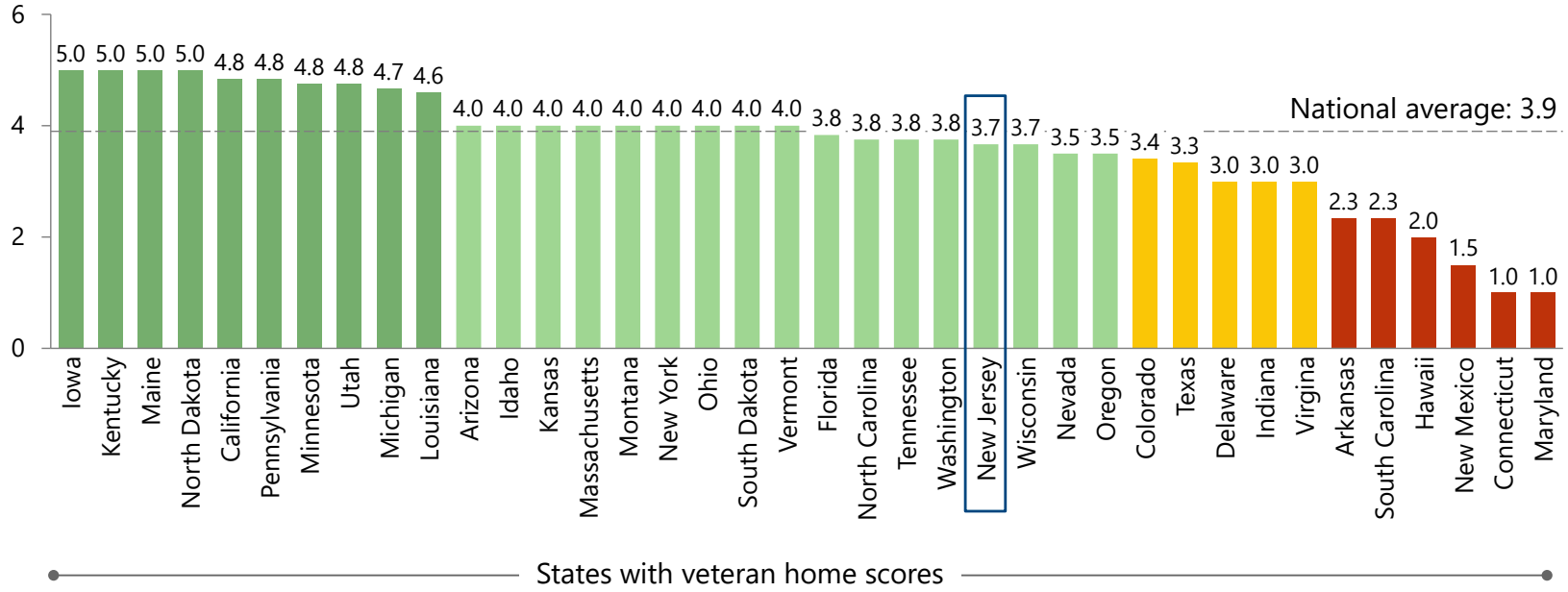
Average overall and dimension scores (out of 5) for veteran homes in New Jersey versus national average



Source: CMS Nursing Home Compare Dataset (2016-2023)

B-10 New Jersey's 2023 veteran nursing homes' total CMS scores are slightly below the National average

Average overall score (out of 5) of veteran homes by state[197]

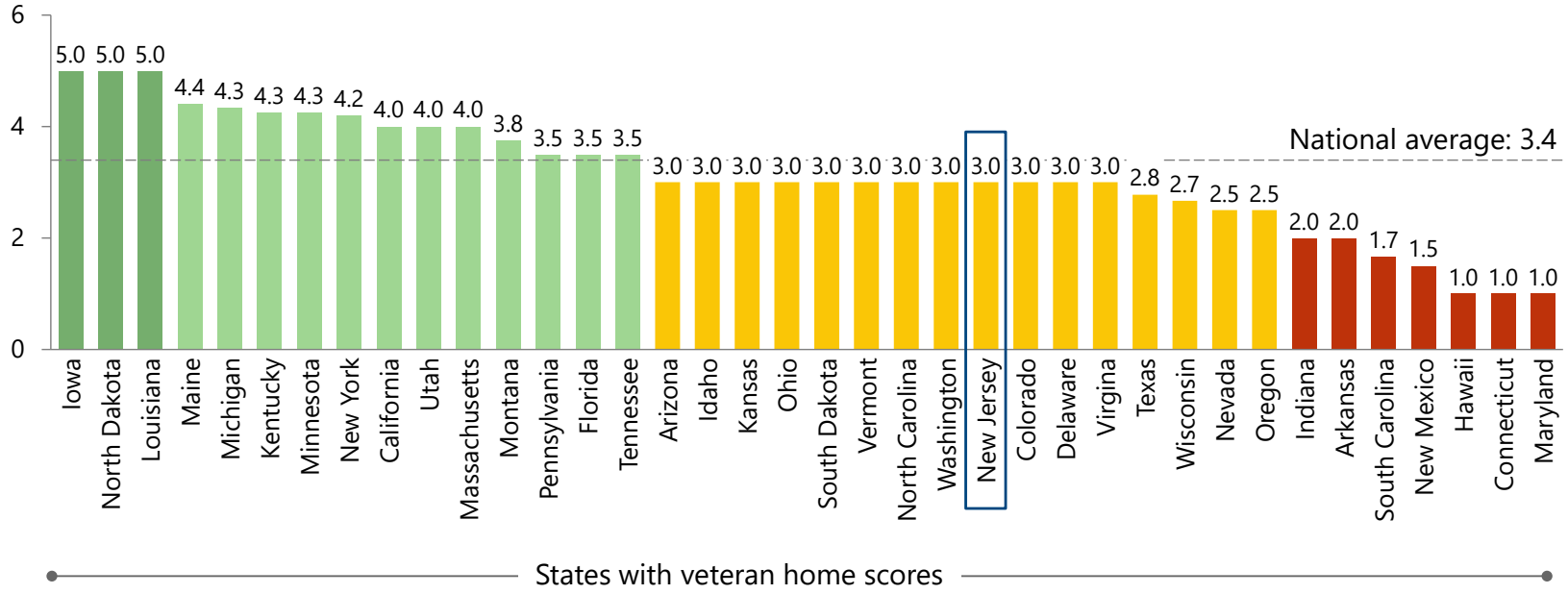


Note: Preliminary data of averages taken of all veteran nursing homes in state– not all states had available data on their veteran nursing homes because they did not have enough data or were not CMS certified; 12 States with 0 certified homes – AL, AK, GA, IL, MS, MO, NE, NH, OK, RI, WV, WY (no VNH at all in WY); ; data pulled for August 2023
Source: Find Healthcare Providers: Compare Care Near You | Medicare

[197] Note: 114 CMS certified nursing homes across 38 states reported (out of 153 total)

B-11 New Jersey's 2023 veteran nursing homes' healthcare inspection CMS scores are also below the national average

Average health inspection score (out of 5) of veteran homes by state[198]

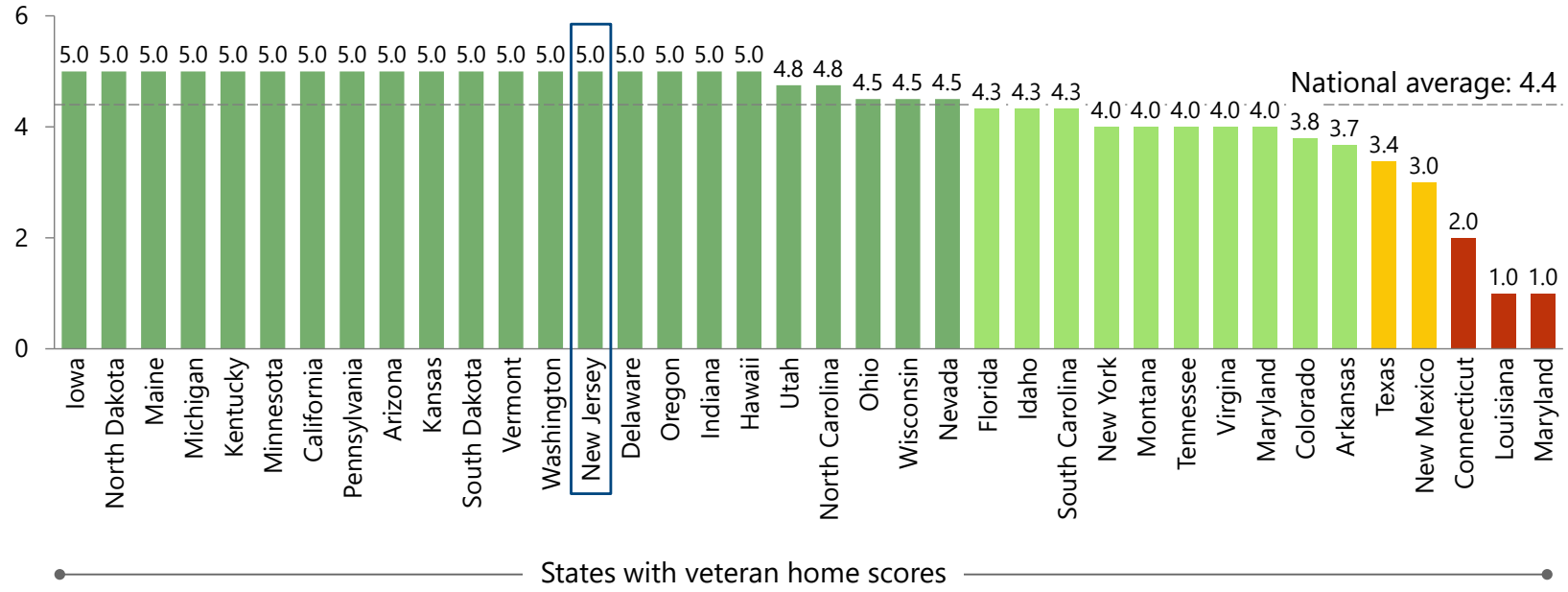


Note: Preliminary data of averages taken of all veteran nursing homes in state– not all states had available data on their veteran nursing homes because they did not have enough data or were not CMS certified; 12 States with 0 certified homes – AL, AK, GA, IL, MS, MO, NE, NH, OK, RI, WV, WY (no VNH at all in WY); ; data pulled for August 2023
Source: Find Healthcare Providers: Compare Care Near You | Medicare

[198] Note: 114 CMS certified nursing homes across 38 states reported (out of 153 total)

B-12 New Jersey's 2023 veteran nursing homes' staffing CMS scores are amongst the highest in the nation

Average staffing score (out of 5) of veteran homes by state[199]

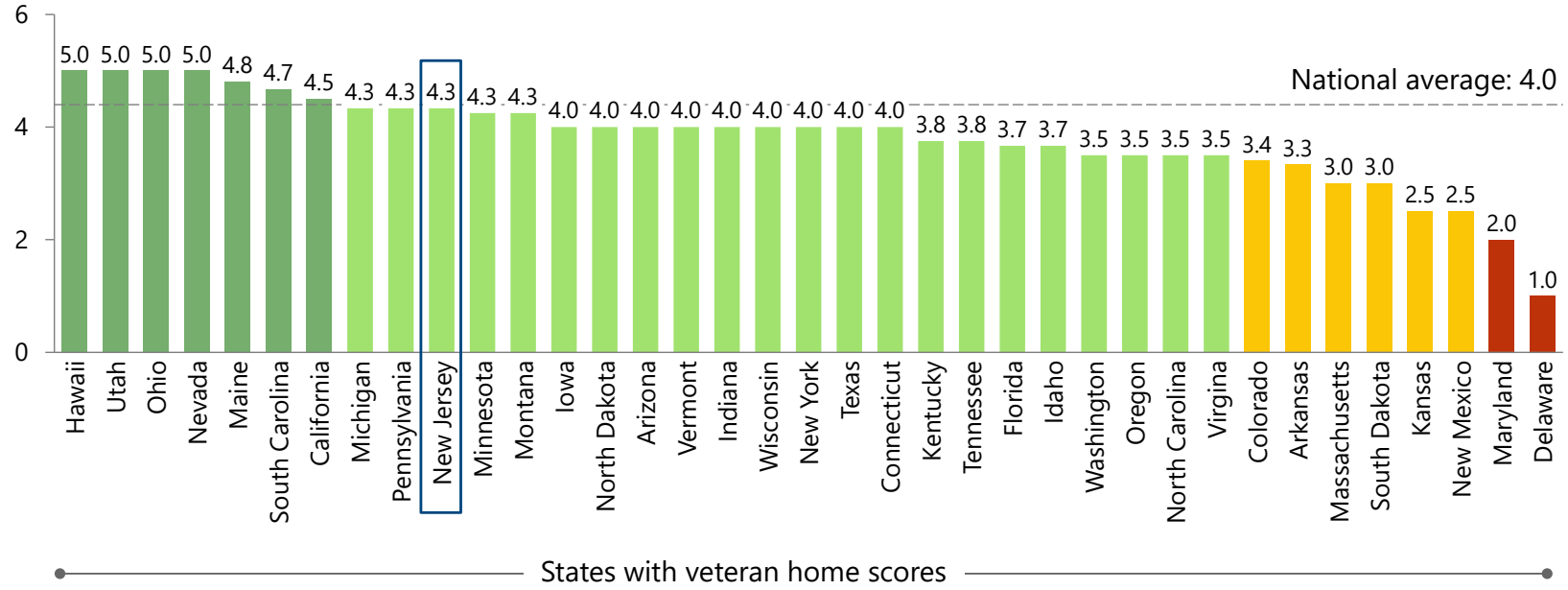


Note: Preliminary data of averages taken of all veteran nursing homes in state– not all states had available data on their veteran nursing homes because they did not have enough data or were not CMS certified; 12 States with 0 certified homes – AL, AK, GA, IL, MS, MO, NE, NH, OK, RI, WV, WY (no VNH at all in WY); ; data pulled for August 2023
Source: Find Healthcare Providers: Compare Care Near You | Medicare

[199] Note: 114 CMS certified nursing homes across 37 states reported (out of 153 total).

B-13 New Jersey's 2023 veteran nursing homes' quality measures CMS scores are slightly above the national average

Average quality measures score (out of 5) of veteran homes by state[200]



Note: Preliminary data of averages taken of all veteran nursing homes in state– not all states had available data on their veteran nursing homes because they did not have enough data or were not CMS certified; 12 States with 0 certified homes – AL, AK, GA, IL, MS, MO, NE, NH, OK, RI, WV, WY (no VNH at all in WY); ; data pulled for August 2023
Source: Find Healthcare Providers: Compare Care Near You | Medicare

[200] Note: 114 CMS certified nursing homes across 37 states reported (out of 153 total).

Appendix C: Quantitative Health Outcomes Analysis for New Jersey's Correctional Facilities

C-1 Total COVID-19 cases and fatalities in New Jersey's correctional facilities for each pandemic period

Cumulative COVID-19 cases and fatalities in correctional facilities

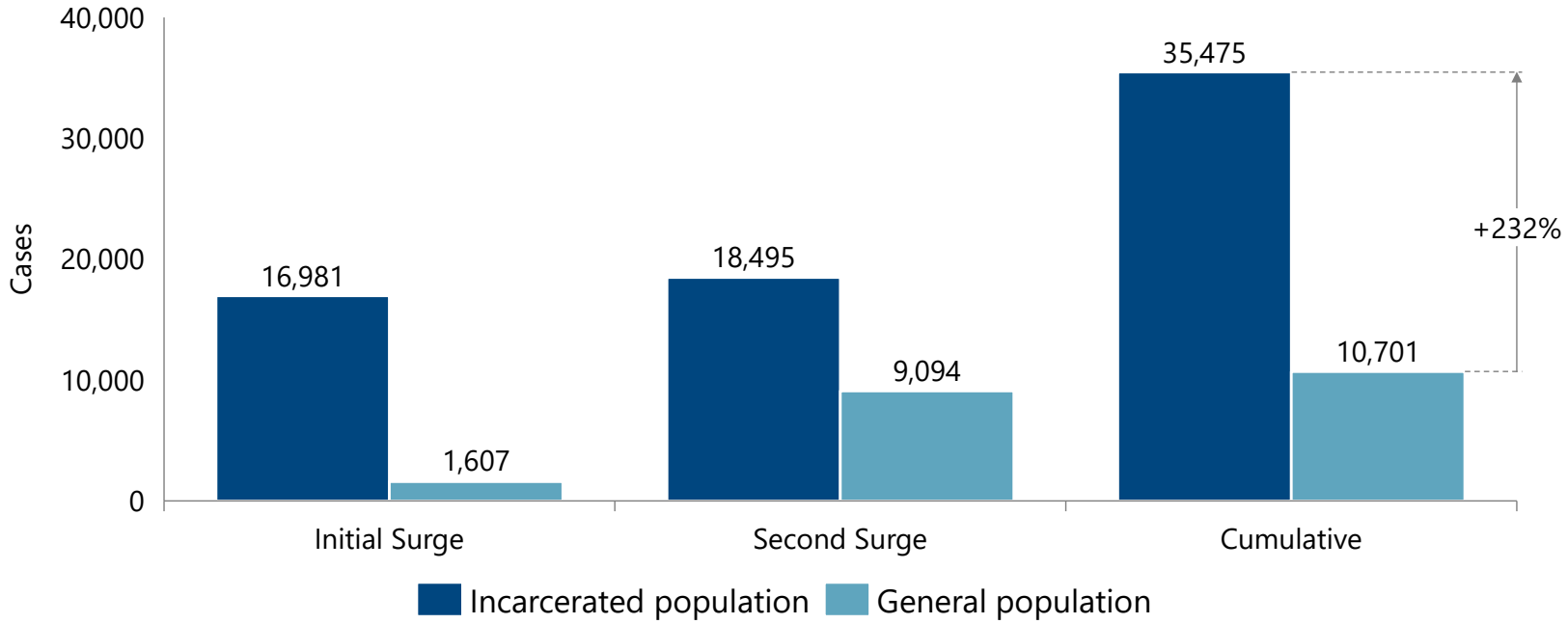
Numbers are absolute

	NJ COVID-19 Impact in Correctional Facilities Across Metrics			
	Cumulative March '20 – March '22	**Initial surge** March '20 – Jun '20	**Second surge** Jul '20 – May '21	**Delta/Omicron** June '21 – March '22
Cases	4,804	2,821	1,983	*Data for Delta/Omicron period not available*
Fatalities	53	46	7	

Note: The Marshall Project data was collected from prison agencies directly and verified with officials. Incarceration data includes adult and juvenile state facilities, federal facilities, and immigration detention facilities.
Source: The Marshall Project

C-2 Correctional facilities had nearly triple the number of reported cases than the general population throughout the pandemic

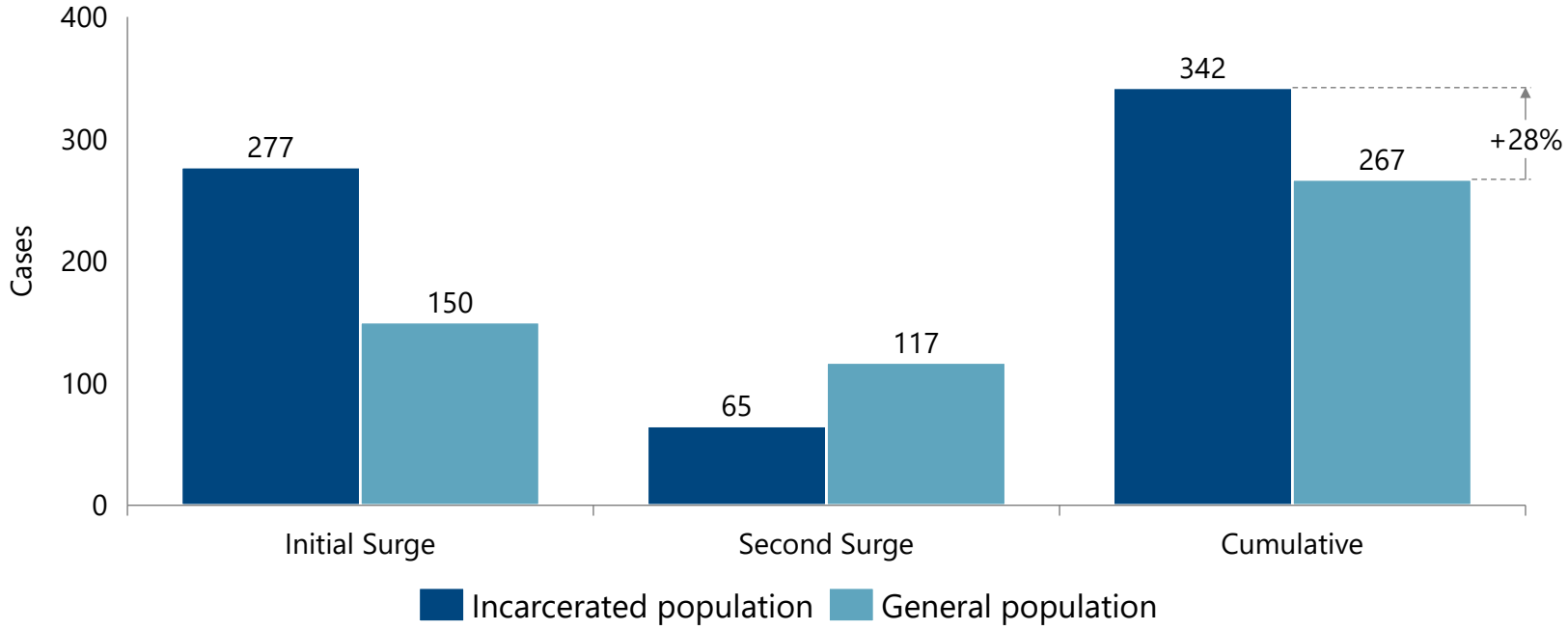
Cumulative COVID-19 cases in New Jersey's general population and correction facilities per 100k of total population



Note: The Marshall Project data was collected from prison agencies directly and verified with officials. Incarceration data includes adult and juvenile state facilities, federal facilities, and immigration detention facilities. The Marshall Project did not include data for Delta and Omicron stage (Jun '21 – Mar '22).
Source: The Marshall Project

C-3 Correctional facilities had more cumulative COVID-19 fatalities than in the general population

Cumulative COVID-19 fatalities in New Jersey's general population and correction facilities per 100k of total population for the Initial Surge, Second Surge, and Cumulative Views are shown below.



Note: The Marshall Project data was collected from prison agencies directly and verified with officials. Incarceration data includes adult and juvenile state facilities, federal facilities, and immigration detention facilities. The Marshall Project did not include data for Delta and Omicron stage (Jun '21 – Mar '22).
Source: The Marshall Project

Chapter 7 Recommendations

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List of Exhibits

7. Recommendations

7.1. Overview of the Chapter

The previous chapters of this report covered the State of New Jersey's preparedness before the COVID-19 pandemic, the pandemic's impact on the people of New Jersey, and the State's response. As discussed in Chapter 4, the COVID-19 pandemic had unprecedented health and economic impacts across New Jersey, leading to thousands of deaths, hospitalizations, and fundamentally restructuring society. In many respects, New Jersey was unprepared for an emergency of this magnitude. It is important to recognize that New Jersey learned a great deal from the experience, but this learning came at a steep human cost. However, if New Jersey does not act now to codify those lessons, it will lose the critical knowledge and skills developed during the pandemic. To ensure that these lessons lead to sustainable improvements, and to ensure that New Jersey is better able to serve its residents in an emergency, this chapter makes 33 recommendations to improve New Jersey's ability to respond to future emergencies.

Whether the next emergency is a pandemic or another threat, the lessons learned and gaps and challenges documented throughout this report must not be lost when the current group of State leaders and workers are succeeded by others.

Recommendations have been split into seven groups which cover the thematic areas for improvement identified through the extensive evaluations in previous chapters:

- Plan, Train, Exercise, Monitor, and Audit
- Equity and Public Health Resiliency
- Congregate Settings
- Partnerships with Industries, Community Groups, and Other Stakeholders across New Jersey
- Data and Technology Infrastructure
- Inter-Agency Government Coordination and Communication
- Access to Critical Resources for the Emergency Response

The recommendations across these groups detail how New Jersey should prepare for a future emergency based on learnings from the COVID-19 pandemic and best practices in emergency preparedness. These recommendations cover preparedness for a future pandemic but are applicable to any other type of emergency that the State may face (such as weather- or terrorist-related events). They also focus on improving New Jersey's capabilities to respond to an emergency quickly and effectively once an emergency has been declared.

In some cases, recommendations also have implications for how New Jersey can apply lessons learned from the COVID-19 pandemic to both emergency operations and its daily operations in non-emergency situations. The pandemic highlighted ways in which New Jersey can provide

residents with improved services, even outside of an emergency context. This involves longer term investments in New Jersey's public health infrastructure and health equity efforts and involves adopting a more agile approach to policy making, streamlining administrative processes, and leveraging technology to improve service delivery.

Each recommendation weaves in equity considerations as applicable. This reflects the understanding that equity should not be treated as a separate consideration, but as an integral aspect of all phases of an emergency response. This underscores the importance of tailoring responses to address the unique challenges that different groups face and ensures that strategies are both effective and equitable.

COVID-19 had particularly devastating impacts on congregate settings across the state, particularly in long-term care facilities where a high proportion of residents died as a result of the virus' uncontrolled spread. As a result, congregate settings were a critical part of New Jersey's response and have been extensively covered in this report's recommendations. In addition, a detailed list of in-depth, agency specific congregate settings recommendations can be found in Chapter 6, which discusses infections and deaths in congregate settings as well as decisions made by the State related to those settings.

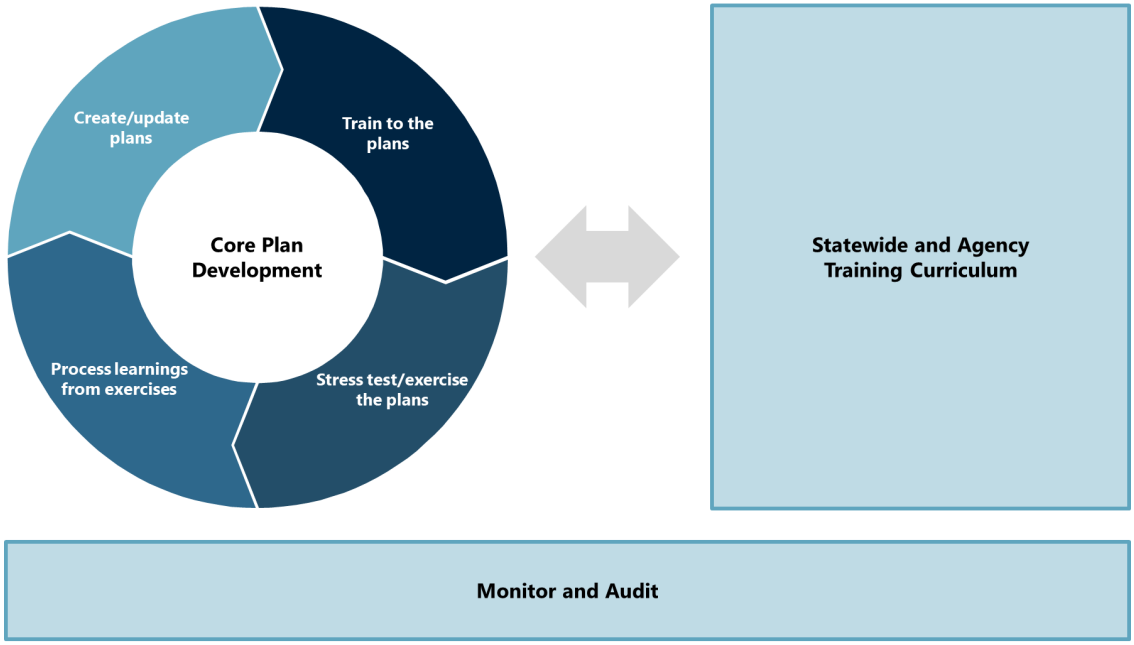
7.2. Recommendations for the State of New Jersey

This report extensively documents areas where New Jersey's emergency response succeeded and where it fell short (see Chapter 5). New Jersey was able to build a pandemic response by pulling together a wide set of actions across many agencies, industries, community-based organizations, and other partners. But there were meaningful gaps in New Jersey's level of planning and preparation that required a high degree of learning, innovation, and on-the-spot decision-making that could have been avoided.

As a result, the recommendations in this section address how New Jersey should develop plans, training, and exercises for future public health emergencies and other major emergencies to increase its preparedness. The section outlines specific steps needed in anticipation of another pandemic/flu emergency, as well as other types of emergencies, including non-respiratory health, cyber, security (e.g., acts of terrorism), and weather. Collectively, the recommendations in this section define an integrated approach to developing plans and preparing for disruptive emergencies.

Developing and stress-testing plans: This approach begins with a process to update the core of existing Statewide emergency plans. Across each emergency type, old plans should be updated, and existing plans should be pressure-tested and exercised across different scenarios with the core team of decision-makers who would drive New Jersey's response and revise the plan based on these exercises (Exhibit 1).

Exhibit 1: State Emergency Preparedness Feedback Loop



Recommendations 1 through 3 outline the learnings from the COVID-19 pandemic that need to be immediately documented and reflected in existing State pandemic plans (Recommendation 1). This includes defining clear leadership roles (Recommendation 2) and compiling or codifying the emergency orders and waivers developed during the COVID-19 response (Recommendation 3). New Jersey also needs to plan for a broad range of potential emergencies beyond pandemics (Recommendation 4). These plans should incorporate insights from the pandemic, integrating scenarios like supply chain vulnerabilities, financial instability, travel limitations, and communication breakdowns across plans for weather-based events, security threats, or another health emergency.

Training and exercising this plan across the State: From there, a comprehensive emergency preparedness training program should be developed for all government agencies and key partners that addresses the key impacts and actions these actors need to prepare for, and how these will impact their regular operations. While some of this training should be specific to defined emergency types (e.g., pandemics), others should be focused on common impacts of various emergencies (e.g., an inability to deliver services in person).

Recommendation 5 outlines how individual agencies need to develop Continuity of Operations (COOP) Plans to ensure that they can continue to deliver essential government services, even during an emergency. These plans need to be updated and be coordinated at all levels, from state-wide to across individual agencies and even for stakeholder groups – like hospital systems, community-based organizations, organized labor, and industry.

Planning is neither a one-time event nor the sole action needed to ensure preparedness. Staff and leadership need to be aware that the plan exists and trained to ensure that they can execute it under various scenarios. This can be accomplished by implementing a comprehensive emergency preparedness curriculum that trains on and exercises plans across diverse scenarios with a wide set of actors, including the most senior people in each organization. These exercises, ranging from table-top simulations to full-scale drills, test the feasibility and effectiveness of plans in different hypothetical emergencies and help identify unforeseen gaps or weaknesses. Active engagement with the plan in a controlled environment is critical to build confidence and competence among the staff and leadership, and to create and enhance awareness of the key individuals who will be involved in an actual emergency. Once exercises have been completed, emergency planners need to analyze insights and feedback from participants to identify strengths to reinforce and weaknesses to address.

These learnings are used to update, refine, and evolve the plans, ensuring that the State's plans remain dynamic, reflective of existing capabilities, learnings from exercises, and aligned with the latest best practices and emerging threats (Recommendation 6). Where relevant, updates should be made both to agency specific plans outlined in Recommendation 5 and core emergency plans outlined in Recommendation 1 and Recommendation 4.

Training exercises should be conducted on a 2-year basis with the relevant individuals within key agencies and other partners with learnings and feedback that would inform the revisions of plans as appropriate (Exhibit 1). A State emergency training curriculum should include three distinct streams:

- State-wide Exercises: Involving all agencies and partners to ensure a cohesive, coordinated response.
- Individual Training for Key Position Turnovers: Ensuring that new personnel in critical roles are equipped with the knowledge and skills to perform effectively.
- Targeted Trainings During Administration Changeovers: Whenever there is a change in the governorship or administration, training should be conducted to align the new leadership with the current state of emergency preparedness and response strategies (Recommendation 7).

