Veterans Health Administration (VHA)

Coronavirus Disease 2019 (COVID-19)

Response Report - Annex D

September 15, 2023

VA
U.S. Department of Veterans Affairs
Veterans Health Administration

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FOREWORD

Veteran care is our primary responsibility and our solemn mission. The pandemic has challenged us, revealing areas that needed additional attention and support, and we have met these difficulties head-on, working hard to resolve them. Our work, and our continued care for Veterans, are reflected in the pages that follow.

With that in mind, I am proud to present the VHA COVID-19 Response Report: Annex D—the fifth addition to our initial COVID-19 report. Each report chronicles the work our organization has done to support Veterans throughout the COVID-19 pandemic, and Annex D is no exception.

The Annex D report covers the period from April 1, 2022, through January 31, 2023. The report's time period overlaps with the time period of the Annex D Interim Report (April 1, 2022, through July 31, 2022). The Interim report provided a snapshot of selected events and activities during the initial four months of this period, and the full Annex D Report offers a broader picture of response over the entire period.

Because the reporting period ended in January 2023, this report does not detail the expiration of the COVID-19 public health emergency (PHE) in May 2023; however, you will find discussions about post-PHE planning in some sections, including National Public Health Policy and Clinical Operations. Above all else, VHA will remain dedicated to supporting the care Veterans need, beyond the PHE.

This report features a Recommendations Review—a relook at selected recommendations identified earlier in the pandemic through today's lens and in light of actions taken. These recommendations cover topics from Clinical Contact Centers to vaccinations to interagency collaboration.

Annex D also contains updates on: VHA's clinical operations, research and innovation, support for Veterans experiencing homelessness, testing and genomic sequencing programs and changes in VHA's workforce throughout the period.

I am honored that we can do all of this work together, and our continued commitment will mean better health for Veterans who have dedicated so much to our country.

Sincerely,

Shereef Elnahal, M.D., MBA
Under Secretary for Health

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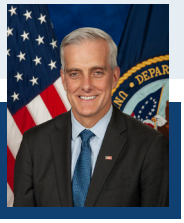
Veterans Health Administration (VHA) COVID-19 Pandemic Response



Throughout the past 3 years of the COVID-19 pandemic, VA's employees stepped up when our country and its Veterans needed them the most. VA remains committed to always serving Veterans every bit as well as they have served us.

Secretary of Veterans Affairs
Denis McDonough

VETERANS USING VHA SERVICES[1]

	Original and Alpha	Delta	Omicron BA.1	BA.2 and BA.5	BQ.1.1 and XBB.1.5
Peak Daily Cases[A]*	**1,218** 1/8/21	**836** 8/24/21	**4,666** 1/8/22	**1,141** 7/11/22	**798** 1/4/23
Peak Daily Hospitalizations[B]*	**218** 1/9/21	**172** 8/26/21	**336** 1/15/22	**133** 7/15/22	**121** 1/1/23
Peak Daily Deaths[C]*	**86** 1/14/21	**52** 9/9/21	**74** 1/30/22	**12** 8/7/22	**13** 1/3/23

**Peak Date Based on 7-Day Average*

VACCINATIONS[2]

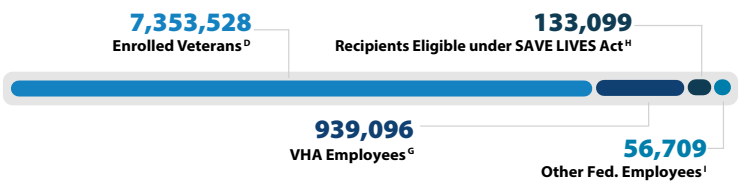
Veteran Vaccination Rate[3, D]

56% Initial Series Completed
30% Received at Least One Booster
11% Received Bivalent Booster

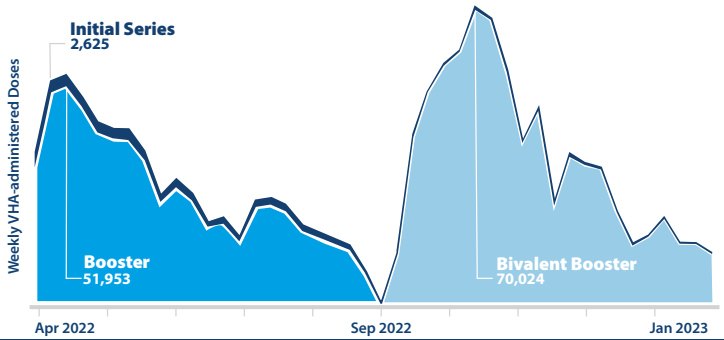
Employee Vaccination Rate[4, E, F]

82% Initial Series Completed
39% Received at Least One Booster
16% Received Bivalent Booster

Recipients of VHA-administered Doses[5]

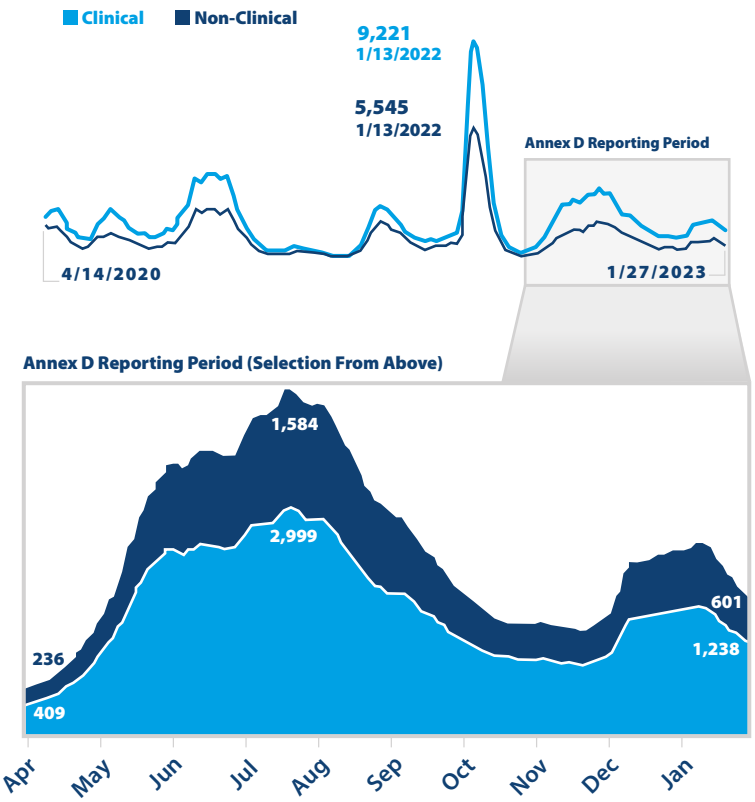


VHA-administered Doses[5, J]



VHA WORKFORCE

Total VHA Employees Unable To Work Due To COVID-19[K]



FOURTH MISSION[6]

196 FEMA Mission Assignments completed[L]

6,386 VHA staff deployments to Community Nursing Homes, State Veteran Homes, Tribal Nations and other communities[L]

1,923 SVH Veterans admitted to VA Medical Centers[M]

697 patients admitted to VAMCs to relieve community hospitals[L]

All numbers listed above are cumulative and include data from 3/1/2020 – 1/31/2023, unless stated otherwise.

[1]For Annex D the wave periods are: Original and Alpha 3/1/2020 - 6/30/2021, Delta 7/1/2021 - 11/30/2021, Omicron BA.1 12/1/2021 - 3/31/2022, BA.2 and BA.5 4/1/2022 - 11/1/2022, BQ.1.1 and XBB.1.5 11/2/2022 - 1/31/2023. [2]Initial Series Completed is defined as having received two doses of either the Moderna or Pfizer COVID-19 vaccine or one dose of the J&J COVID-19 vaccine. Received at Least One Booster is defined as individuals who received an additional dose of Moderna, Pfizer, or J&J COVID-19 vaccine after the initial series. Received Bivalent Booster is defined as those who received a dose of a Moderna or Pfizer Bivalent Vaccine. Boosters may be a different COVID-19 vaccine than the initial series. [3]Veteran Vaccination Rate includes VHA-administered vaccinations and vaccinations administered outside VHA. [4]VHA Employee Vaccination Rate only includes VHA-administered vaccinations. [5]Total COVID-19 vaccine doses administered by VHA. [6]The SAVE LIVES Act authorized VHA to administer COVID-19 vaccinations to all Veterans regardless of VA health enrollment status, as well as their spouses and caregivers by expanding eligibility requirements.

SOURCES:

[A]VHA, NST Database, accessed 2/21/2023 Ref. D65. [B]VHA, NST Database, accessed 3/1/2023. Ref. D186. [C]VHA, NST Database, accessed 3/1/2023. Ref. D184. [D]VHA, VHA, CDW, VSSC, accessed 2/24/2023. Ref. D61. [E]VHA, VSSC_PEER_COVID Dashboard, accessed 2/1/2023. Ref. D75. [F]VHA, HOC, response to data call, 2/6/2023. Ref. D76. [G]VHA, CDW Database, accessed 2/1/2023. Ref D188. [H]VHA, CDW Database, accessed 2/1/2023. Ref D189. [I]VHA, CDW Database, accessed 2/1/2023. Ref D187. [J]VHA, HOC, response to data call, 2/17/2023 Ref D180. [K]VHA, HOC, response to data call, 1/30/2023. Ref. D1. [L]VHA, OEM, response to data call, 2/28/2023. Ref. D190, D299. [M]VHA, BASIC, response to data call, 2/16/2023. Ref D136.

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EXECUTIVE SUMMARY

The Veterans Health Administration (VHA) is committed to providing the best possible care to Veterans throughout the United States. As a learning organization, VHA strives to improve this care by examining its own activities on an ongoing basis.

Never has this been more important than during the pandemic, when VHA—and U.S. health care as a whole—faced unprecedented challenges. For this reason, VHA continues to provide reports on its response to COVID-19, including recommendations for improvement. Through these reports and its continued commitment to learning, VHA aims to build better policies and care for Veterans.

The Annex D Report is the fifth addition to the original VHA COVID-19 Response Report. The Annex D Review Period began on April 1, 2022, and continued through January 31, 2023. For more information on previous reports, see the reports at https://www.publichealth.va.gov/n-coronavirus/COVID_19_Response_Reports.asp.

VHA also published an Annex D Interim Report, which was designed to capture a timely snapshot of events from April 1, 2022, through July 31, 2022. The full Annex D Report encompasses the Interim period and extends it through January 31, 2023, while also focusing on a broader picture of activities during the longer period. Although the dates overlap, the Interim Report contains its own focus areas and discussions; it should be reviewed separately from this report.

Unless otherwise stated, data points in this Report relate to the time period from April 1, 2022, through January 31, 2023, also called the Annex D Review Period.

Guiding Principles

The VHA Steering Committee for this Annex established the following guiding principles. These principles are identical to those in the previous Annexes, including the Interim Report:

- Working as a collaborative health care system is critical to the success of VHA. Our facilities and networks work as a team, focused on a common goal—quality care for our Veterans.
- Reporting and assessing the COVID-19 response are essential to VHA as a learning organization and can be applied to agencies outside VHA, as well as private health care systems.
- Accurate documentation of the evolution of the pandemic and essential elements of the response is imperative to informing future VHA readiness and planning for VHA emergency responses.

- Readiness and planning will be essential to effective future responses because VHA's role in the Fourth Mission requires close coordination and collaboration with multiple components of government.
- Data, observations and experiences in response to a crisis are all important to identifying issues key to learning from the response.
- Identification of root causes for complex process problems is essential for improvement and often requires a focused analysis by subject matter experts.
- Questions identified in the response for which answers require new knowledge will be approached via research, applying the scientific method.
- A systems-oriented approach to process solutions is important to identifying reliable solutions.

Method

VHA was the primary source of information for this report. Information came from centralized VHA databases, leadership interviews and written responses from subject matter experts.

In addition to VHA, publicly available sources provided supporting information. This included articles from medical journals, as well as materials from U.S. agencies and government sources, including the Food and Drug Administration (FDA), the Centers for Disease Control and Prevention (CDC) and the White House.

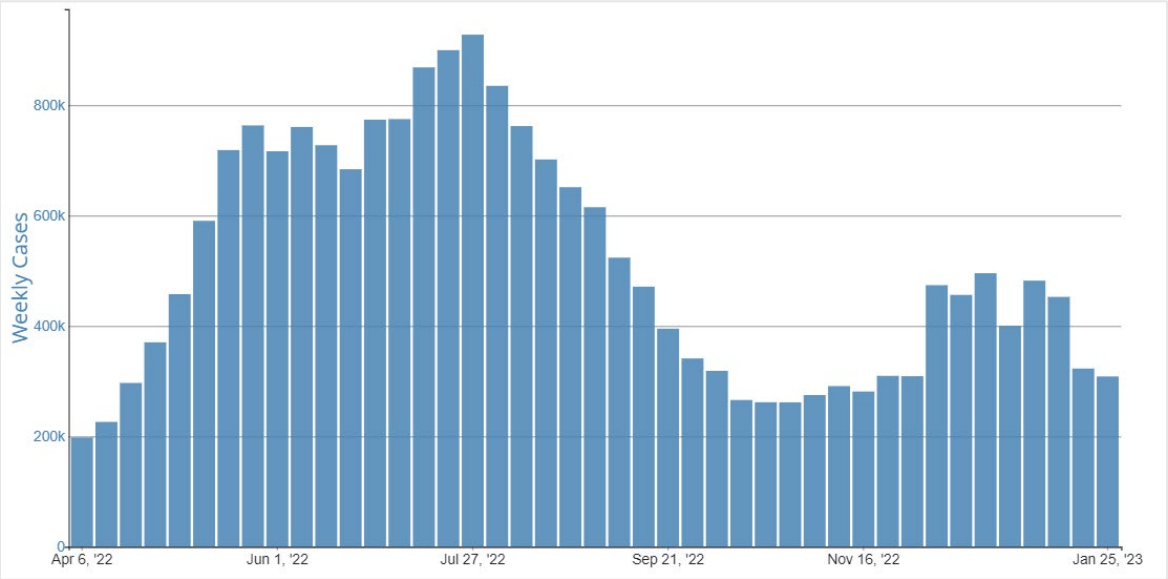
Once approved by VHA leadership, each report is posted publicly as part of VHA's commitment to forthright assessment and shared learning. Public reporting is an important component of VHA's efforts to enhance preparedness for response to national public health emergencies.

Summary of Events during the Annex D Period

The SARS-CoV-2 virus that causes COVID-19 continued to mutate throughout the Annex D Review Period. Common subvariants in the United States during the period were XBB and BQ.1—both of which were mutations of the Omicron strain of the virus.

Figure 1.1 shows weekly trends in cases over the course of the Annex D Review Period. As seen in the figure, the highest reported case counts during the period were in the final week of July 2022, with a reported case count of 927,432. From there, cases in the United States declined until the temperatures dropped and then increased again in December 2022; however, at the close of January, case counts were decreasing again. The final week of January had a reported case count of 308,269.

Figure 1.1: *Weekly Trends in U.S. COVID-19 Cases, 4/1/2022 – 1/31/2023*



Source: CDC, "Trends in Number of COVID-19 Cases and Deaths in the US Reported to CDC, by State/Territory," 4/1/2022-1/31/2023, accessed 3/27/2023, https://covid.cdc.gov/covid-data-tracker/#trends_weeklycases_select_00.

As of January 25, 2023, CDC reported more than 102 million cumulative confirmed cases of COVID-19 in the United States and more than 1.1 million associated deaths. These numbers are believed to be lower than the actual number of cases and deaths, particularly because between February 2020 and September 2021, approximately 1 in 4 cases of COVID-19 were reported, according to CDC estimates.[1]

A new booster was released during the Annex D Review Period—a bivalent booster designed to combat the Omicron strain of the SARS-CoV-2 virus. Approved with emergency use authorization (EUA) by FDA, both Pfizer and Moderna provided bivalent booster vaccines.

Booster uptake was well below that of the initial series of vaccinations: 19.9% of the U.S. population had received a bivalent booster as of January 31, 2023, compared with 69.9% that obtained an initial series of COVID-19 vaccination. A survey conducted during the Review Period attributed the slow uptake to limited awareness of vaccine eligibility, lack of knowledge about vaccine availability and overconfidence in immunity to COVID-19. For more information on this topic, see the U.S. Epidemiology section of this report.

Updates to Strategic Challenges & Actions

During the Annex D Review Period, VHA continued its care for Veterans and communities throughout the United States. This included emphasizing and encouraging vaccination and booster doses, providing swift care when Veterans tested positive for COVID-19 and supporting access to care to help Veterans catch up on screenings and care deferred earlier in the pandemic.

The Overall Finding for This Period of the Pandemic Response: VHA effectively adjusted its care and support to Veterans during this period of the pandemic, which featured waves of infection caused by highly transmissible subvariants of the virus responsible for COVID-19. VHA sustained the full scope of health services to Veterans during this period while confronting ongoing pandemic challenges through clinical processes, vaccination, research, staffing strategies and pursuit of health equity.

With the announcement of the upcoming expiration of the public health emergency (PHE), VHA leadership began to study the potential impact to its care for Veterans, including potential changes in the following:

- Waivers and temporary authorities
- Supplemental funding for programs
- Funding for COVID-19 tests, medications and vaccines

The expiration of the PHE is expected to impact telehealth, which currently allows VHA providers to prescribe drugs for patients in states where the clinician is not licensed. The loss of this flexibility may have a particular impact on rural Veterans, whose access to in-person appointments is limited.

Resources for Veterans experiencing homelessness were also expected to change with the end of the PHE, including the amount of funding available for temporary Veteran housing through the Grant and Per Diem (GPD) Program. For more information on the PHE's expiration, see the Public Health Policy, Clinical Operations and Veterans Experiencing Homelessness sections of this Report.

Testing & Genomic Sequencing

During the Review Period, VHA performed 2,588,885 COVID-19 tests and consistently met the national benchmark to return laboratory-processed COVID-19 test results in less than 2 business days. From April 1, 2022, through January 31, 2023, VHA administered 59,747 courses of oral antiviral treatments for COVID-19.

The Annex D Review Period saw the marked expansion and increased utilization of the Test to Treat process for mild to moderate COVID-19, which leveraged Clinical Contact Centers, an established and organized telehealth network, as well as the increased access to self-tests (also called at-home tests). The VHA Test to Treat program supported declines in COVID-19 hospitalization and mortality by improving access to treatment of mild to moderate COVID-19 through self-administered tests and virtual encounters.

VHA's sequencing activity supported the prevention and containment of COVID-19 by contributing COVID-19 outbreak and variant data to national and local public health surveillance efforts. VHA's genomic sequencing labs, Sequencing for Research Clinical and Epidemiology (SeqFORCE) identified and monitored all CDC-designated COVID-19 variants of concern, including active Omicron subvariants.

COVID-19 testing and surveillance will be essential in the preparation for a future transition from a pandemic to endemic state.

Finding: VHA established effective and efficient COVID-19 testing mechanisms that were risk-based and standardized. Through testing, VHA was able to provide timely treatment and mitigate the risk of viral spread among Veterans and staff. This approach enabled a full scope of health care operations during this period while managing risk to Veterans and staff.

Finding: VHA SeqFORCE provided networked viral genetic sequencing capacity that will be an important capability for monitoring viruses responsible for infectious disease in cooperation with other health agencies.

Finding: Through self-testing and virtual Test to Treat, VHA established a process of care that will be useful into the future, particularly as home diagnostics for infectious diseases become more available.

Finding: Veteran health equity in Test to Treat will be an important consideration for the future, particularly in regard to access to home diagnostics, virtual care and medications.

Recommendation: Conduct a study of health equity among Veterans within the current Test to Treat processes to assess the following:

- Equity in access to virtual care
- Access to self-testing
- Access to oral antiviral therapy

Recommendation: Conduct studies to assess potential impacts resulting from the expiration of the national PHE, as well as options to mitigate changes in funding and authority.

Vaccinations

VHA vaccinations programming continued to emphasize the use of vaccines to prevent severe illness and death from COVID-19. Of Veterans who used VHA services in the last year (February 1, 2022 – January 31, 2023), 63.94% had received an initial vaccine series to combat COVID-19. Overall, nearly 4.32 million Veterans Using VHA Services (56.14% of all Veterans Using VHA Services) had received their initial vaccine series. Vaccination status was accurate and true to the best of VHA's knowledge as of the publication of this report, but these counts may not reflect all vaccinations administered outside the Department of Veterans Affairs (VA).

Bivalent boosters, released during the Annex D Review Period, had slower uptake among Veterans, similar to the uptake in the general U.S. population. Approximately 11% of Veterans Using VHA Services had obtained a bivalent booster. VHA leadership reported that VHA had launched campaigns urging Veterans to get the bivalent booster. One such program, called One Visit, Two Vaccines, allowed Veterans to receive their influenza vaccine and their bivalent booster for COVID-19 at the same appointment.

During the Annex D Review Period, VHA continued its work to share vaccination data with other organizations. VHA expects to see an increase in data sharing through the IZ Gateway, managed by CDC, in coming months.

Finding: VHA continued its interagency collaboration to establish exchange of vaccination data between states and Federal agencies through the CDC IZ Gateway, which will be important to coordinated future public health actions in support of Veterans.

Finding: Despite active communications to Veterans about the protection afforded by the bivalent COVID-19 vaccine, VHA saw significantly diminished interest in the bivalent vaccine among Veterans, matching the trend in the U.S. general population.

Research & Innovation

During the Review Period, VHA collaborated on 692 unique research studies and published 707 VA-affiliated articles related to COVID-19. VHA also initiated 3 new therapeutic clinical trials, continued participation in 8 therapeutic clinical trials and initiated 2 non-interventional trials, all related to COVID-19.

From April 1, 2022, through January 31, 2023, VHA continued to expand its 3D-printing capabilities and digital stockpiling efforts to address emerging supply chain challenges. Through interagency and academic partnerships, VHA continued to share data and knowledge related to COVID-19 and Long COVID.

Finding: VHA research continued to produce and publish important evidence regarding the health impacts of COVID-19. VHA research was particularly impactful in its contributions of new knowledge about the long-term health effects of COVID-19.

Finding: VAIRRS is providing broad visibility of VHA research across funding sources. VAIRRS is an important tool for coordinating global clinical research efforts.

Health Equity

Although research indicates that inequities are lower under VHA care than in the U.S. health care system as a whole, some health disparities remain. For instance, a study published in October 2022 found that American Indian/Alaska Native (AI/AN) Veterans were 11.5% more likely to become infected with COVID-19 and were 73.1% more likely to die of the virus than White Veterans.

VHA is committed to determining the reasons for these health disparities and eliminating them.

The VHA Office of Tribal Government Relations (OTGR) provided direct support to AI/AN Veterans during the Annex D Review Period, bringing COVID-19 vaccinations and other resources to AI/AN communities to improve care. VHA also worked with

organizations trusted by AI/AN communities to provide support within local facilities that were trusted by AI/AN Veterans.

During the Annex D Review Period, VHA adjusted its health care forms to include self-identified gender identification (SIGI). This identity-affirming step will allow VHA to develop a clearer picture of Veteran gender identity needs and will allow the VHA Office of Health Equity (OHE) to provide support for non-binary and transgender Veterans through the use of Social Determinants of Health (SDoHs).

The Health Equity section of this Report provides further updates on health disparities and equity, including support for Puerto Rican Veterans, female Veterans and rural Veterans.

Finding: Although VHA efforts significantly diminished health disparities among Veterans during the pandemic, COVID-19 health impacts remained disproportionately high for AI/AN Veterans, particularly during periods of rapid spread of COVID-19 accompanied by high rates of serious illness.

Veterans Experiencing Homelessness

Due to a series of initiatives focused on finding shelter and permanent housing for Veterans, the number of Veterans experiencing homelessness has dropped by more than 55% since 2010. More than 33,000 Veterans remained homeless as of January 31, 2023, including 19,565 sheltered and 13,564 unsheltered people. These Veterans are considered particularly vulnerable to COVID-19 infection and severe illness.

The VHA Homeless Program Office (HPO) provided support to Veterans experiencing homelessness by encouraging vaccination, in coordination with CDC, HUD and other Federal partners. The population of Veterans experiencing homelessness has a high rate of vaccine refusal; which makes programming to encourage vaccination (for COVID-19 as well as other vaccines) particularly important. According to a study published in June 2022, vaccination rates for Veterans in transitional housing varied from 90% to 20%.

Finding: VHA outreach to Veterans experiencing homelessness has proven effective in mitigating impacts to this population; however, the expiration of the national COVID-19 PHE will prompt consideration of avenues for sustaining tools linked to the PHE, such as temporary Veteran housing through the GPD Program.

Recommendation: Assess the pandemic support to Veterans experiencing homelessness to determine if there are interventions linked to the national PHE that warrant sustainment by some other means.

Clinical Operations

During the Review Period, treatment for Veterans infected with COVID-19 progressed due to increased access to oral antiviral medications. Swift action was critical to the successful use of these medications because the drugs were most effective when initiated within five days of symptom onset. VHA enhanced its use of Test to Treat mechanisms to provide expedited prescriptions to those in need.

Despite its efforts, some VHA clinical services had not yet returned to pre-pandemic levels, as of January 31, 2023. Staffing shortages, delayed pre-screenings and diagnostics, and limited clinical space all contributed to delays in clinical services. In response, VHA launched extensive hiring campaigns to overcome staffing shortages, and offered mail-in screening tools to enhance pre-screening support for Veterans.

VHA focused on enhancing the accessibility and Veteran experience of VHA virtual care by adding new functions to telehealth tools and incorporating more asynchronous telehealth services. When comparing the Review Period (April 1, 2022, through January 31, 2023) with the prior year (April 1, 2021, through January 31, 2022), in-person appointments decreased slightly, but VHA virtual care increased by about 5.4 million encounters.

VHA also provided clinical operations support for mental health treatment, focusing on efforts to reduce suicide. The risk of death by suicide is 1.5 times higher in Veterans than in the general population. Some studies showed that although overall Veteran suicidal thoughts, plans and attempts had decreased from pre-pandemic levels, new-onset suicidal thoughts, plans and attempts increased for Veterans who did not report these symptoms prior to the pandemic.[2]

As of January 31, 2023, the number of admissions to Mental Health Residential Rehabilitation Treatment Programs (MH RRTPs) had quadrupled from a low point in March 2020; however, MH RRTP populations were still below pre-pandemic levels as of the end of the Annex D Review Period.

Finding: VHA responded to the changing nature of the SARS-CoV-2 virus by providing timely adjustment of treatment guidelines and managing distribution of therapeutic agents. This included greater focus on ambulatory treatment for mild to moderate COVID-19.

Finding: New attributes of the predominant strain of the SARS-CoV-2 virus, coupled with population immunity, generated lower rates of serious illness, hospitalization and mortality during this period of the pandemic.

Finding: VHA integrated COVID-19 protection and treatment into its standard health care operations and clinical processes, sustaining the full scope of Veterans' health services during this period with a particular focus on access to care.

Finding: Modernization of the Clinical Contact Centers, a strategic effort initiated during the pandemic, provided system-wide monitoring of service to Veterans and a foundation for continuous improvement. The linkage to virtual care proved important to expanding the virtual Test to Treat Program for COVID-19.

Finding: Veteran use of MH RRTPs remained significantly below pre-pandemic levels.

Recommendation: Conduct a study of MH RRTPs to identify the root causes underlying the diminished use of these services. Determine if the diminished utilization stems from a change in clinical need versus other factors that require mitigation.

Workforce

VHA reached record hiring numbers in December 2022 and January 2023 due to a nationwide Onboarding Surge Event (OSE) hosted in November 2022.

VHA continued to experience staffing concerns exacerbated by the pandemic throughout the Annex D Review Period. These staffing issues were in line with challenges seen throughout the U.S. health care industry. VHA did not experience any large-scale staff shortages caused by COVID-19 illness during this Review Period.

As of January 31, 2023, VHA was continuing to invest in its employees and combat burnout through the Reduce Employee Burnout and Optimize Organizational Thriving (REBOOT) initiative. During the Annex D Review Period, REBOOT

identified seven focus areas and began implementation to support staff in multiple aspects of the work environment.

Finding: VHA shared the U.S. health care industry challenge of increased rates of staff turnover. Although VHA staff turnover rates were lower than those seen in the private sector, VHA's hiring and onboarding processes posed significant challenges to the timely fill of open health care positions.

Finding: VHA actions focused on recruitment and retention led to an increase in candidates for hiring and lower turnover rates compared with the industry at large. However, efforts to standardize streamlined hiring and onboarding processes have not yet generated measurable improvement.

Recommendation: Develop a strategy in coordination with the VISNs to encourage adoption of VHA standards for streamlined hiring and onboarding of staff.

Supply Chain

During the Annex D Review Period, VHA continued to experience some supply chain disruptions due to COVID-19. In addition, VHA—along with the broader U.S. health care system—faced other supply challenges, caused by global geopolitical disruptions. For instance, the U.S. supply of neon, a critical component in semiconductors, was limited due to the conflict in Ukraine.

VHA efforts to combat supply chain disruptions included the continued use of Regional Readiness Centers (RRCs). RRCs housed stockpiles of supplies on the U.S east and west coasts, bolstering resilience and ensuring uninterrupted care for Veterans.

In addition, VHA engaged in interagency collaboration to support the national supply chain and continued to explore innovative ways to combat supply chain disruptions.

Finding: VHA arrived at an effective balance between central procurement and local procurement through prime vendors to supply health care operations, including central processes for procurement of scarce items.

Finding: VHA continued its role in national efforts to attain a resilient supply chain for future health emergencies. VHA initiated work with DLA to map VHA's participation in the DoD Warstopper Program.

Recommendations Review

In addition to the sections above, the Annex D Report contains a lookback at seven recommendations provided in previous COVID-19 Response Reports. When each of these recommendations was published—some as early as June 2020 and some as late as July 2021—they were designed to enhance VHA preparedness and support for Veterans in future emergencies.

Each recommendation review includes three subsections: a background of the events that led up to the recommendation, the status of the recommendation as of January 2023 and a look at the future state, including any changes or additions to the recommendation.

The summaries below show the original recommendation, as well as boxes representing observations (findings) and recommendations from the Annex D Review Period.

Clinical Contact Centers

Report: Initial Report, June 30, 2020

Recommendation Reviewed: Accelerate incorporation of virtual care into clinical processes enabled by accelerated implementation of integrated virtual care tools. It is also recommended that VHA develop a modernization strategy for Clinical Contact Centers to gain reliability, central visibility, agile surge adaptation, efficiency, and integration of virtual care processes.

Finding: Within its Access Strategy, VHA made considerable progress in VA Health Connect Clinical Contact Center modernization, establishing a foundation for expansion and continuous improvement in this interface to Veterans.

Clinical Deployment Teams

Report: Annex A, January 1, 2021

Recommendation Reviewed: Develop a system maintaining designated clinical staff ready for deployment on rotating schedules at selected VAMCs identified as deployment centers. Build sufficient capability and capacity in the system to serve as VHA's primary source for deployable staff with the volunteer system as augmentation.

Finding: VHA made progress in populating its initial cadre of Clinical Deployment Teams in the VISNs during this Review Period. Exercising and preparing these teams will be key to preparedness for deployments that will inform the scope and capacity for this capability into the future.

Interagency Relationships

Report: Initial Report, June 30, 2020

Recommendation Reviewed: Pursue interagency relationships and standing processes that enable a coordinated interagency response to public health crises. The aim of this coordinated interagency response would be to integrate Federal health capabilities in order to enhance the national readiness.

Finding: VHA's permanent presence in HHS Emergency Support Function (ESF) #8 and the Ops Center is poised to significantly facilitate VHA contributions to future Federal response to health emergencies. Through the initial months of the crisis response to the pandemic, real-time coordination of the unique VHA and DoD capacities and capabilities for deployed healthcare proved difficult within the rapid pace of sourcing decisions in response to requests for Federal health assistance.

Recommendation: Pursue interagency points of engagement for sustained and recurring VHA interactions, focused on monitoring of emerging infectious diseases of concern.

Recommendation: Pursue the creation of semi-annual forums, to include VA and Military Health System partners. The goal of these forums would be to bolster already-successful collaboration and coordination. Forums would allow organizations to review their deployable health care capabilities and limitations, for mutual awareness.

State Veterans Homes

Report: Annex B, July 31, 2021

Recommendation Reviewed: Develop an information system to facilitate monitoring of State Veterans Homes (SVHs) for indicators of infectious disease risk, combining periodic assessment results with epidemiologic community data.

Finding: When the PHE ends, VHA will no longer have authority to require all SVHs to report COVID-19 data. Per its Memorandum of Understanding (MOU) with CDC/NHSN, VHA will continue to monitor the 75% of SVHs that (per CMS mandate) report data to CDC.

Recommendation: Partner with SVH facilities to encourage maintaining reporting to the VHA dashboard beyond the expiration of the PHE. Participation would be voluntary and designed to facilitate collaboration and shared learning. Reporting would encompass facilities regardless of their CMS accreditation status. As part of this effort, VHA could expand the scope of reporting to include other infectious diseases that may pose a threat to the SVH Veteran population, using the COVID-19 monitoring protocols as a blueprint and proactively providing outreach where support is needed.

Supply Chain

Report: Initial Report, June 30, 2020

Recommendation Reviewed: Modify the VHA Supply Chain Modernization Plan by incorporating elements of supply chain contingency resilience and accelerating transformation of management practices.

Finding: Although the VA supply chain modernization strategy is in development under the leadership of the VA Office of Acquisitions and Logistics, modernization remains a priority for efficiency, resiliency and preparedness.