To ensure that this curriculum is of high quality and used regularly, there must be clear ownership of this process and clear oversight to ensure its implementation. The Office of Emergency Management (NJOEM) should be responsible for ensuring the quality of these plans and making sure that training and exercises are completed. The Office of the Attorney General (NJOAG) Office, through a new permanent Office of Preparedness within the Department of Law and Public Safety, should provide oversight to ensure that all State agencies participate (Recommendation 8).

New Jersey must continuously invest in its ability to respond to emergencies. The capability-building recommendations outlined in subsequent sections of this chapter reflect strengths and

weaknesses identified throughout this report. The process of updating these capabilities must be deeply integrated in the comprehensive training curriculum described above.

The cycle of planning, training, exercising, and processing learnings forms the backbone to a comprehensive training curriculum to prepare New Jersey for emergencies and build a culture of resilience, flexibility, and continuous improvement.

7.2.1. Plan, Train, Exercise, Monitor and Audit Emergency Preparedness

Recommendation 1. Update the Pandemic/Flu Plan to reflect lessons learned during the pandemic.

Context

This report describes New Jersey's level of preparedness – prior to the start of the pandemic - for the possibility of a highly contagious influenza outbreak. At that time, the existing Pandemic/Flu Plan (which had not been updated since 2015, and which needs to be revised) did not reflect either the scale of emergency or the current capabilities of various State agencies. The Plan failed to consider the breadth or duration of the pandemic, nor did it anticipate potential impacts of a pandemic such as supply-chain breakdowns. The Plan did not provide a roadmap for a "whole-of-state approach" to address the emergency quickly. Many agency leaders were not aware of the existing Pandemic/Flu Plan, meaning that there was no "default" plan on which to rely, however incomplete or ineffective.

This meant that when the COVID-19 pandemic hit, the State was unprepared for a crisis of this magnitude. The lack of clarity made responders' jobs more difficult and cost precious days of initial action and duplicated resources. Ultimately, confusion led to a less-effective and less-coordinated initial response. As the Governor and senior leadership in the Governor's Office learned, it is vitally important to obtain reliable information about the mode of transmission of an infection as early as possible. While the State relied on other actors, like the WHO, to guide its understanding of the disease, the Governor's Office also learned that early testing and tracking must be a priority, regardless of disease type, so that the State can make decisions about its response based on a clear picture of disease progression. Early planning can also help prioritize and prepare for operational rollout of vital interventions, like vaccines, that can reduce the severity of a disease's impact.

Recommendation

New Jersey should immediately update the Pandemic/Flu Plan to capture lessons learned during COVID-19 and expand its scope. It should also expand the scope of the emergency anticipated by the Plan to cover long-running and large-scale pandemics like COVID-19. The Plan should be used to design regular exercises (see Recommendation 5) and be subject to a full-scale review and

revision on a regular basis. Having this plan in place will provide critical guidance and an essential "starting point" to the next generation of State leaders and workers during the next pandemic.

NJOEM and the NJDOH should collaborate to lead the update to this plan. NJOEM should lead the development of the core operational elements and the NJDOH should incorporate health expertise as needed. This effort should be conducted with input from across State government, like the Governor's Office and Local Health Departments (LHDs), and with critical stakeholders outside of government, like FEMA, NJHA, long-term care facilities, primary care providers, organized labor, the private sector, and community-based organizations (see **Recommendation 14** and **Recommendation 11**).

As discussed in **Recommendation 5** and **Recommendation 8**, agencies need sufficient funding, resources, and guidance to be able to appropriately prioritize emergency preparedness activities. In the context of pandemic planning, for example, this means providing sufficient monetary and operational support to the existing NJDOH Assistant Commissioner of Public Health Infrastructure, Laboratories, and Emergency Preparedness.

The updated plan should address each capability laid out in the U.S. Department of Health and Human Services (USHHS) ASPR Public Health Emergency Preparedness and Response Capabilities: National Standards for State, Local, Tribal, and Territorial Public Health.[1] These capabilities range from community preparedness to operational coordination, medical care provision, volunteer management, and community recovery, among others.

These essential features cover the breadth of operations required in response to a pandemic. Though the USHHS provides the minimum guidelines for what must be involved in a complete plan, differences in New Jersey's response to the COVID-19 pandemic compared to other states show that there are further elements that must be covered for a plan to be operable in the face of a future pandemic. These include:

- Specific roles of the NJDOH, NJOEM, and Governor's Office (see **Recommendation 2**).
- The roles of agencies that oversee or manage congregate settings.
- Approach to coordinating each element of the response with LHDs in New Jersey.
- The role of a "regional collaborator" network of healthcare providers (see **Recommendation 11**).
- Crisis standards of care to guide healthcare response.
- Strategies for prioritizing health equity that address gaps identified during the COVID-19 pandemic should include activities like:

[1] Public Health Emergency Preparedness and Response Capabilities. Center for Disease Control. (2018, October). https://www.cdc.gov/orr/readiness/00_docs/cdc_preparednesresponsecapabilities_october2018_final_508.pdf

- Maintaining relationships and coordinating response with groups that address needs of residents at higher risk of negative health outcomes (see Recommendation 13, Recommendation 14, and Recommendation 11).
- Institutionalizing and expanding equity-focused communications (Recommendation 28).
- Improving and expanding collection of demographic information (Recommendation 17).

Recommendation 2. As part of updating the Pandemic/Flu Plan, document detailed roles and responsibilities for NJOEM, the NJDOH, the Governor's Office, and other agencies in a pandemic.

Context

At the beginning of the pandemic, there was a brief period where there was a lack of clarity regarding which agency – NJDOH or NJOEM - was responsible for handling the pandemic response, under the Governor's leadership. Distinctions between the roles of each leader and agency needed to be decided quickly and without a clear template. This confused some state leaders, employees, and the broader healthcare ecosystem before those roles could be articulated.

This affected multiple aspects of the early response; examples of this are details in Section 5.02 Emergency Response Governance and Coordination. As detailed in Section 5.02, the Governor's Office chose to designate NJOEM and the NJDOH as co-leads to the pandemic response, with Commissioner Persichilli and Colonel Callahan serving as co-Incident Commanders. This was decided because, although the Emergency Health Powers Act (EHPA) and the Pandemic/Flu Plan written in 2015 by the NJDOH both designate the NJDOH as the agency leading State response, the Disaster Control Act (DCA) designates that NJOEM as the operational lead, and the Emergency Health Powers Act had never been invoked. In addition, the breadth and depth of COVID-19's impact on the State meant that the emergency expanded beyond the scope of a public health problem that the State had previously addressed, and which required significant intervention and guidance from the Governor's Office.

Commissioner Persichilli and Colonel Callahan were able to work together to build a collaborative and dynamic response effort. However, the effectiveness of emergency response should not be left up to specific individuals. Had the leaders of any of these agencies become ill, collaborated poorly, or been "territorial" about response effort and responsibilities, New Jersey would have lost more lives and suffered more economic damage.

Recommendation

The working relationship between the Governor's Office, the NJDOH, and NJOEM should be clearly defined in advance of a future pandemic. To prepare for that emergency, the State needs to

document a clear leadership structure for pandemic response that codifies the roles, succession plans, decision rights, and operational responsibilities for each agency at a level far more granular (and operationally relevant) than is contained in legislation. These roles would come into effect when the Governor invokes both the Emergency Health Powers Act and the Disaster Control Act. Other emergencies that do not invoke the Emergency Health Powers Act (i.e., do not fit the existing description of a Public Health Emergency or pandemic), result in the Governor's Office following a different set of protocols and plans (see Recommendation 4).

Clarity on leadership structure and roles is necessary to allow the State to respond more effectively and earlier in an emergency. It limits the number of decisions that need to be revisited in the moment by institutionalizing the effective structures developed during the response to the COVID-19 pandemic. To avoid further deterioration in the institutional knowledge built during the pandemic, this plan should be developed within 6 months of the date of this report.

The "table of organization" developed by NJOEM and the NJDOH during the pandemic is a starting point to be reconsidered with the benefit of hindsight. The codified division of responsibilities must cover the Governor's Office, NJOEM, the NJDOH, and individual agencies. It should contain:

- Clarity on the roles of the Governor and Governor's Office in leading the whole of the response, including the need to balance strategic decisions, such as how to accommodate both health and economic priorities. The Governor's Office holds the ultimate responsibility for emergency response across all types of emergencies.
- Detail on the roles and responsibilities of NJOEM, the NJDOH, and the Governor's Disaster Recovery Office (GDRO) in a Public Health Emergency, including a clear division of policy and operational responsibilities. This plan should be structured in a way that harmonizes across the Emergency Health Powers Act and the Disaster Control Act and must detail which agency leads across a range of activities, including:
    - Strategy and policy development
    - Operational response
    - Emergency recovery, including grant management and compliance with federal rules.
- Succession planning if an agency or State leader (e.g., the NJDOH Commissioner) is not present.
- The role of individual agencies in contributing to pandemic response and the personnel within those agencies responsible for those activities (e.g., Treasury providing significant procurement personnel and expertise through the New Jersey Division of Purchase and Property [NJDPP]).

Details of this structure should be refined by senior leadership and documented in the statewide Pandemic/Flu Emergency Response plan (Recommendation 1). Once this leadership model is documented, it should be reviewed (and updated as needed) as part of regular Pandemic/Flu emergency exercises. Discussing the roles of agencies should be a key part of reflections on lessons learned after regular drills and exercises (Recommendation 6). Equivalent emergency structures should be developed for other types of emergencies, as outlined in Recommendation 4.

Recommendation 3. As part of updating the Pandemic/Flu Plan, compile, preserve or codify emergency orders and waivers to accelerate future responses.

Context

Prior to COVID-19, the Emergency Health Powers Act, which gives the NJDOH and the Governor specific authority during a public health emergency, had never been invoked. New Jersey had to create from scratch the necessary set of authorizations to implement the response. This resulted in over 200 Executive Orders and more than 100 waivers to suspend regulations during the emergency period. All agencies required approval from the Governor's Office to issue COVID-19 guidance or change administrative processes; these approvals required input from many people with uncertain timelines. For example, one wavier allowed healthcare workers and others additional professional powers to provide essential care during the emergency. Additional detail on how the State's emergency powers legislation and execution operated during the pandemic can be found in Section 5.02, Emergency Response Governance and Coordination.

The development of these orders and waivers cost precious time and effort during the pandemic. In the early days, as health and other direct care facilities scrambled to deliver services under inflexible rules, the initial response could have been expedited if the State already had drafts of the waivers necessary for them to operate safely.

Recommendation

New Jersey should update emergency powers legislation, legislative policy, and inventory useful Executive Orders and waivers to reflect the best practices identified during the COVID-19 pandemic and documented in updated emergency plans (See Recommendation 1 and Recommendation 2) and to ensure that the State has the necessary mechanisms to respond to an emergency quickly and effectively and can plan, train, and exercise to them. These emergency powers and inventories of Executive Orders and waivers should be updated regularly in response to regular emergency response training and exercising activities (Recommendation 6).

A non-exhaustive list of regulatory adjustments or tools to consider includes:

- Maintaining packages of templates for waivers that can be quickly adapted and implemented in the event of an emergency. The NJHA[2], for example, has developed an initial list of waivers that would be useful to provide additional flexibility to healthcare providers in the event of significant strain on the provider system. Input for such waivers should also come from various partners (e.g., the Nurses' Union, the Primary Care Physicians association).
- Providing civilian agencies with the power and personnel to enforce regulations issued under their authority (e.g., allowing the NJDOH to enforce health-related orders issued during a pandemic, versus requiring that the State Police conduct all enforcement).
- Making some waivers permanent where they have improved the healthcare system's performance outside of an emergency context. For example, those that allow healthcare workers licensed in other states to practice in New Jersey have been helpful in addressing the ongoing healthcare worker shortage.
- Making administrative changes to allow for increased data sharing and use across agencies – while maintaining appropriate privacy protections – as a way to improve situational awareness (see **Recommendation 19**).
- Revising procurement regulations to accelerate the pace at which New Jersey can secure staffing and goods and services essential to emergency response (discussed in **Recommendation 30** and **Recommendation 22**).

Not all of these will require legislative amendments to laws or statutes. Instead, some, like maintaining compilations of previously issued waivers to use as templates, can be tools at the disposal of the Governor's Office and State agencies to issue as soon as an emergency is declared.

In addition, the State should use emergency exercises and tabletops (outlined in **Recommendation 6**) not only as essential preparation for real world events, but also to continue testing legislation and regulation under simulated conditions, so that issues can be identified and amended prior to a crisis.

Recommendation 4. Develop and maintain plans for the wide range of non-pandemic emergencies.

Context

Pandemics are not the only threat that New Jersey faces. In addition to preparing for a future pandemic, New Jersey must ensure that it has sufficiently comprehensive emergency response plans for the wide range of other emergencies that could impact it. New Jersey's current All Hazards Mitigation Plan provides good descriptions of incidents New Jersey might encounter, but

[2] New Jersey Hospital Association. (2023, May 11). *Coronavirus Waiver Tracker*. Retrieved from https://www.njha.com/Coronavirus/Waiver-Tracker

does not provide sufficiently detailed, comprehensive plans for emergency response in the event that one of those incidents actually takes place. Regardless of the nature of the crisis, the Governor and senior leadership in the Governor's office learned that 1) the State must move to an emergency response quickly to increase the effectiveness of those measures and 2) plans must include factors to consider and a process for determining when and how emergency measures will be eased and lifted.

New Jersey is a major population center, a key entry point into the United States, an economic hub, and a coastal community with a rich and varied environment. Therefore, the range of potential emergencies that New Jersey could face is wide. Extreme weather and terrorism (including bioterrorism and cyber) are thought to be among the most acute risks. Without emergency response plans for these and other types of emergencies, New Jersey risks being caught unprepared to manage another unexpected event.

Recommendation

New Jersey should begin by developing and updating detailed plans that correspond to a wide set of emergencies, matching the level of detail to be included in the Pandemic/Flu plan (see **Recommendation 1**). While New Jersey has a starting point on many emergency plans (e.g., within NJOEM, the Office of Homeland Security and Preparedness [OHSP], the New Jersey Department of Transportation [NJDOT]) these plans should be expanded to include a wider set of topics and a greater level of depth. The level of detail should be increased so that the topics are as useful as possible in a future emergency. New Jersey should start by updating plans for cyber emergencies and bioterrorism incidents. At a minimum, the State should ensure that it has reviewed and updated plans which cover the full breadth of emergency types articulated by the federal inventory of emergency annexes.

Across each type of emergency outlined by the federal inventory of emergency annexes,[3] New Jersey needs to update detailed response plans and regularly stress-test and expand them to include new capabilities or learnings from state emergencies or preparedness activities. These plans should specify any variation in leadership structures and responsibilities from those held during "regular" weather emergencies (see **Recommendation 2**). They must also have sufficient operational detail to serve as a guide for future emergency responders. New Jersey should focus on mitigating emergencies by planning for the effects they cause. Each plan must reflect the risks of disruptions that prevent regular operations, including:

- Supply chain disruptions
- Leadership unavailability

[3] Federal Emergency Management Agency. (2023, November 7). *Federal Interagency Operational Plans*. Retrieved from https://www.fema.gov/emergency-managers/national-preparedness/frameworks/federal-interagency-operational-plans

- Uninhabitable workplace
- Employee unavailability
- System degradation
- Infrastructure failure
- Data integrity breach or denial of access
- Limitations on or total inability to travel

New Jersey should further expand existing emergency plans so that, aside from the plans complying with FEMA national planning guides and resources, they are stress-tested against a variety of New Jersey-specific contexts through regular State-wide training and exercising activities.[4] These plans should be trained for and exercised regularly (see **Recommendation 6**) and the learnings from those activities should continuously update the plan. In addition, the State should opt-in to nationwide exercises, similar to Crimson Contagion, when the option is available.

These plans should be informed by the critical elements of the State's COVID-19 response that worked well, and where the State encountered challenges, in a similar process outlined in **Recommendation 1** and **Recommendation 2**. For example, the 10AM daily executive leadership calls detailed in **Section 5.02, Emergency Response Governance and Coordination** were effective in providing a daily touchpoint for pandemic leadership to coordinate. This model could easily be applied in other types of emergencies.

All plans should be approved by senior leadership within the organizations mentioned in those plans to ensure buy-in and feasibility. As outlined in **Recommendation 8** the final responsibility for emergency for ensuring that plans are complete and up to date lies with NJOEM. However, significant input and sign-off will be needed from:

- The Governor's Office, which is accountable for ensuring the execution of the response in an emergency.
- The leads of relevant agencies with subject matter expertise who shape the plan and help lead the response (e.g., the NJDOH for human pandemics; New Jersey Department of Agriculture [NJDA] for zoonotics).

These plans should also gather regular input from agencies whose operations are significantly impacted by planned responses (e.g., the NJDOT if plans involve a complete transportation shutdown).

As with the State Pandemic/Flu Plan (see **Recommendation 1**), these plans should form the basis for regular exercises (see **Recommendation 6**) and be subject to a full-scale review and revision on a fixed and regular cycle. Having these plans in place will provide critical guidance and an essential

[4] Federal Emergency Management Agency. (2023, December 12). *National Preparedness Plan*. Retrieved from https://www.fema.gov/emergency-managers/national-preparedness/plan

"starting point" to the generation of State leaders and workers who are in place during any emergency. Regular training and exercising are also critical to ensure that State employees and leadership are aware of plans and know how to act on them when an emergency begins.

Because rapid action is a key factor in setting an effective response early in an emergency, plans should also include clear escalation thresholds that inform when a Governor should declare emergency orders and set these response plans in motion. This ensures that the State has the requisite tools and emergency powers to respond effectively and that responsible individuals are acting in a timely manner in their emergency roles. It is far preferable to have declared an emergency and then need to stand down when action is not required than it is to have failed to launch a response in time.

Recommendation 5. Assure that every agency has a current and comprehensive Continuity of Operations Plan and that the Plans are coordinated State-wide.

Context

COOP Plans define how State agencies will continue to operate and provide services to New Jerseyans in the face of an emergency that disrupts regular operations. They contain critical information such as:

- What to do if a leader is unable to serve.
- Which services are essential and must continue, no matter what.
- How to provide services if access to a physical location or key resource is disrupted.

COOP Plans are not used to mitigate an emergency or perform additional work required in a crisis (such as those outlined in Recommendation 4). Instead, COOP Plans define the essential activities of agencies and provide the contingency plans and roadmaps for their continued operation. Defining these 'mission-essential functions' provides a guide to leadership on how to manage the flow of resources during an emergency, including information enabling fact-based decisions regarding trade-offs to be made between functions or agencies. All agency COOP Plans should be integrated into a cohesive network.

When the COVID-19 pandemic began, New Jersey had no comprehensive, statewide COOP Plan that addressed an emergency with the magnitude of the COVID-19 pandemic. Individual agencies either did not have a COOP Plan (including the Governor's Office) or had COOP Plans that were insufficient because they did not anticipate the level and duration of disruption to regular operations. For example, most agencies, including the NJDOH, did not have a provision for enabling remote work as part of their COOP Plan. In addition, definitions of who was considered an 'essential' worker differed across agencies at time, causing significant confusion for State workers.

Section 5.14 Continuity of Government Services details the difficulty that New Jersey agencies faced because they needed to create COOP Plans in the face of the emergency while continuing to provide critical services. For example, Section 5.14 details the problems caused by not knowing which workers could work remotely and how to enable that transition.

Recommendation

New Jersey must ensure that all agencies have valid COOP Plans, and that each agency's COOP Plan is integrated into a single, statewide plan that identifies essential functions. Further, New Jersey must ensure that plans are in place to maintain these functions during future emergencies.

These plans should be aligned to Federal Continuity Plans and Essential Function designations. The most effective COOP Plans tie to FEMA's National Essential Functions and allow the State to work in harmony with FEMA, other federal responders, and benchmark states to mitigate a catastrophic emergency. New Jersey and its agencies can leverage FEMA resources, including the COOP Circular[5] and Continuity Resource Toolkit,[6] to ensure that plans are sufficiently detailed and effective.

In accordance with these federal recommendations,[7] a successful plan includes:

- A detailed, documented understanding of all the activities and tasks an organization performs, including operational and organizational details (e.g., technology and people who support those functions).
- Clear succession planning in the event that a leader is unavailable.
- An understanding of which activities, tasks, or operations are essential.
- Potential threats and hazards.
- An analysis of how the organization's threats and hazards may impact its ability to perform its essential functions.
- Mitigation options to address identified risks (e.g., alternate operating facilities, telework policies, devolution procedures, mutual aid agreements).
    - Additional information on identifying which workers are needed to maintain essential functions is discussed further in Recommendation 21.
- A comprehensive outline of the requirements and procedures needed to perform essential functions, and contingency plans if key resources are not available.

Across the State, these plans should be integrated. For example:

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[5] Federal Emergency Management Agency. (2024, January 29). *Continuity Circular*. Retrieved from https://www.fema.gov/emergency-managers/national-preparedness/continuity/circular

[6] Federal Emergency Management Agency. (2024, January 29). *Continuity Circular*. Retrieved from https://www.fema.gov/emergency-managers/national-preparedness/continuity/circular

[7] Adapted and simplified from FEMA COOP Circular.

- If one of the Governor's Office's essential functions is only possible with support from NJOEM, that support must be one of NJOEM's essential functions as well.
- Agencies should have similar definitions of essential workers.
- Public communication plans should be consistent and coordinated across agencies.

New Jersey should also support individual agencies and their personnel to ensure that plans are completed, accurate, and reflect best practices. This requires sufficient funding and training for a designated individual within each agency whose job responsibilities include ensuring the agency's emergency preparedness by updating the COOP Plan and making sure that personnel are trained on and exercise for those plans. Emergency preparedness does not need to be this individual's sole purpose in an agency, but it should make up a meaningful portion of their intended responsibilities (i.e., at least 30% of their time). This will ensure that agencies have both the resources and expertise to support emergency preparedness activities.

Training should be coordinated through the emergency preparedness team detailed in Recommendation 8 and that team should also be responsible for providing substantive assistance and feedback on the development of agency COOP Plans. As described in Recommendation 8, the NJOAG, through a new, permanent Office of Preparedness, should assume responsibility of auditing compliance on the existence of satisfactory COOP Plans. These plans should be reviewed and updated regularly through training and exercise activities outlined in Recommendation 6.

Recommendation 6. Regularly train and exercise emergency plans with core emergency personnel and State employees.

Context

Plans are of limited benefit if they are not the subject of regular training and exercises. Not only are these critical to ensure that staff are aware of the contents of emergency plans, but they are also the most effective ways to determine if the plans are sufficiently comprehensive and effective. Without testing, plans can be too general to be helpful or impractical to implement. Plans must necessarily evolve as potential threats change, state administrations change, and personnel and capabilities change. As a result, plan development (outlined in Recommendation 2 and Recommendation 3), training, and exercises should be closely integrated and regularly updated.

Section 5.02, Emergency Response Governance and Coordination for example, details the challenges the State faced in implementing its existing Pandemic/Flu Plan when the COVID-19 pandemic began. Senior leadership at the NJDOH did not leverage the existing Pandemic/Flu Plan. Though it was not comprehensive enough for a pandemic with the scale of COVID-19, it could have provided a critical springboard from which to launch the COVID-19 response. Instead, those outside NJOEM and the NJDOH Division of Public Health Infrastructure, Laboratories & Emergency Preparedness (PHILEP) were unaware of or had not been trained on relevant plans. In addition, only NJOEM had recently held emergency protocol training exercises; outside of NJOEM there

were gaps in awareness across the State. Other emergency trainings, like tabletop exercises at the NJDOH, were only run within agencies and had limited to no input from a broader range of agencies, or from counties, municipalities and partners who would be critical to the State's response.

Recommendation

To ensure that emergency plans are effective, New Jersey State personnel need regularly to:

- Train to emergency plans to ensure that they are aware of roles and responsibilities during an emergency.
- Exercise the emergency plans by running simulations that prepare personnel for emergency response and identify gaps or learnings that can be used to update emergency plans.

New Jersey needs to develop and implement training and exercising activities for:

- A whole-of-government response for the range of emergency plans outlined in Recommendation 4.
- Individual agencies, particularly to test COOP Plans outlined in Recommendation 5.
- Cabinet and executive-level leadership, when the administration changes[8] (detailed further in Recommendation 7).

These activities should reflect major real-world events like elections, seasons, administration changeovers, and holiday periods, and scenarios should include a wide range of situations like:

- Emergencies that are isolated to New Jersey or the Northeast.
- Responses that have limited federal financial support and no coordinated national response.
- Procurement challenges (e.g., if the State was responsible for procuring vaccines and deploying billions of dollars in funding).
- Fiscal insecurity (e.g., caused by situations like delays in federal funding or states being responsible for paying for national guard deployment).
- Other national events outlined by the Cybersecurity and Infrastructure Security Agency.

Scenarios should always be defined in a way that allows the State to measure the effectiveness of its response against new situations and to test how equitably the State structures its response.

[8] Before taking office, new Governors or Commissioners should be trained on critical emergency protocols and plans.

Stress-testing plans with core emergency personnel

Core emergency personnel in charge of executing a response (such as the Governor's Office, NJOEM, and the NJDOH in a public health emergency) should be responsible for running regular exercises that stress-test the plan for that kind of response. Based on those exercises, they should adjust plans described in **Recommendation 4**. These training and exercising activities and curriculum updates should be performed regularly.

Training and exercising on plans for statewide preparedness

The adjusted plans created by core emergency personnel should create the basis of the emergency preparedness curriculum, including training and exercising activities, for a broader group of State agencies and partners. Rather than being standalone events, these trainings and exercises should be part of an institutionalized, formal, and comprehensive learning and development curriculum. This curriculum needs to be integrated across agencies and relevant stakeholders and include senior staff.[9] Trainings should make participants aware of their own roles and responsibilities in the emergency response as well as those of other participants, and can include online trainings, crisis awareness newsletters, facilitated discussions, and day-long workshops.

Preparedness should be tested regularly with exercises that simulate emergencies, including:

- Large, cross-agency tabletop exercises conducted annually with:
  - Executive State leadership
  - Agency leadership
  - Emergency representatives from every agency
  - Key civic leaders (e.g., community-based organizations, industry leaders)[10]
- At least one additional exercise completed within agencies per year.
- More periodic exercises completed by each team within an agency that is responsible for specific responses (e.g., IT crisis management teams).
- Leadership transition emergency preparedness trainings as needed (see **Recommendation 7**).

Preparedness activities should involve more agencies than those simply in charge of executing the response or providing subject matter expertise (e.g., NJOEM/the NJDOH). State-wide tabletops

[9] Senior staff include the Governor's Office (and the Governor, as necessary), cabinet members, and emergency preparedness representatives from across agencies. Representatives of critical administrative functions such as procurement should also be included as necessary.

[10] Exercises can also be used as a key communication mechanism to build relationships between partners and the State.

give all agencies an opportunity to test their COOP Plans and help identify crucial equity components of the State's response (e.g., during the COVID-19 pandemic, New Jersey Department of Children and Families [NJDCF] had to maintain the ability to run child visits and the New Jersey Department of Labor (NJDOL) had to handle substantially expanded unemployment insurance benefits).

In addition, as discussed in Recommendation 6, identifying and involving partners outside of State government in emergency training activities is a key mechanism to ensure that the State's response is more effective, leverages all available resources, identifies overlooked details, and is as equitable as possible. Working with partners also helps ensure that they are more prepared for emergencies themselves. Partners like LHDs, NJHA and LTCFs, for example, are critical to Public Health Emergency response. Training and exercising activities with these groups helps improve coordination in real emergencies and works to improve the preparedness of the health system. Equity-focused partners, like community-based organizations, should be engaged across all emergency scenarios.

These exercises should be used as opportunities to test what participants have learned and to identify gaps in preparedness. Exercises should always have an 'after-action' component, with lessons learned cycling back into preparedness practices and used to update relevant plans.

The emergency preparedness team detailed in Recommendation 8 should have ultimate responsibility for running State and agency wide emergency training and exercising activities and for providing additional assistance to individual agencies as needed. As described in Recommendation 8, responsibility for auditing compliance of training and exercising activities should be held with the NJOAG, under the new, permanent Office of Preparedness.

Recommendation 7. Mandate emergency training during leadership transitions.

Context

An emergency can occur at any point in a governor's tenure, including at the very beginning. The current administration faced its first emergency—severe winter storms—within weeks of taking office. Incoming state administrations have only about 7 weeks between Election Day, the end of their campaigns, and Inauguration Day, when they become wholly responsible for the management of any emergency in the State. This is a time of multiple competing priorities as governors-elect transition from campaigning to governing. While some governors, their agency leaders, or their staff have experience in emergency management, it is common for a new administration to begin its term with limited experience in managing emergencies and even less understanding of the cadence of emergency operations within New Jersey – including elements that make New Jersey unique, such as the organization and powers of the Governor's Office and NJOEM.

Recommendation

New Jersey should mandate that each governor-elect and key members of their team (e.g., Chief of Staff, Chief Counsel) participate in an emergency management briefing and exercise as part of this transition period. This exercise should be run by a dedicated emergency preparedness team at NJOEM (see **Recommendation 8**) and include:

- An overview of the emergency threats New Jersey is facing, including specific threats being monitored by NJOEM.
- New Jersey's plans to respond to emergencies, including the role of key state leaders.
- The powers provided to the Governor as a result of the Disaster Control Act, the Emergency Health Powers Act, and other statutes.
- A live exercise responding to a simulated emergency.
- Key personnel and resources upon which the incoming administration may wish to draw.

These recommendations align to best practices put forth by the National Governors Association (NGA), a non-partisan organization dedicated to improving the quality of state government administration.[11]

New Jersey should consider similar requirements for the incoming leadership of critical agencies, such as the NJDOH, NJDOT, and the New Jersey Board of Public Utilities (NJBPU). Although each of these agencies tends to be helmed by leaders with some level of emergency response experience, they will be new to this specific role and the conduct of emergency response in New Jersey.

This report highlighted the critical role that leadership transitions play in preparing State leaders for the roles they will play, both generally and in emergencies. Beyond mandating emergency training for all incoming administrations, as outlined above, the State should invest in providing greater support for administration transitions, following the model used for presidential transitions. At the federal level, emergency training is one of several workstreams included in a pre-election transition process run in a bi-partisan manner (i.e., involving both major party candidates). For the presidential transition, this is overseen by the Partnership for Public Service. This process should include engagement with the emergency preparedness team described in **Recommendation 8**.

Senior staff in the Governor's Office should be responsible for overseeing emergency preparedness. New Jersey should institutionalize the role of the Governor's Disaster Recovery Office and have the lead of that role remain in their position for 6-12 months after transition to provide continuity.

As with **Recommendation 6**, auditing the satisfactory completion of these activities would be done by a new permanent Office of Preparedness within the NJOAG.

[11] National Governors Association. (n.d.). *Home*. Retrieved from https://www.nga.org/

Recommendation 8. Designate responsibility for developing and implementing a state-wide emergency preparedness program and establish a permanent Office of Preparedness within the Office of the Attorney General to monitor compliance and audit progress.

Context

Many chapters and subsections of this report outline the challenges that the State faced due to a lack of sufficient emergency preparedness. Section 5.14 Continuity of Government Operations, for example, details the challenges that State agencies faced when transitioning services to a remote model because many agencies did not have updated or sufficiently detailed COOP Plans. Similarly, Recommendation 1 describes how NJDOH leadership did not rely on existing Pandemic/Flu Preparedness Plans.

Planning, training, and exercising for emergencies involves many moving parts that are easy to be overlooked during the stress of day-to-day government operations. Without a central owner charged with ensuring the State's overall preparedness, these activities are less likely to occur with the breadth, frequency, and rigor required to ensure that the State is sufficiently prepared to respond effectively to future emergencies.

Recommendation

New Jersey should designate clear responsibilities for developing, implementing, and monitoring a state-wide emergency preparedness program. Specifically, the State should:

- Expand existing emergency preparedness capabilities under NJOEM to oversee the development and implementation of comprehensive emergency preparedness training curriculum across the New Jersey government.
- Designate the NJOAG with auditing responsibility, through a new permanent Office of Preparedness to verify that emergency preparedness plans exist and are actionable.
- Establish a statute that requires that New Jersey have sufficiently comprehensive and updated emergency preparedness plans.

Expand existing emergency preparedness capabilities under NJOEM

There must be a dedicated emergency preparedness team within NJOEM that is responsible for:

- Ensuring the quality of State and agency emergency plans, including COOP Plans and emergency response plans. This role would include:
  - Providing expertise and support to ensure that State-wide and agency plans are robust, up-to-date, and actionable.

  - Certifying that each agency's emergency preparedness plans meet state and federal guidelines.
  - Helping tailor training curricula to the diversity of agency needs.
- Coordinating and overseeing regular preparedness exercises, such as tabletop exercise and drills, across agencies (Recommendation 6).
- Ensuring that there is integration and coordination between State emergency plans and agency COOP Plans (Recommendation 5).
- Involving critical stakeholder groups in preparedness exercises (Recommendation 6 and Recommendation 14).
- Facilitating analysis and collection of lessons from emergency drills and exercises and supporting agencies or relevant plan owners to update the plans based on those lessons.
- Managing emergency training as part of governor leadership transitions, including briefing incoming leadership on the State's emergency preparedness status, updating them on ongoing or planned initiatives, and running a live exercise responding to a simulated emergency (Recommendation 7).

This team should be staffed with emergency preparedness subject matter experts who are non-partisan professionals and who ideally retain their positions through changes of administration. In this capacity, the group can act as a liaison between different New Jersey agencies, ensuring a cohesive and unified approach to emergency preparedness and fostering a culture of preparedness throughout the State.

Designate the NJOAG with auditing responsibility, through a new permanent Office of Preparedness to verify that emergency preparedness plans exist and are actionable

Separately, the State should designate a permanent Office of Preparedness within the NJOAG with auditing responsibilities, including verifying that emergency preparedness plans exist and are actionable. Oversight should be designated within the NJOAG, given that:

- NJOEM is in the New Jersey State Police, which is a Division of the New Jersey Department of Law and Public Safety, under the supervision of the NJOAG.
- The Department of Law and Public Safety within the NJOAG provides legal advice to all State agencies, including the NJDOH, NJOEM, NJDEP, and OHSP, that have central roles in emergency preparedness and response.
- The Department of Law and the NJOAG have lawyers and other professionals with substantial institutional knowledge regarding emergency planning and response who were involved in responding to Ebola, H1N1, Hurricane Sandy, and more recently, COVID-19.
- The Department of Law and the NJOAG's lawyers/professional staff played a critical role during the response to COVID-19 at the ROIC, side by side with NJOEM, the NJDOH, and the Governor's Office.

This oversight could be established in a permanent Office of Preparedness in the NJOAG that would work with the Governor's Recovery Office, NJOEM, and emergency representatives at agencies to monitor and ensure that:

- Leadership transition trainings take place.
- NJOEM, the Governor's Office, and other relevant agencies are updating a wide variety of emergency preparedness plans.
- NJOEM develops and implements a state-wide Emergency Preparedness Curriculum.
- Agencies submit sufficiently comprehensive COOP Plans.
- Training and exercising activities are taking place.
- Executive Order waivers are being maintained (in tandem with GDRO)

Enact a statute that requires that New Jersey have sufficiently comprehensive and updated emergency preparedness plans

To support the enforcement of this recommendation, New Jersey should also adopt a statute that requires the State to have sufficiently comprehensive and updated emergency preparedness plans. This statute should indicate where responsibility is designated to NJOEM versus the NJOAG, as this recommendation has done.

7.2.2. Equity and Public Health Resiliency

Recommendation 9. Increase investment in New Jersey's public health system to address weaknesses exposed during the pandemic.

Context

The COVID-19 pandemic caused enormous harm in the State that fell disproportionately on its most vulnerable residents. In response to the crisis, New Jersey mobilized a response that led to temporary increases in staffing, expanded the capacity of the health system, and made a concerted effort to tackle the inequities within the State and revealed what New Jersey can achieve when it dedicates additional funding and attention to public health efforts.

In this context, the State highlighted what is possible when it fully mobilizes its resources and showcased areas across New Jersey that could benefit from this increased attention, outside of emergency situations. Like other states across the U.S., disparities in health outcomes are a product of long-standing issues that have pervaded the healthcare system, such as unequal access to care and other socioeconomic barriers. These issues are also being examined by New Jersey's COVID-19 Task Force on Racial and Health Disparities, and that group's report is to be released in the near future. At the same time, the rapidly aging population in New Jersey is creating a growing demand for long-term care and home health services that the current system is ill-equipped to meet. The

public health workforce itself faces significant challenges, from staffing shortages that constrain the health system's ability to serve more residents, to the need for more diverse and resilient healthcare professionals who can adapt to and manage evolving public health threats. These challenges make it clear that a renewed investment in public health infrastructure is necessary for the State to adequately address its residents' healthcare needs.

Recommendation

Considering the vulnerabilities exposed by the pandemic, the State should develop a comprehensive plan to reinvest in its public health system. This effort will require direct investment from the State, including increased funding for the NJDOH and LHDs. Additional, consistent funding should also be targeted toward specific efforts as needed. The primary goals of this initiative should include:

1. Strengthen Public Health Infrastructure

- **Public health infrastructure:** New Jersey should ensure that investments are strategically allocated to address the specific weaknesses unveiled during the pandemic by increasing funding for healthcare access, culturally specific health programs, and modern public health IT systems (including data collection and dissemination). This includes ensuring the development of a talented and diverse public health workforce, as described below.

2. Develop a Robust Public Health Workforce

- **Investment in workforce development:** Create programs that support building a diverse and resilient healthcare and human services workforce. There are multiple potential policy options, including providing incentives (e.g., scholarships or tuition discounts at New Jersey's higher education institutions, rewards for years of service in health care in the State), targeted workforce development programs for displaced workers, and support for targeted recruitment.
- **Educational expansion:** Work closely with higher education institutions in New Jersey to expand relevant educational programs (e.g., Bachelor of Science in Nursing), work with community colleges and universities to create stronger transfer pathways into healthcare related degree programs, and work with public schools to expose students to and foster early interest in healthcare careers.
- **Teacher support:** Invest in the development and ongoing education of teachers and trainers within these programs to ensure high-quality instruction.
- **Career pathways:** Establish clear career ladders in public health roles to provide workers with advancement opportunities and incentives for professional development.

- Homecare support: Address the critical shortage of caregivers by investing in training programs, providing competitive wages, and ensuring adequate support for homecare workers.
- Licensing and credentialing systems: Improve the licensing and credentialing system to make it more efficient and to expedite recruiting and deploying healthcare workers. This could also include expanding the scope of practice for each credential type, allowing workers to perform a broader set of responsibilities, and increasing workforce flexibility.
- Interstate collaboration: Expand opportunities for interstate collaboration to allow for a more flexible and responsive deployment of healthcare professionals during emergencies. For example, the State could recognize healthcare worker credentials issued in other jurisdictions when they are substantially similar to those in New Jersey.

3. Address Health Equity

- Equity in policy making: Equity considerations must continue to be central, not peripheral, to public health policy and practice (see Recommendation 10).
- Community engagement: Develop and implement policies in direct consultation with affected communities to ensure that interventions are culturally sensitive and appropriate, thereby improving trust and effectiveness (see Recommendation 15).
- LTC and home health access and investment: With an aging population, the demand for LTC will grow potentially faster than the supply of high-quality treatment options. New Jersey must develop an approach to investing in LTC facilities and home health services that ensure both high quality of care and expanding capacity to meet increasing demand (see Error! Reference source not found.).

4. Improve Public Health Messaging and Trust

- Transparent communication: Incorporate lessons learned from the pandemic into broader public health messaging strategies by prioritizing transparency, accuracy, and empathy, thereby rebuilding public trust in health advisories and interventions.
- Community-based messaging: Engage with community leaders to disseminate public health messages in a way accessible to and resonant with diverse communities.

The Governor's Office, in tandem with the NJDOH and other relevant agencies, should spearhead the development of a comprehensive plan to enhance New Jersey's public health system and achieve these goals. Public health evolved because of the pandemic, and refreshed strategies are needed going forward. Where relevant, the State legislature should commit to providing the necessary funding and legislative support. This plan must include clear objectives, actionable steps, and timelines. Additionally, it should indicate who is responsible for implementation. The plan should be developed with meaningful input from a wide range of health partners across the State,

including LHDs, healthcare providers, community organizations, and academia, to leverage a wide range of expertise and perspectives.

Recommendation 10. Make specific investments in health equity that will reduce disparities in health outcomes across New Jersey.

Context

Chapter 4, Section 5.16 Equity, and the multiple equity sub-sections of Chapter 5 (such as the one found in Section 5.10 Vaccinations) highlighted health and economic disparities throughout the pandemic and examined the equity issues across New Jersey's COVID-19 response. These sections showed the many ways in which COVID-19 disproportionately impacted historically disadvantaged communities, such as communities of color, in New Jersey. Like in the rest of the country, historic inequities within New Jersey compounded during the pandemic and groups that have disproportionately poor health outcomes during non-emergency situations also had disproportionately poor outcomes from COVID-19. For example, Black residents of New Jersey had higher rates of COVID-19 cases, hospitalizations, and deaths than did White communities, due to longstanding underinvestment in communities of color and the systemic barriers they face when accessing care (see Chapter 4).

New Jersey has a 30-year history of focusing on health equity through the NJDOH's work and its Office of Minority and Multicultural Health. However, the New Jersey Department of Human Services (NJDHS), the Governor's Office, and the State must take a whole-of-government approach to health equity, with initiatives across agencies aimed at addressing disparities. Still, more needs to be done to address social determinants of health and increase access to preventative and primary care for disadvantaged populations. Embedding equity across all agency operations is essential for effectively addressing health disparities and reflects the impact that social, economic, and environmental factors have on health outcomes. For example, certain communities have higher rates of chronic health conditions, like asthma, as a result of living near heavily trafficked roadways, or diabetes from living in 'food deserts.' A comprehensive health equity approach could include developing policies aimed at environmental justice, including improving air quality, and increasing access to healthy food options in underserved communities.

Recommendation

New Jersey must commit to creating and implementing a comprehensive health equity plan to eliminate inequities in outcomes and support all communities across the State. This plan should be as targeted as possible, with clearly designated owners and corresponding responsibilities. Establishing a clear outline for planned interventions is critical for leaders to understand which interventions are effective and where to focus their energy.

At minimum, this plan should build on the lessons learned from the COVID-19 pandemic response by integrating equity into already existing programs and institutionalizing successful strategies to help hard-to-reach communities. These tactical, easier-to-implement learnings, which are documented in sections such as **Section 5.10 Vaccinations** and integrated throughout recommendations in this chapter, include:[12]

- Ensuring that health care facilities operate during convenient hours and locations (e.g., opening before 9AM and after 5PM, and offering weekend hours, when most residents can visit outside of their working hours).
- Investing in mobile service delivery that brings critical services to community centers and neighborhoods that lack existing infrastructure (e.g., mobile clinics for flu vaccines, diabetes education, or other preventative care services).
- Investing in infrastructure in communities and neighborhoods that lack it (e.g., expanding access to clinics, pharmacies, and primary care providers).
- Developing programs that address transportation barriers to healthcare access, ensuring equitable healthcare accessibility for all communities (e.g., the NJDOT's community engagement strategy; other suggestions are outlined in **Section 5.16 Equity**).
- Strengthening partnerships with local community leaders and organizations to reach underserved communities (see **Recommendation 13** and **Recommendation 14**, which relate to emergency response).
- Including constituents who are most affected by State policies into the decision-making process of those policies (e.g., building on the community coalitions described in **Recommendation 14**).
- Improving the collection and analysis of disaggregated demographic data to better understand and address specific health disparities (see **Recommendation 17** and **Recommendation 19**).
- Continuing to benchmark outcomes and progress of demographic groups in response to government policies and using that to feed back into decision making.
- Investing in technologies that facilitate access (e.g., expanding telehealth) (see **Recommendation 20** and **Section 5.03 Public Communications**).
- Establishing and strengthening equity specific response efforts, such as New Jersey's COVID-19 Task Force on Racial and Health Disparities, which is expected to evaluate how and why the pandemic disproportionately affected minority and marginalized communities in New Jersey and provided recommendations on how to eliminate these disparities.

[12] Portions of these priorities were drawn from: Robert Wood Johnson Foundation. (2020, May 28). Health Equity Principles for State and Local Leaders in Responding to, Reopening and Recovering from COVID-19. Retrieved from https://www.rwjf.org/en/insights/our-research/2020/05/health-equity-principles-for-state-and-local-leaders-in-responding-to-reopening-and-recovering-from-covid-19.html

- Establishing a standardized framework for characterizing populations and tracking outcomes across different State agencies (e.g., standardizing how agencies collect race, ethnicity, and other demographic data).

A truly comprehensive plan would extend beyond immediate healthcare needs to include broader determinants of health, such as living conditions, transportation, and community infrastructure. These determinants of health are addressed by various State agencies.

A comprehensive strategy requires prioritizing governance structures that rely on cross-sectoral collaboration and coordination. Such a strategy requires establishing interdisciplinary teams and committees within State agencies, each with a clear mandate to prioritize equity in policymaking and program implementation. It should ensure that these teams have the authority and resources to make impactful decisions and implement change. Most importantly, this governance structure should have significant interaction from the communities the State intends to serve (see Recommendation 15 in Non-Emergency Governance). This ensures that health equity is not just an add-on or afterthought, but rather, a foundational principle guiding all State actions and decisions.

The NJDOH and the Governor's Office should lead this plan's development. The plan needs to have clear milestones and metrics and its development needs be a participatory process that considers the input of community leaders across the State. The plan should be completed in the 12 months following the release of this report.

Recommendation 11. Increase preparedness and resiliency of the hospital system in an emergency.

Context

Hospitals are a critical part of the State's health system and played an essential role in responding to the pandemic. Section 5.07 Healthcare Capacity Management describes the work which the State did to ensure that there was sufficient capacity within the hospital system to deliver essential medical services. Beyond ensuring that there was system capacity, hospitals were critical throughout the medical response. Section 5.10 Vaccinations, for example, details the role of hospitals in volunteering to help set up mass vaccination sites that helped the State meet its vaccination goal.

However, there were some challenges caused by a lack of emergency preparedness in the hospital system that led to difficulties with the COVID-19 response. As discussed in Section 5.07 Healthcare Capacity Management, the NJDOH had not designed or passed statewide crisis standard of care guidelines, leading them to begin designing crisis standards of care during the first wave when they were already needed. Additionally, the NJDOH set up a new, regional collaborator model independent of the existing HCC model, which is already embedded in the State's emergency response.

Recommendation

New Jersey needs to invest in ensuring that hospital systems are financially and materially resilient to a wide range of emergencies. State emergency preparedness measures, particularly for public health emergencies, should include major partners like NJHA and primary care providers and involve all levels of the State, including LHDs.

All these recommendations come in the context of a general investment in improving public health and addressing health disparities in New Jersey. A summary of the types of investments which are needed to build greater public health infrastructure and address ongoing health inequities are in the non-emergency management section below as Recommendation 1 and Recommendation 2, respectively. Recommendations related to the development of the healthcare workforce are included as part of Recommendation 2 in the non-emergency management section below. In particular, the State should:

- Institutionalize a single regional collaboration model that effectively integrates across the NJDOH, LHDs, and the State hospital system. The regional collaborator model deployed during the pandemic created regional coalitions, centered on New Jersey's 's highest-acuity trauma centers, which allowed the movement of patients, equipment and in some cases even staff across facilities in one of New Jersey's three regions. In future emergencies, the State will need a similar model to ensure that hospital systems do not face acute shortages in space, equipment and personnel which result in a drop off in quality of care.
- Expand knowledge sharing between the State, LHDs, and the hospital system. For example, the NJDOH could implement a system that allows senior hospital or LHD leadership to be seconded to the NJDOH and vice-versa.
- Providing funding and technical assistance to those hospitals which are not able to develop emergency plans on their own. While New Jersey is home to some of the world's leading medical centers, with a depth of expertise and resources unmatched nearly anywhere, it is also home to smaller, less-resourced hospitals which do not have the same level of capability to develop emergency plans. This may include safety-net providers. Because these hospitals often serve disadvantaged populations within the states, the combination of under-preparedness and high-risk communities can lead to a divergence in outcomes. New Jersey will need to provide additional assistance to these facilities to ensure that they have robust emergency plans in place ahead of the next large-scale emergency.
- Increase data sharing during non-emergency times between the State, LHDs, and the hospital system (see Recommendation 17).
- Involve healthcare sector stakeholders in critical emergency planning, training, and exercising activities (see Recommendation 4 and Recommendation 6). This is a critical mechanism to increase contact between the State government and the hospital system, helping set contacts/relationships that are essential for success during an emergency as well as providing an early warning of which providers are potentially unprepared for a future emergency.

Other recommendations in this report address capacity in long-term care facilities, which face a set of challenges which in many cases are distinct from hospitals (see recommendations included as part of Chapter 6).

The NJDOH should be responsible for overseeing this effort, with support from the Governor's Office and any other relevant agencies as needed. In addition, New Jersey should survey the resiliency of its hospital system regularly.

7.2.3. Congregate Settings

Recommendation 12. Enhance State oversight, coordination, and guidance capabilities for long-term care facilities.

Context

The Covid-19 pandemic underscored the need for enhanced oversight of congregate settings, particularly long-term care facilities (LTCFs), both in times of public health emergencies (PHEs) and as a routine practice. Prior to the pandemic, these settings had significant vulnerabilities, such as staffing shortages, insufficient resources, and limited emergency preparedness. These are discussed in more detail in Chapter 6. These vulnerabilities were exacerbated during the pandemic, leading to high rates of infection and death in many LTCFs. These systemic issues must be addressed to improve the quality of care in New Jersey's long-term care industry and be better prepared for future crises.

NJDOH has a critical role in overseeing LTCFs, particularly by conducting surveys of facilities and investigating complaints. NJDOH's oversight is vital to ensuring that LTCFs in New Jersey adhere to appropriate health and safety standards, especially regarding infection control. Despite the importance of NJDOH's LTCF survey and complaint response capabilities, NJDOH is not sufficiently staffed or funded in this area and has struggled to recruit and retain surveyors.

Moreover, NJDOH's recent establishment of the Office of Long-Term Care Resiliency and its Mission Critical Teams - composed of nurses who act as consultants, rather than surveyors or regulators, that engage directly with LTCFs and provide support to struggling facilities – provide a much-needed resource to LTCFs in New Jersey. However, more Mission Critical Teams are required to meet the high demand for support from these facilities.

Additional investment is needed in these resources to promote safe, high-quality care in congregate care settings, and to ensure such facilities are equipped to face future challenges.

For further discussion of the challenges experienced in congregate settings prior to and during the COVID-19 pandemic response, see Chapter 6.

Recommendation

To enhance oversight, coordination, and guidance capabilities for LTCFs, the State should take the following steps:

- Increase funding for NJDOH's survey teams. Such funding will enable NJDOH to recruit, train, and retain a sufficient number of surveyors to conduct regular, thorough inspections, improving LTCFs. This measure is crucial for maintaining high standards of care and safety across all LTCFs.
- Increase infection control requirements for LTCFs, such as mandating comprehensive training programs, regular emergency preparedness drills, and adherence to infection control protocols that are regularly updated based on the latest public health guidance.
- Expand NJDOH's Mission Critical Teams. With greater capacity vis-à-vis its Mission Critical Teams, NJDOH could provide targeted support and rapid response capabilities to a larger number of LTCFs that are struggling.

The above actions will strengthen the resilience, quality of care, and safety of LTCFs in New Jersey and help ensure they are able to meet the needs of their residents. For a comprehensive list of recommendations for congregate settings in New Jersey, see Chapter 6.

7.2.4. Partnerships with Industries, Community Groups, and Other Stakeholders across New Jersey.

Recommendation 13. Maintain and institutionalize relationships with critical stakeholders, including community groups and industry.

Context

Partnerships with groups like businesses, unions, and community-based organizations give the State access to information, infrastructure, funds, supply chains, and channels to hard-to-reach and at-risk communities which are valuable during an emergency response. These partnerships are often the fastest way to reach some households with essential resources as they are more trusted and, in this respect, more capable than state agencies.

The faster the State can identify these stakeholders, the faster it can partner to provide critical services. For example:

- Section 5.05 Personal Protective Equipment details how the State had to identify and work with businesses to receive PPE donations in the first few months of the pandemic. This donation program, and the speed at which the State was able to partner with those who

could donate, was a critical component of increasing PPE availability for hospitals and other healthcare providers during a national shortage.

- Section 5.14 Continuity of Government Services details how New Jersey transit communicated with community groups and then used that information to shape services (e.g., by moving bus routes). This enabled the organization to respond to New Jersey resident needs in a way that advanced State goals – like increasing vaccination rates – and addressed the needs of the communities that the agency is intended to serve.

These are just two of the many examples detailed in the report that showcase how New Jersey leveraged relationships with critical stakeholders. New Jersey made significant efforts to develop and use relationships with organizations like this to execute its pandemic response, minimize health inequities, and address community concerns. Despite this, many of these connections were inconsistent across agencies and relied on the personal relationships of staff rather than a rigorous strategy.

For example, while some agencies like the New Jersey Department of State (NJDOS) and NJDCF had robust relationships with volunteers and other non-governmental entities, others did not have existing infrastructure that ensured that they had cooperation with community-based organizations (CBOs) or hard-to-reach communities. As a result, these connections needed to be established during the pandemic under less-than-ideal circumstances.

In addition, in March 2020, responders in NJOEM, the NJDOH, and the Governor's Office were extremely well-connected to the hospital systems but interacted less with other types of providers in the health system. New Jersey's response would been further improved through better connections to groups like long term care facilities (LTCFs), LHDs, primary care doctors and home health providers. Coordinating with LTCFs, for example, is more complex because they tend to be less consolidated and organized than hospitals. As a result, there is more of a need to proactively invest in relationships with them that would enable a more comprehensive response in a future emergency.

Recommendation

New Jersey should maintain and institutionalize the relationships that were built during the pandemic and invest in finding new partners that will enable the state to expand or enhance the delivery of critical state services. This requires regular engagement of these organizations on topics related to service delivery and emergency preparedness, as well as coordination during non-emergency government operations. In addition, to ensure an equitable response to future emergencies, New Jersey should also prioritize relationships with a diverse set of CBOs. (discussed in Recommendation 14).

The State should leverage many types of organizations to provide critical goods and services., including health and medical providers, grocery and retail businesses, and colleges and institutions of higher education. This encompasses for-profit and non-profit organizations.

Establishing relationships with these groups requires that all service delivery agencies develop a community partnership approach, focusing especially on emergency service delivery. To develop an effective partnership approach, the State needs to do the following:

1. Document and develop mechanisms to establish relationships with partners.
2. Identify critical partners.
3. Support and engage partners in emergency planning (also discussed in Recommendation 14).
4. Support and engage partners in non-emergency government operations (also discussed in Recommendation 15)

State agencies should document the approaches taken during the COVID-19 pandemic to partner with organizations like businesses or community groups, including which aspects of the process worked well or could be improved. While many state agencies have informally done this, this should be included in emergency response plans (see Recommendation 4) for agencies as new emergencies will require identifying and reaching out to new groups.

To identify critical partners, the State needs to do three things:

1. Document the partners the agency relied on, partnered with, or should have partnered with during the COVID-19 pandemic.
2. Identify services (including outreach) which are critical during emergencies, and the partners that can deliver these services in each region.
3. Identify the New Jersey communities particularly at risk during an emergency, whether because of geography, demographics, or other characteristics, and identify any community partners critical for delivering service or outreach to those groups. The list of communities that the NJDOH and other agencies developed during COVID-19 can be a starting point.

To institutionalize and memorialize the connections built during the pandemic, the State and its agencies should develop a rigorous method for tracking and maintaining relationships. A common way to do this is by using digital customer relationship management (CRM) software, which can track partners, outreach, communications, contacts, and awarded grants. While a best-in-class CRM would be whole-of-government and accessible across agencies;, developing instances for each agency would also be an improvement over not tracking contacts and relationships at all.

New Jersey should pay particular attention to maintaining access to community-groups and organizations that help ensure an equitable emergency response. At minimum, the NJDOH should

implement a CRM to track engagement with community partners, catalog services they provide and in which communities, and NJDOH points of contact. This will enable the NJDOH to systematically maintain these relationships over time and activate them quickly in the event of an emergency. Over time, New Jersey can consider extending the CRM to other agencies to coordinate whole-of-government CBO management.

Further, through the training and exercising activities detailed in Recommendation 6, the State should identify additional critical needs and services that could potentially be accessed in collaboration with stakeholders. Training and engaging with stakeholder organizations, as discussed in Recommendation 14, is an important engagement step that can help identify and build relationships with these groups.

Recommendation 14. Collaborate with partners outside of State government in emergency responses to increase the speed, effectiveness, and equitable distribution of service delivery.

Context

Recommendation 13 outlined the importance of stakeholder engagement in New Jersey's response. A truly effective of response, however, goes beyond merely identifying and maintaining relationships with community organizations, hospitals, or industry groups. The State needs to understand the capabilities of those partners and how to effectively engage them in an emergency response.

For example, Section 5.10 Vaccinations and Section 5.07 Healthcare Capacity Management describe some of the execution challenges New Jersey faced because public health emergency structures are only used in an emergency. Areas of the State where stakeholder relationships were regularly nurtured and utilized, even outside of emergencies, had a more efficient and effective response (e.g., county health departments that coordinated with LHDs for flu vaccine delivery at schools had a faster COVID-19 vaccine rollout).

Recommendation

New Jersey needs to build the infrastructure to support and engage partners in an emergency. At its core, the State must be aware of what its partners can do and how to best integrate those capabilities into an emergency response. This should be achieved by regularly using and exercising partner relationships to achieve non-emergency goals and by integrating partners into planning, training, and exercising activities that help prepare them and the State for future emergencies (see Recommendation 4 and Recommendation 6).

In some instances, providing support for partner engagement can necessitate providing increased funding. There are a range of options for how to engage with critical partners. These approaches

can be used for every-day government purposes and for emergency planning engagement. A non-exhaustive list of examples, which New Jersey should continue to expand on, includes:

- Develop regional response coalitions, like those that already exists for hospitals through the Healthcare Coalitions Consortium or those utilized in response to the crisis. In non-emergency situations, these coalitions can serve as a single group to plan, train and exercise on emergency response. During emergencies, they can serve as a critical coordination vehicle. These coalitions can serve as an avenue to understand community needs and provide input on interventions (e.g., vaccine uptake messaging).
- Forming and funding a unit to provide emergency management training and support for LTCFs, nonprofits, and agencies that work with populations with specific needs in emergencies, such as New Jerseyans with disabilities. The unit's goal would be to:[13]
  - Identify individuals with specific needs.
  - Assess the level of support needed and the availability of that support by region.
  - Work to build out additional supports and coordinate with both government and non-government actors to provide needed services in an emergency.
- Regularly survey business, community partners, and other organizations about the services they can deliver in an emergency, such as vaccinations, transportation, critical supplies, outreach, and meals. This information would then be incorporated into a CRM.
- Invest in community infrastructure through existing federal grants to ensure ongoing robust set of CBO partners.
- Continue or expand partnerships with large non-profits to provide technical assistance to other partners (e.g., training on tracking/accounting to meet federal standards), especially those that provide critical services (e.g., culturally specific crisis support, awareness, outreach, and grant administration).
- Negotiate standing contracts with key partners to ensure that, in the event of an emergency, the organizations can jump into action (see Recommendation 30).
- Have standing methods in place to allow businesses to notify the State that they have goods or services available to donate or to provide that are critical for the emergency.

In a public health emergency, engaging hospitals is especially important. Recommendations for hospital preparedness are addressed in Recommendation 11.

[13] New Jersey Legislature. (2022). S285. Retrieved from https://www.njleg.state.nj.us/bill-search/2022/S285

Recommendation 15. Ensure that Statewide initiatives reach disadvantaged populations by involving community groups in policymaking, service design, and public communications.

Context

During COVID-19, New Jersey increased efforts to reach disadvantaged and marginalized populations with information about guidelines, resources, and services. These efforts included ensuring that these groups were included in the mass vaccination campaign. The Governor's Office and the NJDOH worked with local CBOs to contact hard-to-reach populations. Meanwhile, the Governor's Office and the Office of New Americans identified mechanisms to reach immigrant populations online and adjusted their social media activities to reflect the fact that many in those populations receive most of their information from Facebook and WhatsApp. Additional examples of the way which New Jersey tailored communications can be found in Section 5.03 Public Communications.

Recommendation

New Jersey should institutionalize lessons learned during COVID-19 regarding reaching underserved populations and continue to include them in outreach efforts. This should build on, and is an extension of, the efforts outlined in Recommendation 10. This also builds on the efforts and relationships necessary to respond to emergency situations, as outlined in Recommendation 13.

These efforts can be separated into those that improve service delivery and those that improve communication to restore public trust. Because new and improved services must be communicated, these efforts are often in tandem. Actions to continue and expand communications efforts with marginalized populations include:

- Creating a consistent standard for translation of public material (including foreign languages and when translation is required) across agencies and consider securing a statewide vendor for translation services.
- Ensuring that State communications campaigns feature people who reflect New the diversity (e.g., having Latinx nurses get vaccinated on TV).
- Refuting misinformation.
- Providing forums that allow residents to give feedback and ideas, identifying problems in State efforts, and providing alternatives for those unable to attend in person (e.g., Zoom and opportunities to submit written comments).
- Continuing and expanding grassroots and community-based efforts to reach people in diverse communities.

- Reaching out proactively to individuals – or engaging trusted community voices who can reach out to community members – who quality for support (e.g., rental assistance, utility assistance).
- Conducting effective outbound communication to individuals who begin processes to receive support (e.g., rental assistance, vaccine appointment booking).
- Sharing best practices and lessons learned from COVID-19 across agencies for more effectively communicating with hard-to-reach populations.

Actions New Jersey should consider for continuing to improve service delivery for marginalized populations include:

- Developing regional collaborative models comprising local government, LHDs, CBOs, healthcare providers, and representatives from supporting industry, including pharmaceuticals (this work would build on the coalitions suggested in Recommendation 14, and would be significantly contribute to building solidarity and finding comprehensive solutions). Washington, Hawaii, New York, and other states have implemented similar programs, with support from the U.S. Centers for Medicare and Medicaid Services (USCMS).
- Developing formal advisory committees with representatives from the populations the agency serves, to ensure that their interests are represented (e.g., NJDCF implemented a model for this via the Youth Advisory Council).
- Increasing the diversity of State workers to reflect the communities they serve.
- Increasing the use of self-certification processes for constituents applying for aid. These processes should have appropriate fraud detection checks built in (for example, the New Jersey Department of Community Affairs [NJDCA] allowed constituents to self-certify that they qualified for rental and utility assistance while also implementing rigorous fraud detection.[14])
- Allowing residents to apply for services across agencies using a single application profile.

The effectiveness and coordination of communication and service delivery would be improved by establishing a standardized framework for characterizing populations and tracking outcomes across different State agencies (e.g., standardizing how agencies collect race, ethnicity, and other demographic data). This could be similar to the 28+ community organizations that the NJDOH identified for its vaccine outreach efforts.