Veteran Vaccination Data

Report: Annex B, July 31, 2021

Recommendation Reviewed: Pursue legislative action to enable VA to obtain vaccination data on Veterans from state vaccination data.

Finding: VHA is collaborating with CDC to establish sharing of vaccination data in the interest of public health with states, tribal nations and other Federal health entities.

Workforce

Report: Initial Report, June 30, 2020

Recommendation Reviewed: Assess the outcomes and effectiveness of processes for expedited hiring and onboarding of new employees to determine what processes should be incorporated into permanent policy and guidance.

Finding: VHA is working to establish streamlined processes for hiring and onboarding. These streamlined processes have not yet been adopted consistently across the VISNs.

ACKNOWLEDGEMENTS

The COVID-19 Response Reporting Team would like to thank the VA Secretary for his support in creating the team's sixth COVID-19 report, Annex D. The completion of this document was made possible with guidance from the Steering Group: Dr. Carolyn Clancy and Mr. James Tranoris. The Under Secretary and Deputy Under Secretary for Health contributed to Annex D, as did VHA senior leaders, VISN Directors and VHA personnel. The Annex D team is greatly appreciative to VA for its ongoing work to protect and care for America's Veterans through the pandemic and beyond.

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OVERVIEW

Annex D of the VHA COVID-19 Response Report documents the updates of VHA's ongoing response to the COVID-19 pandemic and its impact on Veteran health care during the Review Period from April 1, 2022, through January 31, 2023.

VHA's COVID-19 response includes activities in clinical operations, VHA research and innovations, supply chain management and VHA's support for Veterans experiencing homelessness.

Annex D is the sixth report in the VHA COVID-19 Response Report series, following these previous reports:

- The Initial Report: January 1, 2020, through June 30, 2020
- Annex A: July 1, 2020, through January 1, 2021
- Annex B: January 1, 2021, through July 31, 2021
- Annex C: August 1, 2021, through March 31, 2022

In addition, an Annex D Interim Report covered the period from April 1, 2022, through August 1, 2022. The Interim Report captured a shorter Review Period and provided a snapshot of selected VHA activities and events during the initial four months of the Annex D Review Period. The full Annex D Report encompasses the Interim Review Period and documents a broader picture of VHA COVID-19 response across the whole Review Period (April 1, 2022, through January 31, 2023).

The report series is available at the VA Public Health website linked here: https://www.publichealth.va.gov/n-coronavirus/COVID_19_Response_Reports.asp

The Annex D report will document updates on VHA's COVID-19 response and VHA actions initiated or completed during the Review Period, including the following:

- Mitigation of COVID-19-related health consequences to Veterans, including improvements to health equity
- Preparation for the rise of new variants of SARS-CoV-2
- Publication and research related to COVID-19
- Optimization of post-pandemic VHA health services to Veterans

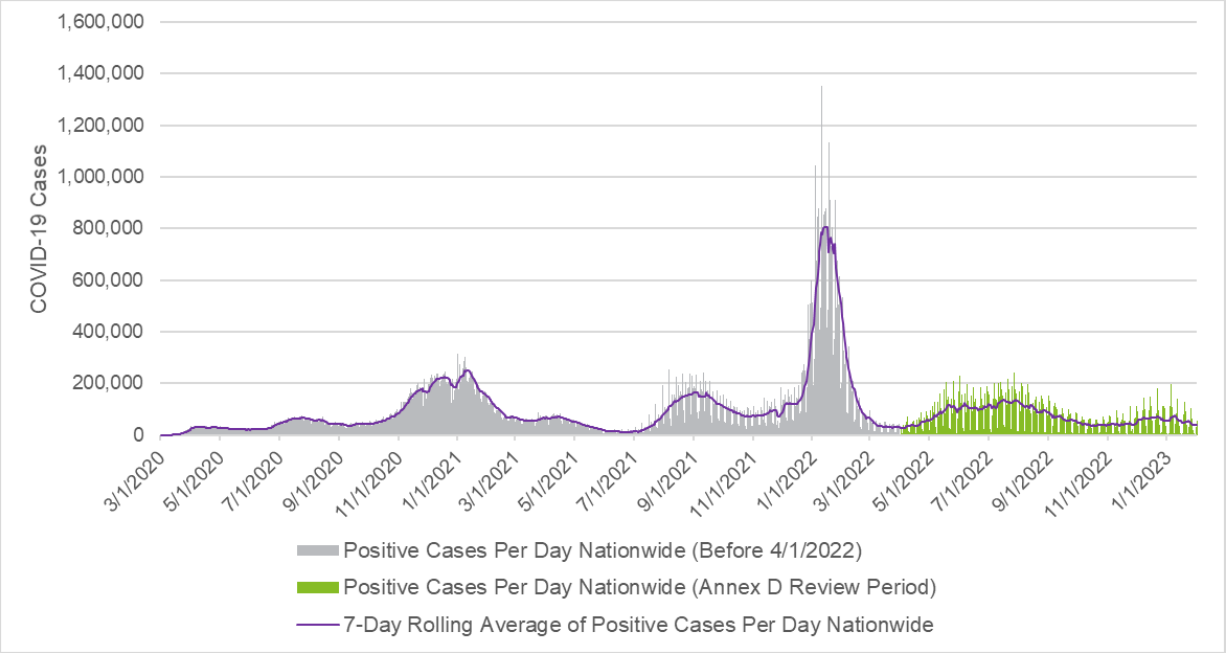
Annex D also features an update on a selection of potentially high-impact recommendations previously generated in this series of reports. This section discusses impacts of the evolving pandemic on these recommendations, actions taken and future plans. To read more about this, see the Recommendations Review section of this report.

COVID-19 in the United States

Figure 2.1 shows the seven-day rolling average of positive COVID-19 cases in the United States from March 1, 2020, through January 31, 2023.[3] Across the course of the pandemic, the highest rate of positive cases per day and on a seven-day rolling average occurred in January 2022.[4] At that time, the highest nationwide count of cases per day peaked at 1,354,502.[5]

During the Review Period, the highest rate of U.S. cases per day occurred in July 2022, peaking at 239,777 cases per day—a significant drop from the peak rate in January 2022.[6]

Figure 2.1: *Daily U.S. COVID-19 Cases, 3/1/2020 – 1/31/2023*



Note: COVID-19-reported positive cases represent general-community-confirmed positive COVID-19 tests. Nationwide total case estimates were aggregated by individual state-reported cases from 3/1/2020 through 1/31/2023.
Source: Johns Hopkins COVID-19 GitHub Repository, accessed 3/3/2023. Ref. D272

COVID-19 Pandemic Impacts on VHA Populations

Early in the pandemic (February 1, 2020) through the end of the Review Period (January 31, 2023), VHA documented 690,953 confirmed COVID-19 cases among Veterans Using VHA Services.[7] Of these cases, a cumulative count of 101,549 Veterans Using VHA Services were hospitalized, and 23,711 experienced COVID-19-associated death.[8] For details on COVID-19 summary statistics for Veterans Using VHA Services and VHA employees, see **Table 2.1**. Vaccination status was accurate and true to the best of VHA's knowledge as of the publication of this report, but

these counts may not reflect all vaccinations administered outside the Department of Veterans Affairs (VA).

Table 2.1: *COVID-19 Summary Statistics, as of 1/31/2023*

Category	Count	Percent
Veterans Using VHA Services	Total Population: 7,691,093	% of Total Veterans Using VHA Services
Veteran COVID-19 Cases	690,953	8.98%
Veteran COVID-19 Hospitalizations	101,549	1.32%
Veteran Deaths (COVID-19-associated)	23,711	0.31%
Initial Vaccination Series Completed	4,317,861	56.14%
Initial Booster Dose	2,337,307	30.39%
Bivalent Booster Dose	854,204	11.11%
VHA Employees	Total Population: 405,160	% of Total VHA Employees
Employee COVID-19 Cases	101,704	25%
Employee Deaths (COVID-19-associated)	259	0.06%
Initial Vaccination Series Completed	331,541	81.83%
Initial Booster Dose	157,432	38.86%
Bivalent Booster Dose	65,160	16.08%

Note: Veterans Using VHA Services are Veterans who used VHA services from 10/1/2019 through 1/31/2023 and were alive as of January 1, 2020. Veterans Using VHA Services figures exclude non-Veteran VHA employees. Veteran COVID-19 cases include VHA-conducted tests and Veteran self-reported test results to VHA. Veteran COVID-19 cases are the cumulative total number of unique Veterans Using VHA Services who have tested positive for COVID-19 since the start of the pandemic. A Veteran COVID-19 inpatient stay is defined as a Veteran Using VHA Services who had a positive COVID-19 case confirmed through VHA-conducted tests and Veteran self-reported test results to VHA and was admitted on or prior to 01/31/2023. COVID-19-associated Veteran Deaths refers to Veterans Using VHA Services who died within 30 days of an established lifetime first COVID-19 case (the date of the first case confirmed by VHA testing or the date when the first positive test outside VHA was reported to VHA). Values may change depending on when the data is accessed because VHA may retroactively update the data source. Employee numbers include only paid VHA employees and VHA Veteran-employees; VISN contractors and volunteers are not included.

Vaccinations include those administered by VHA, self-reported vaccinations administered outside VHA, and states that signed agreements with VHA to share their COVID-19 vaccination information. Veteran vaccination counts are for Veterans Using VHA Services who have completed the initial COVID-19 vaccination series as of 1/31/2023. Initial Series Completed is defined as having received two doses of either the Moderna or Pfizer COVID-19 vaccine or one dose of the J&J COVID-19 vaccine. Received Initial Booster counts includes individuals who received an additional dose of Moderna, Pfizer or J&J COVID-19 vaccine after the initial series. Received Bivalent Booster includes those who received a dose of a Moderna or Pfizer Bivalent Vaccine. Boosters may be a different COVID-19 vaccine than the initial series. Values may change depending on when the data is accessed because VHA may retroactively update Veterans' vaccination status.

Employee vaccination data includes only vaccinations administered by the VHA as of 2/1/2023. This data is inclusive for all VHA employees. Only paid VHA employees are included in these numbers; VISN contractors and volunteers are not included. Other VHA includes VA Central Office (VACO) employees and VHA employees not assigned to a particular VISN. The population data includes VHA health care personnel who have requested a reasonable accommodation vaccination exemption for religious or medical reasons; religious exemptions include Title 7 pregnancy exemptions. The data also includes VHA employees in a deferred status due to long-term leave or those on Family and Medical Leave Act (FMLA) leave.

Source: VHA, CDW, Veteran Stats accessed 2/10/23; VHA, HOC, Employee Population response to data call 2/6/2023; VHA, HOC, Employee Cases response to data call 2/1/2023; VHA, Access to Care Dashboard, accessed 1/31/23; VHA, VHA, CDW, VSSC, accessed 2/24/2023; VHA, VSSC_PEER_COVID Dashboard, accessed 2/1/2023; VHA, HOC, response to data call, 2/6/2023. Ref.s D191, D76, D15, D2, D61, D75, D76

Of all Veterans using VHA Services, 15% of Veterans in the age cohort 45-54 had COVID-19—the highest rate per age cohort.[9] This age cohort was followed by cohorts 35-44 and 55-64 (14%).[10] For more details on COVID-19 case counts by age and gender, see **Table 2.2** below.

Table 2.2: *COVID-19 Case Counts for Veterans Using VHA Services, by Age and Gender, 3/1/2020 – 1/31/2023*

Age Groups	Female	% Female Veterans	Male	% Male Veterans	Total by Age Group	% Age Cohort
34 & under	11,718	10%	37,886	8%	76,780	12%
35-44	20,314	13%	71,214	10%	122,050	14%
45-54	19,461	14%	79,724	11%	128,255	15%
55-64	20,566	13%	118,118	12%	162,298	14%
65-74	11,008	10%	164,684	10%	181,655	10%
75-84	2,227	8%	128,842	8%	131,736	8%
85 & Older	780	6%	42,675	6%	43,648	6%
Totals:	86,074	12%	643,143	9%	846,422	11%

Note: Veterans using VHA Services are Veterans who used VHA services from 10/1/2019 through 1/31/2023. Figure excludes VHA Employees. Veteran COVID-19 cases include VHA-conducted tests and Veteran self-reported test results to VHA. Cases may be underreported to VHA.
Source: VHA, CDW, NST Dataset, accessed 3/7/2023, Ref. D228

Veteran & VHA Employee Vaccinations

Study findings suggest that individuals who were vaccinated were less likely to experience hospitalization or COVID-19-associated death.[11] VHA encouraged and promoted vaccine and booster acceptance for Veterans through vaccine campaigns and health equity efforts.[12] For more information about VHA vaccination efforts, see the Vaccination section of this report.

As of January 31, 2023, a total of 4,317,861 Veterans Using VHA Services had completed an initial COVID-19 vaccination series—56.14% of Veterans Using VHA Services.[13]

Of the Veterans Using VHA Services in the past year (February 1, 2022 – January 31, 2023), 63.94% had completed an initial COVID-19 vaccination series.[14] Veterans who had previously completed an initial COVID-19 vaccination series but had not used VHA services in the past year (February 1, 2022 – January 31, 2023) are not included.[15]

By the Annex D Review Period, 30.39% of Veterans Using VHA Services had completed their first vaccine booster dose, and 11.11% had received a bivalent vaccine booster dose.[16]

In September 2022, FDA approved the use of a bivalent COVID-19 vaccine as a booster.[17] Once the new vaccine was available, it was the only booster that VHA administered at its facilities.[18] During the Review Period, VHA issued doses of the bivalent booster to 854,204 Veterans.[19] For more information on the bivalent booster, see the Epidemiology section of this report.

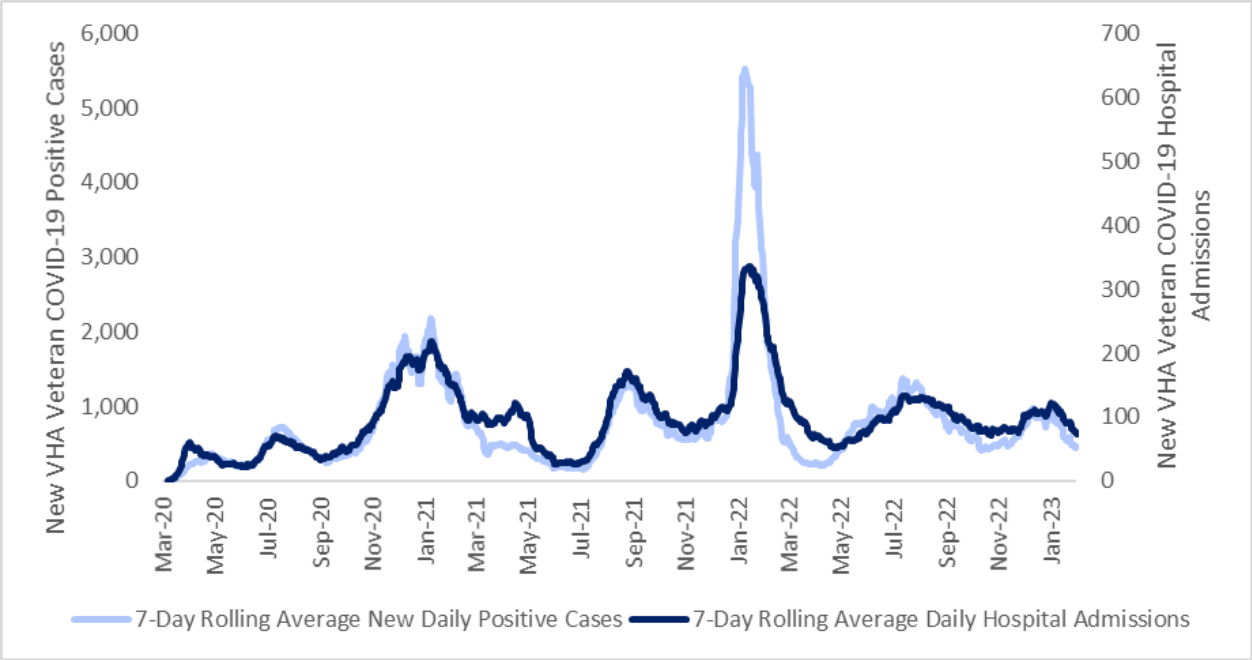
Veteran Hospitalizations

During the Annex D Review Period, 28,037 Veterans Using VHA Services who had a COVID-19 diagnosis were hospitalized out of 101,549 total hospitalizations that occurred since the start of the pandemic.[20] Within a 10-month timeframe, hospitalizations increased from 73,512 to 101,549—a 38.14% increase during the Annex D Review Period.[21]

Over the course of the pandemic, peak daily positive COVID-19 case rates for Veterans Using VHA Services were similar to peak rates recorded for the U.S. general population.[22] Veteran-specific case counts are shown in **Figure 2.2,** and the overall U.S. population's case counts can be found in **Figure 2.1**, earlier in this section.[23]

Figure 2.2 graphs the case counts of hospitalization and COVID-19 among Veterans Using VHA Services from March 1, 2020, through January 31, 2023.[24] During the Review Period, COVID-19 hospitalization rates for Veterans Using VHA Services peaked at a similar cadence as the peak rates of COVID-19 cases.[25]

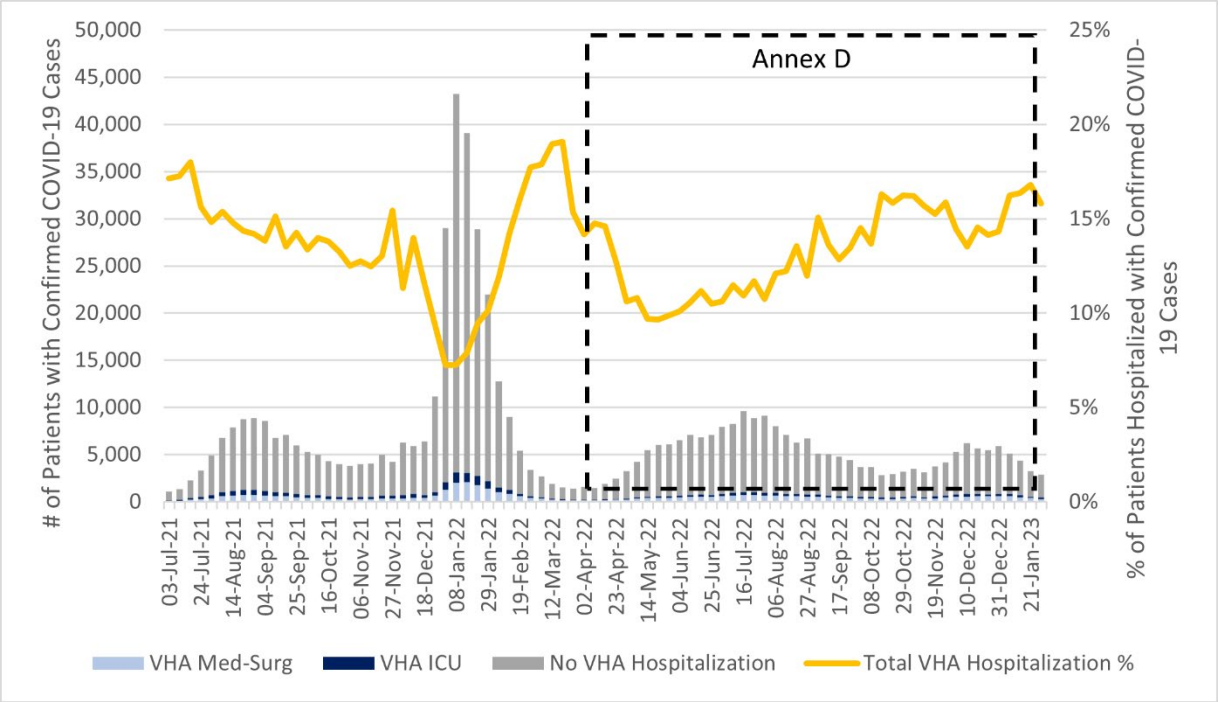
Figure 2.2: *Veterans Using VHA Services 7-Day Rolling Average COVID-19 Hospital Admissions and Positive Cases, 3/1/2020 – 1/31/2023*



Note: Veterans Using VHA Services are Veterans who used VHA services from 10/1/2019 through 3/31/2022. Veteran-confirmed positives and COVID-19-associated deaths figures exclude Veteran-Employees and Veteran COVID-19 cases and include VHA-conducted tests and Veteran self-reported test results to VHA. Veterans testing positive for COVID-19 who were admitted to a VA hospital by 3/31/2022 are included.
Source: VHA, CDW, NST Dataset, accessed 3/1/2023. Ref. D186

During the Review Period, the highest rate of hospitalizations among Veterans Using VHA Services with confirmed COVID-19 cases occurred during the week of January 21, 2023, as shown in **Figure 2.3**.[26] During that time, 17% of Veterans Using VHA Services with confirmed COVID-19 cases were hospitalized.[27] Compared to the previous peak (March 2022), hospitalization rates of Veterans Using VHA Services with confirmed COVID-19 cases decreased.[28]

Figure 2.3: *VA Lab-Confirmed COVID-19 Cases by Hospitalization Status, 7/3/2021 – 1/31/2023*



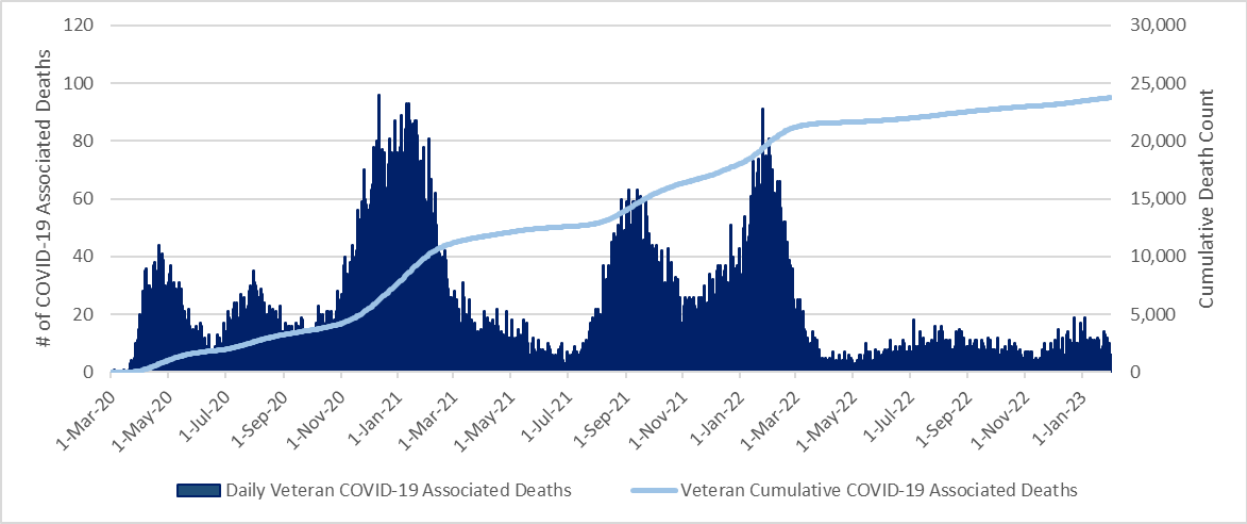
Note: Data represent weekly hospitalization counts and not unique admissions. Veteran patients with confirmed COVID-19 cases who were not hospitalized in a VA med-surg or ICU were included in the "No VA Hospitalization" status.
Source: VHA, NST, accessed 3/6/2023. Refs. D186 & D15

Veteran COVID-19-associated Deaths

Over the course of the Review Period, 2,205 COVID-19-associated deaths occurred among Veterans Using VHA Services.[29] During the Review Period, the highest number of COVID-19-associated deaths among Veterans Using VHA Services occurred in December 2022, totaling 302 deaths—an average of 9.74 deaths per day that month.[30]

During the Review Period, the number of COVID-19-associated deaths among Veterans Using VHA Services was significantly lower than other death rate peaks across the pandemic, as shown in **Figure 2.4**.[31] When compared to the previous year (from April 1, 2021, through January 31, 2022), the number of COVID-19-associated deaths decreased by about 73%.[32]

Figure 2.4: *Veteran COVID-19-associated Deaths, 3/1/2020 – 1/31/2023*

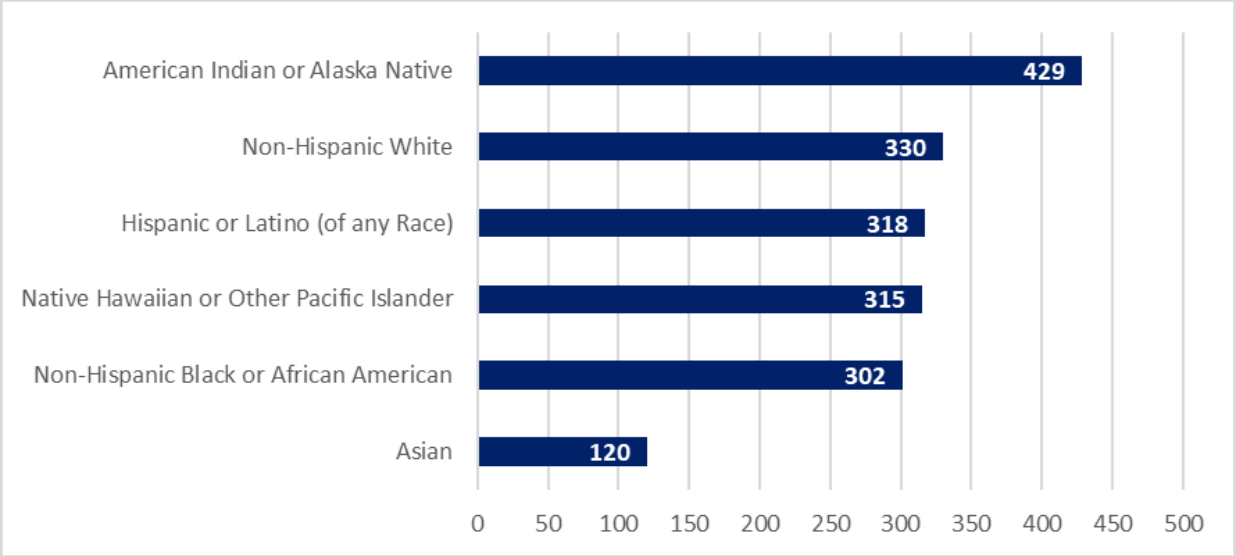


Source: VHA, CDW, NST Dataset, accessed 3/1/2023. Ref D240

Figure 2.5 shows COVID-19-associated deaths by race and ethnicity. As of January 31, 2023, American Indian or Alaska Native (AI/AN) Veterans had the highest rate of recorded COVID-19-associated deaths, totaling 429 per 100,000.[33] Asian Veterans had the lowest—120 per 100,000.[34]

Since July 31, 2021, the population mortality rates of Non-Hispanic White Veterans had surpassed the rates of Non-Hispanic Black or African American and Hispanic or Latino Veterans.[35] Additionally, Hispanic or Latino Veteran population mortality rates had surpassed the rates of Non-Hispanic Black or African American Veterans.[36]

Figure 2.5: *COVID-19-associated Deaths in the Total Population of Veterans Using VHA Services, by Race and Ethnicity, per 100,000 people, 2/1/2020 – 1/31/2023*



Note: These values are not adjusted for age or other risk factors. “COVID-19-associated Veteran Deaths” refers to Veterans Using VHA Services who died within 30 days of an established lifetime-first COVID-19 case. For VHA-determined cases, this means Veterans Using VHA Services who died within 30 days of their first positive COVID-19 test. For cases determined outside VHA, this means Veterans Using VHA Services who died within 30 days of the date of their first COVID-19 laboratory-confirmed diagnosis that was reported to VHA. COVID-19 deaths are as of 1/31/2023. Veteran tests, confirmed positives, and death figures exclude Veteran-Employees. The following racial/ethnic groups were not included in the figure: Veterans with unknown or multiple reported racial/ethnic categories. Veterans who identified as "Hispanic or Latino" are included only in the "Hispanic or Latino" population for this figure. Veterans with multiple positive case records were counted only once per patient integration control number.
Source: CDW, NST Dataset, accessed 3/9/2023. Ref. D191

Veteran Mental Health

A longitudinal study of 2,289 Veterans focused on mental health in three phases—fall 2019 (pre-pandemic), fall-winter 2020 (peri-pandemic) and summer 2022 (post-onset of the pandemic)—found that Veteran distress levels peaked within the first year of the pandemic (fall/winter 2020).[37] At that time, the rate of Veteran distress had risen 51% higher than pre-pandemic distress.[38]

The study’s criteria for distress consisted of a positive screen (self-reported) for at least one of the following clinical mental health disorders:[39]

- Major depressive disorder (MDD)
- Generalized anxiety disorder (GAD)
- Post-traumatic stress disorder (PTSD)

All cohorts (sex and age) of the participant sample, except for Veterans 65 years or older, showed an increase in distress during the first year of the pandemic compared to the pre-pandemic period.[40] The study found that these rates of distress had decreased to pre-pandemic levels in the post-onset period of the pandemic (summer 2022); 83.7% of Veterans were classified as resistant to pandemic distress.[41]

Veterans aged 18-44 years and female Veterans had the highest increases in distress rates: Distress rates for both groups increased by more than 60% in fall 2019 (pre-pandemic) and through fall/winter 2020.[42]

Veterans with exacerbated distress two years into the pandemic reported greater pre-pandemic alcohol use problems, greater likelihood of lifetime MDD or PTSD and lower emotional stability.[43] The study further found that pandemic-related socioeconomic concerns were significantly associated with persistent distress.[44]

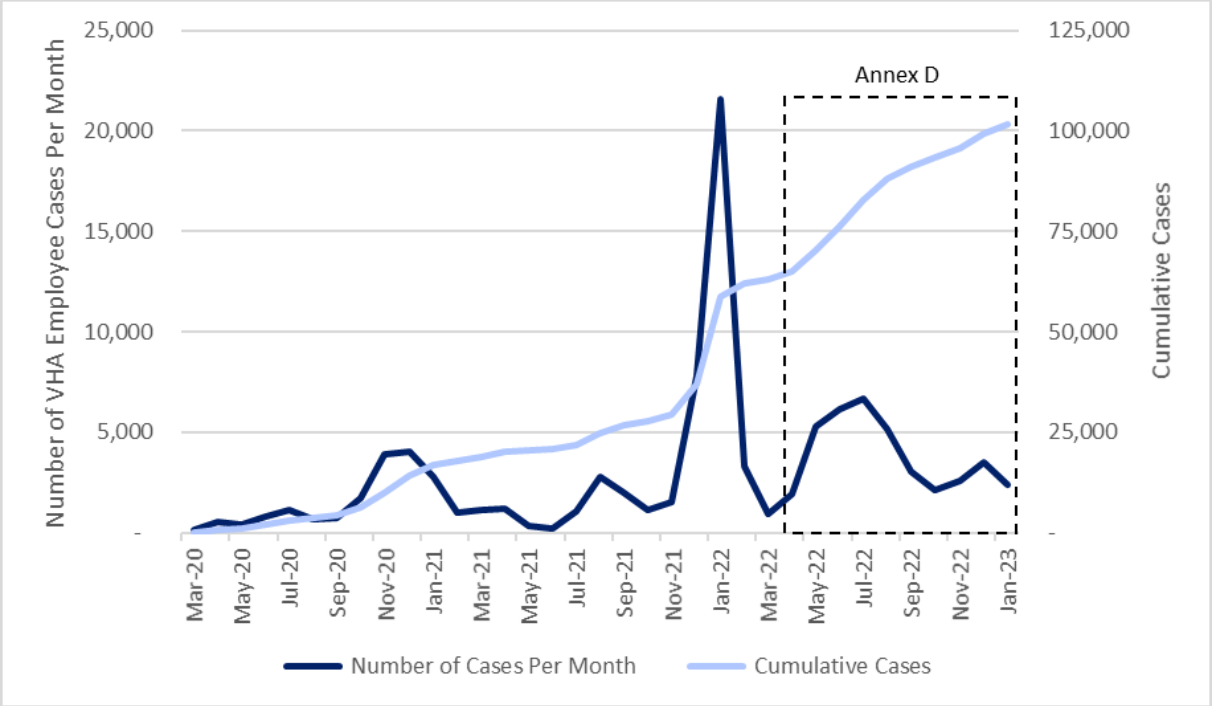
Of the 2,289 Veterans in the study sample, 92.3% were male, and 79.7% were non-Hispanic White.[45]

COVID-19 Impacts on VHA Employees

Since the start of the pandemic, 101,704 VHA employees had reported a confirmed COVID-19 case, and of those reported cases, there were 259 deaths.[46] Within the Review Period, there were four VHA employee deaths.[47] **Figure 2.6** shows COVID-19 confirmed cases among VHA employees over the course of the pandemic.[48]

Peaks in the VHA employee COVID-19 case counts were consistent with the peaks in case counts in the U.S. general population, as well as peaks for Veterans Using VHA Services.[49] All populations had an increase in case rates in January, July and December 2022.[50]

Figure 2.6: *COVID-19 Confirmed Case Counts for VA Employees, 3/1/2020 – 1/31/2023*



Source: VHA, HOC, response to data call, 2/1/2023. Ref. D15

Summary of Adjustments to VHA Approach

During the Annex D Review Period, VHA arrived at a new operational balance, designed to protect Veterans and staff from COVID-19 while providing the full scope of health services to Veterans.[51] To accomplish this, VHA focused efforts on supporting Veteran access to quality care and by increasing VHA staff and its support for its workforce.[52] For more information on these topics, see the Clinical Operations and Workforce sections of this report.

Looking toward an endemic state, VHA began preparing for shifts in health care authorities when the PHE expires.[53] VHA's adjustments during this period included the following:

- Developed and implemented a national, standard approach to the evaluation and care for Veterans experiencing Long COVID[54]
- Continued research and publication of studies related to therapeutics, vaccination, Long COVID and other long-term health effects of COVID-19[55]
- Added the bivalent COVID-19 vaccine booster to prevention measures for Veterans[56]
- Piloted and implemented VHA Virtual Test to Treat, providing Veterans with COVID-19 with access to treatment based on self-administered tests and virtual encounters[57]
- Established operational guidelines for VHA facilities' protection measures based on community COVID-19 prevalence rates[58]
- Developed and implemented staffing strategies for a resilient VA workforce with focused efforts to fill VHA health care positions[59]
- Sustained supply chain programs for central procurement of scarce items and consolidated Regional Readiness Centers for long-term supply chain resilience and future contingency planning[60]

Fourth Mission Data

In addition to its care for Veterans, VHA provides Fourth Mission COVID-19 support for U.S. communities through Federal Emergency Management Agency (FEMA) Mission Assignments (MAs) and Interagency Agreements (IAAs).[61]

As a part of these efforts, VHA deployed 6,386 staff to Community Nursing Homes, SVHs, Tribal Nations and other communities over the course of the pandemic.[62] In addition, VAMCs admitted 1,923 SVH Veterans and 697 patients to relieve community hospitals.[63] As of January 31, 2023, VHA had completed 196 FEMA MAs.[64]

From April 1, 2022, through January 31, 2023, VHA concluded 11 Indian Health Service (IHS) Interagency Agreements, which focused on enhancing bed capacity and staffing support.[65] No new MAs or VHA IAAs were initiated during the Annex D Review Period.[66]

For more details on VHA Fourth Mission initiatives since the beginning of the pandemic, see the Initial VHA COVID-19 Response Report and annexes.

Annex D Timeline[67]

NATIONAL PUBLIC HEALTH POLICY

As of January 31, 2023, VHA was planning for upcoming changes to national public health policy regarding COVID-19—specifically, the anticipated end of the COVID-19 national emergency and public health emergency (PHE) declarations, which is expected in May 2023.[68]

Public Health Emergency

On January 30, 2023, the White House announced that the COVID-19 PHE would expire on May 11, 2023.[69] The announcement was made several months before the PHE's end to provide a transition period before the conclusion of emergency benefits.[70] The time from February to mid-May was intended to allow programs the opportunity to dismantle emergency services in an orderly fashion, thereby reducing any adverse impact on health care and support for the U.S. population.[71]

Under a PHE, grants and contracts may be issued to address emergency needs.[72] Government deadlines may also be extended, rapid-response funds appropriated and Medicare and Medicaid rules waived or modified.[73] In 2022, the Administration for Strategic Preparedness and Response (ASPR) issued 3 national PHEs:[74]

- the COVID-19 pandemic (renewed every 3 months throughout the year)
- the opioid crisis (also renewed every 3 months)
- the monkeypox outbreak (issued in August 2022, renewed in November 2022, expired in January 2023)[75]

State-based PHEs were also issued to address local emergencies, including COVID-19 and other types of emergencies such as hurricanes, floods and wildfires.[76]

Ending the COVID-19 PHE

In a statement about the conclusion of the PHE, the Department of Health and Human Services (HHS) emphasized that COVID-19 care would remain a priority, but the United States had moved out of the emergency period of the pandemic.[77]

HHS pointed to evidence that the emergency was ending, including the following changes from January 2022 through January 2023:[78]

- Daily reported COVID-19 cases were 92% lower.
- Deaths attributed to COVID-19 had declined by more than 80%.
- New hospitalizations related to COVID-19 were down nearly 80%.

The PHE's expiration could end certain flexibilities that allow government agencies to waive or modify policies and requirements.[79] Examples of changes that could result from the end of the PHE include the following:[80]

- Revocation of flexibility that allowed clinicians to conduct telehealth appointments and write prescriptions—including prescriptions for controlled substances—for patients who lived in states where the clinician was not licensed
- Conclusion of some free vaccination programs, which could mean that some individuals needed to pay for COVID-19 vaccines or tests

EUAs issued by FDA for COVID-19 vaccines and tests will remain in place.[81] FDA will still be able to issue EUAs after May 11, 2023, and the EUAs that were already in place will not be cancelled when the PHE expires.[82]

Impact to VHA & Veteran Care

As of January 31, 2023, the VA Public Health National Program Office was still examining the extent of the challenges that will arise with the end of the PHE.[83] For instance, COVID-19 vaccines, medications and tests will be covered by Federal funds until May 2023, but when the PHE expires, health systems will need to revert to previous funding sources.[84] If new vaccines are manufactured after the end of the PHE, VHA leadership reported that VHA will likely need to procure them the same way vaccines for other diseases—like influenza—are procured, but that process was not yet finalized as of January 31, 2023.[85]

VA leadership expressed particular concern about one PHE change—the loss of flexibility for clinicians licensed in one state to write prescriptions (including for controlled substances) for patients in another state following telehealth appointments.[86]

In January 2023, VA asked Congress to maintain this part of the PHE.[87] Without it, an estimated 2.7 million rural Veterans using VHA services would lose their easiest form of access to their prescriptions.[88] Many Veterans relied on VHA telehealth services and virtual prescriptions for basic access to the medication they needed.[89] The ability to prescribe controlled substances through telehealth improved Veteran access to medication management for treatments:[90]

- Mental health treatment
- Pain management
- Substance abuse treatment

According to a report issued by HHS on February 9, 2023, the Drug Enforcement Administration (DEA) was reviewing policies that might allow for the continuation of these flexibilities in some circumstances following the end of the PHE.[91]

Lessons Learned for Future Emergencies

As the United States ends the emergency period of the COVID-19 pandemic, the Federal government has begun to assess what lessons can be taken from the pandemic, including how to more effectively handle issues that could arise in future outbreaks or pandemics.[92]

VHA leadership reported that interagency working groups were focused on lessons learned for topics including:[93]

- Improvement of public health surveillance tools
- Rapid development, validation and release of diagnostic tests
- Development of methods and standardized protocols to address manufacturing and supply chain issues related to diagnostics, PPE and medical countermeasures, such as drugs and vaccines
- Expanded mechanisms to safely and effectively collect clinical samples from infected patients and swiftly deliver them to laboratories

Combatting Misinformation

In a report issued in 2021, the U.S. Surgeon General noted that misinformation impacted the response to the COVID-19 crisis.[94] Specifically, health misinformation reduced trust in public health, created confusion and negatively impacted vaccination efforts in the United States.[95]

In the absence of established medications to treat COVID-19, the early pandemic included widespread promotion of treatments that did not yet have enough scientific evidence to indicate effective therapeutic value.[96] According to VHA leadership, the use of unproven treatments was a lesson in the importance of VHA leading, participating in and allowing Veterans access to early clinical trials to safely evaluate new therapies in the setting of developing emergencies—an important element of interagency collaboration (described in further detail in the next subsection).[97]

Confronting and combatting misinformation is an ongoing process for VHA.[98] VHA leadership reported that in communities with high levels of misinformation acceptance, vaccine messaging was not as effective for Veterans.[99] Leadership observed that it was difficult for VHA to overcome what was learned in the community.[100]

A nationwide study conducted in 2021 (not specific to Veterans) found that even brief exposure to misinformation on the topic made people less likely to obtain a COVID-19 vaccination.[101]

In its report on combatting misinformation, HHS provided a list of ways that government bodies could reduce misinformation in circumstances like pandemics,[102] including:[103]

- Analyze the impact of misinformation through collaboration of government bodies, nonprofits and research groups.
- Invest in research on the topic of misinformation, including best practices for preventing it.
- Improve and enhance public health communications, in collaboration with trusted messengers.
- Support public health agencies with more resources and technical capability.
- Educate the public, helping them to identify misinformation more effectively.

Enhancing Interagency Collaboration

As of January 31, 2023, the Federal government was actively working to enhance its collaboration capability between agencies.[104] Interagency collaboration may include VA, HHS, FDA and the Department of Defense (DoD), but also specialist agencies for specific areas of emergency, including the Department of Agriculture (USDA) and the Environmental Protection Agency (EPA).[105]

At the start of the pandemic, collaborations often began with newly established relationships across government agencies and private-sector response organizations; this consumed valuable time in a crisis response.[106]

Although it is difficult to quantify the results of missing collaboration, evidence indicates that some of the processes at the start of the pandemic, including diagnostic testing and vaccine development, could have been expedited by better interagency collaboration.[107]

The National Biodefense Strategy and Implementation Plan, which was released in October 2022, included specific guidance on coordination between government and non-government organizations.[108] For instance, setting contracts and connections in advance may allow Federal agencies to plan and execute public assistance more swiftly in the future.[109]

Flowing from the National Biodefense Strategy and Implementation Plan, examples of potential structures that could improve the speed of Federal action in a public health emergency include the following:[110]

- Pre-approved protocols for diagnostics through FDA
- A list of strategic goods and a policy of national stockpiling for these goods (for instance, pipettes)
- All-hazards protocol approaches to developing pandemic preparedness plans and assuring adequate supplies of countermeasures, including PPE

Public Health Data & Surveillance

VHA uses the Praedico surveillance system to gather population-level data from VAMCs across the country.[111] Data collected through this system does not emphasize full patient records, but instead concentrates on 10 areas related to disease tracking, including demographics, encounters, medications and vaccines, laboratory test results and outcomes.[112]

Praedico was put in place prior to the pandemic to allow VHA to monitor other infections like influenza and tuberculosis.[113] The system has an additional alert system that alerts the VA Public Health National Program Office in cases of nationally notifiable conditions or outbreaks, including situations in which multi-drug resistant organisms or anthrax are detected in VA.[114]

A 2020 evaluation of the system found that the platform was customizable, functional, flexible and stable.[115] However, researchers assessing the system recommended additional work to improve data quality.[116] In addition, the evaluation report encouraged VHA to use the data in collaboration with other agencies and organizations.[117]

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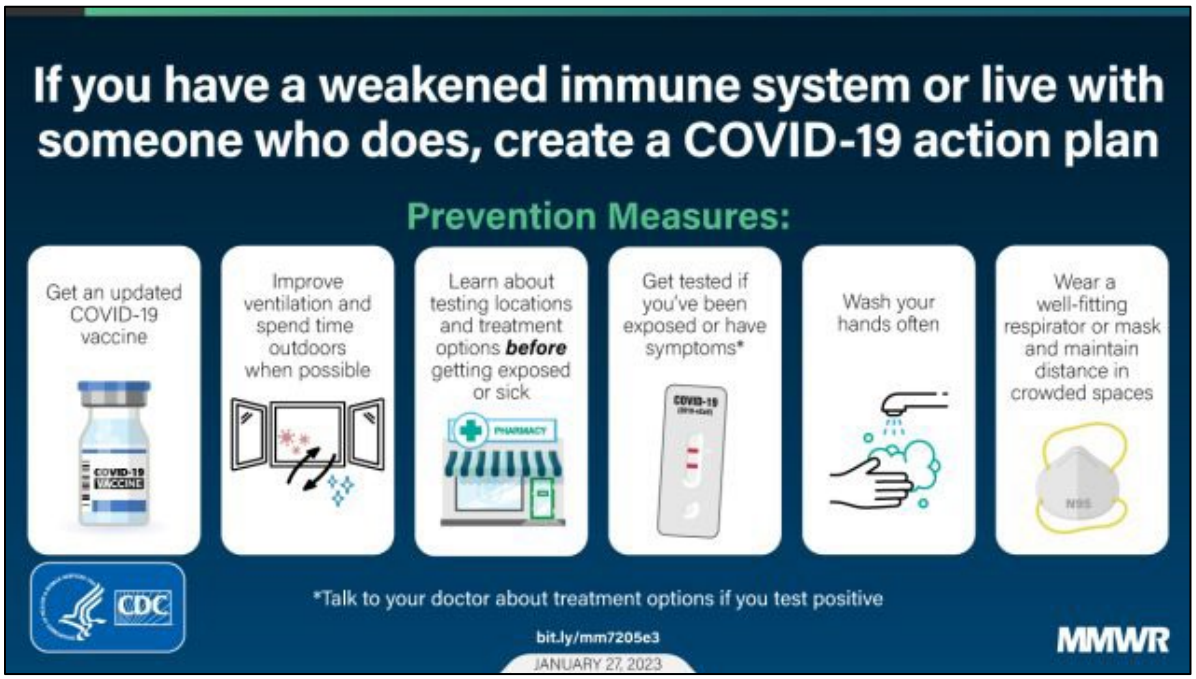
U.S. EPIDEMIOLOGY

This U.S. Epidemiology section discusses the progression of the COVID-19 pandemic over the course of the Annex D Review Period—from April 1, 2022, through January 31, 2023. This section provides information at a national level; the data is not VHA-specific.



CDC Guidance for COVID-19 Prevention, as of January 2023 (Credit: CDC)

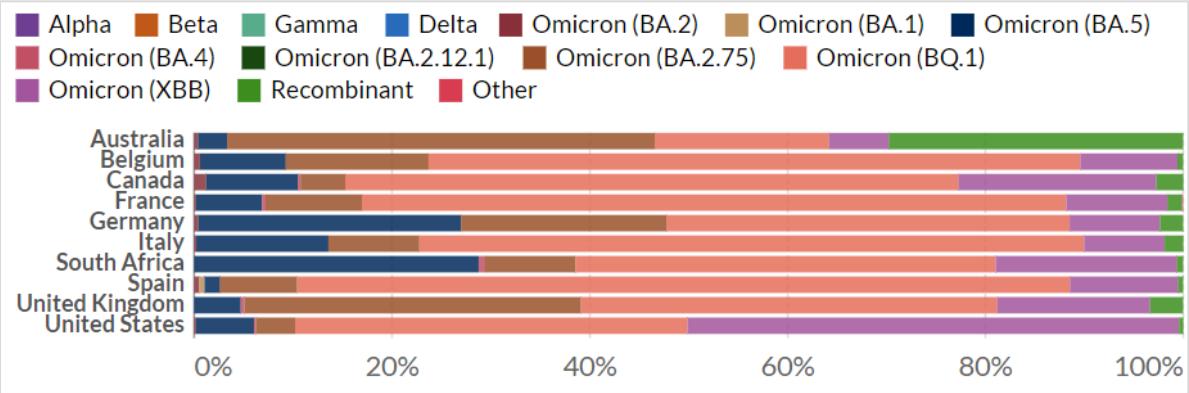
From the start of the pandemic through January 25, 2023, there were more than 102 million confirmed cases of COVID-19 in the United States and more than 1.1 million deaths, as reported by the Centers for Disease Control and Prevention (CDC).[118]

Case counts are believed to be lower than actual infection rates, particularly from February 2020 to September 2021, when CDC estimates that only 1 in 4 cases of COVID-19 was reported.[119]

SARS-CoV-2 Variants & Lineages

Omicron has remained the most common variant since January 2022, but the strain has mutated into multiple lineages or subvariants.[120] During the Annex D Review Period, more than 300 subvariants of Omicron were active around the world.[121] **Figure 3.1** shows select countries and the strains active there, as of January 30, 2023.

Figure 3.1: *SARS-CoV-2 Variants & Lineages in Select Countries, as of 1/30/2023*

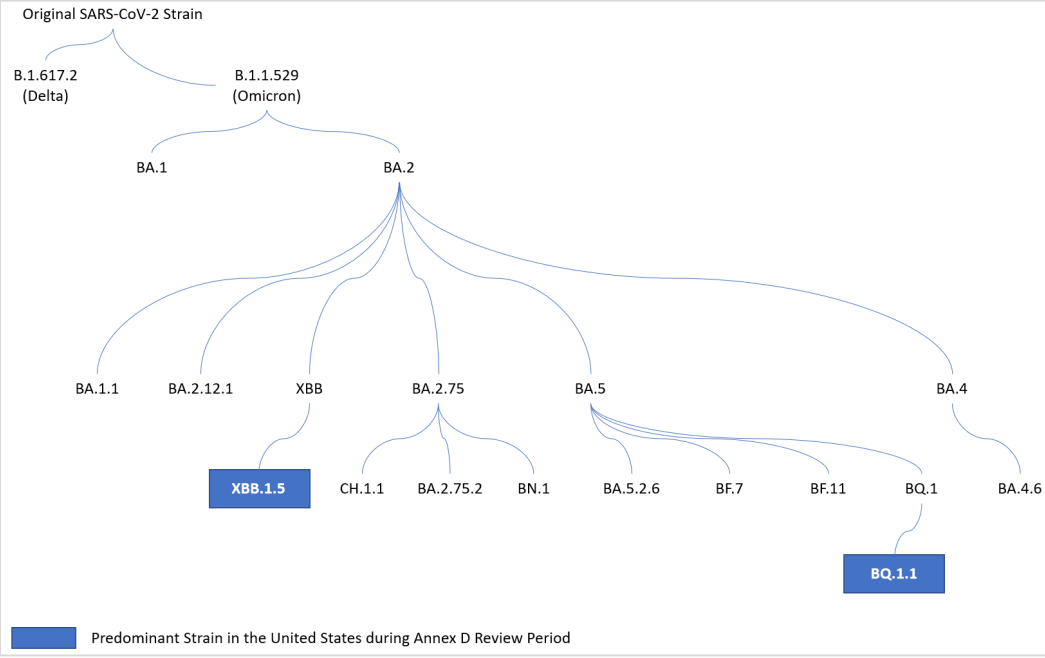


Source: Our World in Data, "SARS-CoV-2 sequences by variant, Jan 30, 2023," accessed 2/6/2023, https://ourworldindata.org/grapher/covid-variants-bar?country=USA~GBR~ESP~ZAF~ITA~DEU~FRA~CAN~BEL~AUS. Ref. D161

At the start of the pandemic, the World Health Organization (WHO) began to assign new variant names based on the Greek alphabet—for instance, Alpha, Delta and Omicron.[122] But as mutations of the individual variants grew more common, lineage names were used with greater frequency because they allowed scientists to differentiate between mutations more easily.[123]

Lineage names—constructed collections of letters, numbers and periods—are established by an organization called the Pango Network.[124] **Figure 3.2** shows the Pango lineages for the more active Omicron subvariants in the United States, as of February 2023.

Figure 3.2: *U.S. Pango Lineages for Select SARS-CoV-2 Variants*

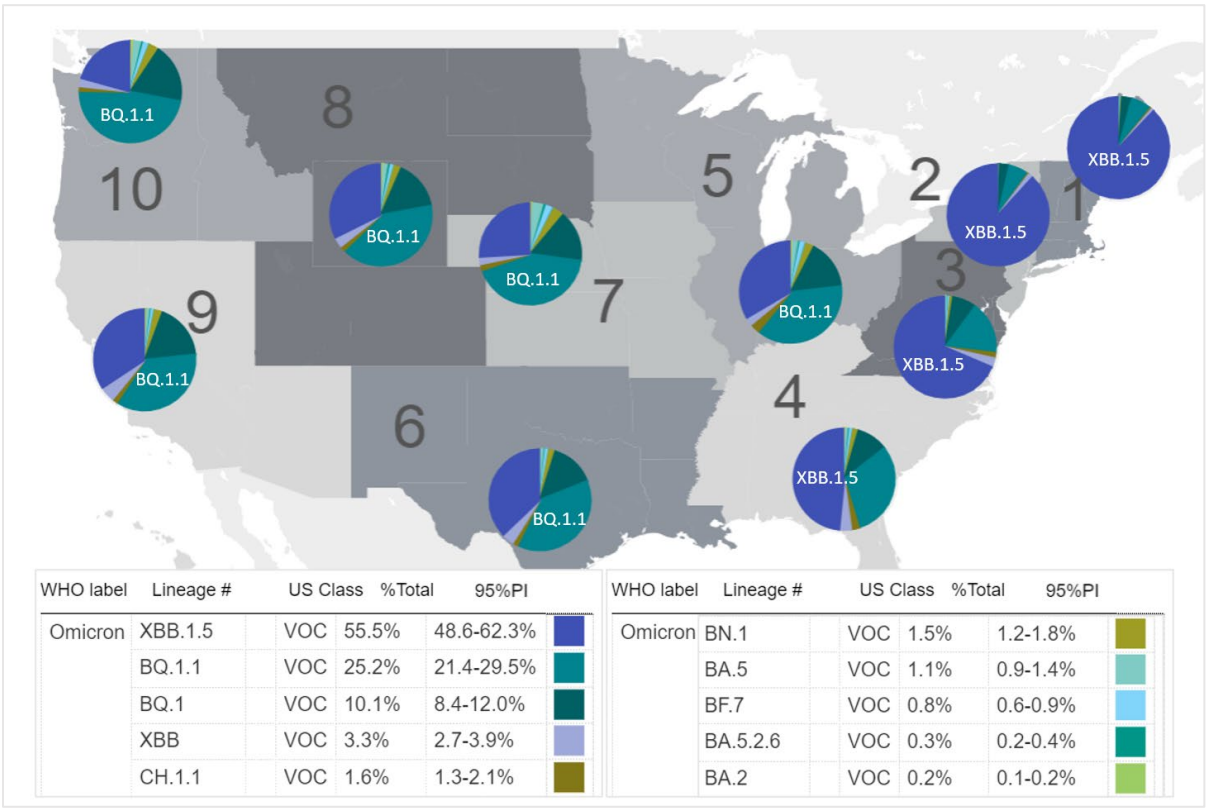


Source: CDC, "Variant Proportions," accessed 2/9/2023, https://covid.cdc.gov/covid-data-tracker/#variant-proportions; CDC, "SARS-CoV-2 Variant Classifications and Definitions," accessed 2/9/2023, https://www.cdc.gov/coronavirus/2019-ncov/variants/variant-classifications.html. Ref.s D120, D122

Regional Distribution of Lineages in the United States

During the Annex D Review Period, the XBB.1.5 Omicron subvariant spread the fastest.[125] As of January 31, 2023, the XBB.1.5 was the most transmittable version of the virus seen throughout the world.[126] However, although XBB and XBB.1.5 accounted for 52% of cases nationally, that number was not evenly distributed throughout the country, as shown in **Figure 3.3**.[127] XBB.1.5 comprised approximately 70% of cases on the East Coast, whereas the BQ.1.1 subvariant continued to make up a larger percentage of cases on the West Coast, particularly in the Pacific Northwest.[128]

Figure 3.3: *CDC Variant Estimates by Region, 1/22/2023 – 1/28/2023*



WHO label	Lineage #	US Class	%Total	95%PI
Omicron	XBB.1.5	VOC	55.5%	48.6-62.3%
	BQ.1.1	VOC	25.2%	21.4-29.5%
	BQ.1	VOC	10.1%	8.4-12.0%
	XBB	VOC	3.3%	2.7-3.9%
	CH.1.1	VOC	1.6%	1.3-2.1%

WHO label	Lineage #	US Class	%Total	95%PI
Omicron	BN.1	VOC	1.5%	1.2-1.8%
	BA.5	VOC	1.1%	0.9-1.4%
	BF.7	VOC	0.8%	0.6-0.9%
	BA.5.2.6	VOC	0.3%	0.2-0.4%
	BA.2	VOC	0.2%	0.1-0.2%

Source: CDC, "Types of Variant Proportions Data," accessed 2/6/2023, https://covid.cdc.gov/covid-data-tracker/#variant-proportions. Ref. D119

National Vaccination Campaign

The national vaccination campaign in the United States is focused on preventing grave illness and death from COVID-19.[129] With support from the White House, U.S.

vaccination efforts continued throughout the Annex D Review Period, including 800 pop-up clinics per week in Los Angeles, California, and at-home vaccination programs in New York, New York, and Chicago, Illinois.[130]

As of January 25, 2023, more than 229.6 million people in the United States (69.2% of the U.S. population) had completed an initial series of COVID-19 vaccination.[131]

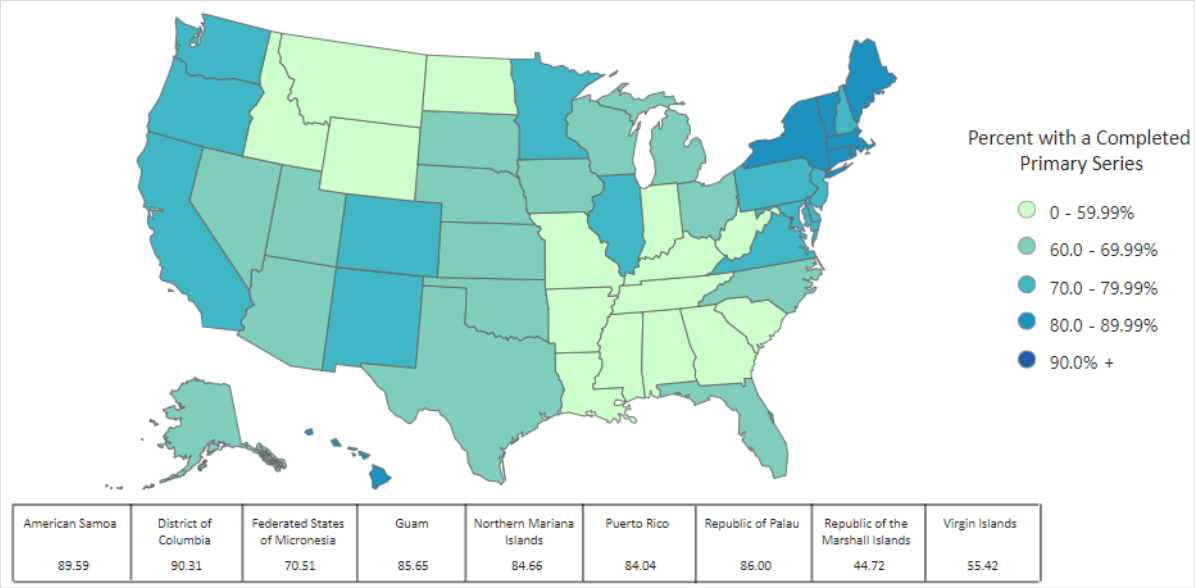
A study conducted across 23 countries found that between 2021 and 2022, vaccine acceptance improved in the United States.[132] From June 2021 to June 2022, acceptance increased by 20.4%.[133] As of June 2022, 19.8% of the U.S. population was considered vaccine-hesitant, compared with 80.2% accepting.[134] Booster acceptance was slightly different—13% vaccine hesitant and 87% accepting.[135]

According to the same study, vaccine hesitancy in the United States was higher for individuals with the following:[136]

- No college-level degree
- Lower-than-median income

Figure 3.4 shows the regional distribution of initial series vaccination, including all 50 states and several U.S. territories, as of January 31, 2023.

Figure 3.4: *Percent of U.S. Population that Completed an Initial Series of Vaccination for COVID-19, as of 1/31/2023*



Source: CDC, "Maps of COVID-19 Vaccinations by Age and Sex over Time," 1/31/2023, accessed 2/14/2023, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-maps. Ref. D127

Bivalent Boosters

On August 31, 2022, the Food and Drug Administration (FDA) expanded its emergency use authorizations (EUA) for Moderna and Pfizer COVID-19 vaccines.[137] The expansion authorized a new bivalent formula for both vaccines to be used as a booster for individuals ages 12 and older (Pfizer), and 18 and older (Moderna).[138] The bivalent formula combined two mRNA strands for antibody production—one targeting the original virus, and one targeting two Omicron variants of the SARS-CoV-2 virus.[139] On October 12, 2022, FDA expanded the EUAs even further to include younger children: 5 years and older (Pfizer) and 6 years and older (Moderna).[140]

A study published by CDC in February 2023 found that the bivalent booster added increased protection against symptomatic infection from the XBB and XBB.1.5 subvariants.[141] This protection applied to adults who had already received between 2 to 4 doses of previous vaccination and received the bivalent within 3 months of the study.[142]

In another CDC study (also published in February 2023), researchers found that the bivalent booster offered significant protection against death from COVID-19, including higher protection than the monovalent vaccine.[143] The sub-variants active at the time of this study were BA.4 and BA.5.[144]

Bivalent Booster Uptake

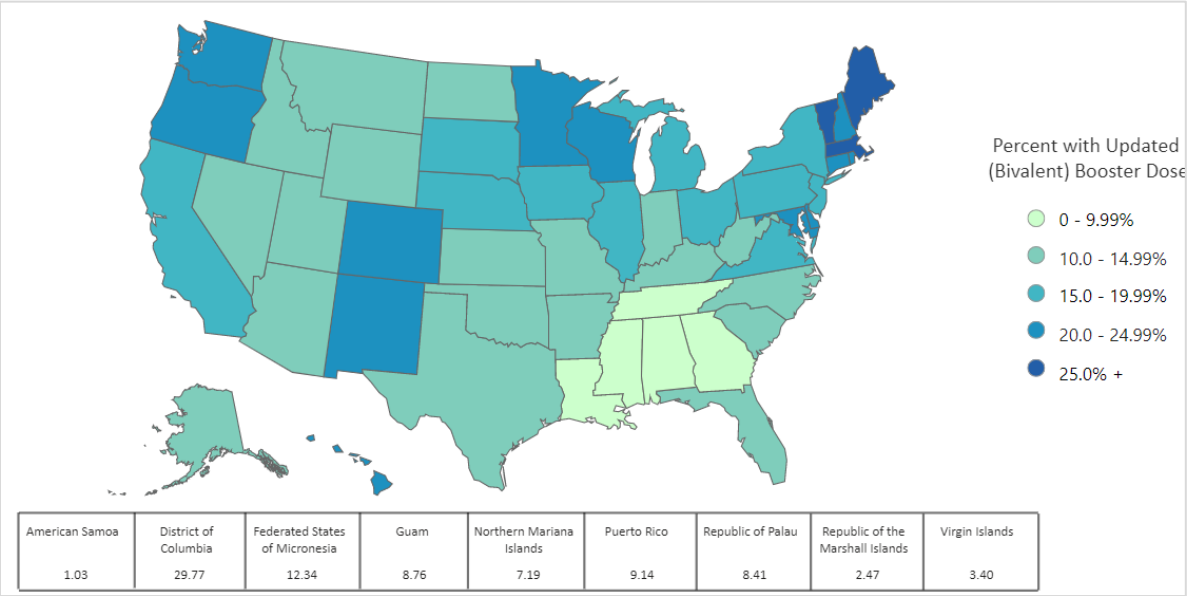
As of January 31, 2023, nearly 41.7 million people in the United States had received a bivalent booster—19.9% of the total U.S. population.[145] **Figure 3.5** shows the percent of people in each state who had obtained a bivalent booster.

There was a significant difference in uptake between the bivalent booster (19.9%) and the initial series of vaccination (69.9%) in the U.S. population.[146] In an online survey of 1,200 people conducted in November and December 2022, respondents indicated the following reasons for limited uptake of the bivalent booster:[147]

- Limited awareness of eligibility (23.2%)
- Limited awareness of vaccine availability (19.3%)
- Beliefs about immunity against infection (18.9%)

Respondents were able to choose more than one option when selecting their reasons.[148]

Figure 3.5: *Percent of U.S. Population that Received a COVID-19 Bivalent Booster, as of 1/31/2023*



Source: CDC, "Maps of COVID-19 Vaccinations by Age and Sex over Time," 1/31/2023, accessed 2/14/2023, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-maps. Ref. D128

The survey offered participants information about the booster, including eligibility and availability, and 67.8% of participants indicated that they planned to obtain a bivalent booster after viewing that information.[149] In a follow-up conducted one month later, 28.6% of those respondents reported they had obtained their bivalent booster.[150] Of the participants who planned to receive a bivalent booster but had yet to do so, 82.6% indicated that they still intended to obtain it, but many (35.6%) reported that they had been too busy to do so.[151]

Future Vaccinations

On January 26, 2023, FDA announced revisions to its COVID-19 vaccination policies.[152] Rather than administering initial vaccination doses followed by frequent boosters, FDA adjusted to an annual vaccination plan similar to the approach currently taken for influenza.[153]

Going forward, FDA plans to make an annual determination of the dominant SARS-CoV-2 strain and engage with the Vaccines and Related Biological Products Advisory Committee in order to determine a recommendation for a vaccine composition that will be released each fall.[154]

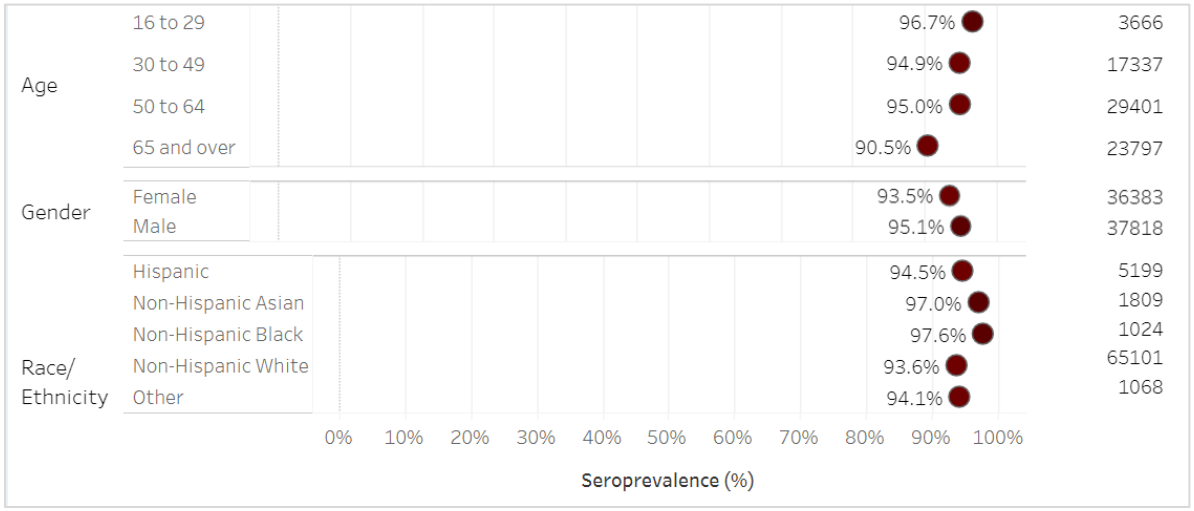
Seroprevalence

Seroprevalence studies focus on estimating the number of people with antibodies in their blood, indicating a past infection or vaccination.[155] These studies can provide unique insight into the actual spread of a disease because cases can be under-reported due to mild or asymptomatic cases.[156]

As of May 15, 2022, CDC estimated that 58.7% of people in the United States had SARS-CoV-2 antibodies in their blood following a COVID-19 infection.[157] This was based on a longitudinal study of approximately 143,000 blood samples.[158] Seroprevalence for vaccination- and infection-induced antibodies together totaled 94.3% across the Nation.[159]

Figure 3.6 depicts rates of combined (infection- and vaccination-induced) seroprevalence throughout the United States, as of June 2022.