As described in Recommendation 9, effective implementation involves coordination across agencies and a resident-centered approach to service delivery and policymaking. Service delivery

[14] In addition, for rental assistance applicants, DCA was able to compare applications to block-level census data on income. For utility assistance, DCA worked directly with utility companies to pull information on payment histories to determine qualification. See Section 5.12 Economic Mitigation for additional detail.

agencies need governance structures that are accountable to State equity goals, with leadership responsible for ensuring that equity is embedded across operations.

Recommendation 16. Maintain and enhance collaboration with the Federal Government and other states during emergency response.

Context

The Governor's Office leveraged federal and state partnerships throughout the COVID-19 response. For detailed discussion on how New Jersey collaborated with the Federal Government and other states, refer to Section 5.02 Emergency Response Governance and Coordination.

New Jersey used existing relationships – like its ongoing relationship with FEMA – to respond to the emergency. It also formed new relationships which increased the effectiveness of its emergency response. For example, the Governor's Office contacted the Federal Government for support and maintained an effective working relationship with the Federal Government despite differences in the political party in power. Through these relationships, New Jersey was able to secure supplies, such as ventilators. Additionally, the Governor's Office began working closely with Connecticut and New York almost immediately, sharing information and coordinating critical pieces of response. The Governor's Office eventually participated in a broader group of seven Northeast states that was established in April 2020 to plan how to best scale back COVID-19 restrictions in the region. Later in May of 2020, this partnership facilitated a multi-state agreement to develop a regional supply chain for personal protective equipment, other medical equipment, and testing. (Additional information can be found in Section 5.02 Emergency Response Governance and Coordination.) As the Governor's Office learned throughout the pandemic, interstate cooperation mechanisms are crucial to mitigation efforts, reflecting the interconnectedness of state economics and public health strategies. This coordination for example, was key to New Jersey's approach to easing restrictions for businesses and the public.

Recommendation

In the event of another pandemic, the Governor's Office and leadership across the New Jersey government should continue to use Federal and other state relationships to collect information and maximize the resources available to New Jersey. Where possible, these activities should be institutionalized in emergency planning (see Recommendation 4 and Recommendation 6).

This is a crucial component of structuring a comprehensive and fast emergency response. These activities should be leveraged to ensure that New Jersey receives early, accurate information about developing threats (see Recommendation 17) and to promote a coordinated response with federal and other state partners.

Activities in the COVID-19 response to continue or enhance include:

- Personal involvement of the Governor and other senior New Jersey officials in coordination with the Federal Government.
- Interacting with staff across multiple levels of relevant Federal and other state governments (e.g., mid-level employees as well as leadership).
- Maintaining proactive and diplomatic relationships.
- Leveraging state cooperation to accomplish mutual goals, even when it is not a Federal Government priority.
- Establishing a regional consortium of states impacted by the emergency to coordinate policy, including reviving the consortium of seven Northeast states if relevant (see below).
- Including key stakeholders in the Federal Government in trainings and exercises (Recommendation 6 and Recommendation 14) to increase awareness and develop and strengthen operational relationships.
- Participating in national level training exercises such as Crimson Contagion.

In particular, New Jersey should make permanent a multi-state or regional consortium that can be activated in a regional emergency to coordinate response and collaborate where actions in one state have an impact on developments in another. This should build on the regional compact/consortium formed during the pandemic. This multi-state collaborative would allow member states to coordinate on policy, operational responses, and communication during an emergency. Outside of an emergency, it could also be used to monitor emergency threats as described in Recommendation 17. Emergency planners might consider including this cooperative in planning and exercising (detailed in Recommendation 6).

7.2.5. Data and Technology Infrastructure

Recommendation 17. Invest in identifying and interpreting early warning signals for future emergencies to appropriately weigh risks.

Context

The sooner New Jersey can identify threats to New Jersey, the sooner it will be able to respond to those threats, leading to less loss of life and economic damage. One of the reasons that COVID-19 was so dangerous is that it escaped many existing early warning systems. Testing capacity, for example, was not high enough to adequately track the spread of the disease across New Jersey. In addition, existing information about the magnitude of the potential threat was not shared with state government leaders. This allowed the disease to spread rapidly. By the time cases spiked in March 2020, there were many times more infected people than were confirmed via the limited number of positive tests. In addition, there were no defined thresholds in place to activate a health response beyond the NJDOH. It is possible to imagine a different trajectory of the pandemic had New Jersey received advance warning of the magnitude of the threat—the press conference on

March 2, 2020, in which COVID-19 was characterized as low-risk, could have had very different messaging. As a result of this lack of early warning, New Jersey lost precious time in preparing for the emergency before COVID-19 had crossed New Jersey's borders. With additional warning, New Jersey would have been better equipped to respond to the emergency.

The Governor and senior leadership in the Governor's Office learned the importance of early, decisive action to integrated emergency responses. This is critically tied to the need to have early access to information – insights into the virus' nature, such as its mode of transmission, could have driven more focused decisions about how to fight the spread of the disease (such as speeding testing ramp up or requirements) and allowed New Jersey to act even earlier. As a main port of entry to the U.S., and neighbor to the largest American city, New Jersey is at elevated risk for diseases or other threats originating overseas. It is paramount that the State be able to monitor emerging threats and work with organizations beyond its borders to identify threats that could cross into New Jersey. The earlier New Jersey is aware of a given risk, and the more it knows about that risk, the easier it is to issue guidance to residents, industries, and other State employees.

Recommendation

New Jersey should further invest in its collection of early warning data from within the State and mechanisms to receive information from other states and overseas. This will result in a thoughtful, tiered, statewide threshold system for emergencies beyond weather events.

These warning systems should be a blend of active threat monitoring, passive monitoring systems, and external relationships. This is the same model used for New Jersey's existing and well-functioning warning systems for weather and security emergencies. Warning system mechanisms are not meant to replace the role of threat monitoring activities run by the Federal Government or international bodies like the World Health Organization (WHO). Instead, these systems should be integrated with other neighboring states to share data, identify regional threats, and promote cohesive decision making. In this context, New Jersey can draw from a variety of different organizations to develop the most accurate evaluation of a threat.

Examples of some health-specific data signals which provide valuable warnings include:

- Improved syndromic surveillance.
- Expanded testing capacity as soon as new pathogens can be tested for.

- Passive monitoring systems that include environmental monitoring (e.g., wastewater surveillance systems, which can be used to monitor relative levels of disease in sewage systems, as well as other indicators such as Aspirin[15] and opioid prevalence).[16]
- Maintaining strong relationships with peers at health departments (or other equivalent agencies) in other states and countries can be important in identifying crises that originate beyond New Jersey's borders.

Though health early warning systems are of key importance, New Jersey needs to establish similar data signals for the wide range of emergencies detailed in **Recommendation 4**. Cooperating neighboring states can align on common methodologies to interpret data signals and compare results to interpret threat levels. New Jersey can leverage multi-state cooperation groups, such as those described in **Recommendation 16**, as a platform for raising and aligning on relevant threats as needed.

For each warning system or metric tracked, New Jersey needs to establish thresholds and processes for escalation. These thresholds tell the State when to escalate concerns, when action needs to be taken, and what level of response is needed. Escalation systems should be incorporated into State planning (**Recommendation 1** and **Recommendation 4**) and training and exercising activities (**Recommendation 6**). These might consist of:

- An agency and individual responsible for tracking and maintaining the data or qualitative information. Different agencies may be responsible for tracking and evaluating specific threats (e.g., the NJDOH should evaluate health threats).
    - To do this, agencies – particularly the NJDOH – should be empowered to increase their ability to interpret information and weigh that against other risks. For example, the NJDOH should be able to interpret and weigh health risks against economic impacts to inform restrictions placed on businesses and the public.
- A series of defined escalation thresholds (for issue, incident, and emergency), with escalation steps associated (e.g., at what point the Governor declares an emergency).
- Escalation steps need to be agreed upon by senior leadership and incorporated into emergency training and exercising detailed in **Recommendation 6**.

[15] Relative levels of Aspirin are used to indicate prevalence of fevers.
[16] Other passive monitoring systems may include search data trends. Source: Obeidat, R., Almada, I., Bani Bakr, Q., & Obeidat, L. (2020). Can Users Search Trends Predict People Scares or Disease Breakout? An Examination of Infectious Skin Diseases in the United States. *Infectious Diseases: Research and Treatment*, 13, 1178633720928356. https://doi.org/10.1177/1178633720928356

Recommendation 18. Maintain and expand access to the healthcare system data collected during the COVID-19 pandemic.

Context

During the COVID-19 pandemic, healthcare system data was essential for decision-makers to understand where New Jerseyans were sick, which hospitals were reaching capacity, and where there were ventilators to spare. At the beginning of the pandemic in March 2020, however, New Jersey had no access to this information, either because it was either not being collected in the first place, existed on its own platform, or could not be integrated with other data. When the needed information did not exist, hospitals had to develop their own processes to collect and report necessary data and allocated resources to this custom request. In addition, New Jersey had to build the systems capable of gathering new and existing data. Together, this took significant effort, resources, and capabilities that the NJDOH simply did not have.

The NJDOH was able to rapidly stand up a solution to collect and use data from hospitals, thanks to its partnership with the NJHA. This partnership was invaluable to New Jersey and was beyond the scope of NJHA's stated responsibilities, reflecting a deep commitment from the organization to advance public health (for further discussion, refer to Section 5.07 Healthcare Capacity Management). After the end of the public health emergency, the NJDOH has continued to find this data to be a helpful tool that informs both policy and operations.

Once information was reported, New Jersey struggled to integrate and harmonize data to reach deep insights. Information was collected and stored on separate systems, making it difficult to easily combine data, even within a single department. Across departments, it was even more difficult.

Recommendation

In advance of another healthcare emergency, New Jersey should apply its lessons from the COVID-19 pandemic by maintaining its current access to valuable data on health outcomes, healthcare system capacity, and resource availability. It should work to maintain those mechanisms while simplifying and automating their collection where possible. Similarly, the State must improve its ability to collect, interpret, and act in response to this data. To do this, New Jersey needs to:

1. Ensure that the right data is being collected.
2. Establish and maintain access to data.
3. Integrate data into a single platform.

Ensure that the right data is being collected

In a future emergency, New Jersey will need to identify and begin collecting healthcare data to which it does not currently have access. To accomplish this, New Jersey must maintain active communication and partnership with healthcare providers, LINCS agencies, LHDs, LTCs, CBOs, and other healthcare stakeholders across the State to ensure that it can identify and collect the data necessary for a fact-based response to the emergency. The mechanisms for doing so are addressed in further detail in Recommendation 14. In addition, New Jersey should work to build up State specific data collection capabilities through the actions described in Recommendation 19.

At minimum, New Jersey needs to ensure that it establishes the mechanisms to collect data where gaps were identified during the COVID-19 pandemic. These gaps included:

- Data from Urgent Cares, LTCFs, and Veteran's Homes, none of which are currently on integrated data systems.
- Accurate race and ethnicity data across more dimensions of data (e.g., race and ethnicity vaccination reporting by enforcing provider requirements to report demographic data.).
- Collecting and tracking additional health metric information for higher-risk, hard to reach communities identified by the NJDOH as part of their COVID-19 pandemic response.

In most instances, increasing data collection needs to be accompanied by a concerted effort to educate New Jersey residents and providers about why data (such as race/ethnicity data) is needed, the vital importance of accuracy, integrity, and confidentiality of that data, how it will be used, and who will maintain access to it.

Establish and maintain access to data

New Jersey needs to ensure that the State continues to collect the critical healthcare data they began to collect during the COVID-19 pandemic (in compliance with USHHS reporting requirements), regardless of whether USHHS extends collection requirements into the future. If these reporting requirements expire, New Jersey should require State hospitals to continue reporting this information. In particular, New Jersey should maintain access to:

- Information on the health system, including:
  - Total bed capacity (staffed and unstaffed), surge bed capacity (staffed and unstaffed).
  - Inventory of critical supplies available at points of care. Note that these may differ by emergency, but could include PPE, ventilators, and treatment doses available.
- Population health information, including:

- Testing – via a robust electronic case reporting system, and preservation of flexibility built into CDRSS during COVID-19 that allowed providers to report negative test results.
- Vaccination – continuing the work New Jersey has already undertaken on cross-state compatible Immunization Information Systems through efforts led by the CDC.
- Hospitalization and discharge data – either through continued surveys of hospitals, long-term care, and other medical facilities, or via further integration of hospital and long-term care Electronic Health Records.

Integrate data into a single platform

New Jersey should integrate currently collected health data, and any future identified data fields, into a single data warehouse. This will allow New Jersey to analyze data more easily within and across agencies to develop insights that inform decision-making.

Access to this central data repository should be granted across State agencies as needed and to LHDs that could use the data to help structure their healthcare responses. All data collected should respect resident privacy, be anonymized were possible, and have access restricted to those with a legitimate need to use it.

Additional information on the capabilities needed to integrate data within and across agencies can be found in Recommendation 19.

Recommendation 19. Improve the State's capability to obtain, interpret, contextualize, and share complex data.

Context

Leadership in public healthcare needs accurate data to respond to any kind of emergency. During the COVID-19 pandemic, new and existing data informed New Jersey's decision-making across health and other domains. For example, the State collected new data, which allowed it to understand the degree of stress on the healthcare system, what medical equipment was available to respond and track the progression of the disease. When data are collected, analyzed, and disseminated quickly and accurately, they can serve as a "common operating picture" for everyone engaged in the response, from State Troopers to hospitals and LHDs, to know what the status of the emergency is and what needs to take place.

Although State agencies had elements of deep expertise in data management and analysis, including the analytical capability in the epidemiological team within the NJDOH and the data visualization capability within Innovation, the total depth and breadth of New Jersey's existing capability was insufficient to respond to COVID-19. The response to COVID-19 was a complex task that was further complicated by the fact that it required collecting, interpreting, and sharing data

across a de-centralized network of stakeholders. Prior to the pandemic, public health data were used to make long-term policy decisions; they needed to be reported extremely accurately but only needed to be updated infrequently. When the pandemic began, that reversed: data were used to inform immediate operational decisions, and thus needed to be very timely, but only accurate *enough* to inform decisions.

New Jersey therefore relied on outside expertise for their ability to deftly aggregate, assess, and report on complex data. The State needed external support for two reasons:

1. There was a skills gap and not enough employees in critical agencies had data fluency or the skills to use analytics (e.g., R, Alteryx) or visualization tools (e.g., Tableau or PowerBI).
2. Where there was data fluency and skill, there was still a capacity problem – the State simply needed more data-fluent people to cover all its priorities.

Because New Jersey was forced to secure external support for analytics, New Jersey-specific context was sometimes lost, and was not always communicated in an actionable, easily digestible format. For example, it should not have been a surprise that hospitals on the Jersey Shore had very low admissions in March (relative to capacity), because they are built to manage summer numbers when New Jersey residents visit the beach. Further, when external support wound down, it was difficult for the NJDOH and others in the State to maintain the dashboards and analytics tools that had been developed.

Recommendation

Data are vital for effective decision-making, especially in emergencies. New Jersey should invest in the capabilities to quickly set up a common operating picture during an emergency. While New Jersey should continue to maintain contracts that allow it to rapidly augment internal capacity in the case of an emergency or other unusual situation, more expertise is needed in-house.

It is important to make sure data are suitable for decision-making during an emergency. As a result, data should bias toward being real-time over perfectly accurate where a trade-off is required. In particular, New Jersey needs to build the capabilities to establish:

- Mechanisms to collect primary data at the point of care (e.g., a hospital or nursing home's patient census or electronic health record, see **Recommendation 17** on healthcare capacity data collected during the COVID-19 pandemic).
- A data infrastructure that allows data to be shared within New Jersey and integrated into a single view as necessary (e.g., results of a survey to hospitals requesting patient census or health information exchange that feeds a single data lake within the State).
- Analytical capacity and capability to interpret and visualize data.
- Protocols and experienced staff to interpret data and propose corresponding actions.

- A legal framework that addresses data use and privacy, and details what authority the State has to enable it to require data sharing.

Specific steps New Jersey can take to raise the level of data analysis capability within government include:

- Institutionalize data collection and analysis capabilities built during the COVID-19 pandemic that can be applied to all emergencies.
- Train agency employees on data literacy and provide access to self-service tools for analytics and visualization across agencies.
- Consider building a shared service of data analysts, perhaps within the Governor's Office, NJOIT, or Innovation, that can be deployed to agencies as needed.
- Within agencies, ensure access to experts in defining the analyses necessary to guide an emergency response. These experts will differ by agency, but may include epidemiologists, meteorologists, sociologists, and economists. For example, Innovation and the NJDOH relied on a relationship with a disease modelling expert at a university to develop a New Jersey-specific model for COVID-19's progression in New Jersey.

A central team of highly skilled analysts who can support subject matter experts across agencies based on a central data repository provides enormous benefit, but will require significant investment and cross-government agreement on operating models. A potential team can be assigned to one agency in non-emergency situations and deploy in emergencies to assist other agencies designated to lead New Jersey's emergency response (e.g., Health during a pandemic, Community Affairs during a widespread rebuilding effort).

These capabilities, and the ideal operating structure for executing them, should be refined through emergency preparedness capabilities described in Section 7.2.1. Further, per Recommendation 23, contracts for additional analytics capacity with companies who specialize in staff augmentation should be put in place prior to the pandemic.

Recommendation 20. Build capability to quickly stand up new digital services that enhance service delivery and are responsive to the needs of constituents and State employees.

Context

As discussed in Section 5.14 Continuity of Government Services, the COVID-19 pandemic forced New Jersey to develop and deploy a wide array of digital services to respond directly to the pandemic and allow ongoing access to many government services when face-to-face operations were interrupted. This capability was also essential to allowing the State to administer new programs, such as grants designed to mitigate the impact on small businesses. New Jersey stood

up these services for constituents (e.g., online portals to apply for benefits) and agencies themselves (e.g., transitioning paper-based processes to digital).

Innovation was a critical partner for agencies and helped stand up more than 23 new services specific to the COVID-19 response, such as the COVID-19 Business Information Hub and live chat system.

Despite the many advancements, some services were still provided in-person, or their online versions were imperfect. This added burden to New Jersey residents and contractors trying to receive or provide services.

Recommendation

To enhance the ability to stand up new digital services in an emergency, New Jersey needs to build on the capabilities offered through Innovation and bolster individual agencies' capacity to offer services themselves. These enhancements need to be funded, implemented, and practiced in non-emergency situations so that New Jersey is prepared in a future emergency. In such an emergency, these digital services need to be rapidly implemented and updated regularly to accommodate residents' needs.

In addition to helping to respond to an emergency quickly and flexibly, additional agency capacity has significant benefits during non-emergency operations, including:

- Improving speed and quality of service delivery.
- Increasing the efficiency of service delivery.
- Meeting constituents where they are.
- Providing cohesive experiences for constituents across in-person, online, and mobile services.

New Jersey should structure digital service capabilities to achieve three goals. Together, these goals will allow New Jersey to build a digital environment that better serves constituent and employee needs:

1. **Delivering best-in class experiences to constituents.** Enablers include:

    a. Designing and engineering new service offerings based on emergency needs.
    b. Conducting user research to identify key needs.
    c. Designing easy-to-use services and interfaces that create value to constituents.
    d. Iterating quickly on services based on constituent feedback, before and after launching, to address challenges quickly and maximize effectiveness.

2. **Empowering employees.** Enablers include:

    a. Quickly procuring new technologies (e.g., laptops, logistics and equipment management software, grant-making software) necessary to enable more efficient and/or remote work.
    b. Holding meetings, hearings, examinations, and similar events remotely.
    c. Training on the use of digital tools for commonly needed tasks (e.g., creating an online form, optimizing content for mobile users, conducting remote conferences).

3. **Building a strong technology foundation to support the constituent and employee experience.** Enablers include:

    a. Maintaining private and secure access to government and customer information.
    b. Operating services and operational tasks on the Cloud.
    c. Collecting, storing, and analyzing complex data.
    d. Integrating data into a single portal or location.

Because most application development happens within the agencies that deliver services to residents and businesses, New Jersey should continue to invest in agencies' capabilities to develop digital services. This should include leveraging NJOIT and Innovation, and providing sufficient, predictable funding to technology goods and services within agencies.

Recommendation 21. Further improve remote work capabilities for State employees.

Context

As discussed in **Section 5.14 Continuity of Government Services**, State agencies had varying levels of preparedness for remote work at the onset of the COVID-19 pandemic. Not only did agencies have to procure hardware such as laptops, and software such as video conferencing platforms, but they had to adapt many paper-first processes. Further, much that was digital was stored on devices and servers located in Trenton, meaning that rather than logging into a secure web portal to access work, State employees who could work online often needed remote access to their computers in Trenton, which in turn needed to be kept operating by maintenance workers in the buildings. It is much easier to have a remote worker use a web portal to access their workspace than it is to have the same worker use VPN access, which is more complex and carries inherent limitations on capacity.

Since the beginning of the pandemic, New Jersey has made significant strides, moving many digital processes and tools to a Cloud-based portal, provisioning laptops for employees, and digitizing many paper-based processes. Much of this progress can be attributed to the work of NJOIT, which

partnered with other agencies from the beginning of the pandemic to ensure that they had the necessary support to enable their workers to transition to remote work.

Recommendation

New Jersey must maintain and continue to improve this level of readiness for employees who can work remotely. To maintain remote work ability, New Jersey needs to focus on four components: People, Technology, Processes, and Authorities.

1. People

- Identify essential workers and determine whether their in-person work is a critical component of a statewide COOP Plan. All agencies must distinguish between workers who can be remote and those who must do their jobs in person in an emergency. Definitions of remote workers, including specific roles across agencies that are permitted to work remotely, need to be coordinated across agencies. Agency COOP Plans are discussed in greater detail in **Recommendation 5**.

- Train workers designated for remote work to use the tools required, including communications platforms and other portals.

2. Technology

- Invest in technology advancements to provide workers with the tools to carry out their responsibilities remotely. During the pandemic, New Jersey made significant strides in outfitting State workers with the hardware and software they needed to do their jobs, as well as in expediting large-scale migration to web-based services. This includes laptops, communications platforms, and security measures. New Jersey needs to maintain this state of readiness and consider the impact that future technology investments have on remote work.

3. Processes

- Simplify and streamline daily processes, including digitizing those that are paper based. Many State agencies accelerated this process during the pandemic to enable remote work, and this readiness should be maintained and expanded to enable the rapid transition to remote work in the future. This is discussed in greater detail in **Recommendation 20**.

4. Authorities

- Ensure that rules surrounding employee work can be quickly adapted in case of emergency. For example, requirements that employees work in the office a minimum number of days per week may need to be adjusted to allow for remote work for some or all 5 workdays.

Recommendation 22. Invest in State data architecture, technology platforms, and digital services for non-emergency government operations, while continuing to prioritize constituent privacy.

Context

The pandemic forced New Jersey, (and the rest of the world), to process large amounts of new data and to speed the pace of digitization so that it could adapt critical services and continue delivering them to residents and businesses (see Section 5.14 Continuity of Government Services). It also exposed digital services which were antiquated or not ready for the scale of demand which they faced. Though New Jersey managed to ensure that its Unemployment Insurance system did not fail, many states were not as successful in adapting these platforms—largely written in COBOL, a 60-year-old programing language—to the pace of new requirements created by federal assistance programming.

In making use of New Jersey's data and standing up new services, Innovation was a critical partner for agencies. It helped analyze and visualize data and stand up more than 23 new COVID-19-specific services and showed that it is possible to quickly process and draw insight from the mass of incoming data. While this recent modernization was an important success for New Jersey, it also highlighted the importance of regular, non-emergency investments in data and system modernization. There are still significant gaps between what New Jersey can achieve and what is considered standard in the private sector, reflecting the need for continued development.

Recommendation

In addition to making the digital investments necessary for emergency preparedness outlined in Recommendation 19 and Recommendation 20, New Jersey should continue to make investments to ensure that New Jerseyans benefit from best-in-class government functions. This will enable New Jersey to make government activities faster, more cost-efficient, effective, accurate, and integrated.

Further investments may include:

- Continue investing in tools that allow flexibility to scale up capacity quickly in response to demand (e.g., Cloud-based solutions).

- Provide incentives to agencies to complete the NJOIT trainings to build technology capabilities and cloud knowledge and skills.
- Continue to move agencies toward more reliable and secure remote access solutions (e.g., zero-trust solutions).
- Complete the ongoing IT consolidation that began in 2017 (e.g., moving State network, storage arrays, and data centers from under agencies to NJOIT).
- Provide multi-year, consistent funding for agency IT departments to be appropriately resourced.
- Centralize a wider range of data and support cross-agency data integration that would improve services for New Jerseyans (e.g., across NJDCF and NJDOL).
- Migrate government operations away from paperwork and toward digital services.

These recommendations are complemented by a further digitization of front-end services. Additional digital offerings streamline processes, improve service delivery, and facilitate easier access to government services for constituents. This includes moving services online and deploying digital tools for internal operations.

Beyond investing in specific initiatives, one of the most critical actions for New Jersey is to provide regular, long-term commitments to NJOIT and agency IT departments (e.g., NJMVC, NJDOL) to ensure that they have the capacity, skills, and capabilities to carry agency operations, resolve problems, and identify additional opportunities to incorporate technological advancements.

7.2.6. Inter-Agency Government Coordination and Communication

Recommendation 23. Improve collaboration across New Jersey government agencies during emergency response.

Context

Responding to the pandemic involved every agency in the State. Even if every agency did not take on new responsibilities as part of responding to the emergency—and most did—each agency was required to ensure its core programs and operations continued (See Section 5.14 Continuity of Government Services). The importance of continuing operations across the State meant that policies that impacted agencies needed to be coordinated and consistent; decisions about remote work in one agency needed to be reflected across others, to the extent appropriate. When these decisions were implemented properly, they had the ability to ease confusion and enable agencies to deliver services better and faster. When coordination failed however, it led to confusion at best and delays or missteps in critical service delivery at worst.

During the pandemic, there were three broad categories of agencies. These represent three "concentric circles" from the perspective of the emergency response, with all agencies impacted, but to varying degrees:

- Agencies directly managing the emergency response (e.g., NJOEM, the NJDOH)
- Agencies which took on significant new responsibilities as a result of the COVID-19 pandemic response (e.g., the New Jersey Department of Corrections [NJDOC], NJDHS, NJDCF, NJMVC)
- Agencies which primarily focused on maintaining continuity of existing services

During the emergency response, the Governor's Office and key agencies made a series of decisions which impacted some or all the groups of agencies above. For example, guidelines for a given agency needed to be harmonized across all similar agencies and decisions on policies like remote working for state employees impacted all agencies. For many decisions, the Governor's Office primarily consulted with the agencies that directly managed New Jersey's response (e.g., NJOEM and the NJDOH). Other decisions required substantial involvement of a broader set of agencies. In addition, the State also established a Coronavirus Task Force that was meant to serve as a cross-agency response to the pandemic. While the Coronavirus Taskforce was initially established to be a collaborative decision-making body, it over time became a way for the NJDOH to provide updates to other agencies rather than being a deliberate decision-making body (Additional information on the Taskforce can be found in Section 5.02 Emergency Response Governance and Coordination).

Decisions made with NJOEM and the NJDOH and executed by those agencies generally worked well. Similarly, decisions that involved communication and collaboration with agencies directly were readily implemented. However, decisions that impacted some agencies but did not adequately engage those agencies created issues. Examples include:

- In some instances, the decisions themselves had adverse effects on agency operations and service delivery (for example, some EOs about congregate settings did not differentiate between nursing homes, correctional facilities, group homes for youth and adults, and other congregate settings).
- In other instances, the decisions were not communicated to agencies prior to being issued or communicated to the public. For example, agencies were not consulted on the feasibility of timelines for vaccinating their own staff prior to a mandate being issued.

Recommendation

In an emergency, the Governor's Office and agencies core to the emergency response should, to the extent possible, continue to prioritize better and faster outbound communication to agencies impacted by a policy decision. This includes having the names of specific contacts for agency emergency teams and, where possible, engaging agency leadership ahead of or at the same time as other stakeholder groups (e.g., hospitals or unions). Rather than being created in an ad-hoc capacity, cross-agency collaboration efforts like the Coronavirus Task Force should be institutionalized through the planning, training, and exercising efforts described in Section 7.2.1. Other examples of successful models of proactive outbound communication from the Governor's

Office that should be institutionalized in future emergency responses and refined through training curriculum include:

- The approach the Governor's Office of Employee Relations developed to communicate decisions first to Cabinet members, then agency leads, then union partners.
- Daily meetings with agencies about tactical discussions.

Further, the Governor's Office should further increase involvement of State agencies and stakeholder groups (like LHDs or LINCS agencies) with relevant expertise when crafting language for an EO, for example, as these groups are in the best position to know what language is most appropriate and will be able to anticipate gray areas and problems that may not be obvious to those not in the relevant field (e.g., language in the EO regarding furlough created confusion regarding which incarcerated people were and were not eligible for furlough).

Where possible, agencies should be encouraged to collaborate directly between themselves as well. This can be achieved through:

- Increasing cross-agency cooperation during daily, non-emergency government operations (see Recommendation 25).
- A comprehensive emergency preparedness curriculum, training, and exercise (see Recommendation 6).
- Developing a digital directory of critical emergency response leads across agencies.
    - This directory currently exists in print and limited digital format. The New Jersey Legislative Manual is published annually and contains all agencies, personnel, their duties, and contact information. Securing a license for this online directory to be distributed amongst all employees on internal New Jersey sites would increase searchability, ease of maintenance/updating and ease of use and is an example of implementing the digital services outlined in Recommendation 20.

These actions should be taken in addition to the clarification of agency roles and responsibilities outlined in Recommendation 5 that will also help reduce confusion and promote cooperation. These mechanisms should be updated regularly to reflect what works well and does not work well in future tabletop exercises (outlined in Recommendation 6).

Recommendation 24. Increase support for New Jersey State employee mental health.

Context

Section 5.14 Continuity of Government Services outlines the mental health challenges faced by New Jersey State employees during the COVID-19 pandemic, including staff burnout, childcare or

family illnesses, and the burden of responding to pandemic situations (such as mass fatalities or increases in state domestic violence cases). Some agencies, like NJOEM, found creative solutions to work around these issues like alternating working groups and staggered shifts, to minimize the risk of spreading COVID-19 among employees, combat burnout, and adapt to the operational challenges posed by the pandemic. Not all agencies had the staff capacity to do this however, and there were significant mental health challenges that remained across various departments, impacting the ability of agencies to maintain staff capacity and effectively deliver services. In addition, while New Jersey has mental health supports available to employees, interviews with agencies revealed that these were not consistently used, and awareness was low among some agencies.

Recommendation

New Jersey should pursue several measures to increase staff mental wellness in a future emergency including:

1. Further develop and institutionalize telework policies that reduce stress and improve work-life balance for employees. This includes ensuring that employees have the necessary equipment and access to secure systems for working from home efficiently (see Recommendation 21)
2. Developing comprehensive mental health support and resources to employees upon their return to the workplace. This could include counseling services, webinars focusing on stress management, and creating a "Return to Office" resource hub with FAQs, guidelines, and contacts for mental health support.
3. Increase awareness of existing mental health supports among employees to ensure that services are being used. New Jersey should implement comprehensive employee outreach using multiple communication channels like emails, intranet sites, and staff meetings. In addition, it should incorporate information on mental health supports into new employee orientation programs, ongoing training sessions, and into leadership communications.
4. Ensuring regular communication and support from leadership to alleviate anxiety and uncertainty. This requires transparent and regular communication between management and employees about policies, safety measures, and available support. New Jersey could also provide a direct line of support by designating a COVID-19 Ombudsperson or similar roles to address employee concerns confidentially.
5. Adopt flexible working models (like A/B teams) that worked well during the pandemic. Strategies to alternate working groups and stagger shifts can minimize the risk of spreading COVID-19 among employees and reduce stress and exposure while maintaining operational capacity. Adopting these models requires having adequate staffing levels (see Recommendation 30 and Recommendation 32).