Figure 3.6: *Combined Seroprevalence within the United States, April – June 2022*



Source: CDC, "2022 Nationwide COVID-19 Infection- and Vaccination-Induced Antibody Seroprevalence (Blood donations)," April – June 2022, accessed 2/27/2023, https://covid.cdc.gov/covid-data-tracker/#nationwide-blood-donor-seroprevalence-2022. Ref. D160

CDC emphasized that this study estimated only the number of people who had detectable antibodies for SARS-CoV-2; it could not determine a level of protection from future infection based on these antibodies.[160]

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TESTING & GENOMIC SEQUENCING

As of January 31, 2023, VHA had performed more than 11.8 million COVID-19 polymerase chain reaction (PCR) and antigen tests; this number does not include undocumented self-tests performed outside VHA facilities.[161]

During the Annex D Review Period, VHA testing and genomic sequencing efforts served an important role in the prevention and containment of COVID-19 through continued engagement in the national public health surveillance effort.[162] VHA tracked and monitored COVID-19 outbreaks and variants of concern that were designated by CDC.[163] VHA also provided this data to national and local public health organizations to inform COVID-19 response guidance.[164]

VHA leadership reported that continued COVID-19 testing and surveillance would be essential in the preparation for a future transition from a pandemic to endemic state.[165]

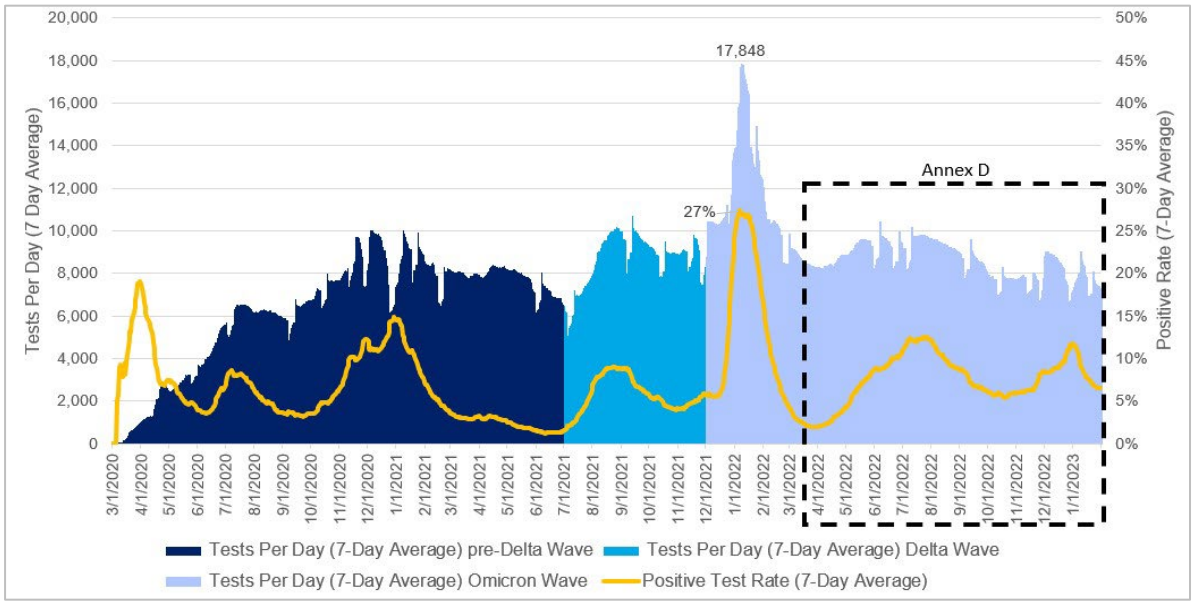
Testing

During the Annex D Review Period, COVID-19 surged in July and December 2022, associated with VHA COVID-19 daily testing positivity rates of 15% or higher in subsequent weeks.[166] Although VHA's peak testing volumes decreased compared to previous peak volumes in the pandemic, VHA administered an average of 8,400 tests per day during the Review Period.[167] VHA leadership reported that the availability of self-testing supplies could account for the decrease in VHA testing demand.[168]

From April 1, 2022, through January 31, 2023, VHA performed 2,588,885 tests.[169] Of the tests performed during the Review Period, 190,340 were documented as positive for COVID-19.[170] Based on a 7-day average, there were two peaks for high COVID-19 positivity rates—both 12% positivity rates, occurring from July through August 2022 and from December through January 2023, as shown in **Figure 4.1**.[171] During the two peak periods, the highest count of positive tests per day were as follows:[172]

- July-August 2022: high of 1,141 positive tests counted per day, wave one
- December-January 2023: high of 788 positive tests counted per day, wave two

Figure 4.1: *VHA-administered COVID-19 Test Volume and Positive Rates for Veterans Using VHA Services, Daily, 3/1/2020 – 3/31/2022*



Note: This figure contains testing data for Veterans Using VHA Services compiled from VHA lab-certified COVID-19 tests, including antigen tests. VA Veteran Employees are excluded from this data.
Source: VHA, CDW, NST Dataset, accessed 2/21/2023. Ref. D65

Self-Testing

The increased use of self-tests for COVID-19 came with benefits and challenges for VHA.[173] VHA leadership reported that the benefits of self-tests included early identification of COVID-19 infection (which meant that the individual could isolate without delay) and immediate access to treatment.[174]

However, because many tests were conducted outside of medical facilities, the results may not have been communicated or documented in Veteran electronic medical records.[175] As a result, VHA could not capture the true volume of Veteran testing or Veteran infection.[176] VHA also could not obtain complete infection data for research or tracking COVID-19 variants.[177]

Additionally, self-tests may have impacted sequencing efforts to identify and track different COVID-19 variants across the United States.[178] Self-test swabs were not sampled by laboratories and therefore could not be sequenced.[179]

Testing Supply

From April 1, 2022, through January 31, 2023, VHA consistently met the national benchmark to return laboratory-processed COVID-19 test results in less than two business days.[180] VHA no longer faced testing supply shortages, which was a major

restriction to swift testing earlier in the pandemic.[181] VHA leaders reported that VHA obtained and used almost every form of FDA-approved test available.[182]

During the Review Period, VHA used a new test, called the Cepheid-brand Xpert Xpress CoV-2/Flu/RSV plus test, which could rapidly detect and differentiate four illnesses with a single test—COVID-19, Flu A, Flu B and respiratory syncytial virus (RSV).[183] VHA leadership reported that this test became the VHA-preferred test and was helpful during winter months when different respiratory illnesses were commonly diagnosed.[184] FDA authorized this test through an EUA and confined its use to approved laboratories.[185]

VHA leadership reported that VHA expects to maintain abundant testing supplies and continue to meet national benchmarks until the COVID-19 pandemic ends.[186] For more information on testing supplies, see the Supply Chain section of this report.

Testing Guidance

In December 2022, VHA released new, uniform testing guidance designed to inform testing policy and procedure across multiple VHA settings, documented in *Guidebook on COVID-19 Testing V3.0*.[187] Based on enhanced knowledge of COVID-19 presentation, evidence-based testing practices, emerging variants of concern and VHA Moving Forward Plans, the new guidebook provided updated policies and procedures for VHA testing activities, including the following:[188]

- Diagnostic screening
- Pre-procedure testing
- Policies for monitoring VHA staff
- Test result interpretation
- Post-exposure protocols

Additionally, the guidebook provided more specialized guidance for a span of varied scenarios and included recommendations for handling resource limitations or logistical challenges.[189]

The VHA *Guidebook on COVID-19 Testing V3.0* provided uniform testing guidance across many clinical settings and specialties.[190] To inform guidance across multiple specialties and settings, VHA sourced professionals from different specialty areas such as supply chain, infectious disease and employee health to contribute to the guide's development.[191] Additionally, VHA sourced clinical professionals from mental health, dental, gastrointestinal (GI) and other areas to provide comprehensive and informed guidance.[192]

VHA leadership reported that in addition to VHA guidance, VHA testing activity continued to follow testing recommendations published by CDC.[193]

Surveillance Testing

During the Annex D Review Period, VHA modified its policies regarding employee testing.[194] Earlier in the pandemic, VHA tailored its employee surveillance testing schedules based on vaccination status and community prevalence levels.[195] VHA used a surveillance dashboard that calculated COVID-19 prevalence in communities to determine how frequently employees needed to be tested.[196]

Under the original policies, certain groups of employees were tested with greater frequency, including:[197]

- Unvaccinated employees
- Employees working in communities with higher rates of COVID-19
- Employees working in congregate living facilities, such as Community Living Centers (CLC) and Spinal Cord Injury (SCI) units

During the Annex D Review Period, VHA eliminated the testing control for vaccination status and no longer required unvaccinated staff to test more frequently than vaccinated staff.[198]

As of January 31, 2023, surveillance testing and screening procedures for visitors to CLCs also had been modified.[199] Rates of testing were adjusted based on community prevalence rates, as calculated by the surveillance dashboard.[200] According to VHA's *Guidebook on COVID-19 Testing V3.0,* when COVID-19 positivity rates were high in the community, visitors were required to test daily at the door or within every three days; when positivity rates were lower, visitors could be screened for symptoms without a test.[201]

Test to Treat

According to VHA leadership, VHA Test to Treat programming improved access to care for Veterans.[202] Test to Treat programs supported declines in COVID-19 hospitalization and mortality by providing early and fast treatment to Veterans.[203]

The programs reduced treatment delays and supported Veterans' receipt of COVID-19 oral medications within the first five days of symptoms, which was critical for treatment efficacy.[204] Because early treatment was important, reducing treatment delays meant that fewer Veterans would be admitted to hospitals, if programming was effective.[205] From April 1, 2022, through January 31, 2023, VHA administered 59,747 courses of either Molnupiravir or Paxlovid—oral antiviral treatments for

COVID-19.[206] For more information about oral antiviral treatments and other COVID-19 medications, see the Clinical Operations section of this report.

During the Annex D Review Period, 11 of 18 VISNs had virtual Test to Treat programs.[207] As of January 31, 2023, the other seven VISNs were working to open VISN-wide Test to Treat programming, which required standardization of pharmacy processes and clinical staff onboarding.[208] In the meantime, these VISNs continued to provide Test to Treat services on a facility-by-facility basis.[209]

Test to Treat Impact

According to VHA leadership, the most valuable impact of virtual Test to Treat programs was fast and easy access to COVID-19 treatment.[210]

VHA virtual Test to Treat programs also provided a model of virtual care that can support other infectious disease responses.[211] The program was set up strategically using protocols that made it scalable for use with other infections or emergencies.[212]

The success of VHA Test to Treat also led to VHA partnerships with other Federal agencies, including CDC, HHS, the National Institutes for Health (NIH) and the Department of Homeland Security (DHS) to prepare and plan for treating other large-scale infections like influenza.[213]

Challenges

Throughout the Review Period, VHA Test to Treat faced challenges, including:[214]

- Managing false negative test results
- Ensuring Veteran use of FDA-approved test kits
- Hiring and onboarding clinical staff

VHA leadership reported that another challenge may arise in the future: If VHA could no longer provide free test kits for Veterans, it could impact the accessibility of the Test to Treat program for vulnerable populations.[215] Specifically, Veterans with limited financial means might not be able to afford to purchase tests.[216]

On April 29, 2022, FDA released a statement to raise awareness about counterfeit COVID-19 self-tests.[217] According to FDA, the counterfeit tests were designed to look like tests that had been authorized for use in the United States, but they were not approved.[218]

To ensure that Veterans used FDA-approved self-test kits, VHA Clinical Contact Centers created a virtual link to the FDA website and required providers and nurses to check that Veterans with symptoms had approved kits.[219] VHA distributed FDA-

approved test kits to Veterans at VA community-based outpatient clinics (CBOCs) and through VA Medical Centers (VAMCs).[220]

Veterans were also able to access FDA-approved test kits in the community at pharmacies and some libraries.[221] Veterans could sign up to receive FDA-approved test kits by mail through the U.S. Postal Service (USPS) free of charge although VHA leadership noted that Veterans would have to know how to sign up for this service.[222]

VHA virtual Test to Treat programs faced challenges with staffing and onboarding for VA Health Connect Clinical Contact Centers.[223] Workforce delays impeded the opening of virtual Test to Treat programs in some VISNs because the programs could not operate without clinical providers linked to the VA Health Connect Clinical Contact Centers.[224]

Sustainability

VHA leadership stated that VHA could not predict the sustained function of its Test to Treat programs for COVID-19 after the expiration of the PHE, which is set for May 11, 2023.[225]

VHA leadership noted that the cost of medication often becomes much higher when FDA approval changes from EUA to licensed medication.[226] The increased cost may impact the success of VHA Test to Treat for COVID-19, which relies on oral COVID-19 medications permitted through EUAs.[227] As of January 31, 2023, additional funding and resources provided to VHA in response to the PHE were not guaranteed upon its expiration.[228]

VHA leadership noted that Test to Treat programs will continue to evolve as Pharmacy Benefits Management (PBM) guidance and other public health policies are issued.[229] Outside of Test to Treat for COVID-19, the system for care coordination that has been established through VHA virtual Test to Treat will continue as a normal part of patient care flow.[230]

Genomic Sequencing

During the Review Period, VHA maintained COVID-19 sequencing activity.[231] VHA's genomic sequencing labs, Sequencing for Research Clinical and Epidemiology (SeqFORCE), performed 37,893 sequences on COVID-19 samples from the beginning of the pandemic through January 31, 2023.[232]

Also during this Review Period, VHA opened its ninth laboratory certified by the Clinical Laboratory Improvement Amendment (CLIA).[233] VHA CLIA labs engaged in

both general testing and genomic sequencing efforts, which informed population health data to track variant spread.[234] The additional laboratory was located in Orlando, Florida.[235] Because VHA had CLIA-certified labs throughout the country, each lab could serve its local region and function as relief for other labs as needed.[236]

During the Review Period, SeqFORCE identified, monitored and tracked all CDC-designated COVID-19 variants of concern, including active Omicron subvariants.[237] This allowed VHA to develop a comprehensive understanding of novel or emerging COVID-19 variants of concern, including the locations of outbreaks across geographic regions.[238]

SeqFORCE continued its engagement in the national public health surveillance effort to map COVID-19 variants across the United States, communicating COVID-19 outbreak and variant data to national and local public health agencies.[239] VHA also communicated this data to VHA employees in various communities and locations to inform testing and containment guidance.[240]

To ensure that data were valid and reliable, VHA leadership requested five random COVID-19 samples from each VA facility that was engaged in testing.[241] The samples, sent weekly to VHA sequencing labs, were required to fulfill sequencing criteria.[242] VHA leadership frequently released national reminder calls to encourage consistent COVID-19 sample submission.[243]

Sustained Role of Genomic Sequencing

VHA leadership emphasized VHA's commitment to preparedness for future infectious disease response.[244] Prompted by the COVID-19 pandemic, VHA developed a strong genomic sequencing structure and garnered a collection of sequencing experts and advanced sequencing instruments within VA.[245]

According to VHA leadership, VHA's advanced sequencing structure could be translated and scaled for use with other forms of viruses, such as monkeypox, Ebola and seasonal flu.[246] As of January 31, 2023, VHA was investigating ways to extend its testing menu to include sequencing diseases, including cancer, and also was testing how a person's genetic makeup could impact the way they respond to medications.[247]

Contributions to COVID-19 Research

During the Review Period, VHA employed a secure, electronic storage space to store VHA sequencing data within an organized system.[248] This server space held VHA's large repository of raw data, including whole genome data, for use in future

research and sequencing analyses.[249] VHA leadership reported that VHA research teams could use these data to inform ongoing investigations of COVID-19, including Long COVID and COVID-19 vaccine effectiveness.[250]

VHA continued to provide COVID-19 sequencing data to both national and global sequencing efforts.[251] During the Review Period, VHA worked to standardize its process of organizing and storing sequencing data to be compatible with the Global Initiative on Sharing Avian Influenza Data (GISAID) database that partners with the World Health Organization (WHO).[252] GISAID is a platform used to share information about all flu viruses, including the SARS-CoV-2 virus that causes COVID-19.[253] The GISAID database holds more than 15,000,000 genome sequence submissions from across the world.[254] Once VHA completes this standardization process, it will contribute its repository of COVID-19 sequencing data from the United States to GISAID.[255]

VACCINATIONS

Studies of the effectiveness of the COVID-19 vaccine found that vaccinated individuals were less likely to be hospitalized or die from COVID-19 infection.[256] Individuals who received a booster dose of the bivalent vaccine also had increased protection against severe COVID-19.[257]

During the Annex D Review Period, VHA vaccination efforts focused on communicating with Veterans about vaccines, including encouraging booster doses.[258]

Vaccination Terminology

- **Initial series completed**: 2 doses of Pfizer or Moderna or 1 dose of J&J
- **Received initial booster**: one monovalent booster administered (not bivalent update)
- **Received second booster**: second monovalent booster dose administered
- **Received bivalent booster**: one updated bivalent booster administered

Source: VHA leadership, response to data questions, 4/11/2022; VHA, "Vaccinations at VA," accessed 3/1/2023, https://www.va.gov/health-care/covid-19-vaccine/booster-shots-and-additional-doses/. Ref. D167

As of January 31, 2023, a total of 4,317,861 Veterans Using VHA Services had completed an initial COVID-19 vaccination series—56.14% of Veterans Using VHA Services.[259]

Of the Veterans Using VHA Services in the past year (February 1, 2022 – January 31, 2023), 63.94% had completed an initial COVID-19 vaccination series.[260] Veterans who had previously completed an initial COVID-19 vaccination series but had not used VHA services in the past year (February 1, 2022 – January 31, 2023) are not included in this population.[261]

Since the bivalent booster was approved by FDA on August 31, 2022, a total of 854,204 Veterans Using VHA Services received a dose of the bivalent booster—approximately 11.11% of all Veterans Using VHA Services.[262]

During the Annex D Review Period, the demand for vaccines and booster doses was lower than VHA leadership had anticipated.[263] However, some Veterans continued to get vaccinated and began receiving booster shots.[264]

In an effort to vaccinate Veterans in settings that were easily accessible, VHA administered vaccinations at VA facilities and informed Veterans about vaccination options in community locations (including local pharmacies and urgent care facilities).[265] When the updated bivalent booster became available in September 2022, VHA also administered doses of the updated vaccine booster to Veterans.[266]

Table 5.1 provides data on Veteran vaccinations as of January 31, 2023, including doses administered by VHA at VHA facilities, as well as doses administered at community settings outside VHA (when that data was reported to VHA). Vaccination status was accurate and true to the best of VHA's knowledge as of the publication of this report, but these counts may not reflect all vaccinations administered outside VA.

Table 5.1: *Veterans Using VHA Services Vaccinations, 12/14/2020 – 1/31/2023*

	Initial Series Completed		Received Initial Booster		Received Bivalent Booster	
	Number of Veterans	% of Population	Number of Veterans	% of Population	Number of Veterans	% of Population
Administered by VHA	2,465,769	32.06%	1,382,025	17.97%	697,576	9.07%
Administered to Veterans Outside VHA	1,852,092	24.08%	955,282	12.42%	156,628	2.04%
Administered by VHA and Outside VHA	**4,317,861**	**56.14%**	**2,337,307**	**30.39%**	**854,204**	**11.11%**

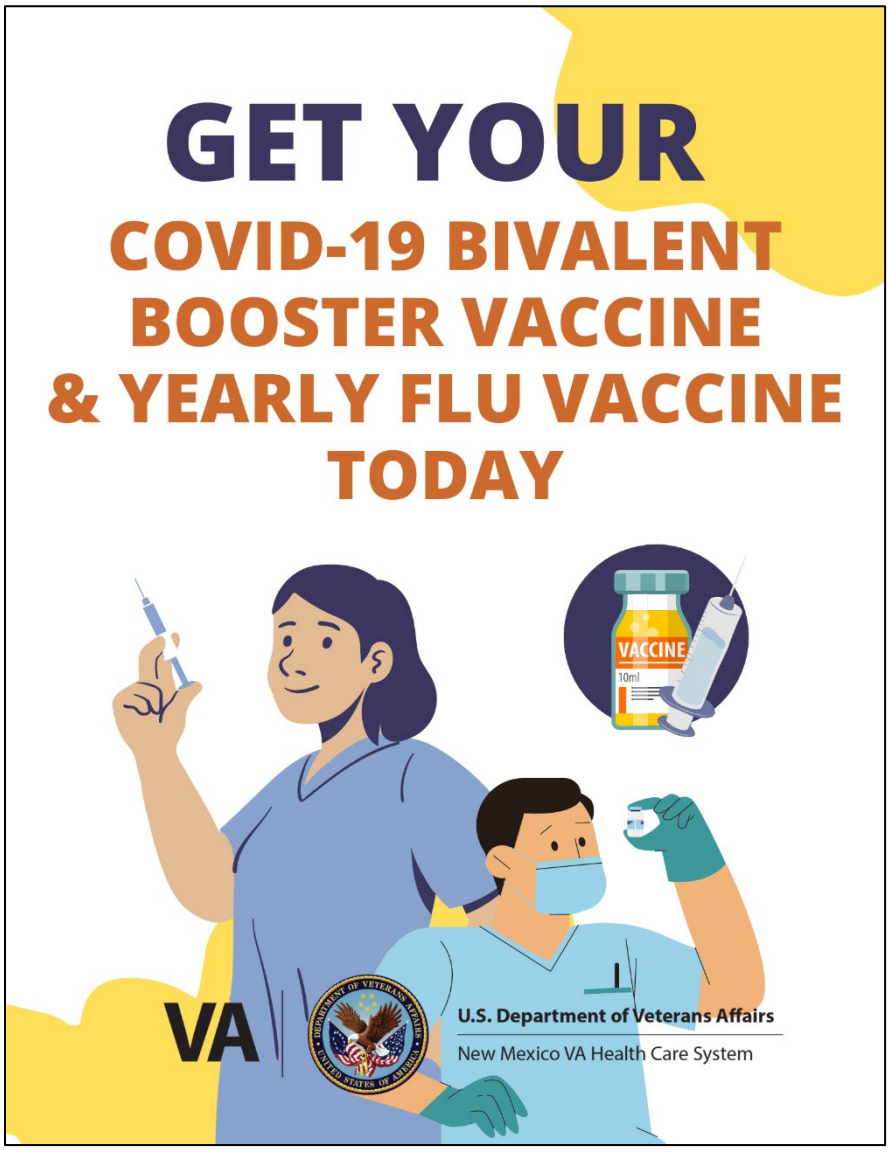
Note: Veterans Using VHA Services are Veterans who used VHA services from 10/1/2019 through 1/31/2023 and were alive as of January 1, 2020. Veterans Using VHA Services figures exclude VHA employees. Terms: Administered by VHA includes vaccinations administered by VHA; Administered to Veterans Outside VHA includes self-reported vaccinations administered outside VHA and data from states who signed agreements with VHA to share their COVID-19 vaccination information. Veteran vaccination counts are for Veterans Using VHA Services who have completed the initial COVID-19 vaccination series as of 1/31/2023. Initial Series Completed is defined as having received two doses of either the Moderna or Pfizer COVID-19 vaccine or one dose of the J&J COVID-19 vaccine. Received Initial Booster counts includes individuals who received an additional dose of Moderna, Pfizer or J&J COVID-19 vaccine after the initial series. Received Bivalent Booster includes those who received a dose of a Moderna or Pfizer Bivalent Vaccine. Boosters may be a different COVID-19 vaccine than the initial series. Values may change depending on when the data is accessed because VHA may retroactively update Veterans' vaccination status. Totals may not add due to rounding.
Source: VHA, CDW, VSSC, accessed 2/24/2023. Ref. D61

New Vaccines

Through spring and summer 2022, VHA administered monovalent boosters (developed based on the original strain of the SARS-CoV-2 virus), but when FDA approved the bivalent version on August 31, 2022, VHA began providing bivalent boosters exclusively.[267]

At the height of demand, VHA provided 51,953 doses of monovalent booster during the week of April 18, 2022, and 70,024 doses of bivalent booster during the week of October 17, 2022.[268] As of January 2023, approximately 11% of Veterans Using VHA Services (more than 854,000 Veterans) had received the bivalent booster.[269]

During the Annex D Review Period, FDA approved an additional vaccine for use in the United States—the two-dose Novavax vaccine primary series and first booster dose, which was recommended for individuals for whom an FDA-authorized mRNA bivalent COVID-19 booster vaccine was not accessible or clinically appropriate.[270]



Source: VHA, "One Visit, Two Vaccines," 10/12/2022.

Novavax used a more traditional type of vaccine technology than other COVID-19 vaccines—technology that has been used to combat other diseases in the past.[271] However, VHA providers found that many of those who needed a non-mRNA vaccine had already obtained the Johnson and Johnson (J&J) vaccine, and the vast majority of Veterans who wanted COVID-19 vaccination had already received an initial dose.[272] Therefore, Novavax was not heavily administered to Veterans or in the

general population during the Annex D Review Period and is not included in the Report's vaccination data reporting.[273]

Vaccination Data Sharing & the IZ Gateway

Early in the pandemic, VHA recognized a significant challenge in obtaining Veteran immunization records from state databases.[274] When vaccines were approved for public use, no immunization records were being shared between states and VHA; therefore, VHA did not have information or visibility into Veterans' complete vaccination records.[275]

The lack of data-sharing created difficulties; neither VHA nor the state health boards had a complete picture of who needed outreach and vaccination.[276]

One method of data-sharing did exist—the Immunization Gateway (IZ Gateway), managed by CDC.[277] CDC led the effort to create the IZ Gateway, a secure cloud-based message routing service through which states, territories and Federal agencies could request vaccination records for specific individuals with an automated tool.[278] The IZ Gateway included data-sharing capabilities beyond COVID-19 vaccinations, allowing states, VHA and other Federal agencies to share needed health record data securely in the event of another public health emergency.[279]

IZ Gateway access allowed organizations to update electronic health records (EHRs) and share those records with participating agencies and government bodies.[280] This allowed the states and VHA to update EHRs for Veterans with current vaccination records, giving states and VHA a more complete view into Veteran health.[281]

To use the IZ Gateway, each organization—including each state government—was required to sign legal agreements and meet compatibility standards for the IZ Gateway system.[282] This included agreements for sharing data, provider data exchange, open access and analytics capabilities.[283] Without these agreements, data-sharing was not possible, even if the records were in the system.[284]

VHA Sending Data

During the Review Period, VHA began providing Veteran data to state and territory health boards through the IZ Gateway; information on Veteran vaccinations in VHA facilities was passed to approximately 30 state and territory immunization registries.[285]

For states to gain access to Veteran EHRs for vaccination records, VHA representatives met with CDC and state government representatives to determine legal agreements for records-sharing back to the states.[286]

VHA Receiving Data

As of January 31, 2023, VHA had not yet begun to receive data from state governments through the IZ Gateway.[287] VHA leadership anticipated receiving information from states on Veteran vaccination records beginning in spring 2023.[288]

Eventually, VHA leadership aims for all immunization records to be accessible to states and VHA through continued engagement in the IZ Gateway and data-sharing agreements with individual states.[289]

VHA Vaccine Campaigns

VA initiatives to promote and encourage COVID-19 vaccination have been in place since the first COVID-19 vaccines were introduced in December 2020.[290]

During the Annex D Review Period, VHA took the following actions:

- Launched a new vaccine campaign named One Visit, Two Vaccines[291]
- Participated in interagency coordination efforts related to vaccine acceptance[292]
- Focused efforts on equitable vaccination access for vulnerable populations[293]

One Visit, Two Vaccines

During the Annex D Review Period, VHA launched a new initiative to encourage vaccinations called One Visit, Two Vaccines.[294] This program offered Veterans the opportunity to receive both an updated COVID-19 booster and a seasonal influenza vaccine in a single visit.[295] One Visit, Two Vaccine programming was nationwide and included all VAMCs and other VHA facilities throughout the United States.[296]

Interagency Coordination on Vaccinations

During the Review Period, VHA met regularly with an interagency working group about vaccine acceptance.[297] The group was led by communications experts within CDC and included representatives from DHS, HHS and FDA.[298]

As of January 2023, the Vaccines and Related Biological Products Advisory Committee, which advises the FDA Commissioner, was strategizing about possible changes to vaccine recommendations, including an annual COVID-19 vaccine based on prevalent strains worldwide.[299] VHA leadership emphasized that VHA planned to

continue to work with CDC and FDA regarding future vaccination strategies for both the general public and the Veteran community.[300]

In January 2023, the Vaccine Adverse Event Reporting System (VAERS)—managed by FDA—alerted providers to the possibility of increased risk of stroke with the new Pfizer bivalent booster.[301] VHA, in collaboration with FDA and CDC, conducted a preliminary study using Veteran data to assess the risk of ischemic stroke in the days following a Pfizer bivalent booster.[302] The study found no causal connection between the booster and increased risk.[303]

Veteran receiving COVID-19 vaccination at the Aleda E. Lutz VAMC (VHA photo)

Also during this Review Period, VHA filled a newly established full-time position for a liaison with HHS.[304] The person holding this position will facilitate many different aspects of emergency response and management.[305] The role is crucial to the continued communication between VHA and HHS through the COVID-19 pandemic and future pandemics with vaccine strategy and deployment.[306]

Vaccination for Vulnerable Populations

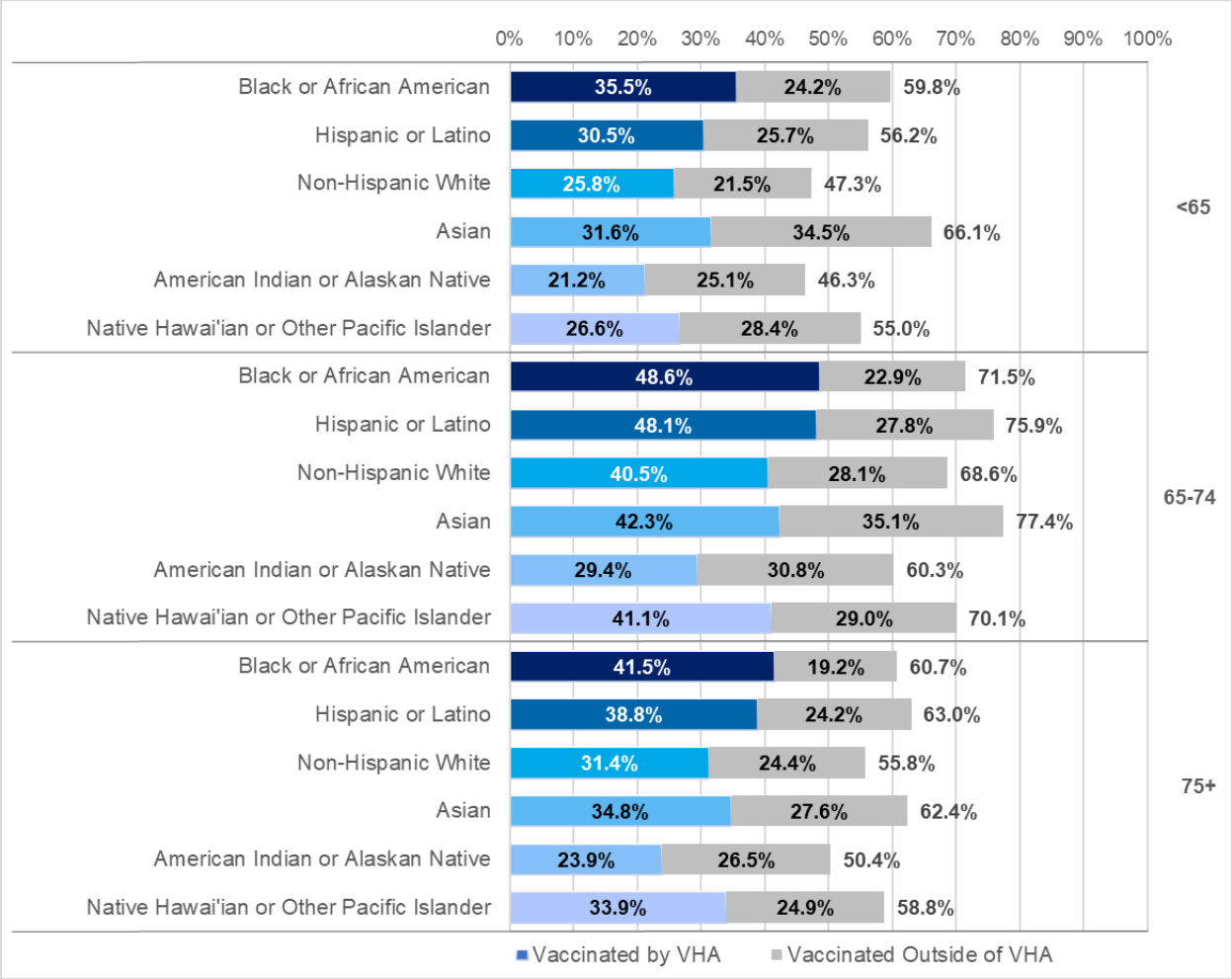
With the support of its Office of Health Equity (OHE), VHA continued to track vaccination rates among vulnerable subgroups throughout the Review Period.[307]