6. **Provide adequate training and development** to empower employees to adapt more readily to the demands of emergency situations and a changing work environment while maintain their mental health. This includes providing training on digital tools, stress management techniques, and emergency preparedness (see **Recommendation 20**).
7. **Implementing enhanced safety measures** such as rigorous cleaning protocols, adequate availability of personal protective equipment (PPE), and adapting workplace layouts to adhere to social distancing guidelines to help employees feel safer at work.
8. **Re-evaluating Essential vs. Non-Essential designations** to ensure that necessary functions are maintained without overburdening certain employees. In pandemic situations, this includes expanding the definitions of essential workers to include pandemic-essential roles to help in planning and resource allocation (see **Recommendation 1**).

Recommendation 25. Improve systems to facilitate information-sharing and promote collaboration across New Jersey government agencies to promote efficient, constituent-focused governance.

Context

As described throughout this report, coordination between agencies was a critical aspect of New Jersey's response to the COVID-19 pandemic, which required agencies that had not previously collaborated to work together. As a result of daily communication and synchronization, many agencies were able to continue delivering critical services. For example, the NJDOE and NJDA closely collaborated to combat food insecurity and acquire and distribute laptops for schoolchildren. The NJBPU collaborated with DCA to identify people who needed rental assistance, and the NJDHS also worked with the NJDCF to expand the Pandemic Electronic Benefit Transfer (P-EBT), a federal program that provided food benefits to children who could no longer have school meals because of COVID-19 school closures.

The Governor's Office was central to agency coordination. As described in **Section 5.14 Continuity of Government Services**, for example, the Governor's Office acted as the primary point of contact for all executive agencies and worked closely with them to coordinate operations, Executive Orders, communications, policies, and waivers. The GO also led the State's emergency response operations at the Regional Operations and Intelligence Center (ROIC) where key decision makers from agencies across the state (including GO, NJDOH, NJOEM, the Attorney General's Office, and the New Jersey Hospital Association) physically co-located to increase the speed and efficiency of critical decision making. The GO also spearheaded the creation of the Coronavirus Task Force (CTF), which was composed largely of State Cabinet members and their delegates and became a channel for the NJDOH to provide updates to other agencies.

Although State agencies rose to the challenge, COVID-19 exposed the difficulties they have in collaborating across agency lines. The different ways in which state agencies rose to the challenge highlights the opportunity to bring this collaboration into day-to-day governance. Before the

pandemic, many agencies faced friction when collaborating across agencies, and many leaders and working teams did not have clear points of contact across agencies, even if they were in similar functions. This was especially true for agencies that were not regular partners (e.g., the NJDOH and the NJDHS collaborated frequently and had more pre-existing connections). This lack of interfaces slowed cross-agency coordination of the emergency response.

Recommendation

State leadership should find new ways to encourage functional cross-agency collaboration to improve service delivery. This should occur at the highest levels of State leadership and at a working level. As described in **Recommendation 23**, improvements in collaboration during non-emergency government operations also help develop skills for emergencies. Specific mechanisms that leaders can use to improve collaboration are:

- **Improve cabinet-level relationships and communication:** The Governor's Office should facilitate opportunities for cabinet members to meet and collaborate productively, which will in turn enable cross-agency collaboration on projects and initiatives throughout the agencies.
- **Improve working-level, functional relationships and communication:** Best practice includes quarterly meetings of functional team leadership, such as meetings of Chief Financial Officers, Chief Human Resources Officers, and Directors of the Offices of Employee Relations, could help to strengthen and harmonize policy across agencies, and better work with "service" agencies such as NJOIT and CSC. These functional relationships can also be built for all levels of personnel by investing in "communities of practice" that allow State employees to meet and learn from their counterparts at other agencies (e.g., procurement staff from across agencies).
- **Promote joint training and professional development:** Organize joint training programs and workshops for employees from different agencies. In addition to serving as a training platform, this can foster team building across agencies, enhance mutual understanding, and provide opportunities to share best practices.
- **Encourage cross-agency teaming:** New Jersey can make it a practice to increase the use of regular 'task forces' for specific issues that are staffed with personnel from across agencies and that disband after those issues have been addressed. This would increase cross-agency collaboration and reduce duplication in State agency efforts. These task forces can engage directly with State partners on specific issues, allowing broader partner engagement and exposing more people across New Jersey government to critical community and industry partners.
- **Invest in interoperable technology systems:** Implement technology solutions that enable data sharing and communication across different agencies. Ensure that these systems are interoperable and secure, and that they comply with privacy regulations (see **Recommendation 27**).

- **Design services around key life moments/episodes:** Governments often design services along institutional boundaries, requiring residents and businesses to coordinate across multiple agencies—the burden of coordination then falls on the user. Integrated services from multiple agencies, when they all relate to a key moment (birth of a child, starting a business), improve outcomes, and shift the burden of coordination from the user to the State. These services can be integrated through common front ends, data-sharing agreements, integrated teams, and integrated back-end processes.

Recommendation 26. Institutionalize hybrid working policies to attract and retain talent for New Jersey State agencies.

Context

The COVID-19 pandemic has changed work expectations within the State and across the private sector. Hybrid working models are common and, for many jobs, occasional hybrid working can be productive and effective for delivering essential State services.

Many New Jersey employers have embraced the hybrid working model and are seeing benefits to employee satisfaction and in controlling office space costs. Research across job types shows that many workers who can work remotely feel that they are just as, if not more, productive for some aspects of their job (e.g., when doing focused and administrative work). Yet employees still feel it is important to work onsite for other aspects of their job, such as for affiliation, development, and interactive work.[17]

In addition to a potential increase in productivity, employers can benefit from hybrid work models through cost savings on space and more competitive hiring.

Recommendation

New Jersey should consider allowing hybrid work at a wider scale than is currently permitted. This has the potential to allow the State to manage its workforce in a way that enhances productivity, lowers cost, and attracts more competitive candidates.

These solutions will require New Jersey to conduct a comprehensive assessment of the jobs that can and cannot be done remotely (e.g., State Troopers or workers who are responsible for child visitation cannot work remotely) and the extent to which staff can work from home. Typically, hybrid work models entail staff spending 2-3 days in the office.

[17] Lovich, D., & Sargeant, R. (2023, August 15). *Making Flexible Working Models Work*. BCG Henderson Institute. Retrieved from https://bcghendersoninstitute.com/making-flexible-working-models-work/

New Jersey already has a hybrid work pilot, and after its conclusion, should consider a permanent hybrid work model based on the pilot results. Other states, including Massachusetts, have already done this for their employees.

A further benefit of these models is supporting remote readiness for emergencies – by enabling hybrid work, New Jersey prepares itself to work remotely as a side-effect, rather than as a separate dedicated effort.

Recommendation 27. Apply new ways of working developed during the COVID-19 pandemic to non-emergency operations to increase the effectiveness of New Jersey governance and service delivery.

Context

Section 5.14 Continuity of Government Services outlines the unprecedented challenges that State agencies faced when responding to the COVID-19 pandemic while continuing to deliver essential services. The success of the response was enabled by significant effort from State workers and by experiments in new ways of working, which allowed State agencies to work more efficiently and effectively.

For example, both NJDCF and NJDOL developed effective models of teaming cross-collaboratively with high levels of autonomy for work teams. Innovation also modeled this efficient and effective model of work across agencies. These collaborations resulted in the continued operation of critical services for children (NJDCF), the operation of the aged unemployment insurance platform despite unprecedented technical demand (NJDOL) and the deployment of 23 novel digital services (Innovation).

By collaborating in new ways, agencies were able to dynamically solve problems more quickly than would have been possible had the ways of working which existed prior to the pandemic been maintained. Though it is good for State workers—and their mental health—that the surge in work demands during the emergency has abated, the innovative models which proved effective in the emergency can be applied to non-emergency operations.

Recommendation

New Jersey should apply the mechanisms which worked well during the pandemic and incorporate them into regular structures of work outside of emergency situations. Changes to implement in the long term include:

- Empower employees to take risk for the good of the residents they serve. For example:

  - Push decision-making closer to the front line and empower team leaders and front-line employees to make more decisions. Due to their aversion to risk, government agencies (and large private-sector organizations) tend to escalate decision-making to the highest levels of the organization. COVID-19 created pressure on this model, where the speed of the pandemic response meant that middle-level managers and front-line employees needed more authority to make decisions. As a result, the speed of government action increased.
  - Encourage exploratory and innovative projects that might fail. The stakes of the COVID-19 response meant that agencies needed to engage in more experimentation and "test-and-learn" approaches than they would have otherwise done in non-emergency situations. New Jersey launched a number of new services (digital and non-digital) and rapidly iterated them in response to resident needs and operational feedback. This willingness to experiment and prototype should be a common practice for New Jersey and will lead to greater innovation and quality in State services.
  - Focus on New Jersey residents' needs by making compliance a guardrail, rather than the central goal of project design.

- Use time-limited and cross-functional teams:

  - The changing nature of the COVID-19 response required New Jersey to set up temporary teams to execute projects and then disband them when the projects were finished. This allowed agencies to dedicate the best talent to projects even if those individuals usually sit in different areas.
  - Implementing cross-functional teams from different departments or functions to work together on projects. Creating integrated teams which have all the relevant expertise contained within them and then delegating decision-making authority to those teams means that they are able to solve problems much more quickly and get to better solutions than if they were required to dispatch questions and work across agencies and functions.

- Apply Agile development practices, such as those used by agencies like Innovation, to non-software projects across the State. For example:

  - Break down large projects into shorter, manageable periods of work, focusing on completing specific, high-priority tasks. This allows for quicker adjustments based on feedback or changes in priorities.
  - Aim to deliver services or project components in stages, allowing for adjustments based on feedback before finalizing the entire project. This can lead to services that are more responsive to the needs of other state employees and constituents.

- Implement continuous improvement processes: Establish mechanisms for continuous evaluation and improvement of processes and services. Encourage feedback from employees and constituents to identify areas for enhancement.

Where possible, working structures should be regularly evaluated and updated to ensure increased efficiency and effectiveness of government activities. Bringing in teams from across agencies who have already implemented these practices (e.g., Innovation) can help other agencies transition to new ways of working.

Recommendation 28. Enhance the centralized, proactive, and multi-channel public communications tactics developed during COVID-19.

Context

Overall, New Jersey communicated well with the public and other stakeholders beyond government throughout the pandemic. Governor Murphy held frequent press conferences, which often lasted more than an hour so that he could field all questions. To share information with the public the Office of Innovation (Innovation) created the COVID Info Hub, and the Governor's Office and agencies across the State shared information via social media campaigns. These mechanisms were effective and provide a template for communicating in future emergencies. For further discussion on public communications, refer to Section 5.03 Public Communications.

Further, agencies including NJDOH, NJDHS, and the NJ Department of Education (NJDOE) maintained open and transparent lines of communication with healthcare providers through frequent meetings between senior leadership. These meetings were an open dialogue and allowed agency leaders to share updates and information with providers, while providing them a platform to share conditions on the ground, and to help problem-solve. For example, it was in one of these regular meetings with managed care organizations that the NJDHS Division of Medical Assistance and Health Services first heard that one of the biggest challenges facing Medicaid recipients was access to food, and so the Department made emergency food delivery a priority for many home-bound Medicaid recipients.

Recommendation

In future responses, New Jersey and its agencies should continue to engage and communicate transparently, with a focus on two-way collaborative communication. There are many successful lessons that the State should memorialize in agency emergency plans (see Recommendation 4) including:

- Centralize emergency-related information for the public in one place, such as the COVID Info Hub

- Maintain a regular cadence of meetings with stakeholder groups (e.g., hospitals, community providers, other industry segments), and ensure that they serve as open forums for discussion.
- Continue to work with community leaders to identify priorities in emergencies, and to share information with hard-to-reach populations.

There are also ways for New Jersey to continue improving transparent communication across stakeholders, including:

- Set consistent translation standards for guidance across agencies and ensure that those agencies have access to translation services as needed.
- Ensuring that emergency-related data is available to the public, and that the data can be downloaded and analyzed easily by the public and press. The Centers for Disease Control and Prevention (CDC) COVID Data Tracker provides a good standard, where visitors can download both the charts shown and the underlying data.

7.2.7. Access to Critical Resources for the Emergency Response

Recommendation 29. Expand potential sources for critical emergency supplies (such as PPE).

Context

As discussed in Section 5.05 Personal Protective Equipment, there was a lack of personal protective equipment (PPE) in the early months of the pandemic that permitted the spread of COVID-19 and amplified its danger, particularly among first responders and healthcare workers who had to treat COVID-19 patients without adequate protection. As a result, hospitals, Veterans homes, and other providers across New Jersey experienced severe shortages. All states experienced PPE shortages due to the limited federal PPE stockpile and the collapse of global supply chains that were concentrated in Asia.

New Jersey had an insufficient supply of PPE in its stockpiles. Because these stockpiles were not being actively managed, many of the items had expired. PPE, (including masks, gloves, gowns, coveralls/protective suits, and face shields), is used across many types of emergencies. Each of these has an expiration date, meaning that if the equipment is not used, it has to be thrown out and replenished. Limited PPE manufacturing capabilities within the State also meant that PPE production could not adequately address shortages. While New Jersey was eventually able to source some PPE through a donation program, this highlights the need to ensure access to critical supplies in an emergency.

Since the beginning of the pandemic, New Jersey has implemented stockpile requirements for the State and its healthcare providers, and it has begun investing in PPE production. Although New

Jersey currently has a warehouse contract to store PPE, this stockpile is not being actively managed. While New Jersey is now better prepared for public health emergencies that require PPE, other critical supplies remain unaddressed.

There are two challenges in ensuring access to critical supplies during an emergency:

1. Designing a fiscally responsible approach to having emergency access to supplies of basic safety supplies known to be critical (based on COVID-19, other emergencies, and tabletop exercises).
2. Quickly procuring supplies not identified as critical prior to the emergency (Amendments to emergency procurement processes are discussed further in **Recommendation 30**).

Recommendation

To responsibly assure access to critical supplies, New Jersey must first identify critical resources and services New Jersey may need in a future emergency. The essential goods and services should reflect New Jersey's COVID-19 experience, and then be continuously amended based on emergency planning and training activities (such as those outlined in **Recommendation 6**). While New Jersey should prepare for as many emergency situations as possible (see **Recommendation 4**), it is impossible to stockpile goods for all scenarios. For example, a future emergency might call for dialysis machines, which are impractical and costly to stockpile. As a result, the State must also invest in and test measures that will allow it to source critical goods in short timeframes.

Once a list of critical goods and services has been identified, New Jersey must work to ensure access in ways that are economically viable via one of four solutions:

1. Maintain a donation portal for critical goods during an emergency.
2. Sign emergency contracts now to ensure flexible access later.
3. Build more robust supply chains, perhaps in partnership with other Northeast states.
4. Create and manage stockpiles where necessary to support State operations.

As the list of critical materials is updated through tabletops and other emergency exercises (described in **Recommendation 6**), New Jersey should similarly ensure access to any newly identified items or services.

Maintain a donation portal

Being able to access supplies from the public and businesses was of substantial help to New Jersey. The PPE donation portal used during COVID-19 is discussed in **Section 5.05 Personal Protective Equipment**).

A portal can also be an effective way to manage the influx of many well-meaning contributors who may or may not have supplies that are relevant. Without a portal, handling that inbound communication can take up a significant amount of critical staff time during the peak period of an emergency (this is especially critical as inbound offers are likely to route through the Governor's Office, which plays a critical decision-making role explained elsewhere in this report and should not have its attention diverted by well-meaning individual offers of supplies or services). Maintaining the donation portal developed during the COVID-19 response and being prepared to deploy it during a future emergency will save valuable time.

Sign emergency contracts to ensure flexible access

On-call contracts that allow New Jersey to procure necessary staff and services which may be necessary in an emergency (e.g., food and laundry services) and for reusable commodities that can be reasonably expected to remain in rich supply (e.g., linens) are discussed further in Recommendation 30.

Based on the learnings from this report, a starting list of critical supplies includes PPE; test kit components, linens; food; isolation and quarantine solutions (hotels); laundry; and transportation (of goods, patients, diseased persons).

Build more robust supply chains

In the long term, New Jersey must work to build or further enforce regional supply chains of expendable critical materials such as PPE. It is unrealistic for the State to own or promote manufacturing capabilities for a wide range of supplies within its borders. However, New Jersey and its Northeast neighbors can cooperate to build a regional network of dynamic and resilient local manufacturers that can help them decouple their fate from the constraints of global supply chains. At the very least, New Jersey should evaluate contracts and manufacturing partners to ensure sufficient geographic spread.

For maximum effectiveness, these supply chains can be geared towards manufacturers that can supply categories of goods (e.g., paper and plastic products, medical devices, reagents). New Jersey should also begin making contacts now with prospective industry partners that are more likely to play a role in future emergencies (e.g., pharmaceutical companies in New Jersey that could contribute to therapeutics in a future public health emergency).

Create and manage stockpiles where necessary to support State operations

New Jersey needs to establish an effective and financially responsible stockpile strategy. For PPE or other critical goods used regularly in the healthcare delivery system or typical emergency responses, New Jersey should maintain a requirement for an emergency stockpile. These stockpiles, however, should be actively managed and operated by the organizations responsible for using them (e.g., hospitals should store and manage their own PPE stockpiles while New Jersey

should manage its own PPE stockpile for State use and/or delivery). The only PPE or other stockpiles that New Jersey should manage itself is for the healthcare facilities it operates. State-run psychiatric hospitals, Veterans' homes, and DHS care facilities, as providers of care, should have stockpiles. Hospitals and other providers should manage their own inventory. This ensures that storage costs are minimized and unused goods are not expiring in large quantities.

The amount of PPE that should be stockpiled should be revised, determined, and reviewed regularly as part of the emergency preparedness planning and exercising activities outlined in Recommendation 1 and Recommendation 4. The emergency preparedness team outlined in Recommendation 8, along with relevant subject matter expert agencies (e.g., the NJDOH for public health emergencies) should be responsible for determining the amount of PPE that should be stockpiled based on 1) the combination of expected usage rates under different scenarios and 2) the potential length and severity of a supply chain disruption associated with materials that New Jersey determines are critical for the emergency response. For each type of material, including each type of PPE, New Jersey should maintain a safety stock that can cover the maximum period over which a supply chain disruption might reasonably occur. New Jersey has already undertaken efforts, in collaboration with other Northeast states, to enhance PPE supply chain resiliency. In addition, there is now real-life experience of how long it takes to repair supply chain disruptions in the event of a catastrophic pandemic related shut down. As a consequence of increased supply chain resilience, the State may be able to reduce the stockpile levels determined through emergency preparedness and planning to less than the current six-month supply of PPE.[18]

Expendable critical materials that are stockpiled will also need to be actively managed to ensure to eliminate the risk of obsolescence. For stock that the State is going to maintain, the State should partner with a warehousing and logistics vendor to actively monitor obsolescence and rotate/replenish stock as appropriate. For safety stock that the State requires participants in the health care system (such as a hospital) to hold, the State should fund the initial cost of the additional safety stock they are requiring to be held, plus an additional fee for the increased space and administrative costs of holding and managing this incremental inventory. The State would not be responsible for either replenishment of this inventory or obsolescence (obsolescence would be avoided by the movement of this inventory into active use before expiration dates and the cost of replenishment would equal the ongoing cost of operating inventory). In the event of an emergency, the State would assume operating distribution of all safety stock – whether maintained by the State or participants in the health care system.

[18] Currently, the State maintains a 3-month PPE supply on behalf of the healthcare system (for the State and hospitals). It also mandates that healthcare facilities maintain a 3-month supply of PPE themselves. As a result, there is enough supply for 6 months. This is significantly longer than an estimated 60 days for supply chain recovery and leaves the State responsible for maintaining a PPE supply on behalf of the healthcare system. Additional information can be found in Section 5.05 Personal Protective Equipment.

Recommendation 30. Increase the speed of emergency procurement.

Context

During the COVID-19 emergency, many State agencies struggled to procure the goods and services that they needed to respond to the emergency and continue providing services under pandemic conditions. Detailed explanations of New Jersey's procurement processes and challenges during the pandemic can be found in Section 5.15 Procurement.

During the pandemic, New Jersey took two types of action to attempt to speed procurement:

1. Waivers of advertising (allowing the State to procure services without first carrying out a competitive RFP process and allowing procurement professionals to fill out certain paperwork after the good or service had been procured).
2. Raising delegated purchasing thresholds for contracting (allowing agencies to sign larger contracts without involving NJDPP than during non-emergency periods).

Despite the implementation of policies designed to accelerate procurement during an emergency, agencies struggled with processes that hindered New Jersey's ability to respond quickly and efficiently. The procurement process created an additional administrative burden for agencies and there was confusion across agencies about the details of the process. In some instances, this delayed the provision of critical services.

Recommendation

There are six actions that New Jersey needs to take to reduce procurement challenges in an emergency:

1. Involve procurement in strategic planning.
2. Centralize procurement of goods and services where possible.
3. Increase procurement staff capacity to account for increased volumes.
4. Reduce the administrative burden of procurement on individual agencies.
5. Clarify roles and responsibilities in the procurement process.
6. Develop a comprehensive repository of emergency contracts.

In addition to the emergency measures outlined in this recommendation, Recommendation 22 details comprehensive recommendations for non-emergency procurement processes that will also help reduce the burden on agencies in an emergency. NJDPP has already proposed procurement

legislation[19] to the State that, at the time of this report's writing, is with the State legislature. While the legislative changes outlined in the proposed bill should be adopted and represent an important start for procurement improvements, true reform should go even further.

Involve procurement in strategic planning

From the beginning of any emergency, New Jersey should involve Treasury (DPP) and other relevant procurement professionals (e.g., procurement staff at NJOEM or the NJDOH) in strategic decision-making early in an emergency so that strategic and procurement priorities can be aligned. At minimum, this means that these personnel should be part of strategic planning meetings and that procurement concerns should be an agenda item during an emergency response.

This involvement allows procurement personnel to have a view of what is coming, so they can proactively conduct, for example, supply market analyses or vendor identification. It also allows these personnel to raise or address high-priority procurement issues.

New Jersey should designate a primary person or agency to serve as a point of contact for procurement concerns in an emergency. This person or agency would be responsible for:

- Attending senior strategic meetings to raise and plan for procurement concerns.
- Raising awareness of procurement processes across agencies.
- Simplifying communications around procurement.
- Serving as a primary point of contact for procurement-related questions from agencies (e.g., coordinating weekly calls with agencies).
- Reviewing State procurement needs and proposing and managing centralization where needed.

This change also entails involving procurement as a concern in the emergency preparedness planning, training, and exercising activities presented in **Section 7.2.1**. For example, New Jersey should prepare for an emergency in which it has to employ a procurement system that can handle billions of dollars' worth of products (e.g., if it has to procure its own vaccines or mobilize and fund the National Guard).

Centralize procurement of goods and services where possible

As part of the strategic procurement considerations that need to be made in an emergency, New Jersey should centralize procurement of critical items and services needed across the State (e.g., laptops and cleaning staff), similar to the process used for PPE during the COVID-19 pandemic. Centralized procurement would be managed by NJDPP (within Treasury) and NJOEM, and should be organized for items that are:

[19] New Jersey Legislature. (2024). *S1316*. Retrieved from https://www.njleg.state.nj.us/bill-search/2024/S1316

- Needed by many State agencies and multiple stakeholders across New Jersey (including non-governmental stakeholders).
- Needed in such large volumes that consolidation leads to cost savings.
- In short supply nationally, requiring new contracts and coordinating across multiple vendors.

Increase procurement staff capacity to account for increased volumes

New Jersey needs a plan to surge procurement capacity temporarily during emergencies by increasing hiring. This surge in capacity can occur from one, or a combination, of the following:

- Redistributing existing procurement capacity across the State to agencies with higher need (e.g., reassigning NJDPP personnel to report to Incident Commanders in NJOEM).
- Contracting temporary staff.
- Hiring additional full-time staff (Recommendations for reducing hiring barriers can be found in Recommendation 32).

Reduce the administrative burden of procurement placed on individual agencies

In an emergency, there is a need to loosen administrative requirements on individual agencies to increase the speed of procurement. New Jersey should take actions like:

- Decreasing or eliminating the amount of paperwork required in an emergency (e.g., eliminating paperwork requirements rather than postponing due dates through waivers).
- Increasing the monetary limit for waivers of advertising.
- Further increasing delegated purchasing authority thresholds.
- Enabling New Jersey to cancel purchase orders for unfulfilled items or items not delivered in a timely manner.
- Creating streamlined emergency staffing contracts that remove provisions from standard staffing contracts that are not essential in times of crisis.

Clarify roles and responsibilities in the procurement process

New Jersey should create a standard procurement operating plan for emergencies, including an emergency management plan for Treasury. These plans should be integrated and clearly outline leadership structures and their corresponding roles and responsibilities. In particular, New Jersey needs to simply and clearly delineate the responsibilities of:

- DPP
- Emergency procurement personnel at NJOEM

- Procurement staff at agencies leading the emergency response (e.g., the NJDOH during the COVID-19 pandemic)
- Other agency procurement staff

The roles and responsibilities within the procurement process can and should differ in an emergency from non-emergency operations. In an emergency, NJDPP should play a stronger partner role to facilitate procurement for other agencies (as opposed to focusing primarily on compliance). In addition, this plan should include a procurement team whose sole responsibility is to respond to the emergency. This could involve dictating that an appropriate number of procurement experts from NJDPP focus exclusively on the emergency and could go so far as to reassign NJDPP personnel to report primarily to Incident Commanders (in NJOEM, the NJDOH, or other) for the duration of the emergency.

These roles and responsibilities should be clearly communicated to leaders during the training and exercising activities detailed in Recommendation 6, and reinforced at the beginning of any declared emergency through regular communications with the agencies (e.g., weekly mandatory procurement calls).

Develop a comprehensive repository of emergency contracts

New Jersey needs a comprehensive set of emergency contracts it can draw on at the start of a future emergency. These contracts should be informed by learnings from the COVID-19 pandemic response and through reflections from tabletop exercises and drills conducted by the State (see Recommendation 29 for more details on ensuring that necessary material is on hand). These contracts should include both goods and services, including:

- PPE
- Warehouse space
- Temporary medical personnel
- Food
- Laundry and custodial services for mass shelter or healthcare sites
- Temporary staff
- Other "short form" versions of contracts used only in declared emergencies that remove non-essential requirements from vendors
- Other contracts as identified

Recommendation 31. Revise standard procurement processes to quickly identify, contract, and onboard vendors prior to emergencies.

Context

Many of the procurement difficulties New Jersey faced during the pandemic were amplifications of existing challenges in the current procurement process. For example, excessive paperwork and contracting requirements led to staff confusion around the procurement process and its requirements – a confusion also shared by vendors. The bulk of New Jersey's procurement requirements are legal mandates, meaning that State agencies cannot streamline procurement without regulatory change from the New Jersey legislature.

Additional information on procurement challenges during the pandemic can be found in Section 5.15 Procurement. These challenges reflect a need to increase the capabilities of procurement staff across agencies and to decrease the burden that the procurement process currently entails for State agencies and vendors.

Recommendation

In addition to changes to the emergency procurement processes outlined in Recommendation 16, New Jersey should streamline the procurement process overall to increase speed and efficiency by:

1. Reviewing and streamlining regulatory constraints.
2. Strengthening agency and NJDPP collaboration.

Reviewing and streamlining regulatory constraints

New Jersey should address regulatory constraints that prolong and complicate the procurement process for both New Jersey's agencies and vendors. Proposed adjustments to the current process include:

- Addressing complexity to the procurement process such as:
  - Eliminating requirements for small businesses to register at bid submission.
  - Reducing forms required at the time of bid submission.
  - Restricting currently unconstrained protests during the bidding process
- Increasing delegated purchasing authority thresholds
- Developing specific procurement processes for critical items and services that have unique needs (e.g., technology specific procurement processes)

Many of the suggested recommendations have already been proposed by Treasury. The agency has developed legislation for procurement reform that should become a priority for legislative agendas.

Strengthening agency and NJDPP collaboration

In addition to streamlining current processes, New Jersey should strengthen collaboration between agency procurement staff and NJDPP. To enable this, New Jersey needs to clearly delineate roles and responsibilities between agency procurement staff and NJDPP in a way that is easily understood and communicable to agency staff who may not have significant procurement experience.

New Jersey should empower Treasury to be a more active, positive partner to other agencies beyond its current compliance-focused role. This can be enabled by:

- Encouraging NJDPP to enable agencies though the entire procurement life cycle, focusing on understanding agency needs and increasing speed and transparency.
- Increasing capabilities by hiring and retaining the right talent and expertise across Treasury and other agencies.
- Communicating proactively with other agencies.
- Simplifying language and communication with other agencies and vendors.
- Taking a more active role in managing contracts and vendor performance.

Recommendation 32. Accelerate hiring during emergencies to overcome staffing shortages.

Context

The COVID-19 pandemic placed significant strain on the State's workforce. This stressed its capacity to continue delivering essential government services and set up new emergency responses to the pandemic. As a result, New Jersey had to quickly add new staff to complete work required by the emergency. It also needed to back-fill roles that became vacant when State workers became sick and were unable to work because of COVID-19. Additional detail on State staffing shortages can be found in Section 5.14 Continuity of Government Services.

Despite the urgency of filling vacancies, in many cases, New Jersey was unable to hire permanent employees because it was unable to administer civil service exams.[20] Today, these exams are written from scratch and must be taken in person, and scores are not saved. During the pandemic, it was nearly impossible to hire permanent positions. Instead, workers were hired under temporary non-competitive titles, or provisionally, with the potential to be replaced once the exam was held. In addition, new staff were hired as temporary workers through contracts.

Recommendation

New Jersey should increase the flexibility of hiring rules during an emergency to allow workers and the agencies they serve to respond dynamically. This is especially important for the agencies leading the emergency response (e.g., NJOEM and the NJDOH during the COVID-19 pandemic). This can be done in multiple ways:

- Increasing temporary hiring through contracts and improving the time it takes to get approvals from the Governor's Office (Discussed further in Recommendation 30).
- Avoiding contracting restrictions that limit rapid hiring in an emergency (e.g., a given staffing/temp vendor has right of first refusal for certain work).
- Allowing recent retirees to return to State work without jeopardizing their pensions.
- Increasing the flexibility of civil service rules in an emergency.

The Civil Service Commission (CSC) should develop a playbook of emergency actions it can take to increase the flexibility of civil service rules in an emergency. This should include:

- Enabling temporary emergency pay.
- Holding remote civil service exams.
- Amending exams so that they are based on specific scoring or resumes, rather than on written examinations.
- Making positions temporarily non-competitive for the duration of the emergency.

Further, the CSC should work with partners to allow employees to work flexibly and across job roles in an emergency. The CSC and the Governor's Office should assess the flexibility of the current

[20] Civil service systems originated to assess candidates for government jobs based solely on merit and ability, and to allow for competitive processes. In New Jersey, the State Constitution requires that the State use exams to fill jobs where merit can be determined via an exam or test. While the intentions of civil service systems are noble, they can also create significant bureaucracy, and in practice can lead to hiring complicated hiring processes that disadvantage historically underrepresented communities.

policy and implement the necessary operational changes or put forward legislative or regulatory amendments as necessary.

In addition to developing emergency-specific hiring policies, the CSC should update the hiring process and exam rules to ensure that the State is appropriately staffed for everyday governance and during an emergency. These changes would also decrease prohibitive barriers to entry for minority applicants. Changes to consider include:

- Banking exam scores so that applicants do not have to retake the same test every time they apply for a new job, and so that the CSC has a list of eligible applicants in case of the need to hire quickly.
- Make civil service exams more accessible and broaden their definitions to make them easier to administer, capture a broader applicant base, and better assess the job being tested for.
- Make information technology and data science jobs non-competitive or amend the exam to be skills-based. Skills required for these jobs often progress more quickly than tailored exams can be written, so non-competitive applications or skills-based assessments may be better assessments of merit.
- Simplify application requirements and steps to speed overall hiring timelines.