As of January 31, 2023, VHA used its vaccine equity dashboard to track vaccination by age, race and ethnicity.[308] The tool allowed VHA to verify vaccine access and uptake across groups and to help decision-makers allocate resources to promote vaccination among less immunized groups.[309]

VHA incorporated information from listening sessions and other best practices—such as addressing past injustices head-on—to providers in COVID-19 toolkits.[310] OHE published and distributed infographics on racial and minority health, debunking

COVID-19 vaccine myths.[311] As of January 31, 2023, Veterans of Color were more likely to be vaccinated than White Veterans, as depicted in **Figure 5.1**.[312]

Figure 5.1: *Veteran Vaccination Rate by Age Group/Race/Ethnicity, 12/1/2020 – 1/31/2023*

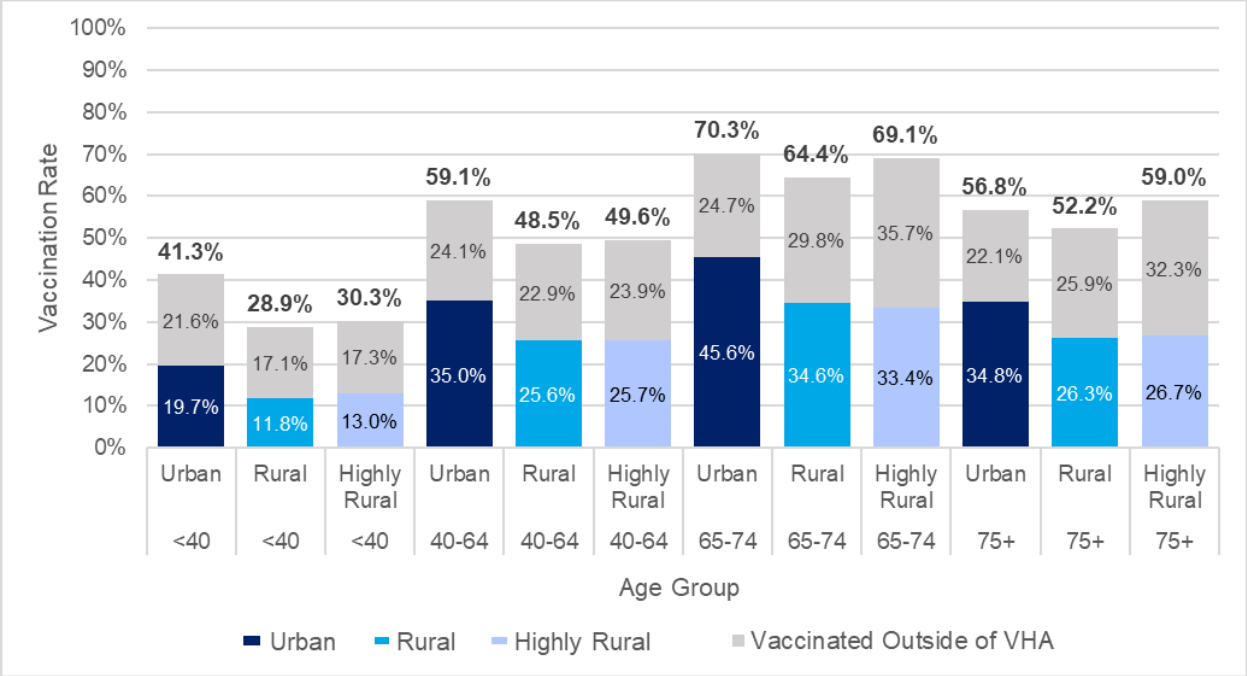


Note: Veterans Using VHA Services are Veterans who used VHA services from 10/1/2019 through 1/31/2023 and were alive as of January 1, 2020. Veterans Using VHA Services figures exclude VHA employees. Vaccinations include those administered by VHA, self-reported vaccinations administered outside VHA, and states that signed agreements with VHA to share their COVID-19 vaccination information. Veteran vaccination counts are for Veterans Using VHA Services who have completed the initial COVID-19 vaccination series as of 1/31/2023. Completed initial vaccination series is defined as having received two doses of either the Moderna or Pfizer COVID-19 vaccine or one dose of the J&J COVID-19 vaccine. Excludes Veterans who are multiple races. Veterans who identified as "Hispanic or Latino" are included only in the "Hispanic or Latino" population for this figure. Vaccination numbers may change depending on when the data is accessed because VHA may retroactively update Veterans' vaccination status. Totals may not add due to rounding.
Source: VHA, CDW, VSSC, accessed 2/16/2023. Ref. D61

Rural Veteran Vaccination

During the COVID-19 pandemic, rural Veterans were less likely to be vaccinated against COVID-19 than their urban counterparts—a trend that continued into the Annex D Review Period.[313] **Figure 5.2** shows Veteran vaccination by age and rurality of residence.

Figure 5.2: *Veteran Vaccination Rate by Age Group and Rurality, 12/1/2020 – 1/31/2023*



Notes: Veterans Using VHA Services are Veterans who used VHA services from 10/1/2019 through 1/31/2023 and were alive as of January 1, 2020. Vaccinations include those administered by VHA, self-reported vaccinations administered outside VHA, and states that signed agreements with VHA to share their COVID-19 vaccination information. Veteran vaccination counts are for Veterans Using VHA Services who have completed the initial COVID-19 vaccination series as of 1/31/2023. Completed initial vaccination series is defined as having received two doses of either the Moderna or Pfizer COVID-19 vaccine or one dose of the J&J COVID-19 vaccine. Vaccination numbers may change depending on when the data is accessed because VHA may retroactively update Veterans' vaccination status. Rurality is based on the RUCA system, which consists of 33 tiers. VHA further consolidates the tiers into Urban, Rural, Insular Islands, Highly Rural and Unknown. Highly Rural is defined as a sparsely populated census tract with less than 10% of the working population commuting to an urbanized cluster community. Urban is defined as at least 30% of the population residing in an urbanized area as defined by the Census Bureau. Insular Islands include the U.S. Virgin Islands, Guam, American Samoa and the Northern Mariana Islands and are not included in this chart. Rural is defined as all other land areas.
Source: VHA, CDW, VSSC, accessed 2/16/2023. Ref. D61

To address rural Veteran needs, VHA utilized the Rural Health COVID-19 Decision Support Tool to monitor COVID-19 outbreaks at the county level and to inform decision-making about where and when to deploy vaccination resources.[314] Community-based leadership, with already established trust, played a large role in

encouraging vaccination and boosting in rural populations.[315] VHA also provided user-friendly appointment makers on VAMC pages for Veterans to get their vaccine appointments easily.[316]

For more information on Rural Veterans, see the Health Equity section of this Report.

Community Living Centers

CLCs are VA nursing homes.[317] There are more than 100 CLCs throughout the United States, all offering skilled nursing care to Veterans.[318] CLCs aim for a home-like environment: Veterans are encouraged to decorate their rooms, pets are allowed to remain with their owners in the facilities and visitors are encouraged (although this changed during certain points of the pandemic).[319] These facilities work to restore Veterans to well-being while also providing a comfortable place for end-of-life care.[320]

Vaccination for CLC residents and staff remained a priority for VHA during the Review Period.[321] VHA monitored vaccination levels at CLCs on a biweekly basis.[322] As of January 31, 2023, VHA was attempting to track each CLC Veteran's initial series vaccination and monovalent boosters and was also working to develop a data-tracking system to record bivalent doses and future COVID-19 booster doses of individual Veterans, both administered and reported by Veterans at the CLCs.[323]

Because residents of CLCs change frequently, VHA faced challenges in initial data tracking for this group of Veterans.[324] Although some Veterans received their vaccinations and boosters at CLCs, others came to the centers vaccinated in the community or not at all.[325]

Higher resident turnover had some benefits: CLCs were able to reach a wide range of Veterans because of these frequent resident changes while also administering and tracking their vaccinations.[326]

SAVE LIVES Act

As part of the Strengthening and Amplifying Vaccination Efforts to Locally Immunize All Veterans and Every Spouse (SAVE LIVES) Act, certain groups of people were eligible to receive their initial COVID-19 vaccine doses (and later boosters) at a qualifying Veteran's appointment.[327] These people included: [328]

- Veterans not eligible for VA health care
- Caregivers and spouses of Veterans

- Civilian Health and Medical Program of the Department of Veterans Affairs (CHAMPVA) recipients

As of January 31, 2023, VA had administered 133,099 vaccines to Veterans, CHAMPVA recipients and Veteran caregivers and spouses.[329] Although caregivers and spouses could get their vaccine and boosters in the community, many chose VA for their care.[330]

VHA Employee Vaccination Mandate

Under VHA Directive 1193, all VHA health care personnel (HCP) were required to receive an initial series of vaccination or to apply for medical or religious exemption.[331] Boosters were not required but were highly encouraged and were available to VHA staff at VA facilities.[332]

VHA leadership reported that VHA employees, like many people throughout the United States, had begun to experience vaccine fatigue; many had not kept up with the latest boosters and vaccines.[333] Despite potential fatigue, VHA Directive 1193 (the VHA Employee Mandate) remained in effect throughout the Review Period.[334] **Table 5.2** shows employee counts for the HCP cohort, related to compliance with VHA Directive 1193.

Table 5.2: *VHA Employee Mandate Compliance, HCP Cohort, as of 1/31/2023*

Total VHA HCP Cohort	Submissions for VHA Vaccine Mandate Compliance	Compliant with VHA Vaccine Mandate (# (%) of VHA HCP)	Requested Exemption (# (%) of VHA HCP)	Exemption under review (# (%) of VHA HCP)	Not found/ failed review (# (%) of VHA HCP)
379,732	342,514	315,536 (92.1%)	30,623 (8.9%)	2,602 (0.8%)	1,202 (0.3%)
Note: Total VHA HCP includes VHA paid employees. Data for this table is as of 2/3/2023. Source: VHA, Combined Briefing, 2/3/2023. Ref. D24					

Enforcing the Mandate

As of January 31, 2023, VHA maintained its staff records of immunization in the Light Electronic Action Framework (LEAF) data system.[335] VHA staff who applied for an exemption from the mandate also did so through the LEAF system.[336]

Earlier in the pandemic, unvaccinated staff members were required to conduct periodic testing for COVID-19; however, this policy ended during the Review Period.[337] Instead, all VHA staff were screened for fevers or symptoms and required to test only if there was an outbreak within a health care unit.[338] There were some

exceptions to the change in testing protocol: unvaccinated CLC staff were required to continue twice-weekly testing to ensure that the more-vulnerable elderly population in CLCs received a higher level of protection.[339]

According to VHA leadership, approximately 20% more staff in CLCs had received their initial series of vaccination as well as a bivalent booster, compared to national nursing home staff.[340]

As of the conclusion of the Review Period, seven VHA employees had been terminated for non-compliance with the VHA vaccination policy.[341] Staff were not terminated for refusing to be vaccinated but rather for non-compliance with safety protocols or for refusing to respond to LEAF requirements, which required staff to either vaccinate or apply for exemption.[342] Across several VISNs, unvaccinated clinical staff could be relocated from vulnerable population wards as a reasonable accommodation for vaccination status, at supervisor discretion.[343]

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RESEARCH & INNOVATION

Through its Office of Research and Development (ORD) and Office of Healthcare Innovation and Learning (OHIL), VHA has contributed to scientific advancement regarding SARS-CoV-2 and COVID-19.

During the Annex D Review Period, ORD published studies, initiated new clinical trials and continued research partnerships.[344] OHIL adapted advanced technologies to the medical field and expanded its 3D-printing capabilities.[345]

Research

VHA leaders reported that from April 1, 2022, through January 31, 2023, VHA continued its support of COVID-19-related research, including studies focused on Long COVID and therapeutics.[346]

From April 1, 2022, through January 31, 2023, ORD conducted the following research activities:

- Published 707 VA-affiliated studies[347]
- Initiated 3 new clinical trials[348]
- Engaged in a multi-agency partnership to conduct a non-interventional COVID-19 study using real-world evidence (RWE)[349]
- Utilized knowledge and protocols established from its rapid COVID-19 response to efficiently organize emerging infectious disease response[350]

During the Review Period, VHA also participated in 169 multi-site COVID-19 research studies and 523 single-site COVID-19 research studies (a total of 692 COVID-19 research studies) at 81 different VAMCs.[351]

As of January 31, 2023, VHA was looking to expand its emerging infectious disease research portfolio.[352] Leveraging infrastructure that was established during the COVID-19 response, VHA will broaden its focus to include other critical infectious diseases like clostridium difficile (C. difficile), a bacterial infection of the colon.[353] C. difficile typically affects older hospitalized patients and patients in long-term care following antibiotic therapy and has a high relapse rate.[354]

Active Research Studies

VHA leadership reported that ORD researchers were honored by the number of Veterans who participated in studies, trials and the COVID-19 registry.[355] As of March 29, 2022, 3,574 volunteers were enrolled in the COVID-19 registry.[356] Of those volunteers:[357]

- 437 were enrolled in 1 or more clinical trial.
- 53% self-identified as a minority.
- 25% self-identified as female.
- 35% were over the age of 65.

During the Annex D Review Period, VHA initiated three new therapeutic trials related to COVID-19.[358] **Table 6.1** provides details on these newly initiated therapeutic trials.

Table 6.1: *Newly Initiated COVID-19 Therapeutic Trials, 4/1/2022 – 1/31/2023*

Trial Title	Name of Product	Trial Phase	Partner Organization	Description
Strategies and Treatments for Respiratory and Infections and Viral Emergencies (STRIVE)	Shionogi Protease Inhibitor (S-217622)	III	National Institute of Allergy and Infectious Diseases (NIAID)	This study, Trial 1 of the STRIVE platform protocol, will examine the efficacy of using S-217622 in addition to standard care for hospitalized COVID-19 patients. The STRIVE protocol will be applied to additional studies. During this period, 19 VHA sites were engaging in STRIVE. One site was planning to begin enrollment in February 2023.
Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV) -4a: A Multicenter, Adaptive, Randomized Controlled Platform Trial of the Safety and Efficacy of Antithrombotic and Additional Strategies in Hospitalized Adults With COVID-19	Pharmacologic Anticoagulation	IV	National Heart, Lung, and Blood Institute (NHLBI)	This study will examine the effectiveness of using different doses of blood thinners for inpatients with COVID-19. As of January 31, 2023, one VAMC was engaged in ACTIV4-a.
ACTIV-4c: COVID-19 Post-hospital Thrombosis Prevention Trial: An Adaptive, Multicenter, Prospective, Randomized Platform Trial Evaluating the Efficacy and Safety of Antithrombotic Strategies in Patients With COVID-19 Following Hospital Discharge	Apixaban	III	NHLBI	This study will examine the efficacy of using blood thinners to prevent thrombotic events in patients not requiring hospitalization at the time of COVID-19 diagnosis. As of January 31, 2023, three VHA sites were participating in ACTIV-4c.

Source: VHA ORD, response to research questionnaire, 2/6/2023; VHA ORD, response to research questionnaire, 9/27/2022; Clincialtrials.gov, "Strategies and Treatments for Respiratory Infections; Viral Emergencies (STRIVE): Shionogi Protease Inhibitor," https://clinicaltrials.gov/ct2/show/NCT05605093, accessed 2/6/2023, NIH, "Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV)," https://www.nih.gov/research-training/medical-research-initiatives/activ, accessed 2/15/2022. Ref.s D22, D27, D41, D45

In addition to new studies, VHA continued work on previously initiated studies. **Table 6.2** displays eight selected trials that were active as of January 31, 2023. This list includes studies that were completed in the Annex D Interim Review Period.

Table 6.2: *Summary of Selected Previously Initiated COVID-19 Therapeutic Trials, 4/1/2022 – 1/31/2023*

Name of Product	Trial Phase	Sponsor/Funding Type	Title and Trial Status
Nitazoxanide (NTZ)	III	Romark Medical Institute/Private	Post-exposure prophylaxis in patients with COVID-19 and other respiratory illnesses in elderly residents of long-term-care facilities **Status:** Study completed; analyzing data
Nitazoxanide (NTZ) 2	III	Romark Medical Institute/Private	Post-exposure prophylaxis in patients with COVID-19 and other respiratory illnesses in health care workers **Status:** Study completed; analyzing data
Ramipril	III	UC San Diego/ Academic	Prevention of ICU admission, mechanical ventilation or death in persons with COVID-19 **Status:** Study completed; analyzing data
hIVIG	III	NIH/Agency Collaboration	Treatment of hospitalized adult patients at onset of clinical progression of COVID-19 **Status:** Study completed 5/21/2021, results have been posted to Clinicaltrials.gov
Leronlimab (PRO 140)	III	CytoDyn/Private	Treatment of patients with severe or critical COVID-19 **Status:** Active, not recruiting
ACTIV-2 (multiple)	III	NIH/Agency Collaboration	Treatment of COVID-19 in outpatients looking at the safety and effectiveness of different drugs under a master protocol **Status:** Active, not recruiting; estimated completion date: 6/22/2023
ACTIV-3 (multiple)	III	NIH/Agency Collaboration	Study on safety and effectiveness of different drugs in treating COVID-19 in people who have been hospitalized with the infection; treatments involve study drug plus current standard of care (SOC), or with placebo plus current SOC **Status:** Active, not recruiting; estimated completion in July 2023

Name of Product	Trial Phase	Sponsor/Funding Type	Title and Trial Status
OTAC	III	University of Minnesota/NIH/ Agency Collaboration	Treatment of adult outpatients in early stages of COVID-19 **Status:** Active and recruiting
Source: VHA ORD, response to research questionnaire, 2/6/2023; VHA ORD, response to questionnaire, 3/24/2022; VHA, ORD, response to questionnaire, 8/19/2021; VHA, data response, 6/2/2022; ClinicalTrials.gov, "OTAC," https://clinicaltrials.gov/ct2/show/NCT04910269?term=OTAC&draw=2&rank=1, accessed 6/2/2022; VHA, vetting response, 5/16/2022. Ref. D22			

As of January 31, 2023, VHA had participated in three ongoing COVID-19 vaccination trials.[359] One trial was completed in December 2022.[360] These trials, their status and phase are detailed in **Table 6.3** below.

Table 6.3: *Previously Initiated COVID-19 Vaccine Trials, 4/1/2022 – 1/31/2023*

Intervention	Trial Phase	Partner Organization	Trial Status
Ad26.COV2.S	III	Janssen J&J	This study was active as of January 31, 2023, but closed to enrollment, with an estimated completion date of June 30, 2023.
mRNA-1273 (Moderna)	III	Moderna	The study was completed on December 29, 2022.
SARS-CoV-2 rS with Matrix-M1 Adjuvant	III	Novavax	This study was active as of January 31, 2023, but closed to enrollment, with an estimated completion date of June 30, 2023.
Note: No new vaccine trials were initiated during this review period. Source: VHA ORD, response to questionnaire, 2/6/2023. Ref D22			

VHA initiated two new non-interventional COVID-19 studies during the Annex D Review Period.[361] These studies and descriptions are detailed in **Table 6.4**.

Table 6.4: *Newly Initiated Non-Interventional COVID-19 Studies, 4/1/2022 – 1/31/2023*

Project Title	Description
CSP #2038: COVID-19 Pharmacotherapy Effectiveness in the VA Healthcare System (COPE-VA)	This study used RWE to inform clinical and operational strategies to find the optimal use of medication to treat moderate and mild COVID-19. As of January 31, 2023, COPE-VA was working to build a rapid-response platform to determine and compare the effectiveness of current and novel COVID-19 medications. This study was approved for funding on October 1, 2022.

Project Title	Description
Effectiveness of mRNA COVID-19 vaccines against Omicron and Delta variants in a matched test-negative case-control study among U.S. veterans	This data analysis focused on estimating m-RNA vaccination booster dose effectiveness for Delta and Omicron variants of COVID-19. **Study Findings:** Among a population of mostly older men, the analysis determined the mRNA booster to be similarly effective against severe disease and death. The booster was determined to be moderately more effective against the Delta variant than against the Omicron variant. However, the mRNA booster dose was found to be highly effective against COVID-19 hospitalization and death.
Source: VHA ORD, response to questionnaire, 2/6/2023; VHA ORD, response to questionnaire, 9/27/2022. Ref.s. D22, D41	

VHA also participated in a diagnostic study to examine two point-of-care COVID-19 diagnostic tests and compare their reproducibility to tests run in a central laboratory.[362] For more details regarding this study, see the Annex D Interim Report.

VAIRRS and a National Perspective

VHA leadership emphasized the importance of approaching research from a national perspective.[363] Leaders stated that in the future a national approach will be critical to help VHA respond rapidly to emergencies, connect researchers with related interests and prevent duplications of research efforts.[364]

In support of this national approach, VHA began implementing the VA Innovation and Research Review System (VAIRRS) to log and review VA research projects across the United States.[365] Using VAIRRS, an online submission and review system, allowed VHA to adjust the strategic direction of its research and conduct process improvement through the management of training and continuing operations.[366]

Through VAIRRS, information about VHA research projects is stored in a central location, resulting in national visibility.[367] These projects receive funding from sources that include ORD, the VHA Central Office (VHACO) program offices and external funding organizations (including NIH and DoD).[368]

To enhance its user experience, VAIRRS includes dashboards designed to provide data insights to users.[369] These dashboards are self-updating and automated through a weekly update.[370] VAIRRS data informs and supports research-related decisions.[371]

VAIRRS usage began in October 2020; as of January 31, 2023, a total of 106 research sites were using this system.[372] VHA leadership reported that all VAMCs will eventually transition to using VAIRRS.[373]

Genomic Sequencing & VA SeqCURE

During the Annex D Review Period, the network of research labs known as VA Sequencing Collaborations United for Research and Epidemiology (VA SeqCURE) added a new VAMC, expanding its research to a total of six VAMCs across the country.[374] VA SeqCURE, a collaborative organization focused on public health surveillance, was established to study SARS-CoV-2 and identify variants through genomic sequencing.[375]

VA SeqCURE also continued to assist VA sites in sequencing excess specimens to identify COVID-19 variants.[376]

During the Annex D Review Period, VA SeqCURE used the knowledge it gained from the pandemic response to expand its detection analysis capabilities to other emerging infectious diseases, including VHA-identified critical infectious diseases like C. dificile.[377] In collaboration with DoD, VA SeqCURE also reported that it was working to analyze Veteran data to determine the efficacy of the monkeypox and smallpox vaccinations.[378] Service members receive vaccination against smallpox in case the disease is used as a biological weapon.[379]

Research Partnerships

During the Annex D Review Period, sharing data with other VA partners and agencies continued to be a priority for VHA.[380] Collaboration between organizations informed—and will continue to inform—policy decisions in clinical practices.[381]

VHA leadership reported that VHA intends to build on partnerships established during COVID-19 to expand into other areas of mutual common interest, including infectious diseases.[382] Continuing these relationships supports the application of research to the clinical setting.[383] Some high-level VHA collaborations from the Annex D Review Period are highlighted in the following subsections.

COPE-VA

VHA continued its participation in the COVID-19 Pharmacotherapy Effectiveness in the VA Healthcare System (COPE-VA) during the Annex D Review Period.[384] This study used RWE to analyze VHA medical data to gain insight on COVID-19 treatments.[385]

During the Review Period, a scientific peer review committee favorably reviewed COPE-VA.[386] COPE-VA involved a multi-agency partnership between FDA, the Biomedical Advanced Research and Development Authority (BARDA) and several VHA offices, including VA health services researchers through the COVID-19 Observation Research Collaboratory (CORC).[387] This study was approved for funding in October 2022, and the agencies continued to collaborate, as of January 31, 2023.[388]

Emory University

In August 2022, two VA organizations established a partnership with Emory University.[389] Funded by NIH, the collaboration aimed to analyze the efficacy of Paxlovid treatment for Veterans.[390]

The two VA organizations involved were ORD's COVID-19 biorepository—called VA Science and Health Initiative to Combat Infectious and Emerging Life-Threatening Diseases (VA SHIELD)—and VA SeqCURE.[391]

National Biodefense Strategy and Implementation Plan

As a result of VHA's COVID-19 response, ORD was included in other Federal activities surrounding infectious diseases.[392] The White House Office of Science and Technology Policy (OSTP) organized an interagency working group called the National Biodefense Strategy and Implementation Plan for Countering Biological Threats, Enhancing Pandemic Preparedness and Achieving Global Health Security.[393]

The group aimed to review lessons learned from the COVID-19 response to prepare for future emerging infectious disease response.[394]

RECOVER

During the Annex D Review Period, VHA continued to collaborate with NIH though the Researching COVID to Enhance Recovery (RECOVER) initiative.[395] VHA contributed to studies on mortality, suicide and mental health.[396] VHA and NIH met to discuss mutual areas of interest for RECOVER.[397]

This national program focused on studying post-acute sequelae (PASC) of COVID-19, including Long COVID.[398] As of January 31, 2023, RECOVER was actively recruiting volunteers: The study had room for up to 40,000 volunteers, including adults and children.[399]

Innovation

During the Review Period, OHIL continued to focus on 3D printing, adapting technology to health care and preparing for future rapid responses to public health crises.[400] OHIL's innovation ecosystem also initiated a pilot program, Care Cadre, to support rural Veterans.[401]

3D Printing

3D printing can help health care facilities produce much-needed devices and supplies in times of crisis.[402] Recognizing the potential benefits of 3D printing, VA was an early adopter of this technology.[403]

When faced with the challenges of COVID-19, including supply chain issues and increased demand for certain supplies, VHA expanded its use of this innovation.[404] Contests and collaborations focused on technological creativity encouraged rapid development of new projects, such as 3D masks.[405]

As of January 31, 2023, VHA was considering the uses of 3D-printing technology in future emergencies.[406] During the Annex D Review Period, OHIL developed a digital stockpile of blueprints for 3D-printed medical devices, based on a retroactive analysis of potential high-demand goods.[407] In future crises, these blueprints can be used to print the supplies needed, which should forestall supply chain interruptions.[408]

In addition to future planning, VHA continued to explore the potential uses of 3D-printed supplies to combat COVID-19.[409] For instance, during the Annex D Review Period, VHA-designed, 3D-printed nasal swabs underwent testing to compare the 3D-printed swabs to commercially available COVID-19 nasal swabs.[410] Through this additional testing, VHA's 3D-printed nasal swabs were validated by performing with the same level of accuracy as commercially available swabs.[411] These swabs, developed over the course of the pandemic, were designed to offset supply chain gaps experienced during COVID-19.[412]

For more information about digital stockpiling and VHA nasal swabs, see the Annex D Interim Report.

VHA also created a 3D-printed mask that could be reused more than a hundred times.[413] OHIL is investigating recleaning and repurposing other 3D-printed devices.[414] The more sustainable devices would reduce VHA's environmental impact from single-use devices and would reduce costs.[415]

VHA has also applied 3D printing to other areas of patient care.[416] During the Annex D Review Period, FDA reviewed and cleared 2 of VHA's 3D-printed medical tools through its 510(k) clearance process—a patient-specific jaw surgical guide and a patient-matched radiotherapy bolus (which lies over areas being treated with radiation therapy to target a specific section of the body).[417] VHA leadership expressed the importance of the 510(k) clearances in establishing VHA as a manufacturer and developed a foundation for future digital stockpiling efforts.[418] The 510(k) clearances and the rapid efforts established to support the COVID-19 response demonstrated VHA's deep understanding of the safety and regulatory needs for medical devices.[419]

The 510(k) clearance is a 90-day advanced notification submitted by manufacturers to FDA before marketing the device.[420] The premarket notification is submitted to demonstrate the efficacy and determine the likeness of the device to other marketed devices.[421] VHA leadership reported that patient-specific, 3D-printed devices like these allow VHA to streamline Veteran care and improve cancer treatments.[422]

Use of Leading Edge Technology to Enhance Veterans' Care

During the Annex D Review Period, VHA used advanced technologies to support its pandemic response, including augmented reality (AR) and artificial intelligence (AI).[423]

VHA used AR to provide mental health support to COVID-19 patients.[424] For example, disoriented Veterans hospitalized with COVID-19 were offered AR headsets to reduce stress.[425] Rehabilitation practices used AR to turn mundane tasks into engaging simulation games.[426]

OHIL leveraged AI and deep-learning algorithms to analyze large amounts of data related to COVID-19.[427] Deep-learning algorithms seek to mimic the human brain when analyzing text, images and other unstructured data.[428] VHA leadership reported that AI-assisted programs produced meaningful insights that supported VHA's study of Long COVID.[429]

Reimagining Veteran Health Care

The COVID-19 pandemic changed the landscape of health care.[430] The Reimagining Veterans Health Care (RVH) project, part of the VHA Innovation Ecosystem, was designed to gain understanding of the pandemic's impact and use that insight to build better health care for Veterans.[431]

In 2021, the RVH team connected with Veterans and caregivers (80 individuals in total) to gain insights into Veteran needs.[432] Based on its findings, the RVH team developed 11 solution concepts to improve VHA health care service for Veterans.[433]

Care Cadre Program Pilot

The Care Cadre solution concept focused on addressing Social Determinants of Health (SDoHs) in non-clinical environments, including Veterans residing in rural areas.[434]

Many Veterans expressed feelings of isolation and loneliness during the pandemic.[435] COVID-19 also created specific challenges for VHA when trying to engage with underserved populations in rural communities.[436] In-person health care for rural communities can be complex: Patients have to travel farther, increasing the time commitment required for each appointment.[437] In addition, many Veterans lack dependable methods of transportation.[438]

The Minneapolis VA Health Care System (VAHCS) began the Care Cadre Program Pilot in December 2022.[439] The pilot offered companionship and non-clinical support services to Veterans in rural areas.[440] Because the Minneapolis VAHCS serves a large geographic area, home health agencies could not support all of the Veterans who lived within their jurisdiction, particularly those who lived far outside the city centers.[441]

Through a third-party provider, Veterans were paired with companions to provide in-home social support.[442] The companion visits typically lasted 2 hours, and Veteran participants could use up to 8 hours a month.[443] The companions provided transportation to appointments and assessed care gaps that might require VA intervention.[444] The pilot program planned to engage with at least 50 Veterans and was expected to conclude in April 2023.[445]

Looking Toward the Future

As of January 31, 2023, VHA leadership reported that OHIL's approach to innovation was shifting to a more collaborative and proactive approach.[446] Using knowledge gained from the pandemic response, OHIL was analyzing ways to apply its knowledge to emerging infectious disease and rapid responses to national crises.[447]

Leaders in OHIL emphasized the importance of early stakeholder involvement in innovation activities.[448] Ensuring that all employees, leadership and inter-agency partnerships were involved, with established roles, from the beginning of the innovation project resulted in more efficient and productive projects.[449] By prioritizing

stakeholder involvement, VHA leadership hoped to enhance innovation, allowing support to quickly reach Veterans and the U.S. population.[450]

OHIL leadership reported that the pandemic allowed VHA to focus on its most critical goals in patient care.[451] Through the COVID-19 emergency, VHA recognized the necessity of scanning the health care climate to determine important areas moving forward.[452] For instance, VHA leadership noted that OHIL was considering the hospital space as a potential area for innovation.[453] The organization was working to determine how VHA could innovate the design of physical hospital spaces to amplify Veteran care.[454]

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HEALTH EQUITY

In its National Veteran Health Equity Report released in September 2022, VHA reiterated its commitment to improving care for Veterans who still experience disparities.[455]

VHA has made progress in closing health equity gaps; compared with the U.S. health care system as a whole, studies have found that disparities were lower under VHA care.[456] Research studies have attributed the mitigation of disparities to the following factors:[457]

- Outreach to high-risk Veterans, based on previously gathered data on race and ethnicity
- Fewer barriers to care for Veterans of Color, compared to People of Color in the general population
- Existing patient-clinician relationships, which allowed VHA providers to screen Veterans for increased risk, contact those who were high-priority for vaccination and communicate with Veterans about COVID-19 precautions

VHA continued to work to address ongoing disparities within its facilities and services.[458]

VHA Office of Health Equity Activities

The VHA Office of Health Equity (OHE) champions eliminating health disparities in Veteran care.[459] From April 1, 2022, through January 31, 2023, OHE continued to provide support for Veteran care in populations that experience health disparities.[460] As stated in the VHA Health Equity Action Plan, published in November 2022, OHE was taking the following actions:[461]

- Improving awareness about the importance and impact of health disparities
- Encouraging VHA leadership to focus on addressing health disparities
- Educating VA clinicians about health disparities and barriers to improve health care outcomes for vulnerable populations
- Providing training and learning resources to VA employees and Veterans
- Collaborating with VA offices to enhance cultural and linguistic competency
- Developing programs to encourage diversification of the clinical workforce

As of January 31, 2023, OHE had increased its focus on Veterans experiencing Long COVID—a condition that was more likely to affect female patients (within and outside VHA).[462] OHE also released a report about health disparities in COVID-19 treatment, which can be accessed at the following link:

https://www.va.gov/HEALTHEQUITY/docs/VHA_OHE_COVID-19_Equity_Response_Final_508_February_2023.pdf.[463]

Impact of COVID-19 on Health Equity

A study released in January 2023 analyzed specialty care wait times within VHA across 1.16 million Veterans, covering a time period that included pre-pandemic and pandemic data: October 1, 2018, through March 10, 2020, and March 11, 2020, through September 30, 2021.[464] The study focused on two specialties—cardiology and orthopedics—because they were two of the most commonly used services for Veterans, both within VHA and through community care.[465]

Findings indicated that wait times increased during the pandemic for all patients, which was unsurprising to researchers because care throughout the United States was disrupted by the pandemic.[466] Although care disparities that existed before COVID-19 persisted, one of the two specialties (cardiology) had only slightly longer wait times for Veterans of Color—an increase of 4.48 days for White Veterans, 4.87 days for Veterans of Color and 5.09 days for Hispanic Veterans.[467]

Researchers hypothesized that the reason cardiology's disparities were lower stemmed from VHA's work to increase telehealth early in the pandemic, which led to a rapid expansion of access.[468] Some studies have indicated that Veterans of Color use telehealth with greater frequency, which may have helped to reduce inequity.[469]

By comparison, the orthopedic specialty within VHA saw a greater disparity in increased wait times—on average, 2.45 days longer for a Veteran of Color to get an appointment than a White Veteran.[470]

Disparities in orthopedic access to care are not unique to VHA; in fact, according to a study released during the Review Period, nationwide orthopedics (not specific to the VA workforce) had the lowest percentage of Black, Indigenous and Other People of Color (BIPOC) and female clinicians of any medical and surgical specialty—a workforce disparity that may contribute to inequities.[471]

Veterans of Color & Vaccine Uptake

In the United States as a whole, Black and Hispanic populations were less likely than the White population to be vaccinated against COVID-19.[472]

Within VA, Veterans of Color were more likely to be vaccinated than White Veterans (more than 71%, compared with 68.9%).[473] A study released in 2021 hypothesized that the reasons for increased uptake in Veterans of Color might include:[474]

- Fewer logistical challenges for VA patients of color, compared to patients of color in community health care systems
- Higher community care usage for White Veterans (who may have been vaccinated at non-VA facilities)
- Greater concern about COVID-19 infection and death from Veterans of Color

VHA leadership stated that during the Annex D Review Period, there were fewer pronounced differences in rates of hospitalization between Veterans of Color and White Veterans, compared to earlier in the pandemic.[475]

LGBTQ+ Veterans

Approximately 1 million Veterans Using VHA services are estimated to be in the lesbian, gay, bisexual, transgender and queer identities (LGBTQ+) community—close to 6% of all Veterans.[476] VHA reported that some LGBTQ+ Veterans expected to experience discrimination at VHA facilities, which may have hampered their access to care.[477]

During the Annex D Review Period, VHA improved the LGBTQ+ Veteran experience in VA health care.[478] From April 1, 2022, through January 31, 2023, VHA took the following actions:

- Created an LGBTQ+ Health Program with full-time staff[479]
- Added Self-identified Gender Identification (SIGI) to health care forms[480]

LGBTQ+ Health Program

VA founded the LGBTQ+ Health Program with an understanding of the stigma and discrimination that LGBTQ+ Veterans have faced in the past.[481] As of January 31, 2023, the LGBTQ+ Health Program had a full-time team that was tasked to collect and analyze data related to sexual orientation and gender in the Veteran population.[482]

The Healthcare Equality Index (HEI) recognized health care facilities that demonstrated equitable treatment and inclusion of LGBTQ+ patients; in 2022, a total of 77 VAMCs were designated as top performers in the program.[483]

Self-identified Gender Identification

During the Review Period, VHA included SIGI on health care forms for the first time, allowing it to capture identity data from thousands of Veterans.[484]

In the past, the lack of data about LGBTQ+ identification made assessing disparities difficult.[485] VHA began collecting pieces of SIGI data in EHRs as early as 2016.[486]

However, a Government Accountability Office (GAO) report issued in October 2020 noted that VA did not have SIGI data for 89% of its Veteran records—an issue that impacted VHA's ability to accurately assess needs for its patients.[487] Although it lacked SIGI data, VHA had directed its clinicians to care for patients based on gender identity since 2011, but more data was needed to do so properly.[488]

OHE plans to continue enhancing data collection and analysis and to continue providing training to practitioners who will be better equipped to care for the LGBTQ+ Veteran community.[489]

2022 Monkeypox Outbreak

In May 2022, the United States experienced an outbreak of monkeypox.[490] VHA leadership reported that the lessons learned from the COVID-19 pandemic helped VHA address the outbreak.[491]

Early on, the illness was concentrated in LGBTQ+ and human immunodeficiency virus (HIV)–positive people, including Veterans.[492] To support these Veterans, VHA focused communications on Veterans at high risk and set up vaccination campaigns aimed at the LGBTQ+ Veteran population.[493]

Initially, only limited supplies of the monkeypox vaccine were available in the United States.[494] VHA experienced this shortage along with the rest of the health care industry.[495] However, as of January 31, 2023, VHA had procured sufficient doses and delivered them to Veterans who were considered high-risk for the condition.[496]

Veterans in Rural Locations

As of the Annex D Review Period, approximately 4.7 million Veterans lived in rural and highly rural settings—a quarter of all U.S. Veterans.[497] Of that number, 2.7 million Veterans were enrolled with VA (approximately 30% of all enrolled Veterans).[498] Approximately 55% of rural Veterans were older than 65.[499]

According to the VA Office of Rural Health (ORH), rural communities have continued to face the following conditions that have impacted their health care:[500]

- Higher rates of poverty
- A greater number of elderly residents
- Higher rates of poor health
- Fewer clinicians and medical facilities

VHA leadership reported that Veterans in rural areas often lived far away from VHA facilities and acute care; as a result, many rural individuals relied on local community hospitals.[501]

Rural Veterans & COVID-19

Veterans in rural areas had greater difficulty accessing appropriate COVID-19 care than Veterans in more urban settings.[502] Veterans in rural communities were also less likely to be vaccinated against COVID-19 than their urban counterparts.[503]

To support Veterans in rural areas through the COVID-19 pandemic, VHA utilized its Test to Treat programs, which allowed eligible Veterans (rural and urban) to meet with clinicians virtually and to obtain medication through the mail.[504] However, a substantial percentage of rural Veterans (27%) did not have access to the internet in their homes, which may have impacted their access to Test to Treat and other telehealth care.[505]

Improving Health Care for Veterans in Rural Settings

To encourage greater care for Veterans in rural settings, VHA instituted incentives for caregivers who volunteer to work in higher-need areas.[506] For instance, the Office of Academic Affiliations Nurse Residency Program offered scholarships to pay for nurse training if, upon completion of residency, the nurses relocated to a rural (or other high needs) health care facility.[507]

As with other minority groups (including female and LGBTQ+ Veterans), VHA allocated specific resources to address the health needs of rural Veterans.[508] Veterans Integrated Service Network (VISN) Rural Consults (VRCs) collaborated with VACO, ORH and VAMCs to provide better experiences and outcomes for rural Veterans.[509]

American Indian/Alaska Native Veterans

As of the end of January 2023, approximately 334,000 U.S. Veterans identified themselves as AI/AN, either exclusively or in addition to other racial identities.[510] According to VA Mental Health Services, AI/AN Veterans were:[511]

- More likely to experience suicidal ideation
- More likely to express distrust of outsiders (including health care clinicians)
- More likely to have served in combat positions during their military service
- Twice as likely to experience post-traumatic stress following their service

AI/AN Veterans & COVID-19

AI/AN communities were more affected by COVID-19 than their counterparts.[512] A study published in October 2022 compared AI/AN Veteran COVID-19 infections with infections in the White non-Hispanic Veteran community.[513] The study aimed to determine if household factors, including incomplete plumbing, contributed to the disparities between AI/AN and White Veteran COVID-19 infections.[514] As reported in Annex C, AI/AN Veterans were 11.5% more likely to become infected with COVID-19 and were 73.1% more likely to die as a result of the infection.[515]

The results of the October 2022 study indicated that neighborhood factors like plumbing may have contributed to the higher rates of infection in AI/AN communities.[516] Households without running water may have had difficulty completing frequent handwashing—a critical component of infection control.[517] In addition, these same households were exposed to greater infection risk when leaving their homes to obtain water from stores or communal wells.[518] The study recognized that greater poverty often resulted in greater health challenges, and many AI/AN people were part of poorer communities.[519]

According to U.S. Census data from 2020, approximately 4 in 10 AI/AN Veterans lived in rural areas at that time, which was higher than the percentages of rural Veterans in any other race.[520] VHA leadership noted that the high percentage of rural AI/AN Veterans created two challenges for treatment—health care delivery and data-tracking.[521]

VHA vaccination data on the AI/AN community were patient-provided in many cases because the vaccinations were managed by the IHS, and data was not shared consistently between IHS and other organizations.[522] IHS did not have the agreements or infrastructure in place to share vaccination information with VHA.[523]

VHA worked with multiple AI/AN services to provide AI/AN Veterans with consistent care, often using the VA Reimbursement Agreements Program (RAP) to allow more local, trusted health care for AI/AN Veterans outside VA facilities.[524]

The VHA Office of Tribal Government Relations (OTGR) provided direct support to the AI/AN community by bringing resources from across the Federal government directly to tribes, including COVID-19 vaccinations.[525] During the Annex D Review Period, OTGR focused on interagency relationships between VHA, CDC and IHS to monitor COVID-19 outbreaks in AI/AN populations.[526]

Female Veterans

Female Veterans experience COVID-19 similarly to male Veterans; however, during the Annex D Review Period, OHE noted that female Veterans were more likely to experience Long COVID than male counterparts.[527] In response, OHE provided messaging to providers and patients about the prevalence of Long COVID in female patients so providers would be particularly attentive to the risk factors of COVID-19 in this cohort.[528]

As of 2023, female Veterans were the fastest-growing minority in the Veteran community—from 4% of all Veterans in 2000 to 10% in 2023.[529] The number of female Veterans was expected to increase to 18% by 2040.[530] More racial and ethnic diversity is found among female Veterans using VHA services than among male Veterans: 43% of female Veterans identify with a racial or ethnic minority group.[531]

The Center for Women Veterans Health Care provides a Women's Veteran Program Manager to advise and advocate for female Veterans at every VAMC, providing female-focused information and COVID-19 care, suicide prevention, breast cancer screenings and military sexual trauma.[532] OHE added operational plans for expanded outreach and support to provide resources to female Veterans in FY 2023.[533]

Special Case: Veterans in Puerto Rico

When the pandemic began, Puerto Rico was still rebuilding after Hurricane Maria, a category 4 storm that struck the island in 2017.[534] Puerto Rico was struck by a another category 4 hurricane (Fiona) in 2022, causing an estimated $2.5 billion in damage to Puerto Rico and compounding the need for assistance.[535] Poverty, infrastructure challenges, lack of electricity and clean running water in the wake of hurricanes, and an aging population have left the people of Puerto Rico more vulnerable to health difficulties.[536] Some of the chronic conditions that adversely impacted Puerto Ricans include HIV, asthma, cancer, diabetes and cardiovascular diseases.[537]

According to the 2010 U.S. Census, more than 75% of Puerto Ricans identified themselves as White; the next largest group (12.4%) identified as Black.[538] The HHS Maternal and Child Health Bureau noted that racial identity in Puerto Rico was distinct from other areas of the United States, often based on phenotypes and skin tone rather than ancestry.[539] More than 95% of people in Puerto Rico also identified as Puerto Rican.[540]

In response to the COVID-19 pandemic, Puerto Rico launched a successful vaccination effort, earning the territory the fifth-highest vaccination rate in the world by spring 2021.[541] As of July 2022, approximately 84% of eligible Puerto Ricans had completed an initial series, and more than 95% had received at least one dose of COVID-19 vaccination.[542] As of March 2023, more than 54,000 Puerto Rican Veterans and caregivers had received at least one dose of COVID-19 vaccine from the San Juan health care system, and more than 53,000 completed their initial series.[543]

The San Juan VA serves not only the city of San Juan, but Veterans from around the island, including mountainous rural areas.[544] As of January 2023, the San Juan VAMC had a 24-hour clinic that offered COVID-19 vaccines to eligible individuals; however, walk-ins were not accepted, and referrals were required.[545]

Despite its high vaccination rates, the island continued to experience one of the highest COVID-19 positivity rates in the United States—consistently over 13% throughout the Review Period.[546] In May 2022, Puerto Rico experienced an increase in cases, reaching a peak weekly case count of 38,481.[547] This differed from the United States as a whole, which reached its second Omicron peak in July 2022.[548] VHA leadership noted that the heightened case count may have been fueled by the reopening of Puerto Rico to tourism, a prolonged holiday season and high-profile gatherings, such as concerts.[549]

During the Review Period, VHA leadership reported that the San Juan VAMC experienced difficulty retaining staff.[550] Nurses applied for positions with the San Juan VAMC, but these skilled professionals often left for higher paying opportunities in the contiguous United States.[551]

Transition Back to Pre-COVID-19 Priorities

The announcement of the expiration of the COVID-19 PHE (expected in May 2023) has shifted VHA's focus to the future.[552] VHA leadership stated that OHE will prioritize study and promotion of delivery of routine care, preventative services and the management of acute and chronic diseases.[553] Specifically, OHE will encourage providers to use SDoH screenings to lessen equity differences between different groups of Veterans.[554]

Throughout the Review Period, OHE continued to provide VHA personnel in VISNs, VAMCs and clinics with tools that could identify potential disparities in individual Veterans and to recommend interventions.[555] As of January 31, 2023, OHE was developing a formal education curriculum for providers, covering COVID-19 and other diseases from a health equity perspective.[556]

VETERANS EXPERIENCING HOMELESSNESS & COVID-19

Throughout the pandemic, VHA has continued its support for Veterans experiencing or vulnerable to homelessness.[557] Veteran homelessness decreased by more than 11% over the course of the pandemic, according to the Point-in-Time (PIT) counts reported by the Department of Housing and Urban Development (HUD).[558] A total of 33,129 Veterans were still experiencing homelessness as of January 2022; this population was at increased risk of infection and severe illness from COVID-19.[559]

Point-in-Time Count

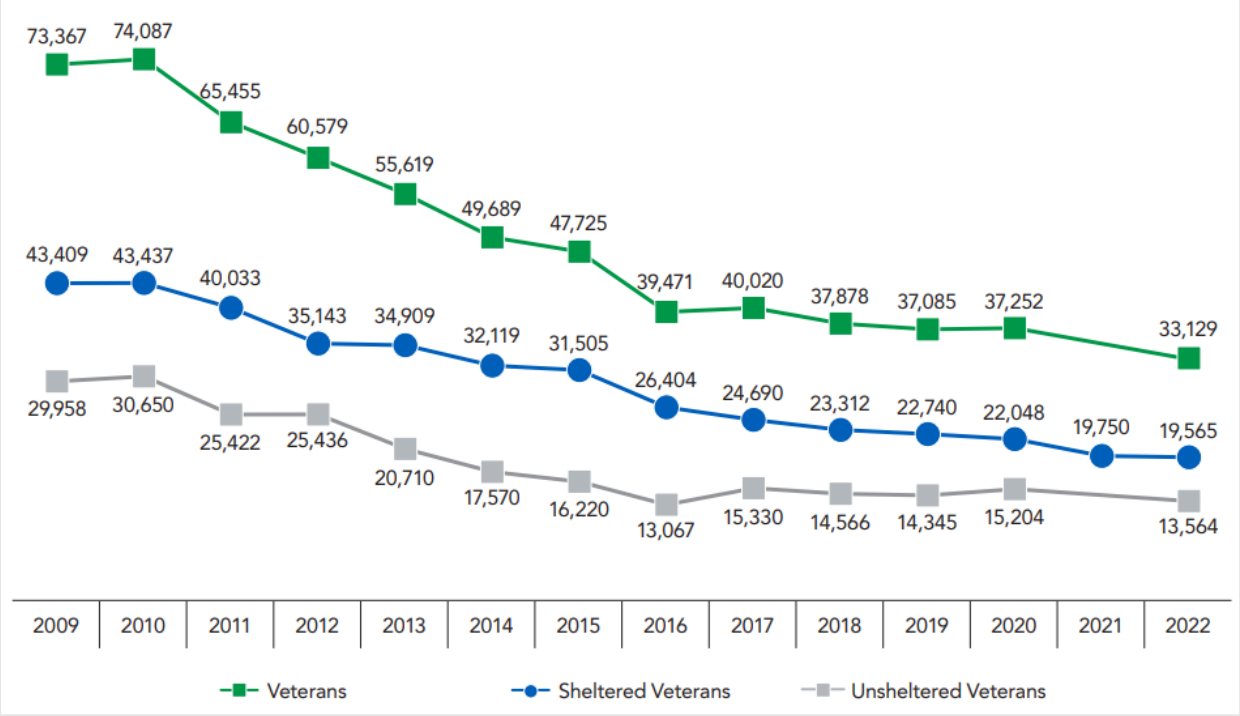
A PIT Count is a snapshot of the people who are experiencing homelessness on one night. The U.S. PIT Count is conducted each January by local organizations that support homeless populations.

Source: HUD, "Point-in-Time Count and Housing Inventory Count," accessed 2/16/2023. Ref. D277

Homelessness in the Veteran Population

From January 2020 through January 2022, unsheltered homelessness dropped by more than 1,600 Veterans, and sheltered homelessness dropped by more than 2,400, as shown in **Figure 8.1**.[560]

Figure 8.1: *PIT Count, Veteran Homelessness, 2009 - 2022*



Source: HUD, "Annual Homeless Assessment Report to Congress, 2022," 12/2022.

As defined by HUD, people experiencing homelessness are classified as sheltered when they reside in sheltered locations, including safe havens, emergency shelters and transitional housing provided through programs.[561] People experiencing homelessness are classified as unsheltered when they reside in places that are not considered suitable for human habitation, including abandoned buildings or the street.[562]

VHA leadership noted that the ongoing reduction in Veteran homelessness stemmed, in part, from a rise in funding for housing and assistance programs for vulnerable Veterans, along with wraparound supports (including health care, job training and educational assistance) to keep them housed.[563]

VHA Homeless Program Office

HPO supports Veterans at risk of homelessness and Veterans who are actively experiencing homelessness. HPO also supports justice-involved Veterans through its Veterans Justice Programs.

In FY 2022, HPO supported more than 310,000 Veterans.

Source: VHA leadership, response to interview questions, 2/15/2023; VA, "Veterans Treatment Courts and other Veteran-focused courts served by VA Veterans Justice Outreach Specialists," March 2022. Ref. D245

In July 2022, a non-profit organization called the National Coalition for Homeless Veterans (NCHV) testified before the U.S. Senate Committee on Banking, Housing and Urban Affairs Subcommittee on Housing, Transportation, and Community Development.[564] In its testimony, NCHV identified several causes of Veteran homelessness as factors that added to housing instability—rising rent prices that increased by 66% from 2010 to 2020, systemic and institutional racism, limited affordable housing and weak social supports.[565]

NCHV also expressed concern about potential increases in homelessness when the PHE ends.[566] One program that will be affected is the VA Grant and Per Diem Program (GPD), which has been awarding community-based organizations grants to support Veteran housing since 1994.[567] Through the GPD Program, community-based organizations receive grant funds to offer transitional housing and supportive services to vulnerable Veterans.[568] With help from the grant funds, community organizations offer several transitional housing models, each one targeted to a different population and a different set of Veteran needs.[569]

During the PHE, the Coronavirus Aid, Relief, and Economic Security (CARES) Act increased the authorized daily funds that VA could provide to GPD grantees.[570] The increase—which was three times higher than the standard amount set by the State Home for Domiciliary Care—was designed to offset the increases in cost of care during the pandemic.[571] When the PHE ends, it is anticipated that the maximum per

diem rate will be reduced back to its statutorily authorized limit, which is more than 50% lower than the rate provided during the PHE.[572]

Reducing COVID-19 Risk for Veterans Experiencing Homelessness

For Veterans who experienced homelessness during the pandemic, the risk of contracting COVID-19 remained high throughout the Review Period.[573] Some of the reasons vulnerable Veterans might have increased vulnerability included the following:[574]

- Living conditions, including close proximity in congregate settings like shelters[575]
- Limited access to hand washing and other infection prevention and control measures[576]
- Advanced age[577]
- Increased likelihood of chronic illness[578]

To address these issues, the VA Homeless Program Office (HPO) instituted policies designed to protect vulnerable Veterans.[579] This included testing and quarantine procedures at all VA-funded residential programs, starting in August 2020.[580] These policies meant that residents needed to be tested prior to entering VA-funded shelters and other residential facilities.[581]

In addition, HPO established alternative housing options for Veterans experiencing homelessness, including hotels and motels.[582] These emergency-use facilities allowed for greater social distancing between residents, provided the space for quarantine and isolation protocols, and reduced the pressure on shelters and other congregate facilities.[583]

Pandemic-related Challenges in Veteran Support and Health Care

VHA leadership reported that the highly contagious nature of COVID-19 impacted VHA's ability to support Veterans experiencing homelessness.[584] It became more difficult to provide Veterans with access to community services, transportation and face-to-face case management support.[585]

A research study released in January 2022 also identified challenges in supporting Veterans.[586] The study examined the experiences of health care workers and housing providers during the pandemic and also chronicled some of the difficulties they encountered, including the following:[587]

- Burnout and frustration among staff

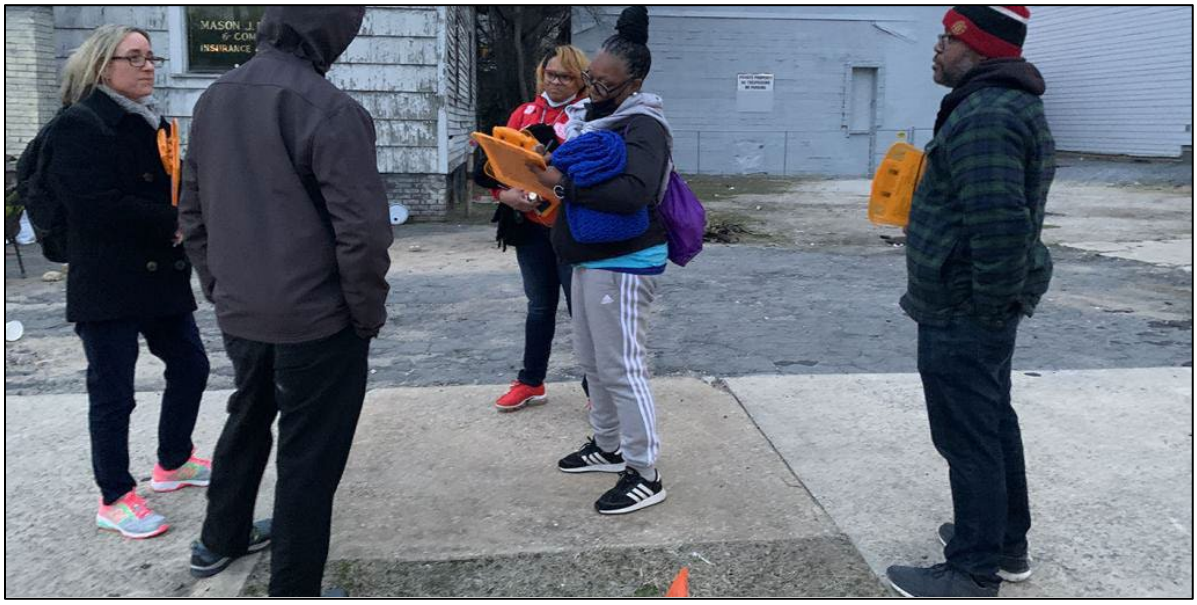
- Constraints related to telehealth as a means of care delivery
- Care logistics related to increased needs, including testing and quarantining of Veterans experiencing homelessness

To increase access to telehealth, HPO supported the Homeless Programs Disposable Smartphone Initiative, which provided smartphones and tablets to Veterans experiencing homelessness.[588] Access to this technology enabled Veterans to maintain social supports, connect with their caregivers and utilize telehealth resources for medical and mental health appointments.[589]

HPO also collaborated with Veterans Justice Outreach (VJO) programs to support justice-involved Veterans, providing video technology and VA-owned tablets to Veterans in prisons and jails.[590]

Vaccination for Veterans Experiencing Homelessness

VHA began to administer doses to Veterans experiencing homelessness as soon as they were available; locations for vaccine administration included housing programs, hotels and motels.[591] HPO disseminated up-to-date and accurate information about the vaccines to Veterans experiencing homelessness, collaborating with CDC, HUD and other Federal partners to encourage vaccination.[592]

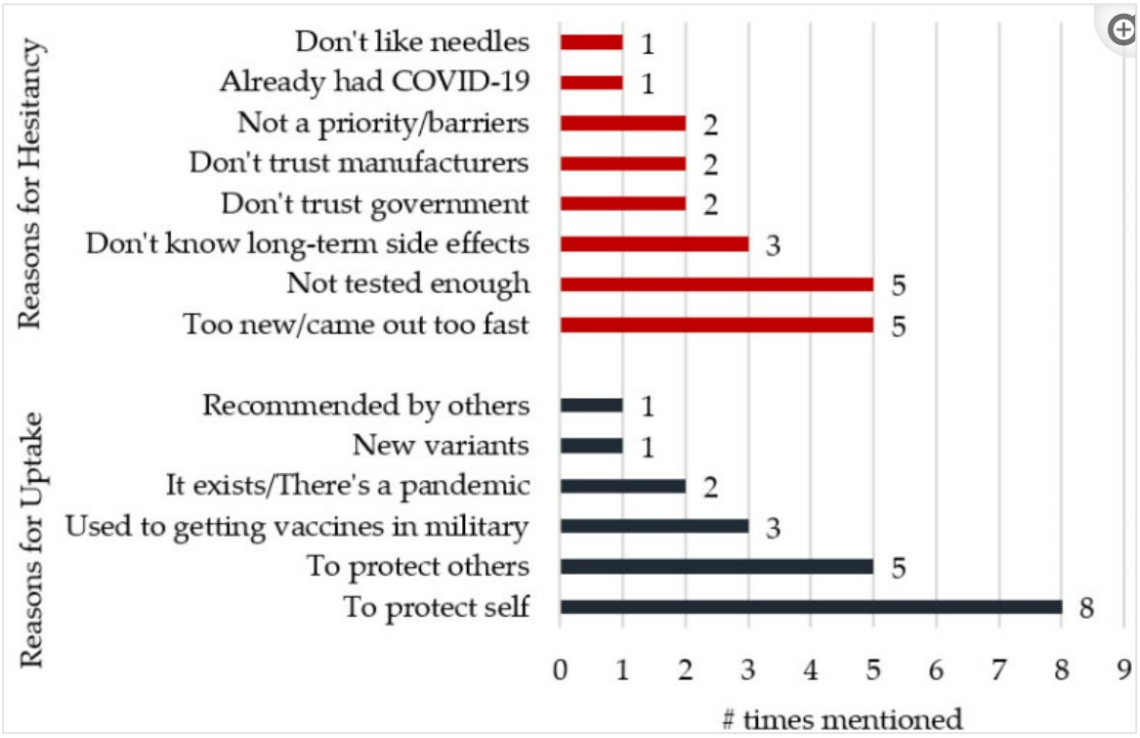


VHA workers participate in the PIT count in Birmingham, Alabama. (Photo credit: VHA)

Despite these efforts, vaccination of Veterans experiencing homelessness continued to face challenges.[593] A study released in November 2022 asked Veterans experiencing homelessness the reasons for their uptake or hesitancy related to the

COVID-19 vaccine.[594] **Figure 8.2** shows the responses from Veterans about their reasons for taking or refusing COVID-19 vaccination.

Figure 8.2: *Reasons for Vaccine Hesitancy and Uptake among Veterans Experiencing Homelessness*



Source: Gin et. al., "COVID-19 Vaccine Hesitancy among U.S. Veterans Experiencing Homelessness in Transitional Housing," International Journal of Environmental Research and Public Health, 11/29/2022. Ref. D276

A study released in June 2022 found that COVID-19 vaccination rates among Veterans in transitional housing programs varied from 90% to 20%.[595] Some of the reasons for vaccine refusal and delay included the following:[596]

- Vaccine appointment scheduling
- Limited transportation
- Challenges with communication
- Eligibility issues
- Vaccine hesitancy within organizational staff
- Misinformation about the vaccines
- Distrust of the U.S. government

Previous studies of homelessness in the United States found that the general homeless population often had higher-than-average rates of vaccine refusal, even for diseases that had been present for years, including influenza and hepatitis.[597]

Outcomes for Veterans Experiencing Homelessness

A study published in August 2022 found that Veterans who had recently experienced homelessness (RHV) and Veterans who had psychotic conditions (PSY) had better mental health outcomes during the pandemic than those who did not have either of these conditions.[598] RVH, PSY and the control study groups all experienced increased rates of depression and anxiety at the beginning of the pandemic, but RVH and PSY Veterans were able to recover more quickly than those in the control group.[599]

VHA leaders attributed these outcomes partly to VA mental health and homeless programs and their ability to perform rapid pivots to telehealth.[600] This included providing Veterans with mobile devices when needed.[601] Leaders also noted that Veterans who had experienced homelessness, as well as those with psychosis, had been through great adversity in their lives.[602] As a result of these challenges, many who have experienced homelessness and psychosis were more resilient than the general population when faced with a situation like the pandemic.[603]

Additionally, VHA leadership noted that the participants in the study were housed when they were interviewed; the results might not have been the same for the unsheltered and other literally homeless Veterans.[604]

Terminology for people experiencing homelessness differs by organization. As defined by HUD, literally homeless individuals are those who meet one of the following criteria:[605]

- Residing in a nighttime location that is public or in a private place that is not fit for human habitation
- Living in a shelter designed for temporary housing support, including a hotel or motel paid for by an organization (public or private), a congregate shelter or transitional housing
- Leaving an institution where they have resided for 90 days or less, following a period of time living in a shelter or unfit housing

CLINICAL OPERATIONS

From April 1, 2022, through January 31, 2023, VHA faced the emergence of new COVID-19 subvariants that had a higher rate of transmissibility, but VHA found that most infected Veterans experienced less severe illness with lower rates of hospitalization and death.[606] During this time, VHA's clinical operations focused not only on treating, but also on preventing the spread and severity of COVID-19 while providing the full scope of health services to Veterans.[607]

During the Review Period, vaccines had become more widely available within communities, and more Veterans and VHA staff had been vaccinated.[608] As such, demand for vaccination services at VHA became less intense.[609] For more information about VHA COVID-19 vaccination and COVID-19 case counts, see the Overview, U.S. Epidemiology and Vaccination sections of this report.

VHA clinical operations also benefitted from increased access to COVID-19 medications.[610] The improved availability of oral antivirals provided VHA with enhanced options to treat at-risk Veterans early and lessen the risk of severe illness.[611] Improved access to COVID-19 medication was important because the oral antiviral medications were most effective in preventing the progression to serious illness only if initiated within five days of symptom onset.[612]

During the Review Period, VHA also focused on helping Veterans catch up on deferred care and enhancing the outpatient treatment of COVID-19.[613] VHA increased outpatient treatment options by expanding virtual Test to Treat and Long COVID Care programs and by improving virtual care tools.[614] For more information about VHA virtual Test to Treat, see the Testing section of this report.