Having appropriate staffing levels during non-emergency situations better prepares New Jersey for an emergency because there is a smaller staffing gap to account for.

Recommendation 33. Fully fund Rainy-Day reserves.

Context

When the pandemic occurred, New Jersey was forced to take significant measures to maintain solvency, including relief borrowing and a near-total spending freeze. As discussed in Section 5.04 Budget and Finance, New Jersey had significantly underfunded emergency reserves at the onset of the pandemic. In 2019, only three other states had less in their Rainy-Day Fund, as a percentage of state spending, than New Jersey. The State was able to remain solvent due to emergency borrowing and higher-than-expected revenues (because the pandemic did not affect high-income residents as much as expected). Had the Rainy-Day Fund been properly funded prior to the pandemic, New Jersey would not have had to rely on these measures.

While budgets since the pandemic have deposited some funds in the Rainy-Day Fund, the outlook today is not much better. At current writing, only two states have proportionally less than New

Jersey[21] while other states' Rainy-Day Fund balances across the country have reached historic highs.[22]

Recommendation

To be appropriately prepared for the next emergency, New Jersey must build the necessary reserves in the Rainy-Day fund.

New Jersey should aim to have at least 60 days of operating expenses in their Rainy-Day Fund, according to emergency fund balance best practices.[23] This level of emergency funding will ensure continuity of operations until emergency-state supplemental appropriations are decided upon, or federal aid arrives in the case of another emergency of the scale of COVID-19. The State should also plan for funding scenarios that may hinder emergency response efforts (e.g., delayed federal fund deployment, having to engage the National Guard or procure its own vaccines) as part of the emergency preparedness efforts laid out in **Recommendation 6**.

New Jersey should also explore depository rules for unexpected or above-average State revenue that could be automatically routed to a Rainy-Day or emergency reserve fund. This action would strengthen reserve funds and discourage over-investing based on one-time revenue increases that would likely not continue. Virginia, for example, sets aside at least 50% of revenue that exceeds the previous 6-year average, according to its Revenue Stabilization Fund (with some income or retail sales exemptions). Some states will redirect one-time revenue in the form of federal transfers, capital gains windfalls, or major legal settlements into an emergency fund.

[21] The Pew Charitable Trusts. (2013, November 27). *Fiscal 50: State Trends and Analysis*. Updated December 7, 2023. Retrieved from https://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2014/fiscal-50#ind5

[22] White, K. (2023, January 25). Rainy day funds reach historic levels, leaving states more prepared than ever for a future downturn. National Association of State Budget Officers. Retrieved from https://community.nasbo.org/budgetblogs/blogs/kathryn-white/2023/01/25/rainy-day-funds-reach-historic-levels

[23] Government Finance Officers Association. (2015, September 30). *Fund Balance Guidelines for the General Fund*. Retrieved from https://www.gfoa.org/materials/fund-balance-guidelines-for-the-general-fund#anchor5

7.3. Conclusion

New Jersey has been through trauma and tragedy as a result of the COVID-19 pandemic. The State was not properly prepared. Too many New Jerseyans died, got sick and suffered enormously. The lessons learned from the pandemic were paid for dearly, and must be heeded.

This Report started with the questions asked by a family that had lost family members in both the 1918 Influenza and COVID-19: "why weren't we better prepared? Why didn't we have better plans in place to deal with this pandemic?"

New Jersey should not have to ask those questions again. The recommendations presented in this report provide a comprehensive blueprint for New Jersey to significantly improve its preparedness for a future emergency. In addition, the recommendations can help the State enhance its ability to manage an effective, speedy response during emergencies. Finally, the recommendations present an important opportunity to improve the New Jersey government's day-to-day operations and push for governance that is more responsive to New Jersey residents' needs. Together, these recommendations underscore a critical need to institutionalize the lessons learned from New Jersey's COVID-19 response, invest in improving New Jersey's current level of preparedness, and fill in the gaps identified during the pandemic.

New Jersey's level of preparedness, coordination, and innovation during a future emergency will be the result of choices made today. Those choices will determine whether the State is better prepared for the next emergency. The lives of tomorrow's New Jerseyans depend on it. We owe it to them, as much as to those we've lost, to seize the opportunity now.

Acknowledgements

The Montgomery McCracken Walker & Rhoads team who assisted Paul H. Zoubek in the preparation of this report includes Jeremy Mishkin, Alexandra Jacobs, Ethan Hougah, Lou Moffa, Kendra Baisinger, Joseph McCool, Rachel Welsh, Jessica Rizzo, Jennifer Landolfi, Grace Wagner, and Stefania Rosca. The team also received invaluable support from paralegal Pamela Theisen, the firm's head librarian Kathleen Coon, and legal assistants Deborah Mullen and Christine Polkovitch.

We also want to acknowledge the critical work of Boston Consulting Group, which was retained to provide expert assistance in the review. Their work included participation in interviews, data analysis on health and economic outcomes, expert input on evaluating New Jersey's decisions and actions, and development of recommendations.

We want to thank the Governor and senior leadership in the Governor's Office for ensuring that we had full access to all the State agencies we wanted to speak with and giving us complete latitude to pursue this independent review without any interference.

Finally, we want to thank all of the heroes we spoke with during our review. They spoke from the heart and shared with us their experiences in coping with the trauma of being on the front lines during the pandemic. This was a whole-of-government response that went beyond the State Government. Thank you to all those from State, county, and local governments, the healthcare system, long-term care providers, schools and education providers, community-based organizations, and other invaluable partners to the government in responding to the pandemic.

Your tireless efforts are deeply appreciated.

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Appendix

1. Methodology

To develop the methodology for this independent State of New Jersey investigation, the team drew on its combined experience of conducting investigations and after-action reviews for a variety of matters, including the team's experiences with other states' pandemic responses. The team reviewed over 40 COVID-19 after-action reports published by local governments, states, and the U.S. Government. It also reviewed reports from non-governmental organizations, including The Commonwealth Fund, the National Bureau of Economic Research, and Politico. Analyzing these reviews ensured that the scope and methods of this report drew on their learnings and insights into best practices. The review of after-action reports considered how other states utilized both quantitative and qualitative data, which aspects of COVID-19 response were discussed, and the scope of their recommendations.

To ensure that the analyses conducted in this report were robust, the team followed three key principles:

- Use credible data sources to conduct analyses and evaluate New Jersey's decision-making during the pandemic.
- Cover all areas of the State's emergency preparedness and pandemic response while prioritizing the most essential elements of New Jersey's response to the pandemic.
- Contextualize findings to account for differences in disease severity, information, and context over time and across geography.

It is important to emphasize that while the Governor's Office retained MMWR to perform this independent review and approved the scope of work for this project and retention of BCG, neither the Governor's Office nor any other branch of the New Jersey State Government directed or influenced the methodology or conclusions of this report in any way. While we considered the findings and conclusions of other federal and state investigative bodies and investigative journalism reports in performing this review, the findings and conclusions herein are based on our own comprehensive analysis and review of information set forth below.

This chapter provides an overview of the approach taken to conduct this review and is structured into four parts:

- Overview of sources used in the report
- Frameworks used to structure the analysis
- Time periods used to structure the analysis
- Approaches used in comparing New Jersey to other states

1.1. Key Sources Used in the Report

To ensure that the analyses and recommendations in this report are sound, this report relied on three types of sources: data and information shared by New Jersey State agencies, guidance from Subject Matter Experts (SMEs), and data from external sources.

1.1.1. Data from State of New Jersey Agencies

The team conducted the analyses for this report by using data collected from all relevant New Jersey State agencies. The team collected data using various measures and methods, including questionnaires and documents, online research, interviews of current and former State employees, and reviewing quantitative data from some agencies[1].

To gather initial information on New Jersey's COVID-19 response, the team designed questionnaires that were distributed to each State agency and performed a comprehensive review of relevant public records, including articles, reports, and other materials. A general questionnaire was distributed to State governmental agencies listed below, covering topics such as pre-pandemic preparedness, pandemic response coordination and governance, and how agencies delivered services in a COVID-19 environment. The team also reviewed some documents and data from the agencies.

Supplementary, customized questionnaires were developed for the New Jersey Department of Health (NJDOH), the Office of Information Technology (OIT), the Office of Innovation (Innovation), the Department of Education (DOE), the Office of State Higher Education (OSHE), and the Governor's Office. This ensured that the agencies that played the most specific and or extensive roles in the pandemic response provided comprehensive information. For example, the questionnaire for OIT covered specific questions related to the hardware, software, and networking resources that enabled many agencies' workforces to transition to a remote-work model.

Once the team completed the first stage of investigation for each agency, they analyzed the captured information with the help of SMEs to understand: 1) what each agency did and, when appropriate, how and why it made the decisions it did; 2) what successes and challenges they faced during the pandemic; 3) how activity differed across State agencies in New Jersey (e.g., where different decisions on how to manage a remote workforce were made); and 4) how each agency's activities compared to those of analogous agencies in other states.

The second stage of fact-gathering baseline information on New Jersey's COVID-19 response involved conducting interviews with State agencies, including many staff members who were on

[1] Where data from agencies could be analyzed by race or ethnicity, the analysis presented in this report uses the same terms (e.g., Hispanic) present in that data, given those were the terms used in collecting that data.

the front lines of the response, utilizing extensive assistance from the SMEs. The team interviewed individuals with both leadership and operational responsibilities and conducted multiple follow-up interviews to ensure that all relevant topics were explored thoroughly. Specifically, the team met with Governor Phil Murphy, the Governor's senior leadership and staff[2], all Cabinet Members and their staff, state agencies, stakeholders, former Commissioners of NJDOH, and families who lost loved ones in the pandemic. Important actors are generally referred to in this report based on their role or title; however, many of the findings and conclusions in this report are based on synthesis of information gathered from multiple sources.

The agencies interviewed included the following[3]:

- Bureau of Public Utilities (BPU)
- Civil Service Commission (CSC)
- Department of Agriculture (DA)
- Department of Banking and Insurance (DOBI)
- Department of Children and Families (DCF)
- Department of Community Affairs (DCA)
- Department of Corrections (DOC)
- Department of Corrections Ombudsperson
- Department of Education (DOE)
- Department of Environmental Protection (DEP)
- Department of Health (DOH)
- Department of Human Services (DHS)
- Department of Labor and Workforce Development (DOL)
- Department of Law and Public Safety (LPS)
- Department of Military and Veterans Affairs (DMAVA)
- Department of State (DOS)
- Department of Transportation (DOT)
- Department of Treasury (Treasury)
- Economic Development Authority (EDA)
- Governor's Office (GO)
- Long-Term Care Facility Ombudsman (LTCO)
- Motor Vehicle Commission (MVC)
- New Jersey Transit (NJT)
- Office of Attorney General (OAG)
- Office of Emergency Management (OEM) and New Jersey State Police (NJSP)
- Office of Homeland Security (OHSP)
- Office of Innovation (Innovation)
- Office of Information Technology (OIT)
- Office of the Law Guardian (OLG)
- Office of the Public Defender (OPD)
- Office of Secretary of Higher Education (OSHE)
- Office of the State Comptroller (OSC)

[2] Senior members of the Governor's Office were represented by Connell Foley.

[3] Throughout the report, references to agencies are often preceded with the initials 'NJ' (e.g., NJDOH) to avoid confusion with federal agencies.

Further, the team conducted interviews with stakeholder groups outside of state government to understand both how the State was able to organize and deliver services to residents and the impact of the pandemic and State action on New Jerseyans.

Organizations the team interviewed include:

- African American Chamber of Commerce of New Jersey
- Communications Workers of America (CWA) Union
- Cooper University Hospital[4]
- County and Local Health Departments
- Health Care Association of New Jersey (HCANJ)
- Health Professionals and Allied Employees (HPAE)
- Hispanic Family Center of Southern New Jersey
- Homecare and Hospice Association
- Inspira[5]
- International Brotherhood of Electrical Workers (IBEW) Union
- Irvington, New Jersey NAACP
- Latino Action Network
- New Jersey Association of County and City Health Officials
- New Jersey Black Empowerment Coalition
- New Jersey Coalition to End Domestic Violence
- New Jersey Disabilities Covid-19 Action Committee
- New Jersey Education Association (NJEA)
- New Jersey Hospitals Association (NJHA)
- New Jersey Primary Care Association (NJPA)
- New Jersey's Scholarship and Transformative Education in Prisons (NJ-STEP)
- Robert Wood Johnson Foundation (RWJF)
- University Hospital[6]
- Wynona's House

In total, the team met with approximately 500 individuals to obtain diverse perspectives and experiences.

1.1.2. Subject Matter Experts (SMEs)

Subject Matter Experts (SMEs) were engaged in the preparation of this report, many of whom directly supported COVID-19 responses in multiple states in the U.S. and abroad. The dedicated team working on this report drew on SMEs as needed to bring deep expertise and targeted guidance on specific topics. This enabled the team to develop richer analyses and recommendations. The SMEs' areas of expertise covered the breadth of New Jersey's COVID-19

[4] Interviewees led coordination of healthcare capacity through the Regional Collaborator Model.
[5] Interviewee led coordination of healthcare capacity through the Regional Collaborator Model.
[6] Interviewee led coordination of healthcare capacity through the Regional Collaborator Model.

response and were critical for this report. These experts both provided technical knowledge and helped to shape the report approach.

SMEs were involved throughout the process of analysis, with contributions that included:

- Ensuring that the data collection approach was appropriate and comprehensive, and that choices of data sources were credible.
- Providing guidance to explain and address data discrepancies (e.g., differing technical definitions of demographic data).
- Recommending resolutions to gaps in available data, especially for data from early in the pandemic, when data collection mechanisms were still being set up.
- Deriving and validating trends and conclusions from data analysis and ensuring that data visualizations sufficiently captured findings.
- Helping to review interview questions and attending interviews to ensure that appropriate topics were explored in discussions.
- Validating recommendations for the future to ensure that the underlying hypotheses are accurate, and that recommendations are appropriately framed so that their adoption should lead to optimal outcomes.

1.1.3. External Data

This report also draws on authoritative sources from outside the State of New Jersey. This data is used throughout the report and are especially important in evaluating the health, vaccine, and economic outcomes seen in New Jersey versus in other states, as described in Chapter 4.

This report utilizes a set of credible data sources – primarily databases from Federal Government agencies such as the Centers for Disease Control and Prevention (CDC), the U.S. Census Bureau, the U.S. Department of Health and Human Services (HHS), the Bureau of Economic Analysis (BEA), and the Bureau of Labor Statistics (BLS). In addition, a select set of credible, non-governmental sources are used, such as the Kaiser Family Foundation (KFF), the COVID Tracking Project, and Oxford University's COVID-19 Government Response Tracker.

Beyond initial assessment of the caliber and credibility of data sources, this report's data analysis approach also included more specific vetting and validation by the SMEs.

1.2. Framework Structuring Analysis of New Jersey's Response to COVID-19

The pandemic required New Jersey to respond to a range of pressing needs and mitigate the health and economic impacts of COVID-19. This report records and analyzes the State's pandemic response using a framework of 14 categories of key decisions. The team developed these categories with extensive involvement from the SMEs who had directly supported COVID-19 responses in multiple states in the U.S. and abroad.

The 14 categories of decisions included:

- Emergency Response Governance and Coordination: Organizing and leading the State's pandemic response, through cohesive efforts within the New Jersey state government and with external stakeholders.
- Public Communications: Coordinating external communication efforts to ensure that the public had regularly updated information about the pandemic and resources available to support them, and to encourage the public's participation in certain public health interventions.
- Budget and Finance: Identifying funding sources and ensuring that ongoing resources were in place to support the State's COVID-19 response.
- Personal Protective Equipment (PPE): Efforts to ensure PPE availability for critical workers and underserved populations.
- Closures and Guidance to Prevent the Spread of COVID-19: Issuing policy and guidelines to ensure the public's health and safety, including placing restrictions on individual behavior and industry activities using the appropriate legal mechanisms.
- Healthcare Capacity Management: Ensuring sufficient capacity and resource deployment across healthcare providers.
- Testing: Ensuring adequate access and availability of COVID-19 tests, including lab capacity and supplies.
- Contact Tracing: Identifying positive cases of COVID-19 in the State to track the progression of the disease, identify specific clusters of outbreaks, and mitigate the spread of cases.
- Vaccinations: Engaging providers and partners to administer COVID-19 vaccines, maintaining broad access, and encouraging uptake.
- Therapeutics: Ensuring access through awareness, allocation and distribution of therapeutic treatments for COVID-19.
- Economic Impact Mitigation: Supporting residents and businesses to contain economic harm caused by the pandemic.
- Education: Ensuring continuity of K-12 and higher education during the pandemic, as well as services like meals on which students rely.
- Continuity of Government Services: Ensuring ongoing delivery of critical public services.
- Procurement: Facilitating the process to quickly obtain the materials and personnel necessary to combat the emergency.

Chapter 5, which focuses on documenting New Jersey's decisions during the pandemic, is structured to reflect the above framework, with a sub-chapter dedicated to each of the 14 sets of policy decisions.

Additionally, public health in both emergency and non-emergency times cannot ignore questions of equity. COVID-19 often exacerbated structural inequities, particularly the lack of access to healthcare in underserved communities. The final section of Chapter 5, Section 5.16 on Equity and Access, summarizes the major issues from the pandemic with relevant equity concerns, as well as areas of inequity in New Jersey in need of continued attention.

1.3. Time Periods Used to Structure Analysis

Given the impact of how COVID-19 changed across the different waves of the pandemic, different time periods are used to structure the analysis in this report.

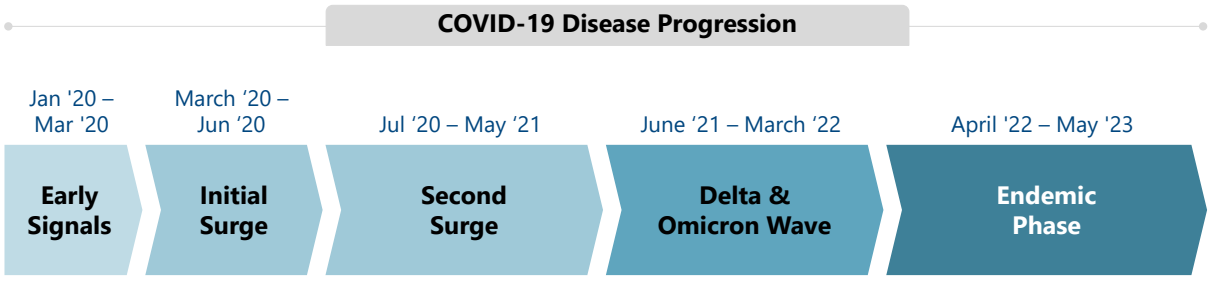
Over the course of the pandemic, public health strategies evolved with greater understanding of the disease's characteristics and enhanced resources for how to prevent and treat it. New variants of COVID-19 surfaced at different points, introducing period-specific challenges, and impacting overall health outcomes. Furthermore, COVID-19 cases peaked at distinct times. States needed to organize to respond to spikes in cases, but these peak periods were often distinct in severity, disease variants, and tools available to states (e.g., vaccines) to combat the virus' spread. Thus, states' responses in each peak period were also distinct.

Based on these factors, the following five time periods are used in this report, spanning January 2020 to May 2023:

- Early Signals (January 2020 to March 2020)
- The Initial Surge (March 2020 to June 2020)
- The Second Surge (July 2020 to May 2021)
- The Delta & Omicron Surge (June 2021 to March 2022)
- The Endemic Phase (April 22 to May 2023)

Analyses of New Jersey's health outcomes (Chapter 4) and the key decisions in the State's pandemic response (Chapter 5) are contextualized using this timeline.

Exhibit 1: Timeline of COVID-19 disease progression[7]

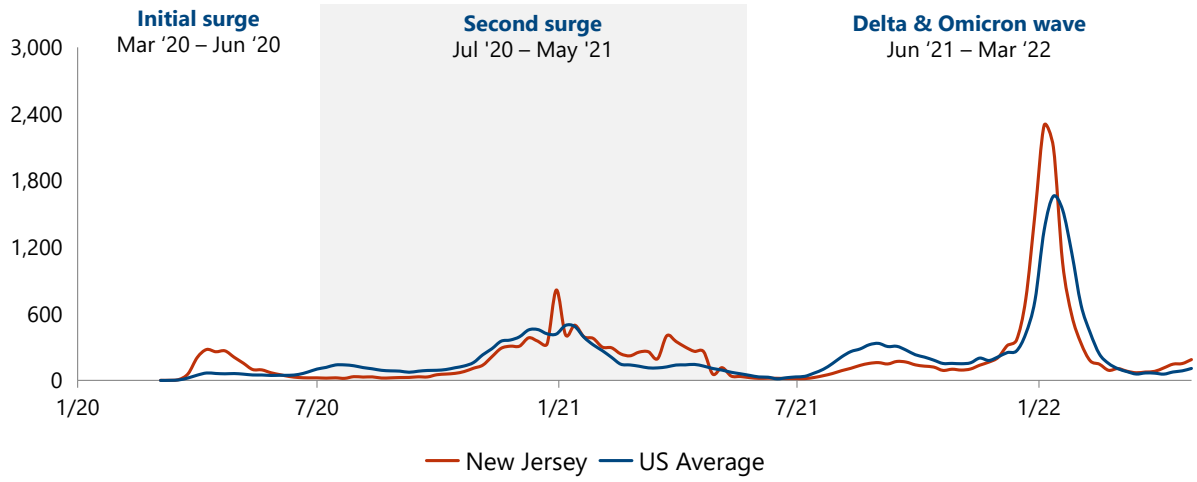


The team identified these periods based on the timing of pandemic peaks. Experts then verified how the contextual factors that states faced changed between periods and how they corresponded

[7] Note: In many aspects, it is incorrect to say COVID-19 has "ended," as positive cases still occur and pose harm to those impacted. We examined the period between January 2020 and May 2023, with greater focus on March 2020 – March 2022, when the impact of the pandemic was most significant.

to the respective peaks of the identified periods. Each period posed unique challenges to New Jersey and other states across the United States, thus affecting health outcomes such as the number of positive cases, hospitalizations, and fatalities. For example, the Initial Surge was marked by limited information about COVID-19's novel characteristics, as well as limited capabilities to treat the disease on a large scale. Moreover, vaccines were not yet available, healthcare capacity needed to be significantly expanded, and the State faced constraints in providing widespread COVID-19 testing. This differs from the Delta & Omicron Surge, which – despite the availability of vaccines – saw the largest spike in cases, meaning that demand for public health resources also spiked.

Exhibit 2: Total positive cases per 100k for New Jersey and the U.S. average



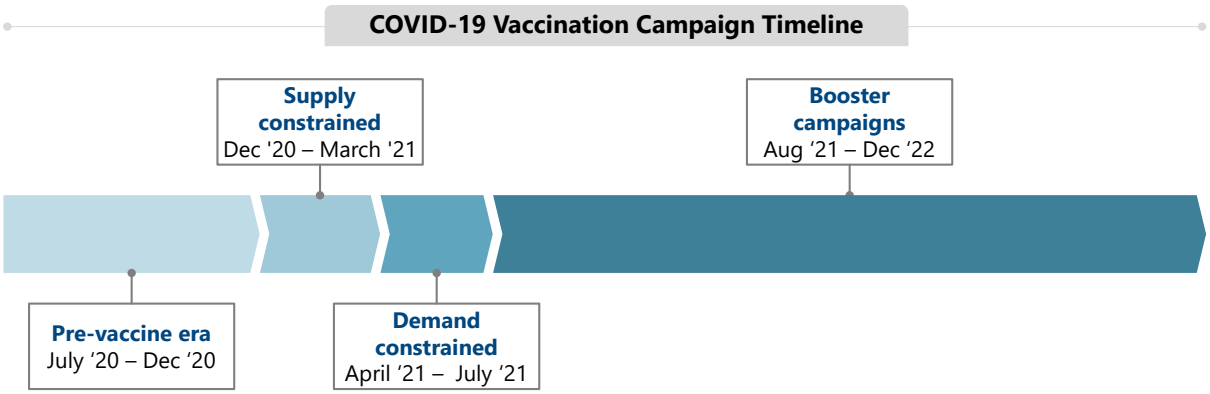
While COVID-19 case counts varied across states, disease severity generally followed the same pattern, with noticeable peaks between March 2020 and March 2022. The disease progression periods are constructed around these peaks and the context of each peak.

Recognizing that COVID-19's disease progression changed over time allows for analysis that considers the unique context of each period. The virus's progression looked different across each state as they encountered the pandemic at different points in time, and states responded differently as their knowledge about the disease, their ability to respond, and their approaches to managing the pandemic evolved. Together, these factors shaped the outcomes that each state experienced.

When studying the topic of vaccinations, it is important to acknowledge that a state's approach to increasing vaccination among its constituents necessarily differed at different points in the pandemic, as did the challenges the states faced. As a result, a separate timeline was used to understand vaccination outcomes in Chapter 4 and vaccination strategies in Chapter 5. This timeline was structured around three distinct periods, taking into consideration both New Jersey's context, availability of the vaccine and the impacts of CDC guidelines on vaccine distribution and availability.

- Supply-constrained period (December 2020 to April 2021): In this period, vaccines were limited, and states experienced unique operational throughput challenges. All states had to make prioritization decisions about which residents would be eligible to receive the limited supply of vaccines.
- Demand-constrained period (May 2021 to July 2021): In this period, vaccine availability was no longer constrained. Instead, states were limited by vaccine hesitancy rates and operational capabilities such as limited distribution channel maturity.
- Booster period (August 2021 to December 2022): Once booster shots were approved, states had to ensure a rapid rollout of additional doses to address waning vaccine coverage levels. States also continued to face issues with hesitancy that impacted the 'last mile' of primary series vaccine uptake. In this report, New Jersey's vaccination rates are compared to all 50 states as well as to benchmark states with similar levels of vaccine hesitancy.

Exhibit 3: Timeline of vaccine rollouts



1.4. Approach to Comparing New Jersey to Other States

In addition to summarizing how the pandemic occurred in New Jersey, this report makes comparisons between New Jersey and other states, both in Chapter 4, where outcomes are assessed, and in Chapter 5, which documents and evaluates the actions New Jersey took during the pandemic. This allows for greater understanding of New Jersey's experience, when viewed relative to other states – for example, how severe the health outcomes of COVID-19 in New Jersey, such as the number of positive cases in the State, were compared to the rest of the country. Conclusions can then be drawn about how much of COVID-19's impact in New Jersey was similar to that experienced in other states, and in which ways COVID-19 especially impacted New Jersey.

In some scenarios, a context-specific approach to analysis is required in order to get a fair picture. Raw outcomes cannot be compared uniformly across 50 states, as not all states experienced the pandemic in the same way. At the earliest stages of the pandemic, New Jersey had higher COVID-19 fatalities than most other states. Considerations of the different circumstances New Jersey faced, as opposed to other states, helps explain these disparities.

In Chapter 4, New Jersey is compared to all 50 states with respect to health outcomes (cases, hospitalizations, and fatalities), vaccination outcomes (primary series, booster, and bivalent vaccines) and economic outcomes (unemployment and business activity). In order to make the analysis more meaningful, however, New Jersey is also compared to more specific subsets of states that had aspects of their pandemic experience in common with New Jersey. This allows analysis of whether New Jersey's outcomes fell short of states facing similar circumstances, since each state's record was often due to factors out of their control. Three subsets of Benchmark States with common characteristics were defined to ensure the analysis in Chapter 4 led to meaningful conclusions related to health, vaccination, and economic outcomes, which are explained in greater detail below.

Unlike in Chapter 4, state comparisons in Chapter 5 focus on revealing how New Jersey's actions during the pandemic differed from that of states with similar circumstances and contextual characteristics, though with a range of political leanings. This helps to show the range of decisions made to respond to COVID-19 across states that have similarities, which in some instances shows choices that could have theoretically been made by New Jersey. This may help to identify ways in which New Jersey could approach future public health emergencies differently. The primary benchmark set for this Chapter took into consideration size and density of States, the ages of their populations, geographic disease patterns and partisan indicators. Further detail about the benchmark sets in Chapter 4 and in Chapter 5 is provided below.

1.4.1 Chapter 4 State Comparison Benchmark Sets

Comparison Set 1: States with higher COVID-19 severity during the Initial Surge

States were first hit by COVID-19 at various times, which meaningfully affected their subsequent outcomes and responses. States that faced significant outbreaks during the Initial Surge of the pandemic (March to June 2020), like New Jersey, were forced to respond to COVID-19 while they were still learning about the disease itself, without the benefit of PPE, tests, therapeutics, or other essential supplies. By contrast, states that were hit by COVID-19 later learned from the states caught in the first wave, and benefitted from better supply chains, materials, and understanding about how to prevent and treat the disease. Thus, New Jersey's raw outcomes cannot properly be compared to states that were first hit with COVID-19 later.

The set of peer states to New Jersey was defined as states with relatively high disease severity at the beginning of the pandemic, meaning they were hit more severely and earlier compared to other states. These states tended to experience higher cumulative levels of cases, hospitalizations, and fatalities throughout the pandemic, compared to the rest of the country. Making comparisons within the benchmark state group identifies additional variation in performance that is not explained solely by the timing of states' initial outbreaks.

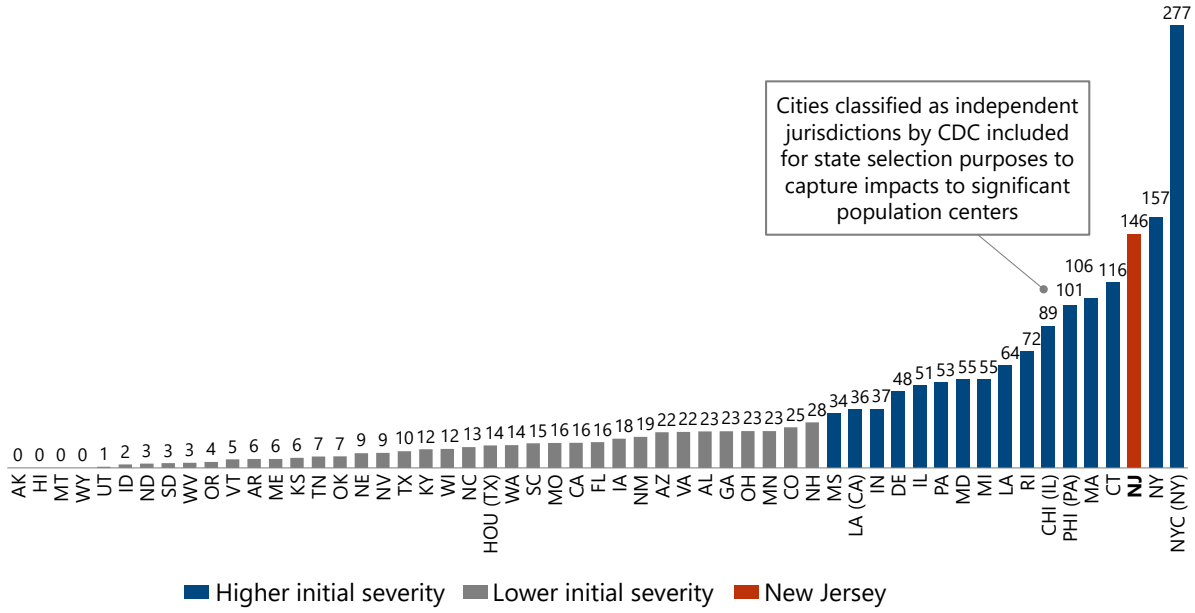
To identify these high disease severity peer states, disease severity was defined and measured by the number of COVID-19 fatalities that states experienced in the Initial Surge. More specifically, the

metric used was total fatalities per 100k, among 50 states and CDC independent jurisdictions.[8] To segment the appropriate group of states to compare against, states were ordered by fatalities per 100K, from lowest to highest, and significant differences between adjacent states in the graph, were identified. These major differences indicated distinct groups of states with similar fatalities outcomes to each other compared to other states.