COVID-19 Treatments

Aligning with FDA approvals and EUAs, VHA's use of COVID-19 therapeutics adjusted and changed over the course of the pandemic.[615] For instance, earlier in the pandemic, VHA administered monoclonal antibody (mAb) treatments to combat COVID-19 illness; however, by November 2022, the active variants of SARS-CoV-2 had developed resistance to these therapeutic agents.[616] As a result, VHA discontinued the use of all mAb treatments.[617] VHA continued to use oral antiviral medications for mild and moderate COVID-19, as described in greater detail below.[618]

Throughout the Review Period, VHA worked to effectively communicate therapeutic guidelines to VHA clinicians as new subvariants of the virus evolved and developed resistance patterns.[619] VHA dedicated teams to work closely with FDA, CDC and

HHS to ensure direct communication about quickly changing therapeutic guidance.[620]

Paxlovid & Molnupiravir

During the Annex D Review Period, oral antiviral medications were the main form of COVID-19 treatment issued by VHA, specifically Paxlovid and Molnupiravir.[621]

VHA leadership reported that although Paxlovid was the preferred treatment for COVID-19, the medication was shown to have drug-to-drug interactions with some medications, which limited the use of Paxlovid for some VHA patients.[622] Many VHA patients needed maintenance medications for more than one chronic condition, requiring careful review for potential interactions prior to treatment with Paxlovid.[623]

The alternative oral antiviral treatment was Molnupiravir.[624] Although Molnupiravir did not have the same risk of drug-to-drug interaction as Paxlovid, it did pose a threat to healthy fetal development if used by parents during pregnancy or in the process of conception.[625] VHA issued strong advisories to patients who were able to get pregnant as well as patients who were able to impregnate others, encouraging strong protective measures against impregnation during and after use of Molnupiravir.[626]

VHA leadership reported that outside of Paxlovid and Molnupiravir, VHA was limited in medications available for use in outpatient COVID-19 treatment during the Review Period.[627]

Discontinued Use of Bebtelovimab

On November 30, 2022, FDA discontinued its EUA for Bebtelovimab—the only remaining intravenous (IV) intramuscular mAb treatment VHA used during the Review Period.[628] In response to the FDA decision, VHA also discontinued its use of Bebtelovimab.[629]

The EUA for Bebtelovimab was discontinued because the predominant COVID-19 variant, Omicron, had become resistant to the treatment.[630] Research indicated that Omicron and its subvariants had developed antimicrobial resistance (AMR), which can occur as viruses evolve.[631]

Health Care Services Return to Baseline

During the Review Period, VHA continued efforts to help Veterans catch up on deferred care and screenings.[632] As of January 31, 2023, some clinical care services had not yet returned to pre-pandemic utilization.[633]

Challenges that VHA continued to face in the resumption of clinical care included the following:[634]

- Delayed pre-procedure screening and diagnostic appointments
- Staffing shortages (in clinical and support positions)
- Lack of readily available clinical space due to staffing shortages

VHA took several actions to respond to these challenges and to encourage the return of health care services to baseline levels, including:[635]

- Launching outreach campaigns to Veterans
- Hosting hiring fairs and onboarding surge events to recruit and retain staff

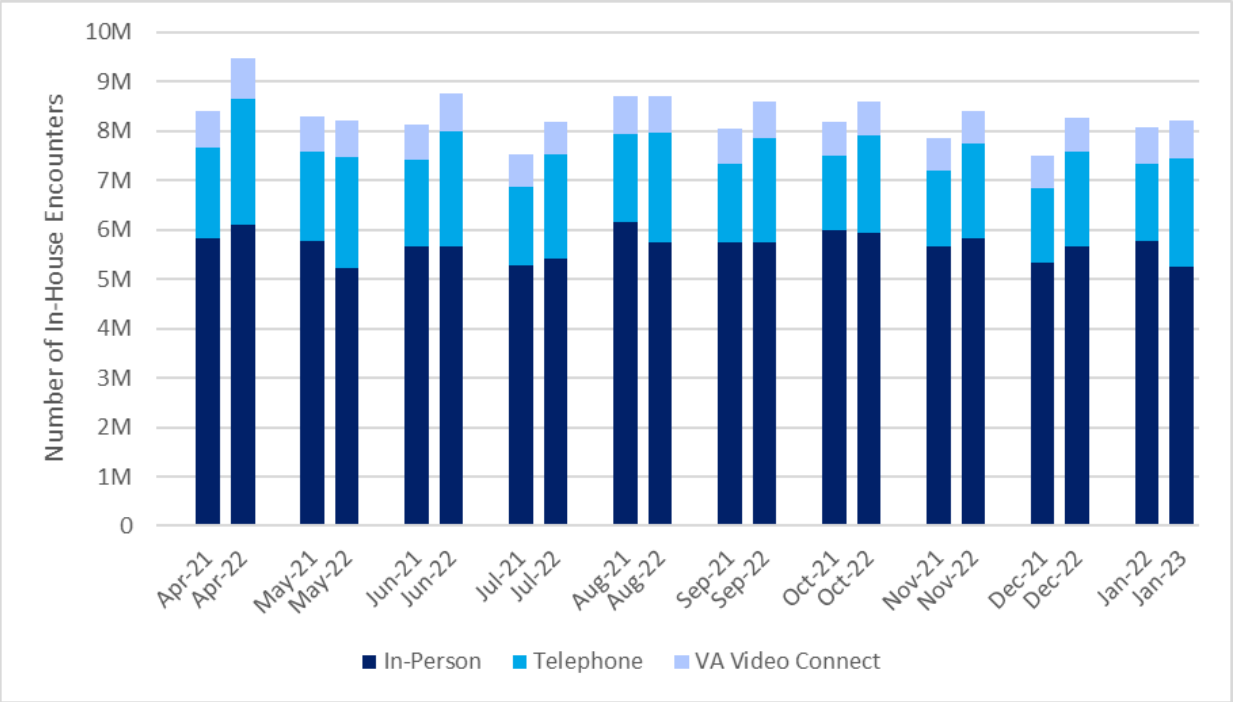
In addition, VHA offered a service in which it mailed screening tools directly to Veterans.[636] One example of a mailed screening tool was the fecal immunochemical test (FIT), which screened for an indicator of potential colorectal cancer and prompted referral for colonoscopy when needed.[637] Veterans were responsive to self-administered screening tools; however, as of January 31, 2023, procedures in gastroenterology, such as colonoscopy and endoscopy, had still not returned to pre-pandemic baseline levels.[638]

In-person Care

From April 1, 2022, through January 31, 2023, VHA conducted approximately 56.6 million in-person encounters in VHA facilities.[639] This total was a slight decrease compared to the previous year (April 2021 to January 2022), in which approximately 57.2 million encounters took place.[640]

Figure 9.1 shows the totals for in-person, telephone and video encounters per month from April through December 2021, April 2021 through January 2022, and January 2023.[641] A discussion of telephone and video encounters can be found in the Virtual Care Solutions subsection.

Figure 9.1: *Virtual Encounters and In-Person Appointments across all VISNs, April 2021 - January 2023*



Note: VA Video Connect refers to unique encounters attributed to clinical video telehealth. Telephone refers to unique encounters attributed to clinical telephone telehealth. In-person data represents the count of confirmed in-person appointments attended.
Source: VHA, VSSC, Telehealth Cube, response to data call 3/6/2023; VHA, VSSC, Encounters Cube response to data call 3/6/2023; VHA, VSSC, Appointments Cube, response to data call 3/6/2023. Ref. D267

Mental Health Care

Veteran mental health was impacted by the COVID-19 pandemic.[642] A study of 2,289 Veterans found that within the group of study participants, distress levels rose 51% within the first year of the pandemic.[643] At mid-pandemic (May 2021), VA forecasted an increase in demand for VHA mental health services by 32% over the next 10 years.[644]

According to the American Psychological Association (APA), Veterans are at increased risk of suicide: the rate of adult Veteran deaths by suicide is 1.5 times higher than it is for non-Veteran adults.[645] Some of the reasons for the increased risk may be the following:[646]

- High rates of trauma exposure
- Heightened rates of stress and burnout
- Increased isolation and loneliness
- Struggles with resumption and reintegration into life outside the military

- Access to firearms and familiarity with the use of weapons

Throughout the Review Period, VHA continued its work to reduce the number of Veterans experiencing suicidal ideation.[647] As part of this ongoing effort, VHA emphasized the importance of Veteran access to readily available mental health services.[648]

Mental health support for Veterans has been an ongoing area of importance for VHA.[649] For instance, in 2019, VHA launched a mental health hiring initiative that aimed to address the growing demand and serious need for mental health services.[650] The initiative provided planning and human resources support for VAMCs struggling to retain mental health service providers.[651] As a result of this initiative, VA reported a net growth of 883 mental health staff by 2020.[652] As of March 2022, this initiative was ongoing; the goal was to strengthen the VA mental health workforce and improve timely access to mental health care for Veterans.[653]

VHA also promoted mental health care integration with primary care to support Veteran wellbeing.[654] Although the concept of integrated mental health and primary care had been ongoing for some time, VHA increased its focus on integration and program efficacy during the Review Period.[655] VHA leadership began planning logistical improvements to support seamless access to mental health care, including:[656]

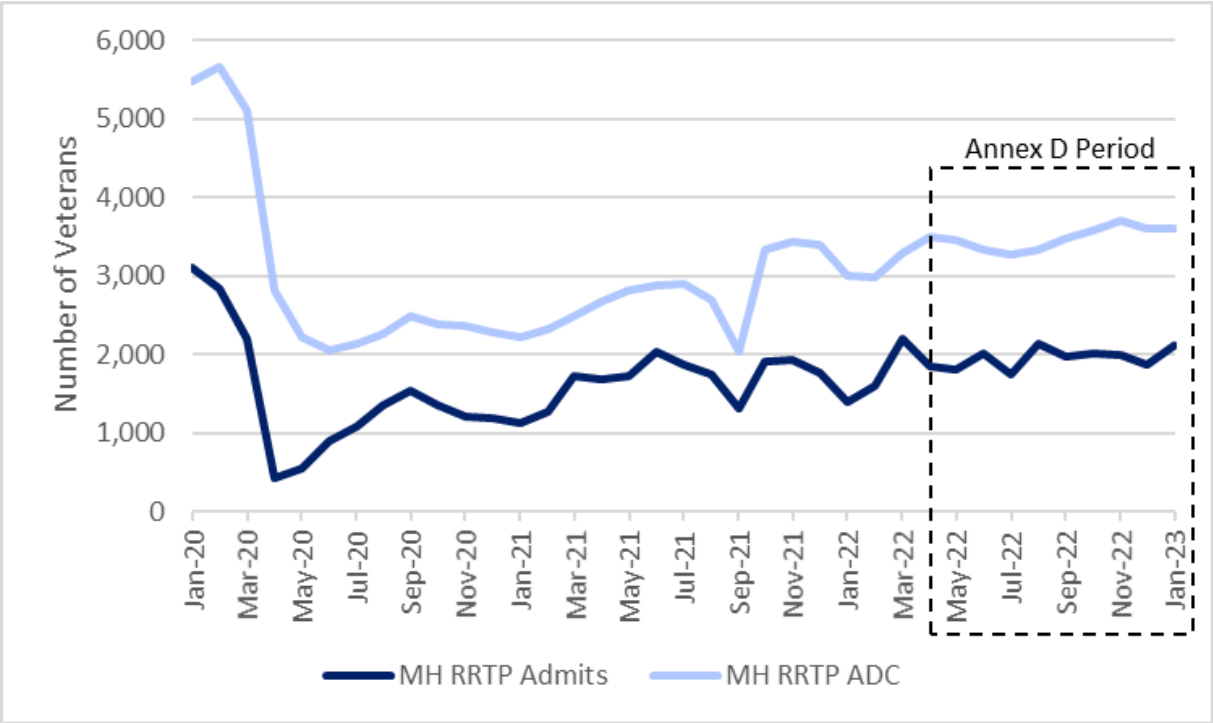
- Necessary support staff
- Mental health clinic size
- Mental health clinic layout and proximity

Mental Health Residential Rehabilitation Treatment Programs

As of January 31, 2023, the number of VHA Mental Health Residential Rehabilitation Treatment Program (MH RRTP) admissions had more than quadrupled from a low point in April 2020; however, the admissions were still behind pre-pandemic levels, as shown in **Figure 9.2.**[657]

From the start of the pandemic, VHA reduced the density of Veterans in congregate treatment spaces, including MH RRTPs, to decrease the potential transmissibility of COVID-19.[658] VHA leadership noted a sustained reduction in admission volumes for MH RRTPs during the Review Period and had not developed a new model of care for residential mental health programs, as of January 31, 2023.[659]

Figure 9.2: *MH RRTP Admissions and Average Daily Census by Month, 1/1/2020 – 1/31/2023*



Source: OMHSP, response to data call, 2/24/2023. Ref. D53

MH RRTP admissions and average daily census followed the path of the Omicron waves; rates dropped in July 2022 at the peak of the first Omicron wave.[660] The daily average census maintained a steady increase from August 2022 until December 2022.[661] Both admissions and daily average census had a slight drop in December 2022, during the second peak of Omicron.[662] Admissions then saw a slight rise in January 2023.[663]

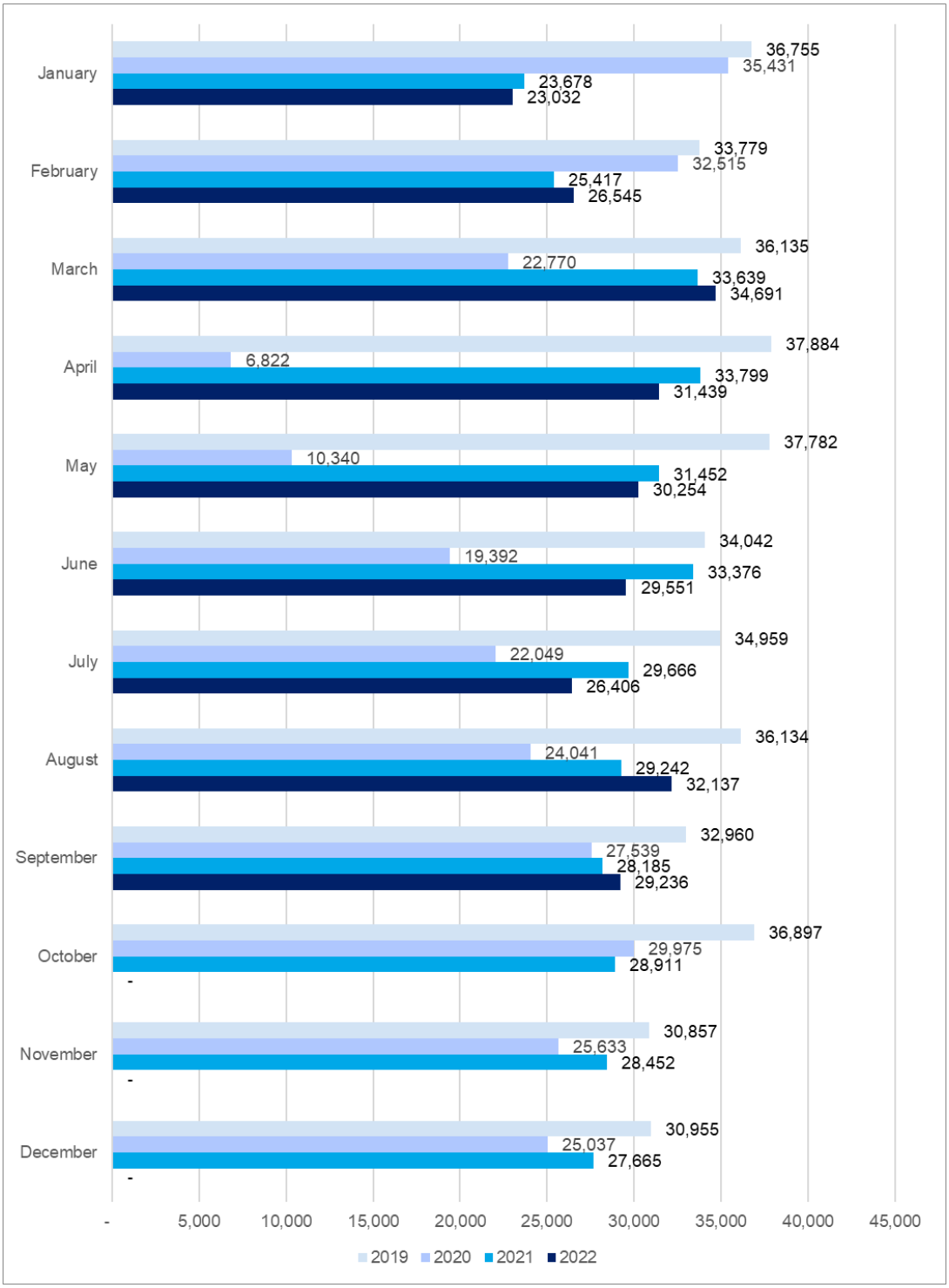
Specialty Services

During the Review Period, VHA continued to face challenges in attaining pre-pandemic volume for operating room cases.[664] VHA operating rooms and procedural suites also maintained low utilization, remaining below pre-pandemic rates.[665]

Operating Room Cases

VHA operating room case volume remained below pre-pandemic levels, as shown in **Figure 9.3**. The largest monthly volume for 2022 was in March 2022 (34,691 cases) when operating room cases approached pre-pandemic levels of 36,135 cases in March 2019.[666] Total operating room cases decreased in April, May, June and July 2022, compared to the same months in 2021.[667]

Figure 9.3: *Total Operating Room Cases, by Month, January - December 2019, 2020, 2021 and January - September 2022*

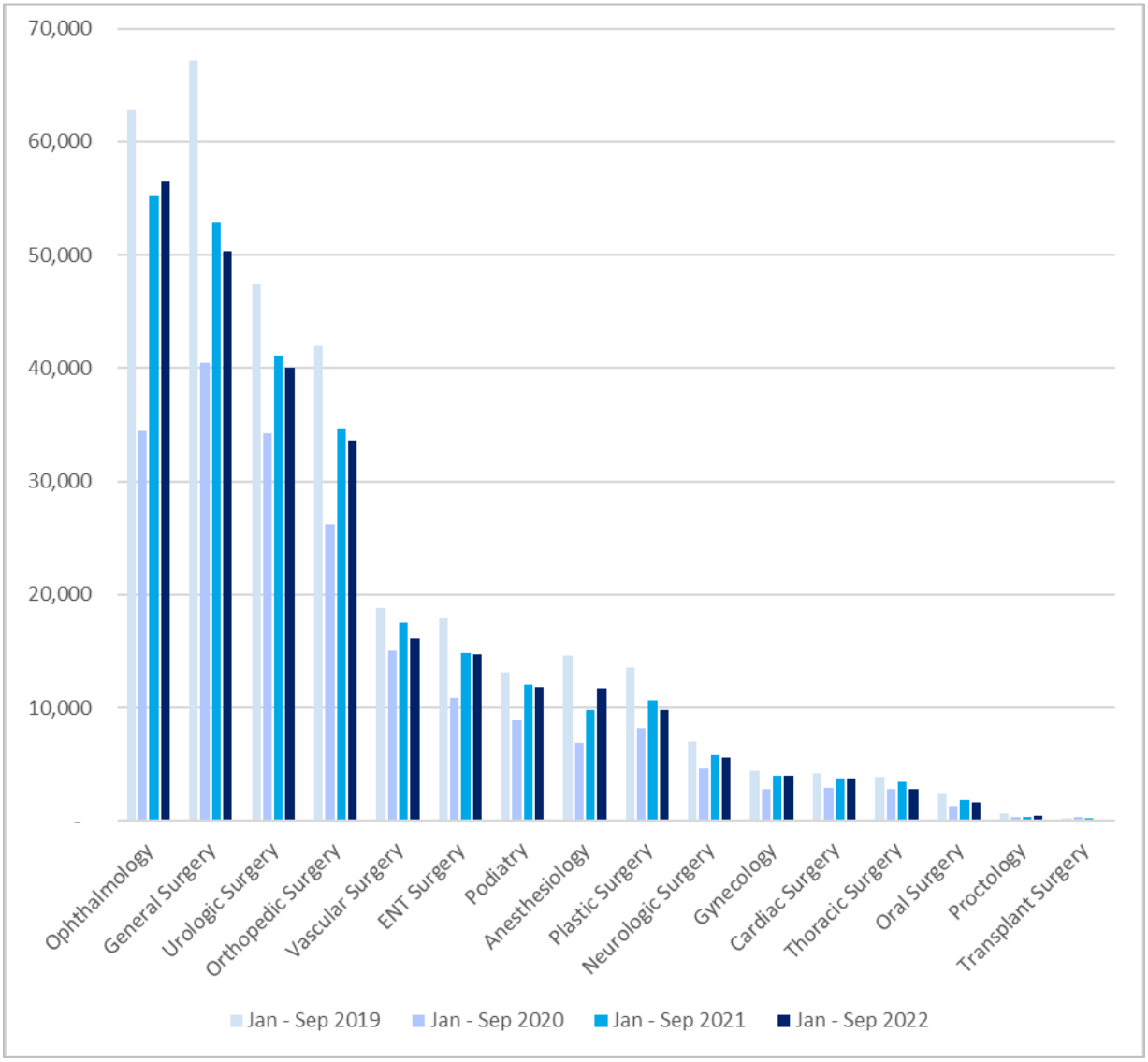


Note: Operating Room cases data are processed and reported quarterly. At the time of this report, Operating Room cases numbers were available only through September 2022.
Source: VHA National Surgery Office, response to data call, 2/22/2023. Ref D78

In most specialties, fewer operating room cases were completed in 2022 (based on available data from January through September) than in the same months in 2021.[668] The exceptions were ophthalmology, anesthesiology, proctology and gynecology, for which cases increased in 2022.[669]

VHA data showed that completed operating room cases across all medical specialties remained below pre-pandemic levels, as displayed in **Figure 9.4**.[670]

Figure 9.4: *Completed VHA Operating Room Cases Across Medical Specialties, January - September, 2019, 2020, 2021, 2022*



Note: Operating Room cases data are processed and reported quarterly. At the time of this report, Operating Room cases data for October 2022 through January 2023 were not published.
Source: VHA National Surgery Office, response to data call, 2/22/2023. Ref D78

Long-term Care Facilities

During the Review Period, VHA collaborated with CDC to enhance its approach to monitoring infectious disease in State Veteran Homes (SVHs) to support the oversight of public health measures in those facilities.[671] Through this interagency effort, VHA linked its SVH data with CDC's National Surveillance Tool (NST).[672]

On a weekly basis, publicly reported data on SVHs included the following:[673]

- Death rates for staff and residents
- Infection rates for staff and residents

VHA's link to CDC's surveillance tool created a more accessible system for COVID-19 reporting and monitoring, which helped VHA leadership plan SVH operations for COVID-19 response.[674]

VHA leadership reported that the enhanced COVID-19 reporting and monitoring system would be a blueprint for future infectious disease monitoring.[675] For more information on SVH monitoring, see the Recommendations Review section of this report.

Virtual Care Solutions

Prior to the Review Period, VHA set a goal to expand and enhance its telehealth capabilities; the goal focused on increasing telehealth access to include all VHA providers where telehealth could be used to support patient care.[676] VHA met this goal, expanding telehealth access to include Veteran care nationwide.[677]

By using telehealth, Veterans could access available VHA services throughout the United States.[678] This connection made specialty services accessible for Veterans in communities where these services were not physically available.[679]

VHA leadership reported positive Veteran engagement in virtual care over the course of the Review Period.[680] Telehealth service presentation was changing rapidly, including non-face-to-face appointments like phone visits and asynchronous forms of care that happened online but did not have to occur live in real-time.[681]

VHA telehealth services increased by about 5.4 million encounters during the Annex D Review Period, compared to the previous period (April 1, 2021 through January 31, 2022).[682] The majority of new telehealth services were telephone visits—about 5 million more encounters during the Review Period, compared to the previous period (April 1, 2021 through January 31, 2022).[683]

Figure 9.1 shows the rates of all VHA encounters for the Annex D Review Period and the previous year's corresponding months.[684]

Going forward, VHA leadership stated that VHA will shift its focus to enhancing the experience and accessibility of VHA telehealth.[685]

Veterans have benefitted from the expansion of telehealth during the pandemic. (Photo credit: VHA)

Enhancing VHA Telehealth

To enhance accessibility and Veteran experience, VHA incorporated new functions in telehealth tools, such as a dial-in option on VVC and functions to invite additional participants to virtual appointments.[686] Through VVC, Veterans were able to include up to 10 family members or caretakers in their virtual visit; this feature was designed to mimic the process of bringing caregivers into an exam room during an in-person visit.[687] This function also supported treatments like group therapy.[688]

Additionally, VHA incorporated a standardized script for responders to use when scheduling appointments and taking patient calls.[689] This script included instructions offering virtual visit test call services, which helped Veterans practice connecting to telehealth, to support a positive first experience when meeting remotely with their providers.[690]

Asynchronous Telehealth Services

Another shift in focus during the Review Period included incorporating more asynchronous telehealth services; these services could occur online yet did not have to be live.[691] VHA telehealth services that engaged in asynchronous delivery included the following:[692]

- Eye care
- Skin care
- Portable sleep studies
- Breathing and lung care

Tele-dermatology was an example of an asynchronous telehealth service.[693] Using the My VA Images application, Veterans could upload photos and receive a review and follow-up care from their VA provider without an in-person examination or connecting live through VVC.[694]

Instant Care through VA Health Chat

During the Review Period, VHA incorporated VA Health Chat, a text-chat application, into VHA technologies.[695] This application was used by VAMCs in 40 U.S. states and territories.[696] VA Health Chat facilitated immediate connections between Veterans and VA health care clinicians through text messaging, allowing easy access with no burden of travel.[697] The application used VA EHRs and required a My HealtheVet log-in.[698]

VHA leadership noted that demographic data for applications like VA Health Connect suggested that older Veterans had embraced telehealth tools at a greater rate than expected.[699] Of VA Health Chat users, Veterans aged 65 years and older made up 22.5%, including some Veterans 85 and older.[700] Veterans aged 55-64 made up 18%, Veterans aged 45-54 were 20%, and ages 35-44 were 26%.[701]

Female Veterans also embraced the chat technology at high rates.[702] According to VHA leadership, female Veterans made up 20% of the chat users even though they made up only about 10% of the Veteran population.[703]

Tele-Rehabilitation Services

Early in the pandemic, tele-rehabilitation (also called TeleRehab) encounters spiked to meet the demand to maintain rehabilitation services.[704] In fiscal year (FY) 2022, VHA completed about 550,000 TeleRehab encounters, compared to about 700,000 encounters in FY 2021.[705] During the Annex D Review Period, VA TeleRehab Orthotic, Prosthetic, Ped-orthic Clinical Services (OPPCS) enhanced TeleRehab services as the volume of TeleRehab encounters began to decrease.[706]

VHA leadership reported that VHA established TeleRehab programs such as pulmonary rehabilitation, the Veterans Adaptive Sports Program and weight management programs.[707] As part of the VA weight management program, Veterans could connect to online exercise courses and participate from home.[708]

VHA Virtual Prosthetics

TeleRehab allowed Veterans to receive care across the Nation in a variety of forms.[709] For one Veteran living in Alaska, this meant improved use of his hand.[710]

The Veteran experienced a traumatic amputation of his pointer and middle fingers after a woodworking accident.[711] As a result of the injury, the Veteran could no longer operate equipment for work, hold items easily, write well or dress himself with ease.[712]

Through VHA OPPCS, this Veteran was measured for a metacarpophalangeal (MCP) driver prosthesis—a prosthetic device that serves as a mechanical finger by fitting onto a person's hand and mimicking regular finger motions.[713]

Through a series of three virtual appointments, the Veteran was provided education on telehealth use, materials and instructions to create finger and hand molds, and an assessment for the definitive fit of the MCP driver.[714]

Photos 1 & 2: Plaster mold with middle and pointer finger fit,
Photos 3 & 4: Prosthetic device fitting (Photo credit: VHA OPPCS)

VHA TeleRehab services also included:[715]

- Occupational therapy
- Physical therapy
- Speech and language pathology
- Visual impairment rehab services
- Amputation and prosthetics services

- Orthotics and ped-orthic services
- Audiology services

Additionally, TeleRehab services included the following diverse activities for engagement:[716]

- Recreation and creative arts therapies
- Text messaging for self-care services
- Wheelchair training
- Tai Chi–inspired mindful movement groups
- Healthy bladder classes
- Tinnitus management classes

Veteran Satisfaction

VHA leadership tracked Veteran satisfaction with VHA telehealth services across different Veteran groups separated by age.[717] VHA leadership reported that during the Review Period, Veterans across all age groupings reported positive experiences with VHA telehealth.[718] Veterans across all groupings also preferred telehealth over in-person treatment.[719] This included older Veterans although the margin between in-person and video services was smaller than in other age groups.[720]

Clinical Contact Centers

From April 1, 2022, through January 31, 2023, VA Health Connect Clinical Contact Centers evolved their capabilities by implementing strategic processes to effectively communicate with Veterans, share health information and connect them to appropriate care right away.[721]

VA Health Connect Clinical Contact Centers served as central centers for clinical support and scheduling to address various patient needs and connect Veterans to the appropriate forms of care.[722] With one call, Veterans were connected to multiple local service providers, such as the following:[723]

- Doctors
- Nurses
- Pharmacists
- Medical support assistants (MSAs)

VA Health Connect Clinical Contact Centers used standardized messaging and scripts across all 18 VISNs to ensure accurate messaging and scheduling for referrals to either in-person or virtual care.[724] This capability meant that VHA could

now apply set standards of care and could approach new and complex situations in a uniform way across VA.[725]

Public Health Emergency Expiration

During the Review Period, VHA prepared to adapt its provision of telehealth to the changes that will arise with the end of the PHE.[726] When the PHE expires on May 11, 2023, many of the waivers and temporary authorities granted to VHA will expire with it, including certain flexibilities for video health care visits.[727]

After the expiration of the PHE, HHS will resume enforcing HIPAA telehealth restrictions.[728] As a result, Veteran access to video health care will be limited to VA Video Connect (VVC).[729] If VVC is unavailable, VA has authorized Webex as an alternative platform.[730]

VHA leadership reported that the PHE expiration may negatively impact access to prescriptions (including prescriptions for controlled substances) for many Veterans who rely on telehealth visits to obtain their medication.[731] Acting on this concern, the VA Secretary publicly requested congressional action.[732]

In a press conference held in January 2023, the Secretary asked that Congress sustain the flexibilities that allow VHA to prescribe medication and renew prescriptions through telehealth and across state lines.[733] The Secretary noted the vital need for this authority and requested that congressional action be taken before the PHE ends to ensure continuity of care for Veterans.[734] For more information on the PHE and its expiration, see the National Public Health Policy section of this report.

Long COVID Care

As of May 2022, a total of 23 of 140 VHA facilities had established Long COVID care programs.[735] An additional 43 facilities indicated that they were considering establishing programs.[736]

The working definition of an established Long COVID program included the following program features:[737]

- Administrative and/or clinical staff
- Designated Long-COVID-informed referral processes
- Long-COVID-informed diagnostic testing and treatment processes
- Regular multidisciplinary team treatment collaboration
- Regular reporting of patient and program status

In December 2022, VHA began official Long COVID operational planning across VISNs.[738] At this time, VHA leadership asked all VISNs to designate a central person in charge of communicating the VISN's operational plans for the provision of Long COVID care.[739] VISNs used an online template to organize their operational plans and to describe how Long COVID care would be accessed by Veterans at all VAMCs.[740]

VHA supported VISNs in Long COVID operational planning through the provision of resources, including the following:[741]

- Office-hours sessions
- Question and answer sessions
- Tutorials
- Briefing books
- Long COVID Resources SharePoint

Additionally, during the Review Period, VHA launched a Long COVID lecture series from a research program out of the St. Louis, Missouri VA.[742] The monthly webinar series was archived in VHA's Employee Education Service (EES) portal and was available to clinicians from practices including pharmacy, nursing and other advanced medical practices to earn continued education credits.[743] VHA leadership reported that the webinar series traditionally hosted up to 300 attendees.[744]

Long COVID Guidance

On August 1, 2022, VHA published a clinical guidebook to inform the evaluation and treatment of Long COVID.[745] This guidance consisted of quick guides—a series of concentrated outlines for Long COVID care practices, tailored to specific presenting symptoms.[746] The guides outlined recommendations for Long COVID care services, including:[747]

- Evaluation
- Consultation
- Lab testing
- Other testing referrals

This guidebook was shared internally within VA and externally with community partners.[748]

Models of Long COVID Care

VHA finalized five models of care to guide VAMC and VISN delivery of Long COVID treatment and Long COVID program development.[749] VHA provided VISNs with recommendations for appropriate models of care based on an algorithm that

considered different components of VAMCs.[750] The five models tailored Long COVID care delivery options based on considerations and recommendations, including the following:[751]

- Space
- Core staff
- Opportunities for a hybrid approach
- Supplies/equipment
- Existing and shared resources
- Level of effort to establish a program

VHA leadership reported that the models of care were designed for VAMCs to use as a blueprint to build their own programs based on what would work best for them.[752] The five models of care are described in further detail in **Table 9.1**.[753]

Table 9.1: *Long COVID Model Details*

Model	Title	Location	Access to Specialists	Mode of Care	Benefits
1	Long COVID Multidisciplinary Team	VAMC Long COVID Program	In-house	• In-person • Telehealth • Hybrid	• Specialists in-house • Real-time care in one location
2	Long COVID Clinic	Long COVID Clinic	Decentralized, seen by referral	• In-person • Telehealth • Hybrid	Case management team to link with specialist
3	Long COVID Clinic & Board	Long COVID Clinic	Specialists on Long COVID Board provide consultation to an advanced practice clinician who can provide Long COVID care	• In-person • Telehealth • Hybrid	Long COVID Board to provide case-specific consultation
4	Long COVID Hub & Spoke	VAMC Long COVID Program Hub site	VAMC Long COVID program hub site	• In-person • Telehealth • Hybrid	Access to Long COVID Program when local site does not have one
5	National Tele-E-Consultation for Long COVID	Telehealth	Accessed through E-Consultation process	Telehealth	Service to VAMCs and VISNs without access to established Long COVID care

Source: VHA Long COVID SharePoint, Long COVID Models of Care Slides, 12/2022, accessed 3/2/2022. Ref. D185

Long COVID care models 1 through 3 used a Whole Health system approach in the evaluation, coordination and provision of Long COVID care to Veterans.[754] Model 4 recommended using a Whole Health coach, and Model 5 recommended sourcing a local Whole Health Program for support with a patient-centered approach to Long COVID care.[755] Each model offered different routes of this care to align with VHA facility capabilities.[756]

Whole Health

Founded by VA, Whole Health is an approach to health care that goes beyond treating emergent injuries, illnesses or abilities. Whole Health combines self-care practices and complementary therapies with conventional medicine to focus on the whole person.