For this report, 14 states were selected to be in the peer set for states with high disease severity during the initial outbreak: California[9], Connecticut, Delaware, Illinois, Indiana, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, New Jersey, New York, Pennsylvania, Rhode Island (the graph below also includes New York City and Philadelphia, both of which reported statistics separately from their respective states).

Exhibit 4: Peer states and major metro areas that experienced higher severity in the Initial Surge

Fatalities reported per 100k from March 2020 to June 2020 (Initial Surge Period)



Note: Cities that are their own CDC Jurisdiction for allocation of federal COVID funding: Chicago, Houston, Los Angeles County, New York City, Philadelphia, and Washington, D.C (DC Excluded)
Source: CDC, New York Times

[8] CDC independent jurisdictions are cities that are their own CDC jurisdiction for allocation of Federal Government COVID-19 funding: Chicago, Houston, Los Angeles County, New York City, Philadelphia, and Washington, D.C (DC Excluded).

[9] California is included because of disease severity in Los Angeles (a CDC independent jurisdiction). States with high disease severity in CDC independent jurisdictions are included to capture the impact of COVID-19 in major metropolitan areas and its effects statewide.

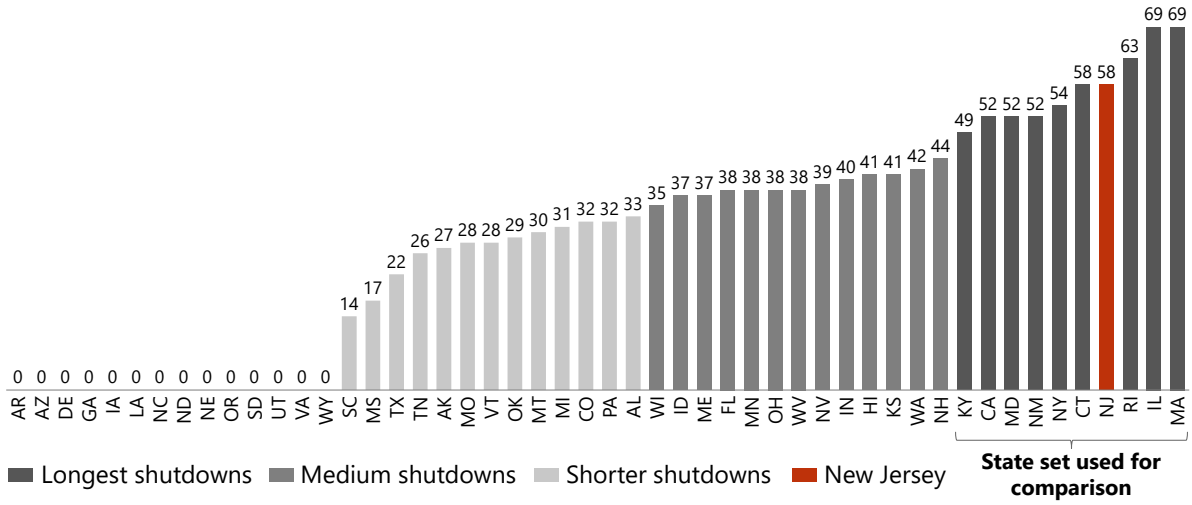
Comparison Set 2: States with longer shutdowns

COVID-19 devastated states' economies. One contributing factor was state shutdowns. As businesses closed, individuals lost jobs and overall revenues declined. Some states, like New Jersey, shut down earlier and for longer. Nearly all states around New Jersey were engaged in early economic shutdowns; New Jersey's choice to do so was not made wholly independently. These states are grouped as peer states to surmise whether their economic outcomes were meaningfully worse than the rest of the country, thereby testing the effect of longer shutdowns on economic performance. Furthermore, by comparing to other states with longer initial shutdowns, New Jersey's economic performance is explained by factors outside of shutdowns, such as the State's preexisting economic structures or economic interventions the State made independently of these other states (e.g., small business assistance programs).

Shutdowns are defined by the number of days non-essential businesses were closed in the Initial Stages of the pandemic. Major differences in the number of days non-essential business shut down were identified among 50 states; states with similar lengths of shutdown were grouped together. In addition to New Jersey, nine states were selected: Kentucky, California, Maryland, New Mexico, New York, Connecticut, Rhode Island, Illinois, and Massachusetts.

Exhibit 5: Peer states with longer initial shutdowns

Shutdown length (days), defined by closures of non-essential businesses



Source: Oxford Covid-19 Government Response Tracker; Various news reports

Comparison Set 3: States with comparable rates of vaccine hesitancy

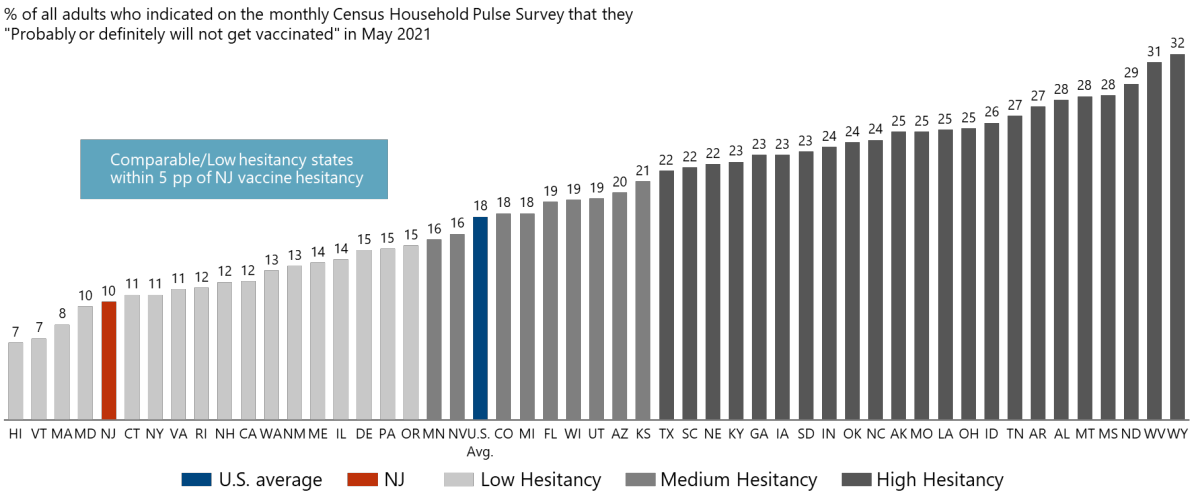
State COVID-19 vaccination rates can illustrate several factors, including the success of states' vaccination campaigns and distribution. However, a state vaccination level is also influenced by how willing its population is to receive a vaccine. Some states had populations that were highly

receptive to vaccines. In New Jersey, for example, only one-tenth of the population were initially "vaccine hesitant,"[10] with limited or no intention to receive a vaccine, regardless of public health awareness campaigns. In contrast, in some other states, nearly one-third of the population was averse to the idea of vaccines from the outset. Thus, comparing New Jersey's high vaccination rates to those of vaccine hesitant states would fail to consider the different challenges states faced to encourage their populations to get vaccinated. It is more appropriate to compare vaccination rates of states that had similar vaccine hesitancy rates, since they had similar 'addressable' populations (e.g., if 10% of people are vaccine hesitant, the 'addressable' population is the remaining 90%).

States with similar rates of openness to receiving a COVID-19 vaccine were compared to each other. States with similar rates of vaccine hesitancy in May 2021 (the beginning of the Demand Constrained period) to each other were grouped together. In addition to New Jersey, 17 states were selected as peer states with low vaccine hesitancy: California, Connecticut, Delaware, Hawaii, Illinois, Maine, Maryland, Massachusetts, New Hampshire, New Mexico, New York, Oregon, Pennsylvania, Rhode Island, Vermont, Virginia, Washington.

Exhibit 6: Peer states with comparable vaccine hesitancy[11]

17 peer states had comparable vaccine hesitancy levels at the beginning of the demand constrained period (May 2021)



Comparison Set 4: Chapter 5 Comparison Set

In Chapter 4, peer state sets were identified to provide meaningful comparisons for the quantitative measures selected (e.g., for health, economic, and vaccination outcome metrics). In

[10] According to responses to the Census Household Pulse Survey.
[11] Source: Census Household Pulse Survey.

Chapter 5, the team used a seven-state benchmarking set to compare New Jersey's policy and strategy across interventions (e.g., vaccine site and access strategies across the state). The intent of using this state set is to examine the actions New Jersey took in comparison to states with both similar and distinctive characteristics, to identify a range of actions states took in response to COVID-19 that were also feasible options for New Jersey, and highlight ways that New Jersey could improve for future public health emergencies.

The states selected for the comparison set in Chapter 5 fell under the following criteria:

- Disease pattern: As previously discussed, New Jersey was one of the first-hit states in the pandemic. Because there was no time to prepare, and no models for how to deal with COVID-19 in the U.S., New Jersey was effectively a testing ground for how a state could manage the disease. For the duration of the pandemic, COVID-19 tended to concentrate in high-population metropolitan centers. One of the earliest and largest COVID-19 outbreaks in the U.S. was in the New York City metro area, which includes more than 10 counties in Northern New Jersey. Therefore, it is important to ensure that New Jersey is compared to states that faced an early surge in cases (and therefore made decisions in early 2020 with the same amount of knowledge and time to prepare).
- Size and density: It was critical to identify benchmark states that are truly comparable to New Jersey in ways relevant not only to COVID-19, but also for emergency response and state governance generally. This meant selecting states that are both large (as the complexity of COVID-19 response is related to size) and dense. Density critically changes the types of response a state ought to use to manage COVID-19 or other emergencies. For example, mass vaccination or testing sites are a good option in densely populated areas, but pop-up or mobile sites may work better for states with more rural areas.
- Age of population: Because the risk of severe outcomes is so closely correlated with age, states with similar age demographics – especially in terms of percentage of population over 65 – faced similar population-level risk from COVID-19, which could translate to a bigger strain on health systems.
- Partisan tendencies: One of the greatest predictors of both resident behavior and decisions made by state governments during the pandemic (e.g., willingness to comply with social distancing rules, hesitancy to be vaccinated) was partisan leaning.[12] To truly capture the range of options available to states during the pandemic, the comparison set must include states with a diversity of partisanship indicators.

To design the benchmark set used in Chapter 5, the requirements above were applied in the following way:

[12] Grossman, G., Kim, S., Rexer, J. M., & Thirumurthy, H. (2020). Political partisanship influences behavioral responses to governors' recommendations for covid-19 prevention in the United States. *Proceedings of the National Academy of Sciences*, *117*(39), 24144–24153. https://doi.org/10.1073/pnas.2007835117

- **Similarity of disease pattern:** New Jersey was one of the first epicenters of COVID-19 in the United States. New York, California, Illinois, and Pennsylvania were also all hit by COVID-19 in its initial outbreak in the United States. In turn, they became the vanguard in learning how to manage the response to the disease.
- **Population size and density:** New Jersey is the 11th most populous state, with just over 9M residents. Because New Jersey's population is significantly larger than most states (for context, the median state's population is less than half of that of New Jersey), the benchmark set was limited to the largest 25% of states (those above 7.3 M residents). Additionally, New Jersey is the most densely populated state in the country, with 1.3K individuals per square mile (the U.S. median is less than one-tenth of New Jersey's, at 0.1K/square mile). As with the population size above, to identify the states most closely resembling New Jersey in population density, the benchmark set was limited to states that (in addition to being the largest) are in the densest 25% of states (those above 0.2K/square mile). Following the population size and density screening, the remaining states were California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia.
- **Population age:** Next, those seven states were compared on percentage of their population who were over 65+, to ensure that at least some states had a comparable percentage of the population over 65 as New Jersey. New Jersey has a slightly lower proportion of residents who are 65+ (16.8%) than the median state (17.4%); thus, other states generally matched New Jersey's population age distribution. The only states meaningfully different than New Jersey on this metric are Pennsylvania (19%) and Florida (21%), but because five states fall within 1% of New Jersey's population share of those aged 65+, there are sufficient comparable states in the set to make a meaningful comparison.
- **Partisan variety:** Given the influence of politics noted above, states with a range of partisan leanings were selected. In the benchmarking set, Florida and New York represent two sides of the political spectrum, with New Jersey and other states spread in between, offering partisan variety.

This left the final benchmark set of states to compare New Jersey's key decisions to as **California, Florida, Illinois, New York, Ohio, Pennsylvania, and Virginia**.

1.5. Summary of State Comparison Sets

Comparison set of states	States included (alphabetized)	
States with higher disease severity early in the pandemic	• California • Connecticut • Delaware • Illinois • Indiana • Louisiana • Massachusetts	• Maryland • Michigan • Mississippi • New Jersey • New York • Pennsylvania • Rhode Island
States with longer initial shutdowns	1. California 2. Connecticut 3. Illinois 4. Kentucky 5. Massachusetts	6. Maryland 7. New Mexico 8. New Jersey 9. New York 10. Rhode Island
States with comparable initial vaccine hesitancy to New Jersey	• California • Connecticut • Delaware • Hawaii • Illinois • Massachusetts • Maryland • Maine • New Jersey	• New Hampshire • New Mexico • New York • Oregon • Pennsylvania • Rhode Island • Virginia • Vermont • Washington
States representing a range of pandemic responses *(used in Chapter 5)*	• California • Florida • Illinois • New York • Ohio	• Pennsylvania • Virginia

2. Chronology

Below are two chronologies for the readers' reference. The first is a chronology of major events internationally, nationally and in New Jersey. The second chronology describes disease progression over the course of the pandemic.

2.1 COVID-19 Chronology of Events – Global, United States, and New Jersey

The following is a chronology of major events internationally, nationally and in New Jersey. It is included for the reader's reference.

- November 17, 2019
    - Global
        - Initial infection of patient zero is believed to have happened per Chinese official statement.

- December 8, 2019
    - Global
        - First person to test positive (Wuhan, China).

- December 12, 2019
    - Global
        - Patients in China's Hubei Province, in the city of Wuhan, begin to experience the symptoms of an atypical pneumonia-like illness.

- December 31, 2019
    - Global
        - The World Health Organization (WHO) Country Office in China is informed of several cases of a pneumonia of unknown etiology in Wuhan, China. Initial cases seem connected to the Huanan Seafood Wholesale Market.
        - China reports first 41 cases of COVID-19 to the World Health Organization.

- January 1, 2020
    - Global
        - Wuhan, China officials close seafood market, thought to be the source of the first viral pneumonia cases.

- January 2, 2020
    - Global
        - WHO activates its Incident Management Support Team (IMST) across all three organizational levels: Country Office, Regional Office, and Headquarters.

- January 3, 2020
    - Global
        - China informs WHO that they have identified over 40 cases of pneumonia of unknown etiology.

- January 5, 2020
  - Global
    - As the disease spreads in Wuhan, Chinese public health officials share the genetic sequence of the atypical pneumonia virus, Wuhan-Hu-1, with the rest of the world through an online database.
    - CDC's National Center for Immunization and Respiratory Diseases (NCIRD) activates a center-level response to investigate this novel pneumonia of unknown etiology.

- January 7, 2020
  - Global
    - China confirms a COVID-19 case and public health officials in China identify a novel coronavirus as the causative agent of the outbreak.
  - United States
    - Centers for Disease Control and Prevention establishes the Coronavirus Incident Management System.

- January 9, 2020
  - Global
    - World Health Organization releases statement[13] regarding identification of virus.

- January 10, 2020
  - Global
    - WHO announces that the outbreak in Wuhan, China is caused by the 2019 Novel Coronavirus (2019-nCoV).

  - United States
    - CDC publishes information about the 2019 Novel Coronavirus (2019-nCoV) on its website.

[13] World Health Organization. (2020, January 9). *WHO Statement regarding cluster of pneumonia cases in Wuhan, China*. Retrieved from https://www.who.int/china/news/detail/09-01-2020-who-statement-regarding-cluster-of-pneumonia-cases-in-wuhan-china

- January 11, 2020
  - Global
    - First coronavirus death worldwide is reported in Wuhan, China.
    - Chinese health officials publish genetic sequence of COVID-19.
  - United States
    - Centers for Disease Control and Prevention updates Level 1 Travel Notice for China.

- January 13, 2020
  - Global
    - Thailand confirms the first case of the SARS-CoV-2 virus outside of China.

- January 17, 2020
  - Global
    - CDC begins screening passengers for symptoms of the virus on direct and connecting flights from Wuhan, China to San Francisco, California, New York City, New York, and Los Angeles, California and plans to expand screenings to other major airports in the U.S.

- January 18, 2020
  - United States
    - After receiving the genetic sequence from Chinese health officials, the CDC takes just 7 days to design the first diagnostic test.

- January 19, 2020
  - Global
    - Worldwide, 282 laboratory-confirmed cases of the 2019 Novel Coronavirus have been reported in four countries: China (278 cases), Thailand (2 cases), Japan (1 case) and Korea (1 case).

- January 20, 2020
  - United States
    - CDC reports the first laboratory-confirmed case of the 2019 Novel Coronavirus in the U.S. from samples taken on January 18 in Washington State and on the same day activates its Emergency Operations Center (EOC) to respond to the emerging outbreak.

- January 21, 2020
    - Global
        - Chinese government officials confirm that human-to-human transmission is driving the spread of the SARS-CoV-2 virus in China.

- January 22, 2020
    - Global
        - WHO's International Health Regulation Emergency Committee meets and decides to not declare the 2019 Novel Coronavirus a Public Health Emergency of International Concern (PHEIC).

- January 23, 2020
    - Global
        - The city of Wuhan is placed under lockdown.

- January 24, 2020
    - United States
        - The CDC confirms its second case in Illinois.

- January 28, 2020
    - United States
        - CDC issues a Level 3 Travel Health Notice— advising travelers to avoid all non-essential travel to China.
        - The U.S. Government relocates U.S. citizens from Wuhan, China back to the U.S.

- January 29, 2020
    - United States
        - The President of the United States (POTUS) establishes a COVID-19 interagency task force.

- January 30, 2020
  - Global
    - World Health Organization (WHO) declares a Global Public Health Emergency.
  - United States
    - CDC confirms that virus has spread to others in Illinois with no history of travel. The total number of U.S. cases is seven.

- January 31, 2020
  - Global
    - WHO's International Health Regulation Emergency Committee reconvenes early to declare the 2019 Novel Coronavirus outbreak a Public Health Emergency of International Concern (PHEIC).
  - United States
    - The Secretary of HHS, Alex Azar, declares the 2019 Novel Coronavirus (2019-nCoV) outbreak a public health emergency.
    - CDC issues 14-day federal quarantine orders to all 195 U.S. citizens who were repatriated back to the U.S. on January 29, 2020, from Wuhan, China.

- February 3, 2020
  - New Jersey
    - Governor Murphy issues Executive Order 102 creating a COVID-19 Task Force.

- February 4, 2020
  - United States
    - FDA approves the Emergency Use Authorization for the CDC developed SARS-CoV-2 diagnostic test kit.

- February 5, 2020
  - United States
    - Morbidity and Mortality Weekly Report (*MMWR*) publishes first Public Health Response and Interim Clinical Guidance for the 2019 Novel Coronavirus Outbreak.

- February 6, 2020
    - United States
        - First COVID-19 death in the United States.

- February 8, 2020
    - United States
        - Some of the first CDC test kits for detecting the SARS-CoV-2 virus arrive at a public health laboratory New York. The laboratory reports that the tests produce "untrustworthy results."

- February 25, 2020
    - United States
        - CDC's Dr. Nancy Messonnier, the incident manager for the COVID-19 response, holds a telebriefing and braces the nation to expect mitigation efforts to contain the SARS-CoV-2 virus in the U.S. that may include school closings, workplace shutdowns, and the canceling of large gatherings and public events, stating that the "disruption to everyday life may be severe."

- February 29, 2020

    - United States
        - CDC reports the first death in an individual with laboratory-confirmed COVID-19 in the U.S. The patient was a male in his 50s in Washington State.

- March 1, 2020
    - United States
        - CDC creates a hospitalization surveillance network for the SARS-CoV-2 virus called "COVID-NET" to track the numbers and rates of COVID-19 hospitalizations by modifying existing respiratory virus surveillance networks.

- March 3, 2020
    - United States
        - CDC reports 60 cases of COVID-19 across Arizona, California, Florida, Georgia, Illinois, Massachusetts, New Hampshire, New York, Oregon, Rhode Island, Washington, and Wisconsin.

- March 4, 2020
  - New Jersey
    - The first confirmed case of COVID-19 of a New Jersey resident.

- March 9, 2020
  - New Jersey
    - Governor declared a State of Emergency and a Public Health Emergency.

- March 10, 2020
  - New Jersey
    - New Jersey reported its first COVID-19 death.

- March 6, 2020
  - United States
    - POTUS signs COVID-19 bill, passing $8.3B for crisis response for non-Department of Defense relief.

- March 9, 2020
  - New Jersey
    - Governor Murphy issues Executive Order 103 noting 11 cases and 24 under investigation.
    - Declares a Public Health Emergency and State of Emergency in New Jersey (N.J.S.A. App.A.:9-33 et seq. and 26:13-1 et seq.)
    - Authorizes State Director of Emergency Management, who is the Superintendent of the State Police, together with Commissioner of NJDOH to take any emergency measures as the State Director may find necessary.

- March 11, 2020
  - Global
    - After more than 118,000 cases in 114 countries and 4,291 deaths, the WHO declares COVID-19 a pandemic.
  - United States
    - United States announces travel restrictions from Europe will begin March 13 for 30 days in an effort to control the rapid spread of coronavirus.

- March 13, 2020
    - United States
        - The Trump Administration declares a nationwide emergency and issues an additional travel ban on non-U.S. citizens traveling from 26 European countries due to COVID-19.

- March 15, 2020
    - United States
        - U.S. State Department issues Global Level 3 Health Advisory: Do Not Travel.
        - States begin to implement shutdowns in order to prevent the spread of COVID-19. The New York City public school system— the largest school system in the U.S., with 1.1 million students— shuts down, while Ohio calls for restaurants and bars to close.

- March 16, 2020
    - United States
        - White House announces, "15 Days to Slow the Spread," a nationwide effort to slow the spread of COVID-19 through the implementation of social distancing at all levels of society.
        - CDC launches "Clara-Bot," a COVID-19 symptom checker, on its website.
        - New and old guidelines begin circulating among state health departments for who gets critical care in the event of ventilator shortages: Massachusetts and Pennsylvania use a point system prioritizing patients by likelihood of benefitting from ICU care, while New York's 2015 plan relies on "exclusion criteria."
    - New Jersey
        - Governor Murphy issues Executive Order 104 noting 178 cases in NJ. Order limits gatherings, closes schools and businesses.

- March 17, 2020
    - United States
        - Moderna Therapeutics begin the first human trials of a vaccine to protect against COVID-19 at a research facility in Seattle, Washington.

- March 18, 2020
    - United States
        - POTUS signs Family First Act, providing $3.5B emergency supplemental appropriations related to COVID-19, as well as waivers and modifications of federal nutrition programs, employment-related protections and benefits, health programs and insurance coverage requirements, and related tax credits during the COVID-19 public health emergency.

- March 19, 2020
    - United States
        - Governors in 27 states have activated the National Guard. Across those 27 states, more than 2,050 National Guard members are assisting with state responses.
        - U.S. State Department issues Global Level 4 Health Advisory: Do Not Travel.
        - U.S. Department of Defense (DOD) currently has 15 labs with 40 test kits available. Daily capacity is 9,096 tests/day and 1,574 patients have been tested. An additional lab is being prepared at the Armed Forces Research Institute of Medical Services in Thailand.
        - California governor Gavin Newsom issues a statewide stay-at-home order to slow the spread of COVID-19 instructing residents to only leave their homes when necessary and shutting down all but essential businesses.
        - POTUS invokes the Defense Production Act.
    - New Jersey
        - Governor Murphy issues Executive Order 105 noting 427 cases in NJ. Order modifies election law.
        - Governor Murphy issues Executive Order 106, the Eviction moratorium.

- March 20, 2020
    - United States
        - Nearly all U.S. states have declared a state of emergency in response to COVID-19.

- March 21, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 107, noting 890 cases in New Jersey with 11 deaths. Issues Stay at Home Order exempting essential workers.
        - Governor Murphy issues Executive Order 108, the Preemption order, invalidating county, or municipal restrictions which conflict with EO104.

- March 22, 2020
  - United States
    - DOD approves FEMA request for assistance for acute care medical surge.

- March 23, 2020
  - United States
    - New York reports over 20,000 cases of COVID-19.
  - New Jersey
    - Governor Murphy issues Executive Order 109 noting 1,914 cases with 20 deaths. Order suspends elective medical procedures.
    - Healthcare facilities must inventory PPE, ventilators, respirators, anesthesia machines that are not needed for critical health care services and provide inventory to State's Office of Emergency Management.

- March 25, 2020
  - New Jersey
    - Governor Murphy issues Executive Order 110 stating that childcare is essential.

- March 26, 2020
  - United States
    - The United States reports over 80,000 cases – exceeding China.
    - 22 states have issued stay-at-home orders.

- March 27, 2020
  - United States
    - The Trump Administration signs the Coronavirus Aid, Relief, and Economic Security (CARES) Act into law. The act includes funding for $1,200 per adult (with expanded payments for families with children), expanded unemployment benefits, forgivable small business loans, loans to major industries and corporations, and expanded funding to state and local governments in response to the economic crisis caused by COVID-19.
    - POTUS invokes the Defense Production Act, requiring General Motors (GM) to make ventilators.

- March 28, 2020
  - Global
    - Wuhan, China, partially re-opens after two-month lockdown.
  - New Jersey
    - POTUS issues memo providing continued federal support for governors' use of the National Guard to respond to COVID-19 in the states of Florida, Louisiana, Maryland, Massachusetts, New Jersey, and the territories of Guam and Puerto Rico.
    - CDC issues a domestic travel advisory for New York, New Jersey, and Connecticut due to high community transmission of COVID-19 in those states, urging residents to refrain from all non-essential domestic travel for at least 14 days, effective immediately.
    - Governor Murphy issues Executive Order 111 noting 8,825 cases in New Jersey with 108 deaths. Order requires mandatory reporting of medical resources. Healthcare facilities are obligated to report date showing their capacity and supplies on a continuing basis. Data to include bed capacity, ventilators, and PPE.
    - FEMA request for assistance to U.S. Army Corps of Engineers for alternate care facility for New Jersey.

- March 29, 2020
  - United States
    - POTUS extends social distancing guidelines through April 30, 2020.
  - New Jersey
    - DOD approves FEMA requests for assistance for New Jersey National Guard Title 32 status.
    - DOD receives FEMA Mission Assignment for New Jersey.

- March 30, 2020
  - United States
    - USNS Comfort arrives in New York five days ahead of schedule, providing 1,000 patient beds.
    - $456 million for Johnson & Johnson's candidate vaccine.
  - New Jersey

    DOD approves FEMA requests for assistance for Louisiana, Maryland, and New Jersey National Guard Title 32 status.

- April 1, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 112 noting 18,600 cases in New Jersey with 267 deaths. Order grants immunity from liability for healthcare workers and permits retired healthcare workers to resume work.

- April 2, 2020
    - Global
        - 1M+ people have confirmed cases of COVID-19 worldwide.
    - New Jersey
        - Governor Murphy issues Executive Order 113 noting 25,590 cases in New Jersey with 537 deaths. Order notes shortage of medical supplies and need to relocate resources.

- April 3, 2020
    - United States
        - At a White House press briefing, CDC announces new mask wearing guidelines and recommends that all people wear a mask when outside of the home.

- April 3, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 114 noting 29,895 cases in New Jersey with 646 deaths. Orders flags at half-staff for mourning.

- April 4, 2020
    - Global
        - CDC launches a new weekly SARS-CoV-2 virus surveillance report called "COVID-19 View" summarizing weekly data on COVID-19 hospitalizations, deaths, and testing.
        - More than 1 million cases of COVID-19 had been confirmed worldwide, a more than ten-fold increase in less than a month.

- April 6, 2020
    - United States
        - Hundreds of doctors and civil rights groups urge CDC and the U.S. Government to release race and ethnicity data on COVID-19 case-numbers in order to reveal the true impact of the virus on communities of color.

- April 6, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 115 permitting retired healthcare and law enforcement workers.

- April 7, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 116 noting 41,000 cases in New Jersey with 1,003 deaths. Order extended deadlines for municipalities to submit budgets to county tax boards.
        - Governor Murphy issues Executive Order 117 relaxing New Jersey student testing requirements.
        - Governor Murphy issues Executive Order 118 closes state and county parks.
        - Governor Murphy issues Executive Order 119 extending the public health emergency.

- April 8, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 120 noting 44,400 cases in New Jersey with 1,232 deaths and ordering the postponement of primary elections until July.
        - Governor Murphy issues Executive Order 121 giving special permits to vehicles carrying supplies and raising weight carrying limit. Governor Murphy issues Executive Order 122 setting further restrictions on in-person commerce, including limits to 50% capacity.

- April 9, 2020
  - United States
    - Federal Reserve announces actions to provide up to $2.3T in loans to support the economy.
  - New Jersey
    - Governor Murphy issues Executive Order 123 noting 47,000 cases in New Jersey with 1,504 deaths and ordering that insurers may not cancel policies during emergency grace period as a result of nonpayment.

- April 10, 2020
  - United States
    - DOD receives approval from the White House Task Force to execute the first Defense Production Act Title 3 project responding to COVID-19. The $133M project will increase domestic production capacity of N95 masks to over 39M in the next 90 days.
    - New York State now has more reported COVID-19 cases than any country in the world.
  - New Jersey
    - Governor Murphy issues Executive Order 124 relaxing statutory provisions for parole review and furlough release in certain circumstances.

- April 11, 2020
  - United States
    - U.S. death toll surpasses 20,000, the highest number of confirmed fatalities of any country.
  - New Jersey
    - Governor Murphy issues Executive Order 125 noting 54,588 cases in New Jersey with 1,932 deaths. Order outline capacity limits in restaurants and public transit.

- April 13, 2020
  - United States
    - At a White House press briefing, President Trump announces that the U.S. will cease contributing funding to the WHO, shaking the Global public health community.

- April 13, 2020
  - New Jersey
    - Governor Murphy issues Executive 126 directing that due to needs of telework and education, internet providers may not terminate services.

- April 14, 2020
  - New Jersey
    - Governor Murphy issues Executive 128 giving 60 days of renter's protection.

- April 15, 2020
  - Global
    - Global COVID-19 case tally tops 2 million.
  - United States
    - CMS data shows that nursing homes hit the Initial Surge with approximately 4,700 COVID-19 cases per day.

- April 16, 2020
  - United States
    - POTUS announces guidelines[14] on the three phases of Opening Up America Again.
    - $483 million agreement in support available for Moderna's candidate vaccine, which began Phase 1 trials on March 16, 2020, and received a fast-track designation from the U.S. Food & Drug Administration.

- April 19, 2020
  - United States
    - POTUS announces he will use the Defense Production Act to increase COVID-19 testing swab production in one U.S. facility by over 20 million additional swabs per month.

[14] The White House, Centers for Disease Control and Prevention. (2020). *Guidelines for Opening Up America Again.* Retrieved from https://trumpwhitehouse.archives.gov/wp-content/uploads/2020/04/Guidelines-for-Opening-Up-America-Again.pdf

- April 20, 2020
    - United States
        - As the pandemic grows, shortages of personal protective equipment (PPE) like gowns, eye shields, masks, and even body bags, become dire.

- April 24, 2020
    - United States
        - POTUS signs into law the Paycheck Protection Program and Health Care Enhancement Act, providing additional funding to support Americans impacted by the coronavirus.
        - Georgia, Alaska, and Oklahoma begin to partially reopen their states despite concerns from health experts saying it was too early to reopen.

- April 28, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 130 giving a grace period for the payment of property taxes.
        - Governor Murphy issues Executive 131 noting over 111,000 cases in New Jersey with 6,044 deaths and establishing Governor's Restart and Recovery Commission, which is purely advisory in nature, to provide guidance to Governor for reopening State's economy.
    - United States
        - The United States surpasses 1M confirmed coronavirus cases, a third of all cases around the globe. So far, over 56,000 have died and 112,000 have recovered in the United States.

- April 29, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 132 reopening State parks and golf courses.

- April 30, 2020
    - United States
        - The Trump Administration launches Operation Warp Speed, an initiative to produce a vaccine against the SARS-CoV-2 virus as quickly as possible. The operation funds the development of six promising vaccine candidates while they are still in the clinical trial phase, including the Pfizer-BioNTech and Moderna mRNA vaccines.

- May 1, 2020
    - United States
        - FDA issues an emergency use authorization (EUA) for the use of the antiviral drug Remdesivir for the treatment of suspected or confirmed COVID-19 in people who are hospitalized with severe disease.
        - CDC develops the "PPE Burn Rate Calculator," a spreadsheet-based model made to help healthcare facilities plan and optimize the use of personal protective equipment or PPE for the COVID-19 response and publishes it on the Apple and Android App stores.
        - CDC launches the SARS-CoV-2 Sequencing for Public Health Emergency Response, Epidemiology and Surveillance (SPHERES), a national network to provide real-time genomic sequencing data to public health response teams investigating COVID-19 cases, allowing them to track the SARS-CoV-2 virus as it evolves.

- May 8, 2020
    - United States
        - The Associated Press reports that top White House officials blocked a CDC document "Guidance for Implementing the Opening Up America Again Framework" that included detailed advice on how to safely reopen the country.
        - FDA authorizes the first COVID-19 test with the option of using home-collected saliva samples.
        - The unemployment rate in the U.S. is 14.7%— the highest since the Great Depression. 20.5 million people are out of work.

- May 8, 2020
  - New Jersey
    - Governor Murphy issues Executive Order 138 extending the public health emergency noting over 130,000 cases in New Jersey with 8,244 deaths.
    - Governor Murphy issues Executive Order 140 establishing Restart and Recovery Advisory Council co-chaired by heads of New Jersey EDA, Higher Education, and Choose NJ.

- May 12, 2020
  - New Jersey
    - Governor Murphy issues Executive Order 141 introducing CommCare platform for contact tracing.

- May 13, 2020
  - New Jersey

    Governor Murphy issues Executive Order 142 permitting construction and varied other businesses to reopen.

- May 15, 2020
  - United States
    - POTUS announces "Operation Warp Speed," the administration's national program to accelerate the development, manufacturing, and distribution of COVID-19 medical countermeasures. DOD will join key agencies in the public-private partnership to support in diagnostics, therapeutics, vaccines, production and distribution, and security and assistance.
    - CDC's Chief Health Equity Officer officially joins CDC's COVID-19 response.
    - CDC distributes a warning for clinicians through the Health Alert Network describing Multisystem Inflammatory Syndrome in Children (MIS-C), a serious inflammatory condition that affects children with current or recent COVID-19 infections.

- May 20, 2020
  - United States
    - For the first time since U.S. states implemented stay-at-home measures to mitigate the spread of COVID-19, all 50 states have begun to partially lift restrictions.

- May 21, 2020
    - United States
        - $1.2 billion agreement in support for AstraZeneca's candidate vaccine.

- May 22, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 148 citing declining cases and permitting outdoor gatherings to include 25 people while indoor gatherings are limited to 10 people.

- May 27, 2020
    - United States
        - The recorded death toll from COVID-19 in the U.S. surpasses 100,000.

- May 30, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 149 permitting childcare facilities to reopen.

- May 31, 2020
    - Global
        - Global COVID-19 cases surpass 6M.

- June 3, 2020
    - New Jersey
        - Citing declining cases, Governor Murphy issues Executive Order 150 permitting restaurants to offer in-person service outdoors with limited capacity and other non-essential retail stores to open.

- June 4, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 151 extending the public health emergency. Governor notes that there are 62,000 cases in New Jersey with 11,970 deaths but cases declining due to countermeasures to the point of gradual reopening and relaxing of some restrictions.

- June 5, 2020
    - United States
        - POTUS signs into law the Paycheck Protection Flexibility Act of 2020, modifying provisions for loan forgiveness under the Paycheck Protection Program.

- June 9, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 151 ending prohibitions on indoor gatherings.

- June 10, 2020
- United States
        - The number of confirmed COVID-19 cases in the U.S. surpasses 2 million.

- June 13, 2020
    - United States
        - CDC releases consolidated guidelines for COVID-19 testing— including for nursing homes, long-term care facilities, and high-density critical infrastructure workplaces.

- June 22, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 156 increasing the outdoor gathering number to 250 and limit indoor capacity to 25%.

- July 7, 2020
    - United States
        - $1.6 billion agreement to support the large-scale manufacturing of Novavax's vaccine candidate.
        - The number of confirmed COVID-19 cases in the U.S. surpasses 3 million.

- July 9, 2020
    - Global
        - WHO announces that the SARS-CoV-2 virus that causes COVID-19 can be transmitted through the air and is likely being spread by asymptomatic individuals.

- July 22, 2020
    - United States
        - DOD and HHS reach a $1.95 billion deal with Pfizer BioNTech for the delivery and distribution of 100 million doses of the Pfizer BioNTech COVID-19 vaccine candidate in December 2020, upon confirmation that the vaccine is safe and effective.

- July 23, 2020
    - United States
        - The U.S. reaches 4M confirmed COVID-19 cases.

- July 27, 2020
    - United States
        - Moderna and Pfizer begin Phase 3 COVID-19 vaccine clinical trials.

- July 31, 2020
    - United States
        - $2 billion agreement with Sanofi and GlaxoSmithKline to support the advanced development, including clinical trials and large-scale manufacturing, of a vaccine candidate.

- August 1, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 171 extending the public health emergency noting over 181,000 cases in New Jersey with 13,944 deaths.

- August 5, 2020
    - United States
        - $1 billion agreement with Johnson & Johnson (Janssen) to support the large-scale manufacturing and delivery of a vaccine candidate.

- August 9, 2020
    - United States
        - The U.S. reaches 5M confirmed COVID-19 cases.

- August 11, 2020
    - United States
        - $1.5 billion agreement with Moderna to support the large-scale manufacture and delivery of a vaccine candidate.

- August 13, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 175 reopening schools for in-person instruction.

- August 14, 2020
    - United States
        - CDC releases data indicating that most COVID-19 positive people are infectious to others for up to 10 days after symptoms first appear, but that individuals with severe illness or who are immunocompromised may be infectious for up to 20 days.

- August 23, 2020
    - United States
        - The Food and Drug Administration has issued an emergency use authorization for convalescent plasma to treat COVID-19.

- August 24, 2020
    - Global
        - The first documented case of COVID-19 reinfection is confirmed by the University of Hong Kong.

- August 27, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 180 extending the public health emergency noting over 190,000 cases in New Jersey with 14,134 deaths.

- August 29, 2020
    - United States
        - AstraZeneca begins Phase 3 vaccine clinical trials.

- September 1, 2020
    - United States
        - The CDC is using its authority, derived from POTUS' 8 August 2020 Executive Order on assisting renters/homeowners, to temporarily halt evictions through the end of 2020 to slow the spread of COVID-19.

- September 23, 2020
    - United States
        - Johnson & Johnson begins Phase 3 vaccine clinical trials.

- September 25, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 186 extending the public health emergency noting over 201,000 cases in New Jersey with 14,300 deaths.

- September 28, 2020
    - Global
        - The reported death toll from COVID-19 reaches more than 1 million worldwide—in just 10 months.

- October 2, 2020
    - United States
        - President Trump tests positive for the SARS CoV-2 virus and is treated at Walter Reed National Military Medical Center with antiviral drugs, including *Remdesivir*.

- October 24, 2020
    - New Jersey
        - Governor Murphy issues Executive Order 191 extending the public health emergency noting over 225,430 cases in New Jersey with 14,484 deaths.

- November 4, 2020
    - United States
        - New U.S. COVID-19 cases surpass 100K in a day.

- November 8, 2020
  - Global
    - Global confirmed COVID-19 cases surpass 50M.
  - United States
    - U.S. confirmed cases reach 10M.

- November 9, 2020
  - United States
    - U.S. Food and Drug Administration issues an Emergency Use Authorization for Eli Lilly's COVID-19 investigational antibody therapeutic.

- November 21, 2020
  - United States
    - U.S. Food and Drug Administration issues an Emergency Use Authorization for Regeneron's investigational monoclonal antibody therapeutic cocktail comprised of the drugs casirivimab and imdevimab for treatment of non-hospitalized patients with mild or moderate confirmed cases of COVID-19 at elevated risk of hospitalization.

- November 22, 2020
  - New Jersey
    - Governor Murphy issues Executive Order 200 extending the public health emergency noting 302,039 cases in New Jersey with 14,934 deaths.

- December 2, 2020
  - United States
    - U.S. COVID-19 related hospitalizations surpass 100K.

- December 4, 2020
  - New Jersey
    - Governor Murphy issues Executive Order 207 explaining New Jersey Immunization Information System to track vaccination. First batch of vaccines expected to arrive by the end of the year.

- December 11, 2020
  - United States
    - FDA issues an EUA for the Pfizer-BioNTech COVID-19 vaccine.
    - DOD purchases an additional 100 million doses of Moderna's COVID-19 vaccine.

- December 14, 2020
  - United States
    - The recorded death toll from COVID-19 in the U.S. surpasses 300,000.
    - The first COVID-19 vaccines begin distribution in the United States and Sandra Lindsay, a nurse in New York, becomes the first American outside of clinical trials to receive a COVID-19 vaccine.

- December 15, 2020
  - United States
    - CMS data shows that nursing homes hit the Second (and larger) Surge with approximately 6,600 COVID-19 cases per day.

- December 18, 2020
  - United States
    - FDA issues an EUA for the Moderna COVID-19 vaccine.

- December 21, 2020
  - New Jersey
    - Governor Murphy issues Executive Order 210 extending the public health emergency noting 432,592 cases in New Jersey with 16,286 deaths.

- December 22, 2020
  - United States
    - CDC releases a report in *MMWR* outlining the ACIP's recommendations for the "phases" of COVID-19 vaccination allocation while supply is still limited in the U.S. The suggested model for efficient and equitable vaccination distribution: Phase 1a – healthcare personnel and residents of long-term care facilities; Phase 1b – essential workers and all persons ages 75 years and older; Phase 1c – all persons ages 65–74 and all persons ages 16–64 with a medical condition that increases their risk of severe disease from COVID-19; Phase 2 – all persons ages 16 years and older not already recommended in Phase 1.

- Dec. 28, 2020
    - United States
        - Novavax begins Phase 3 vaccine clinical trials.

- December 29, 2020
    - United States
        - The first case of the COVID-19 B.1.1.7 / "Alpha" variant is detected in the U.S. by the Colorado Department of Health.

- January 12, 2021
    - United States
        - HHS and the DOD announces the purchase of 1.25 million additional treatment courses of Regeneron's investigational monoclonal antibody therapeutic to be delivered in the first half of 2021 to treat non-hospitalized, high-risk COVID-19 patients.

- January 15, 2021
    - Global
        - Global COVID-19 related deaths surpass 2M.

- January 19, 2021
    - New Jersey
        - Governor Murphy issues Executive Order 215 extending the public health emergency noting 568,573 cases in New Jersey with 18,367 deaths.

- January 21, 2021
    - United States
        - The Biden Administration announces the National Strategy for the COVID-19 Response, an outline of 7 goals to restore trust, vaccinate, test, and treat COVID-19 while protecting schools, businesses, and workers in addition to advancing health equity and building the nation's preparedness for future pandemics, calling it "a wartime undertaking."
        - POTUS signs an Executive Order on establishing the COVID-19 pandemic testing board and ensuring a sustainable public health workforce for COVID-19 and other biological threats.
        - POTUS releases a National Security Directive on United States global leadership to strengthen the international COVID-19 response and to advance global health security and biological preparedness.
        - POTUS signs an Executive Order on ensuring an equitable pandemic response and recovery.
        - POTUS signs an Executive Order on protecting worker health and safety.
        - POTUS signs an Executive Order supporting the reopening and continuing operation of schools and early childhood education providers.
        - POTUS signs a Memorandum to extend federal support to governors' use of the National Guard to respond to COVID-19 and to increase reimbursement and other assistance provided to states.
        - POTUS signs an Executive Order on protecting the federal workforce and requiring mask-wearing.
        - The Biden Administration reverses the Trump Administration's attempt to withdraw from WHO and joins the COVID-19 Vaccine Global Access Facility "COVAX", a program aimed at vaccinating people in low- and middle-income countries against COVID-19.

- January 22, 2021
    - United States
        - POTUS signs an Executive Order on economic relief related to the COVID-19 pandemic.

- January 24, 2021
    - United States
        - U.S. COVID-19 confirmed cases surpass 25M.

- January 26, 2021
  - United States
    - More than 23 million COVID-19 vaccine doses have been administered in the U.S.
  - Global
    - The number of recorded COVID-19 cases worldwide surpasses 100 million.

- February 3, 2021
  - New Jersey
    - Governor Murphy issues Executive Order 219 raising the indoor gathering capacity limit. Notes that 700,000 doses of the vaccine have been administered to individuals that fall into one of the high-risk categories, such as healthcare workers and residents and staff at nursing homes, frontline first responders, individuals over the age of 65, and individuals that would be most at-risk and inclined to severe illness.

- February 9, 2021
  - United States
    - FDA issues an Emergency Use Authorization for monoclonal antibodies to treat COVID-19.

- February 11, 2021
  - United States
    - DOD and the Department of Health and Human Services purchase an additional 100M doses of COVID-19 vaccines from Pfizer Inc. and Moderna Inc.

- February 15, 2021
  - Global
    - World Health Organization lists two versions of the AstraZeneca/Oxford COVID-19 vaccine for emergency use, to be rolled out through COVAX.

- February 16, 2021
  - United States
    - The Administration announces extension of COVID-19 forbearance and foreclosure protections for homeowners.

- February 17, 2021
    - New Jersey
        - Governor Murphy issues Executive Order 222 extending the public health emergency noting 669,481 cases in New Jersey with 20,251 deaths.

- February 27, 2021
    - United States
        - FDA approves an emergency use authorization (EUA) for Johnson & Johnson's one-time COVID-19 vaccine for all people ages 18 years and older.

- March 8, 2021
    - United States
        - CDC recommends that people who are fully vaccinated against COVID-19 can safely gather with other fully vaccinated people indoors without masks and without socially distancing.

- March 11, 2021
    - United States
        - The Biden Administration announces plans for all adult Americans to be eligible and able to receive a COVID-19 vaccine by May 1, 2021. They plan to make COVID-19 vaccines accessible by delivering vaccines to 700 community health centers in under-resourced communities, doubling the number of pharmacies providing COVID-19 vaccines and the number of federally run mass vaccination centers, deploying more than 4,000 active-duty troops to support these efforts, and by launching the "Find a Vaccination Website" and a 1-800 Number.
        - The Biden Administration signs the $1.9 trillion American Rescue Plan into law. The stimulus bill includes funding for expanded unemployment benefits, rental assistance, and COVID-19 vaccinations, as well as extending the child tax credit for one year and providing direct cash payments of up to $1,400 per person.
        - The Biden Administration announces a $1.75 billion investment in expanding genomic sequencing to identity and track new variants and $50 billion to expand the nation's testing capabilities.

- March 11, 2021
  - New Jersey
    - Governor Murphy issues Executive Order 230 increasing the indoor gathering limits and noting that the State has administered 2.7 million doses of the vaccine.
  - United States
    - POTUS signs into law H.R. 1319, the "American Rescue Plan Act of 2021," which provides additional relief to address the continued impact of the COVID-19 pandemic on the economy, public health, state and local governments, individuals, and businesses.

- March 13, 2021
  - United States
    - More than 100 million COVID-19 vaccine doses have been administered in the U.S.

- March 17, 2021
  - New Jersey
    - Governor Murphy issues Executive Order 231 extending the public health emergency noting 747,561 cases in New Jersey with 21,492 deaths.

- March 25, 2021
  - United States
    - CDC announces $300 million in funding for states, localities, territories, tribes, and tribal organizations for community health worker (CHW) services to address: 1) disparities in access to COVID-19 related services, such as testing, contact tracing, and immunization; 2) factors that increase risk of severe COVID-19 illness, such as chronic diseases, smoking, and pregnancy; and 3) community public health needs that have been exacerbated by COVID-19, such as health and mental health care access and food insecurity.
    - Biden administration announces $10B investment to expand access to COVID-19 vaccines and build vaccine confidence in hardest-hit and highest-risk communities.

- April 13, 2021
    - United States
        - At the recommendation of the Food and Drug Administration and Centers for Disease Control and Prevention, DOD pauses the use of the Johnson & Johnson vaccine.

- April 15, 2021
    - New Jersey
        - Governor Murphy issues Executive Order 231 extending the public health emergency noting 845,201 cases in New Jersey with 22,414 deaths.

- April 21, 2021
    - United States
        - More than 200 million COVID-19 vaccine doses have been administered in the U.S.

- April 28, 2021
    - United States
        - At the recommendation of the Food and Drug Administration and Centers for Disease Control and Prevention, DOD resumes the use of the Johnson & Johnson vaccine.

- May 10, 2021
    - United States
        - FDA expands the emergency use authorization (EUA) for the Pfizer-BioNTech COVID-19 vaccine to include all adolescents ages 12–15 years.

- May 12, 2021
    - New Jersey
        - Governor Murphy issues Executive Order 239 outlining the second phase of COVID-19 restriction easing, which ends capacity limits for certain establishments.

- May 14, 2021
    - New Jersey
        - Governor Murphy issues Executive Order 240 extending the public health emergency noting 881,991 cases in New Jersey with 23,257 deaths.

- May 24, 2021
    - New Jersey
        - Governor Murphy issues Executive Order 241 lifting most restrictions noting that the rate of transmission has fallen below 1.

- June 4, 2021
    - New Jersey
        - Governor Murphy issues Executive Order 244 ending the public health emergency. The State has administered 9 million doses of the vaccine, and 4.9 million individuals have received at least one vaccine and 4.2 million are fully vaccinated.

- July 1, 2021
    - United States
        - Biden Administration announces $3.2B investment from the American Rescue Plan as part of the COVID-19 Antiviral Development Strategy.

- July 27, 2021
    - United States
        - Amid a Delta Variant Surge, CDC releases updated masking guidance recommending that everyone in areas with substantial or high transmission wear a mask indoors.

- Aug. 2, 2021
    - United States
        - 70% of U.S. adults have taken at least one dose of COVID-19 vaccine.

- Aug. 4, 2021
    - Global
        - Global COVID-19 related cases surpass 200M.

- Aug. 12, 2021
    - United States
        - Food and Drug Administration amends emergency use authorization of the Pfizer -BioNTech and Moderna COVID-19 vaccines to authorize an additional dose for certain immunocompromised individuals.

- August 18, 2021
    - United States
        - CDC announces a new center, the Center for Forecasting and Outbreak Analytics (CFA), which aims to improve the nation's ability to forecast and model emerging health threats, including pandemics like COVID-19, using data analytics.

- Aug. 23, 2021
    - United States
        - Food and Drug Administration approves the first COVID-19 vaccine. Previously known as the Pfizer-BioNTech vaccine, it will now be marketed as Comirnaty for COVID-19 prevention in individuals 16 and older. The vaccine continues to be available under emergency use authorization, including for individuals 12 through 15 and for a third dose in certain immunocompromised individuals.

- September 17, 2021
    - United States
        - The Biden Administration, working through CDC, invests $2.1 billion in funding for state, local, and territorial public health departments to give them the resources needed to prevent infections in healthcare settings, detect and contain infectious organisms, enhance laboratory capacity, and combat infectious disease threats, including COVID-19.

- Sept. 22, 2021
    - United States
        - Food and Drug Administration authorizes booster dose of Pfizer-BioNTech COVID-19 vaccine for certain populations.

- Oct. 20, 2021
    - United States
        - Food and Drug Administration authorizes booster dose of Moderna and Johnson and Johnson COVID-19 vaccines for eligible populations.

- Oct. 29, 2021
    - United States
        - Food and Drug Administration authorizes the emergency use of Pfizer-Biotech COVID-19 vaccine for children ages 5 to 11.

- Nov. 1, 2021
    - Global
        - Global COVID-19 related deaths surpass 5M.

- Nov. 2, 2021
    - United States
        - Centers for Disease Control and Prevention updates its guidance and recommends that everyone ages 5 and older get a COVID-19 vaccine.

- November 19, 2021
    - United States
        - Centers for Disease Control and Prevention updates its guidance and indicates that everyone 18 years and older may get a COVID-19 booster.

- December 15, 2021
    - United States
        - The recorded death toll from COVID-19 surpasses 800,000 in the U.S. One in every 100 people ages 65 years and older in the U.S. has died.

- December 22, 2021
    - United States
        - Food and Drug Administration authorizes for emergency use the first oral antiviral for treating COVID-19.

- December 27, 2021
    - United States
        - CDC shortens the recommended isolation period for people with COVID-19 to 5 days, followed by 5 days of wearing a mask around others if they are asymptomatic or if their symptoms are resolving.

- January 3, 2022
    - United States
        - The U.S. reports nearly 1 million new COVID-19 infections– the highest daily total of any country in the world. The number of hospitalized COVID-19 patients has risen nearly 50% in just one week.

- January 11, 2022
    - New Jersey
        - Governor Murphy issues Executive Order 280 declaring a public health emergency due to new variants (Delta and Omicron).

- January 19, 2022
    - United States
        - Administration officially launches program to mail at-home COVID-19 tests directly to American households via a new website, COVIDTests.gov;[15] a call line will also be made available.

- February 10, 2022
    - New Jersey
        - Governor Murphy issues Executive Order 288 extending the public health emergency noting 2,139,579 cases of COVID-19 and over 29,323 deaths.

- March 4, 2022
    - New Jersey
        - Governor Murphy issues Executive Order 292 lifting the public health emergency. New Jersey has administered over 13.7 million doses of the COVID-19 vaccine in the State to date, with over 6.8 million New Jerseyans having received the primary series of a vaccine.

[15] Assistant Secretary for Public Affairs (ASPA). (2023, December 4). *Get Four free at-home Covid-19 tests this fall.* COVID.gov. https://www.covid.gov/tools-and-resources/resources/tests

- March 10, 2022
    - Global
        - The number of recorded deaths due to COVID-19 surpasses 6 million worldwide, with WHO reporting 6,019,085 confirmed deaths. The true number is likely much higher. The number of recorded COVID-19 cases surpasses 450 million worldwide, with WHO reporting 450,229,635 confirmed infections. The true number is likely much higher.

- March 29, 2022
    - United States
        - Food and Drug Administration authorizes a second booster dose of either the Pfizer-BioNTech or Moderna COVID-19 vaccine for people 50 years of age and older and certain immunocompromised individuals.

- May 5, 2022
    - Global
        - WHO estimates that there have been approximately 15 million direct or indirect deaths (also called "excess mortality") globally from January 2020 – December 2021 that were caused by the COVID-19 pandemic.

- May 12, 2022
    - United States
        - The number of recorded deaths due to COVID-19 in the U.S. reaches 1 million (1,000,000).

- May 17, 2022
    - United States
        - Food and Drug Administration expands eligibility for Pfizer-BioNTech COVID-19 vaccine booster dose to children 5 through 11 years.

- August 31, 2022
    - United States
        - Food and Drug Administration authorizes Moderna and Pfizer-BioNTech bivalent COVID-19 vaccines for use as a booster dose.

- December 8, 2022
    - United States
        - Food and Drug Administration authorizes bivalent COVID-19 vaccines for children down to 6 months of age.

- April 10, 2023
    - United States
        - POTUS signs into law a joint Congressional resolution (H.J.Res. 7), which terminates the national emergency related to the COVID-19 pandemic.

- May 11, 2023
    - United States
        - Public Health Emergency for COVID-19, declared under Section 319 of the Public Health Service Act, expires at the end of this day.

2.2 Disease Progression Chronology

Section Overview: The following is a chronology of COVID-19 disease progression, covering three main components:

- **U.S. and New Jersey Milestones (Cases and Deaths):**
    - Timeline of significant COVID-19 milestones in the United States and New Jersey, including the first case, first death, and other key case and death milestones.
- **Variant Milestones Globally:**
    - Detailed timeline of COVID-19 variants, detailing the date and location of their first detection, unique variant identifiers, World Health Organization naming, introduction of the variant to the United States and New Jersey, and the date they became predominant in the United States.
- **New Jersey Hospitalization Waves:**
    - Analysis of New Jersey's COVID-19 hospitalization waves, identifying local minima and maxima, and examining four waves of COVID-19.

Disease Progression

- January 20, 2020
  - United States
    - [Disease Milestone] First Reported Case of COVID-19 in the USA (CDC)[16]

- February 29, 2020
  - United States
    - [Disease Milestone] First Confirmed Death due to COVID-19 in the United States (CDC)[17]

- March 3, 2020
  - New Jersey
    - [Disease Milestone] First Reported Case of COVID-19 in New Jersey (New Jersey's Governor's Office)[18]

- March 4, 2020
  - United States
    - [Disease Milestone] First 1,000 Cases of COVID-19 in the USA (WHO)[19]

- March 9, 2020
  - New Jersey
    - [Disease Milestone] First 1,000 Cases of COVID-19 in New Jersey (New Jersey COVID-19 Dashboard)[20]

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[16] Centers for Disease Control and Prevention. (2023a, March 15). *CDC Museum Covid-19 Timeline*. Centers for Disease Control and Prevention. https://www.cdc.gov/museum/timeline/covid19.html
[17] Ibid.
[18] Office of Governor Phil Murphy. (2020, March 4). *Governor Murphy, Acting Governor Oliver, and Commissioner Persichilli Announce First Presumptive Positive Case of Novel Coronavirus in New Jersey* [Press release]. Retrieved from https://www.nj.gov/governor/news/news/562020/20200304e.shtml
[19] World Health Organization. (n.d.). *Coronavirus disease (covid-19)*. World Health Organization. https://www.who.int/emergencies/diseases/novel-coronavirus-2019
[20] *New Jersey COVID-19 data Dashboard*. New Jersey COVID-19 Information Hub. (n.d.). https://covid19.nj.gov/forms/datadashboard

- March 10, 2020
    - New Jersey
        - [Disease Milestone] First Confirmed Death due to COVID-19 in New Jersey[21]

- March 16, 2020
    - United States
        - [Disease Milestone] First 10,000 Cases of COVID-19 in the USA[22]

- March 28, 2020
    - United States
        - [Disease Milestone] First 1,000 Deaths from COVID-19 in the USA[23]

- March 29, 2020
    - United States
        - [Disease Milestone] First 10,000 Cases of COVID-19 in New Jersey[24]

- April 3, 2020
    - New Jersey
        - [Disease Milestone] First 1,000 Deaths from COVID-19 in New Jersey[25]

- April 15, 2020
    - United States
        - [Disease Milestone] First 10,000 Deaths from COVID-19 in the USA

- April 28, 2020
    - New Jersey
        - [Disease Milestone] First 10,000 Deaths due to COVID-19 in New Jersey[26]

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[21] Ibid.
[22] World Health Organization. (n.d.). *Coronavirus disease (covid-19)*. World Health Organization. https://www.who.int/emergencies/diseases/novel-coronavirus-2019
[23] Ibid.
[24] *New Jersey COVID-19 data Dashboard*. New Jersey COVID-19 Information Hub. (n.d.). https://covid19.nj.gov/forms/datadashboard
[25] Ibid.
[26] Ibid.

- April 29, 2020
    - New Jersey
        - [Hospitalization] Highest hospitalizations during the first wave of the pandemic.[27]

- June 8, 2020
    - New Jersey
        - [Hospitalization] Lowest hospitalizations recorded during the first wave of COVID-19.[28]

- September 2020
    - Global
        - [Variant] Alpha (B.1.1.7) variant first detected in the United Kingdom[29]

- September 7, 2020
    - New Jersey
        - [Hospitalization] Lowest hospitalizations observed during the second wave of COVID-19.[30]

[27] *New Jersey COVID-19 data Dashboard*. New Jersey COVID-19 Information Hub. (n.d.). https://covid19.nj.gov/forms/datadashboard
[28] Ibid.
[29] *Variants of the Virus*. Centers for Disease Control and Prevention. (2023, February 6). https://www.cdc.gov/coronavirus/2019-ncov/variants/index.html
[30] Ibid.

- December 2020
  - Global
    - [Variant] Beta (B.1.351) variant first detected in South Africa[31]
  - United States
    - [Variant] Alpha and Beta variants named by the WHO[32]
    - [Variant] Alpha and Beta variants first detected in the United States[33]
  - Global
    - [Variant] Delta variant first detected in India[34]

- January 4, 2021
  - New Jersey
    - [Hospitalization] Peak hospitalizations during the second wave of the pandemic[35]

- March 2021
  - United States
    - [Variant] Alpha variant becomes predominant in the United States[36]
  - United States
    - [Variant] Delta (B.1.617.2) variant first detected in the United States[37]

- April 2021
  - United States
    - [Variant] Delta variant named by the WHO[38]

[31] Ibid.
[32] *Variants of the Virus*. Centers for Disease Control and Prevention. (2023, February 6). https://www.cdc.gov/coronavirus/2019-ncov/variants/index.html
[33] Ibid.
[34] Ibid.
[35] *New Jersey COVID-19 data Dashboard*. New Jersey COVID-19 Information Hub. (n.d.). https://covid19.nj.gov/forms/datadashboard
[36] *Variants of the Virus*. Centers for Disease Control and Prevention. (2023, February 6). https://www.cdc.gov/coronavirus/2019-ncov/variants/index.html
[37] Ibid.
[38] Ibid.

- April 10, 2021
  - New Jersey
    - [Hospitalization] Highest hospitalizations noted during the third wave of the pandemic.[39]

- May 2021
  - United States
    - [Variant] Delta variant becomes predominant in the United States[40]

- July 2, 2021
  - New Jersey
    - [Hospitalization] Lowest hospitalizations reported during the third wave of COVID-19[41]

- November 2021
  - Global
    - [Variant] Omicron (B.1.1.529) variant first detected in South Africa[42]
  - United States
    - [Variant] Omicron variant named by the WHO[43]
    - [Variant] Omicron variant first detected in the United States[44]

- January 2022
  - United States
    - [Variant] Omicron variant becomes predominant in the United States[45]

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[39] *New Jersey COVID-19 data Dashboard*. New Jersey COVID-19 Information Hub. (n.d.). https://covid19.nj.gov/forms/datadashboard
[40] *Variants of the Virus*. Centers for Disease Control and Prevention. (2023, February 6). https://www.cdc.gov/coronavirus/2019-ncov/variants/index.html
[41] *New Jersey COVID-19 data Dashboard*. New Jersey COVID-19 Information Hub. (n.d.). https://covid19.nj.gov/forms/datadashboard
[42] *Variants of the Virus*. Centers for Disease Control and Prevention. (2023, February 6). https://www.cdc.gov/coronavirus/2019-ncov/variants/index.html
[43] Ibid.
[44] Ibid.
[45] Ibid.

- January 12, 2022
    - New Jersey
        - [Hospitalization] Peak hospitalizations recorded during the fourth wave of the pandemic[46]

- March 30, 2022
    - New Jersey
        - [Hospitalization] Lowest hospitalizations observed during the fourth wave of COVID-19[47]

[46] *New Jersey COVID-19 data Dashboard*. New Jersey COVID-19 Information Hub. (n.d.). https://covid19.nj.gov/forms/datadashboard
[47] Ibid.