Source: UW Integrative Health, Whole Health: Integrative Care Starts with Me, 1/07/2020, accessed 3/14/2023, https://www.fammed.wisc.edu/files/webfm-uploads/documents/outreach/im/handout-Whole-Health-it-starts-with-me-Final.pdf. Ref. D314

Long COVID Tele-Consultation Pilot

In November 2022, VHA launched the Long COVID Tele-Consultation Pilot to increase VAMC access to Long COVID specialists.[757] In this pilot, VHA sites that did not have Long COVID programs were linked with sites that did, allowing clinicians to receive expert-to-provider e-consultations for Long COVID cases.[758] This allowed providers to ask patient-specific, Long-COVID-related questions directly to Long COVID specialists and receive answers virtually.[759]

This type of virtual service offered access to formal consultation from a multidisciplinary team and written documentation included in the Veteran's medical record.[760] The pilot incorporated standard note templates for documentation.[761] The Long-COVID Tele-Consultation Pilot was active at 5 sites sending information, and 5 sites receiving information.[762]

Digital Pre-screen Pilot

Also in November 2022, VHA launched a Long COVID Pre-Screen Pilot, accompanied by a clinical dashboard, to help providers quickly identify and treat Veterans struggling with Long COVID.[763] The dashboard organized and housed Veteran data such as confirmed COVID-19 infection, which improved outreach efforts; Long-COVID screening; and documentation of the impact of Long COVID on the Veteran population.[764]

The Digital Pre-Screen Pilot used population health management capabilities to conduct outreach and digitally screen Veterans who may have been struggling with Long COVID, based on the dashboard data.[765] The pilot was launched within four VAMCs and was still in progress during the Review Period.[766]

The Future of Long COVID Care

VHA leadership reported that to sustain Long COVID programs within VHA, the programs needed to secure resources like funding and administrative support.[767]

As part of the original Long COVID operational plan, VAMCs and VISNs were instructed to first use their existing budgets to support Long COVID program development.[768] If they were not able to provide Long COVID care using internal budgets and resources, they were instructed to document all funding gaps to support a central request for resources.[769] Less than 50% of sites requested additional resources for Long COVID care.[770]

VHA leadership reported that facilities' next steps to secure funding were to analyze funding gaps among the sites that requested resources and organize the data into one central request for additional VHA resources.[771]

According to VHA leadership, an important task in securing additional VHA resources was to measure the impact of Long COVID on the Veteran population to inform the demand for VHA Long COVID care.[772] During the Review Period, VHA leadership engaged in efforts to calculate VHA's demand for Long COVID care by tracking and documenting Long COVID cases and the volume of Long COVID care provision.[773]

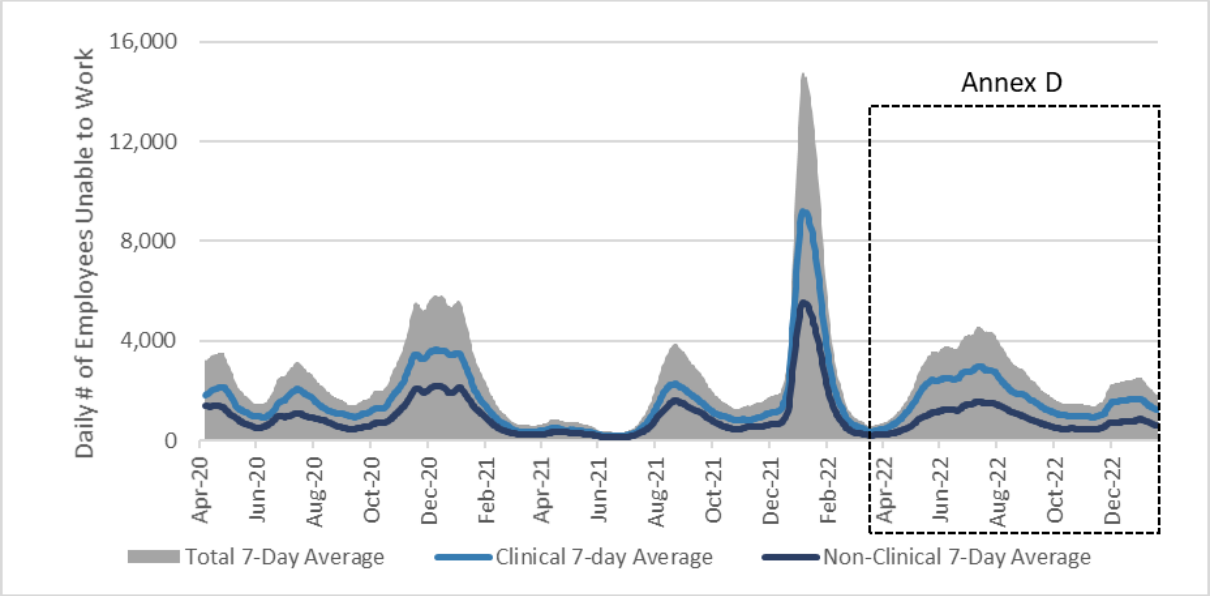
WORKFORCE

During the Annex D Review Period, VHA continued to recover from staffing challenges encountered during the COVID-19 pandemic.[774] VHA worked to address hiring needs and support employees with actions that included the following:[775]

- Hosting a nationwide Onboarding Surge Event (OSE)
- Implementing additional pay adjustments based on recent legislation
- Establishing seven focus areas to combat employee burnout

As shown in **Figure 10.1**, COVID-19 unable-to-work numbers moved in two waves during the Annex D Review Period. The number of VHA employees who could not work due to COVID-19 increased from April 2022 through July 2022 and then again in December 2022.[776] Despite this, VHA leadership reported no major issues clearing staff to work after COVID-19 exposure or infection during the Review Period.[777]

Figure 10.1: *Daily Number of VHA Employees Unable to Work, by Clinician Status, 4/14/2020 – 1/27/2023*



Source: VHA, HOC, response to data call, 1/30/2023. Ref. D1

Recruitment and Hiring

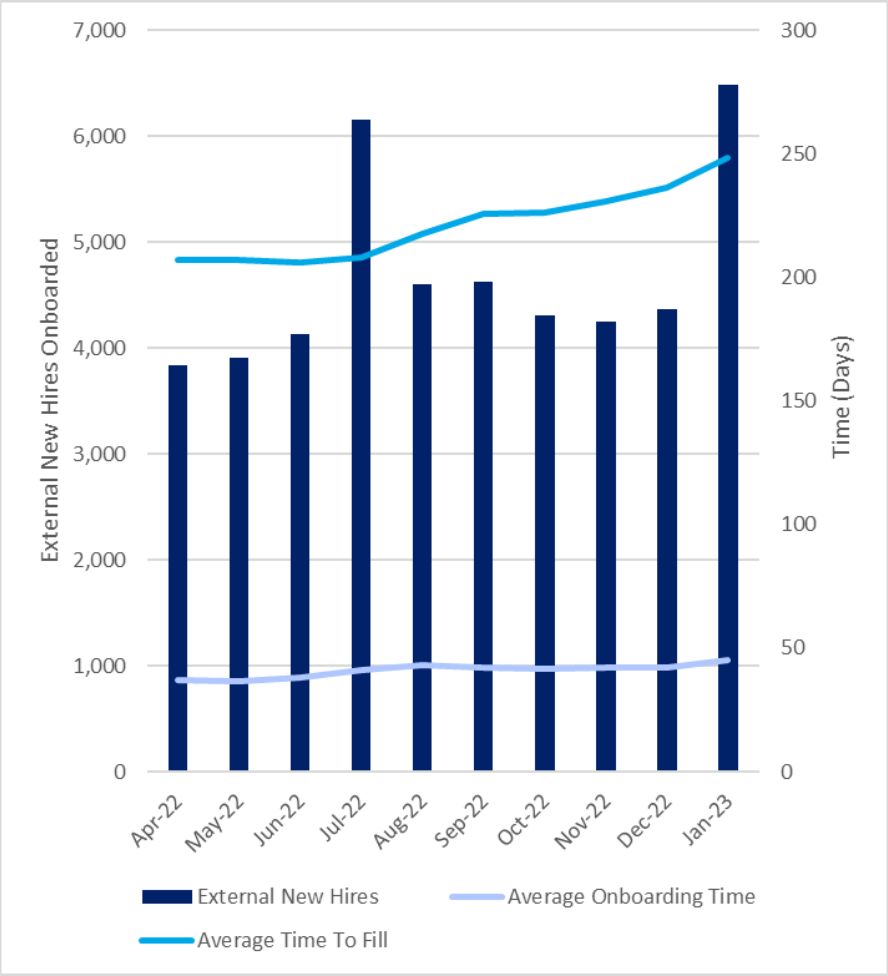
In December 2022, VHA onboarded 4,365 new employees.[778] However, during the Annex D Review Period, VHA continued to see an increase in the time it took to fill positions.[779] VHA tracked this time in two categories:[780]

- Time-to-hire (T2H): the length of time from when a manager approves a job posting until the position is filled
- Time-to-fill (T2F): the length of time from when a position becomes vacant until the position is filled

From April 1, 2022, through January 31, 2023, average T2H for VHA positions increased from 101 days to 123 days.[781] Average T2F increased from 207 days in April 2022 to 248 days in January 2023.[782]

Figure 10.2 shows the change in T2F by month over the course of the Annex D Review Period. Throughout the Review Period, the average onboarding time was shortest in May 2022 at 37 days and longest in January 2023 at 45 days. VHA had the highest number of external new hires in January, with 6,487 individuals hired.

Figure 10.2: *Average Time-to-Fill, Average Onboarding Time, and Number of External New Hires per Month, 4/1/2022 – 1/31/2023*



Notes: Onboard is as of the last day of the month. Onboarding Time is calculated from the Send Tentative Offer Date to the Send Formal Offer Date. It includes all internal and external hires.

Onboarding Time excludes Veterans Canteen Service (VCS) and without compensation (WOC) positions. Onboard Employee counts exclude VCS, intermittent, non-pay, medical residents and trainees with assign codes T0-T9 current as of 2/28/2023. T2F is calculated from the Date of Vacancy to the Date of Position Filled.
Source: VHA, WMC, response to data call, 3/14/2022; VHA, WMC Dashboard, accessed 3/15/2023. Ref. D315

Recruitment Challenges

During the Review Period, VHA leadership reported continuing challenges to recruitment, including navigating a complex hiring process and remaining competitive in the marketplace.[783]

The complexity of the VHA hiring process continued to slow its hiring speed.[784] Some examples of these complications include the following:[785]

- Time spent writing new job descriptions for each position
- Time required for job postings to move through multiple approvals before the search can begin
- Potential errors and delays caused by the movement of job postings between managers, requiring IT tracking and support

VHA leadership reported that VHA was addressing these complexities, working to simplify and streamline the hiring process.[786] For instance, VHA planned to standardize hiring efforts nationally, including more formalized templates for position descriptions and recruitment packages.[787]

To address the issues with IT tracking, VHA leadership reported that VHA was investigating potential IT solutions to support multiple approvals and prevent unnecessary errors.[788]

Nurse Recruitment

During the Annex D Review Period, VHA's Office of Nursing Services (ONS) focused on recruiting through scholarships, residency programs and nurse recruiters.[789] Nurse recruiters were placed at every VAMC and provided tools and training.[790] Nurse recruiters managed some aspects of the hiring process, such as attending hiring fairs, communicating follow-up with candidates and supporting interviews.[791]

Chief Nursing Officers

As of January 31, 2023, there were 17 VISNs with a Chief Nursing Officer (CNO) in place or in the process of recruiting a CNO, and 1 VISN was working with ONS to establish a CNO.[792] VHA continued to work to place a CNO in every VISN.[793]

VHA leadership reported that CNOs were advocates for their VISNs and representatives for nurses—the largest segment of the VHA workforce at the regional level.[794] Since the placement of CNOs began, these individuals have increased the focus on nursing recruitment and retention in their locations.[795]

CNOs were highly involved in the hiring process of nurses within their VISNs during the Review Period.[796] They also worked to standardize the hiring process.[797] ONS, CNOs and Human Resource Officers met biweekly to share best practices and strategies to support the recruitment and retention of nurses.[798]

Nursing Scholarship

During the Review Period, ONS collaborated with the Workforce Management and Consulting (WMC) Office to support the Health Professional Scholarship Program (HPSP).[799] As part of HPSP, qualifying students received tuition and other authorized fees, a stipend and an education expense payment.[800] In exchange, the students agreed to work for VHA after completing their education.[801] Full-time students were obligated to serve VHA for at least 2 years, and part-time students served for at least 1 year.[802]

HPSP supported full-time students, as well as VHA employees who were attending school part-time for qualifying occupations.[803] Full-time students received 4 years to complete their education and part-time students received 6 years.[804]

VHA leadership reported that through the HPSP, more than 80 Registered Nurses (RN) were recruited to work with VHA.[805] Included in the scholarship agreement was a clause that might require graduated students to relocate to higher-need VAMCs.[806]

HPSP was one of several scholarship programs designed to support the recruitment of health care professionals to the VHA workforce during the Review Period.[807]

Onboarding

Table 10.1 shows HR statistics of employee gains and losses from April 1, 2022, through January 31, 2023. During the Annex D Review Period, VHA added 16,337 employees (net of attrition). VHA experienced greater losses than gains in the Practical Nurse occupation while Nurses experienced a net gain of 4,625.

Table 10.1: *Key HR Statistics Across VHACO and VISNs*

Occupations	Total Staff Onboard, as of March 31, 2022	External new Hires	Total Losses	Total Staff Onboard, as of January 31, 2023	Net Gain (Onboard January 2023 minus Onboard March 2022)
Custodial Worker	11,533	2,590	1,298	11,715	182
Medical Officer	27,517	2,473	1,741	28,121	604
Medical Support Assistance	31,748	7,199	2,326	33,873	2,125
Nurse	78,675	8,943	4,435	83,300	4,625
Nursing Assistant	13,833	2,531	1,168	13,845	12
Pharmacist	9,855	623	271	10,499	644
Practical Nurse	15,187	1,721	1,122	15,176	-11
Psychology	6,405	375	352	6,670	265
Social Work	17,242	2,166	974	18,474	1,232
All Other Occupations	159,365	17,979	11,842	166,024	6,659
Totals	**371,360**	**46,600**	**25,529**	**387,697**	**16,337**

Notes: External New Hires represents unique external hires, which excludes transfers from other VA entities; Total Losses represents all employees who have been removed from, or departed, VA for any reason; and Total Staff Onboard represents total positions filled as of the date identified in the respective column header. Net Gain is calculated as the difference between the Total Staff Onboard as of January 2023 and Total Staff Onboard as of March 2022. Net Gain includes transfers within VA to another administration or occupational position. All Other Occupations includes all administrative, clinical and other occupations not independently identified in the table above. Numbers reported exclude trainees, medical residents, employees in non-pay status and intermittent employees.
Source: VHA, WMC, response to data call, 3/14/2022 Ref. D315

Onboarding Surge Events

During the Review Period, several VISNs held smaller OSEs within their regions, and one national OSE was held in November 2022. [808]

OSEs were designed to allow each selectee to complete all of their pre-employment requirements in a single day.[809] This approach reduced the number of appointments each selectee needed to coordinate with their VAMC as part of their pre-employment tasks.[810] Pre-employment activities included the following:[811]

- Drug Testing
- Fingerprinting
- Pre-employment physical examination
- License verification

VHA leadership credited the November 2022 OSE with record hiring numbers in December 2022 and January 2023.[812] In the first quarter of FY 2023, VHA saw increased growth in all 7 critical shortage occupations, including the following:[813]

- 1.4% growth in medical technicians
- 0.5% growth in food service workers
- 0.4% growth in nursing assistants

VHA's Under Secretary for Health charged VHA with hosting the nationwide OSE to bring people together while also allowing selectees to complete necessary onboarding activities.[814] The weeklong OSE culminated in a live celebration broadcast for leaders and staff who made it possible for 12,829 selectees to engage in the OSE.[815]

Onboarding surge event at VA New York Harbor Healthcare, November 2022. (Photo credit: VHA)

During the week of the national OSE, each facility was required to hold at least one onboarding event.[816] Some facilities held multiple events or weeklong events during this time.[817]

In April 2022, the WMC office produced and shared an eight-page document to serve as a toolkit for the development of these events.[818] The toolkit provided a checklist of steps along with an estimated timeline, predicting the time needed for each VISN to develop and launch an OSE.[819] VHA leadership reported that OSEs were beneficial in moving selectees quickly through the onboarding process and providing selectees transparency into the complexities of onboarding.[820]

Retention

Throughout the health care industry, personnel turnover rates remained higher than they were during the pre-pandemic.[821] In FY 2021 and FY 2022, VHA's workforce continued to sustain turnover rates at least 1% higher than turnover rates reported before the pandemic.[822] As VHA moved toward an endemic state, leadership continued to monitor turnover rates closely.[823]

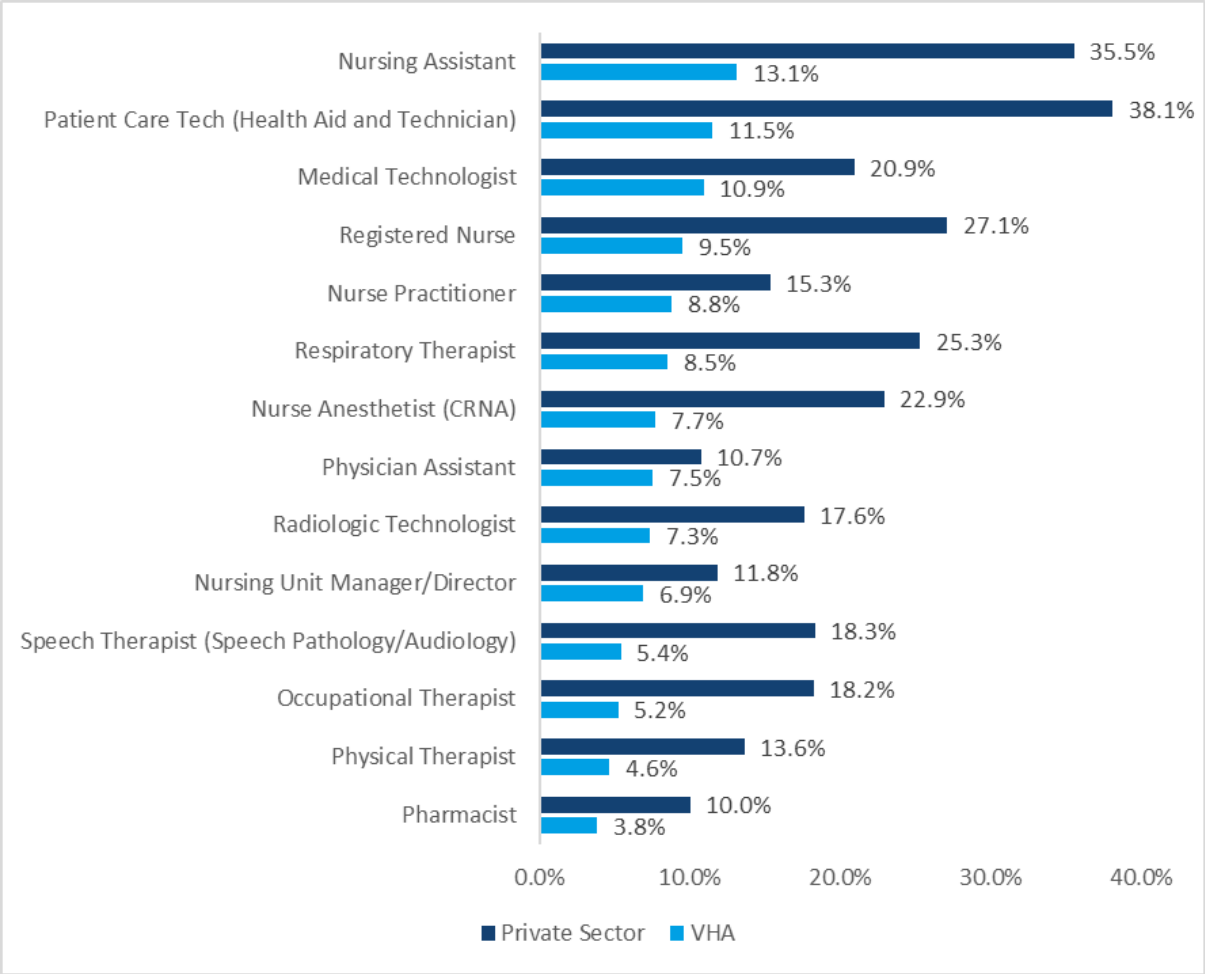
The staffing challenges VA experienced throughout the pandemic mirrored similar challenges of private-sector health care, including the following:[824]

- Increased demand for labor with limited labor supply
- Higher turnover rates for hospital and ambulatory care
- Increased cost of labor
- Increased dependance on travel nurses

In 2021, the nationwide private-sector hospital staff turnover rates increased 32.8% (6.4 percentage points) from 19.5% in 2020 to 25.9% in 2021.[825] In 2019 (pre-pandemic), the nationwide private hospital turnover rate was 17.8%.[826]

Figure 10.3 displays VHA's turnover rates compared to private-sector health care turnover rates for selected occupations during 2021. VHA experienced significantly lower turnover rates in all selected occupations than the private health care sector during 2021.[827]

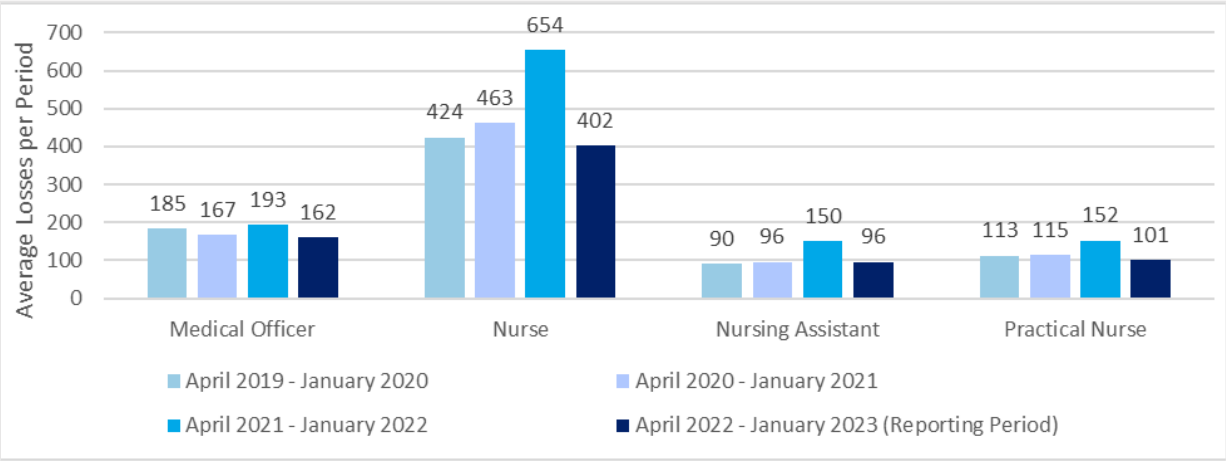
Figure 10.3: *Select Occupation VHA Turnover Rates Compared to Private Sector Turnover Rates, January – December 2021*



Source: VHA turnover rates from: VA "Annual Report on the Steps Taken to Achieve Full Staffing Capacity," 6/2022, https://www.va.gov/EMPLOYEE/docs/Section-505-Annual-Report-2022.pdf, accessed 4/7/2023; Private Sector turnover rates from: NSI, "2022 NSI National Health Care Retention & RN Staffing Report," accessed 4/7/2023. Refs D370, D372, D384

During the Annex D Reporting Period, resignations and retirements for medical officers, nurses, practical nurses and nursing assistants decreased compared to the prior period (April 2021 through January 2022). From April 2022 through January 2023, medical officers, nurses and practical nurses experienced lower levels of retirement and resignations than pre-pandemic (April 2019 through January 2020), as shown in **Figure 10.4.**

Figure 10.4: *VHA Average Workforce Losses per Month – Retirements and Resignations, April-January 2019, 2020, 2021, 2022, 2023*



Note: The average losses per period cover April through January of the following year to mirror the reporting period. Losses include only Retirement and Resignation categories. December 2022 and January 2023 may be underreported because it can take time for HR data to be fully processed.
Source: VHA, WMC, response to data call, 2/28/2023. Ref D179

RAISE Act

In March 2022, the President of the United States signed into law the Retention and Income Security Enhancement (RAISE) Act.[828] The RAISE Act increased the pay ceiling for some VHA medical professions, including the following:[829]

- Registered Nurses (RNs)
- Advanced Practice Registered Nurses (APRNs)
- Physician Assistants (PAs)

During the Annex D Review Period, VHA fully implemented the additional pay authorities granted in the RAISE Act, impacting more than 9,000 employees.[830] The RAISE Act supported VHA's efforts to remain competitive in the labor market, especially in areas with a high cost of living.[831]

PACT Act

On August 10, 2022, the White House signed the Promise to Address Comprehensive Toxics Act of 2022 (PACT Act).[832] The PACT Act expanded care for Veterans exposed to toxins and burn pits and extended additional pay authorities to VA.[833] During the Review Period, VHA started implementation of additional authorities, including the ability to do the following:[834]

- Increase salary rates for approximately two-thirds of VHA's workforce
- Grant upfront, lump-sum retention incentives

- Buy out provider service contracts in rural areas
- Implement critical skills incentives for positions on the occupational staffing shortage list

VHA leadership expressed that the additional pay authorities were important to remain competitive in the market and would support increased recruitment and retention rates.[835]

Continuing Impact of the Pandemic on the Health Care Workforce

The pandemic put unprecedented strain on health care workers, impacting their mental health and increasing burnout rates.[836] Although burnout and staffing shortages existed prior to the pandemic, the COVID-19 response placed further strain on the workforce.[837]

According to the Reduce Employee Burnout and Optimize Organizational Thriving (REBOOT) taskforce, a 2021 VHA All Employee Survey (AES) found that approximately 50% of the workforce reported experiencing at least 1 burnout symptom per week.[838]

During the Review Period, VHA leadership actively focused on—and invested in—reducing employee burnout.[839]

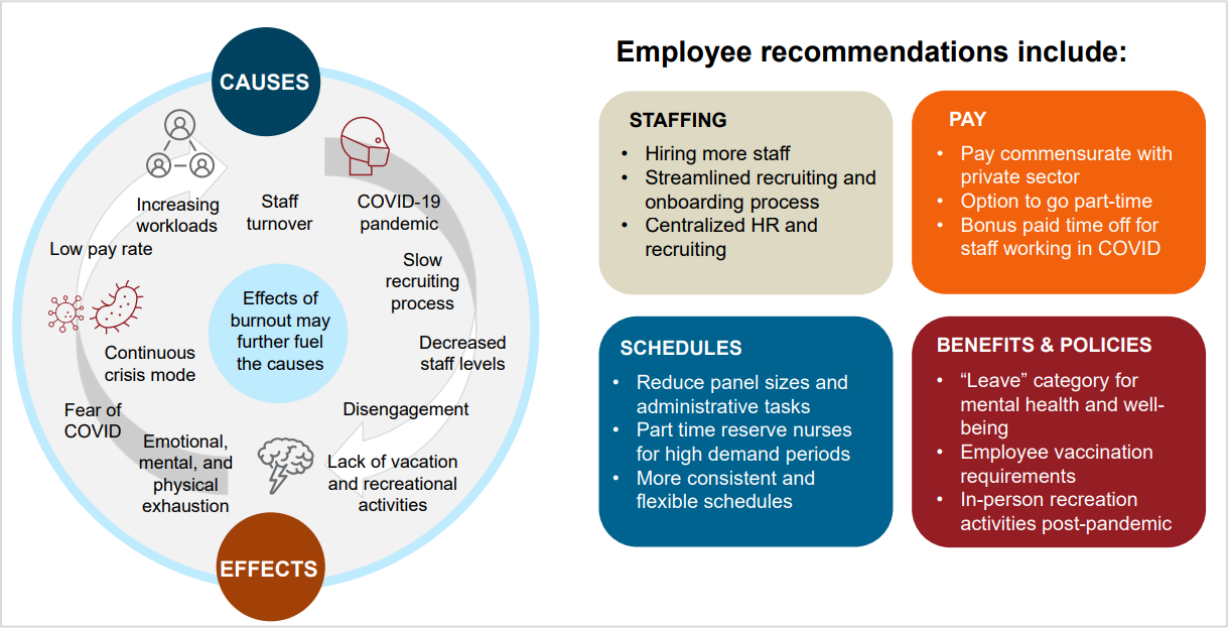
REBOOT Initiative

The REBOOT taskforce was established in fall 2021 to address concerns and gain feedback from employees regarding wellbeing and burnout.[840]

Figure 10.5 depicts some of the challenges that can lead to burnout, as identified through the REBOOT Task Force. The figure also shows some of the recommendations for improvement, provided by personnel.

During the Annex D Review Period, the REBOOT initiative transitioned from a task force (which focused on gathering information and developing solutions) to an implementation team (which aimed to take action on approved recommendations).[841]

Figure 10.5: *Analysis of VHA Personnel Burnout Feedback*



Source: VHA, "It's Time for a REBOOT! A Journey Toward Organizational Thriving," 5/30/2022, https://conference.avapl.org/pubs/2022%20Conference%20Presentations/Day%202/AVAPL-REBOOT%20Presentation%20final.pdf. Ref. D176

By analyzing employee feedback—gathered from more than 700 emails and 11 focus group sessions—VHA identified staffing challenges as the biggest factor in burnout and established seven focus areas with recommended implementation actions.[842] These focus areas (also called workstreams) are outlined in further detail in the sub-sections below and displayed in **Figure 10.6**.

Figure 10.6: *The Seven REBOOT Workstreams*

Source: VA Insider, "Announcing REBOOT priority Focus Areas (August 2022)," accessed 2/1/2023. Ref D105

From April 1, 2022, through January 31, 2023, REBOOT shared messages with employees regarding updates and implementation goals.[843] Multiple internal newsletters were published for VHA employees to receive updates regarding progress.[844]

Workstream: Chief Clinician Wellbeing Officers

As of August 2022, the VHA Governing Board approved funding for full-time CWOs in all 18 VISNs: Each VISN was authorized to establish a CWO at one of their VAMCs.[845] As of January 12, 2023, a total of 4 of the 18 VISNs had hired a CWO.[846]

A CWO is a leadership position supporting the culture of wellbeing at all facility levels.[847] The CWO position was initially a pilot program, and REBOOT supported its expansion.[848]

In addition to the national program, individual VAMCs were encouraged to hire CWOs with local leadership support.[849] All hired CWOs were expected to receive support from the national CWO Program Team.[850] As of January 12, 2023, two early adopter sites had hired a CWO.[851]

Qualifying CWOs were clinicians-by-training, expected to focus on supporting the distinctive needs regarding clinician wellbeing and burnout prevention.[852] CWOs will mainly focus on CWO duties while continuing to serve at a reduced clinical capacity—no more than 20% of their time.[853]

Workstream: Optimizing Meeting Practices to Ensure Flexibility

During the feedback collection process, VHA noted that many employees expressed challenges with back-to-back meetings, which led to limited time for breaks.[854] To address this concern, the VA Office of Information and Technology (OIT) identified an Outlook plug-in that will support employee time management.[855]

VHA also explored implementing a default in Outlook to shorten meeting times.[856] The default, once integrated, would automatically adjust meeting times from 30 and 60 minutes to 25 and 50 minutes, respectively.[857]

VHA leaders reported that the nationwide rollout was more complicated than anticipated, but VHA has since developed an implementation plan for all VA.[858] The shortened meeting practices were adopted at some VAMCs prior to REBOOT.[859]

Workstream: Optimizing Talent Management System Training

The Talent Management System (TMS) is a web-based application designed to manage and track the training of all VA employees.[860] All VA staff training records

are consolidated in TMS at the national level.[861] Through the REBOOT feedback process, employees identified finding time to work and complete TMS trainings as common areas of concern.[862]

To reduce the training burden, VHA prepared directives for employees to test out of TMS training and training moratorium waivers.[863] During the Review Period, a pilot program was developed to allow employees to test out of a mandatory training.[864] VHA leadership reported challenges implementing the pilot.[865] Training owners were hesitant to allow the test-out option due to the importance of their training module.[866]

Also, the implementation team worked to establish an upper limit on required trainings and focused on streamlining essential education requirements into microlearning modules.[867]

Workstream: Strengthen Mental Health Support

In REBOOT focus groups, VHA employees expressed multiple concerns regarding the need for sufficient mental health resources.[868]

To combat these concerns, VHA will increase investments in mental health resources and ensure that employees know about available mental health resources.[869] The implementation team worked to modernize the Employee Assistance Program (EAP) and focused on increasing peer support and acute crisis support for employees.[870]

Workstream: Address Inefficiencies

A common theme identified through REBOOT feedback was a need to address inefficiencies in the workplace.[871] The implementation team added new language to VHACO program office senior executive performance plans.[872] The pilot language encouraged employees to address inefficiencies in their work environment.[873]

During the Annex D Review Period, VHA was preparing educational materials and spreading awareness to empower employees to eliminate inefficiencies.[874] Based on pilot outcome, VHA plans to expand the language to all VHA.[875]

Workstream: Maximize Use of HR policies

The REBOOT task force identified staffing shortages and workload as major challenges and large contributors to burnout among VHA employees.[876]

During the Review Period, the implementation team was working on several initiatives, including the following:

- Enhancing the Resource Management Committee process to standardize hiring and onboarding and to reduce time delays[877]

- Implementing automatic coverage of recently vacated positions[878]
- Maximizing flexibilities for scheduling, hiring and pay[879]

During the Annex D Review Period, the implementation team also collaborated with subject matter experts to produce a set of recommendations to support consistent employee schedule options—flexible and alternative work schedules.[880]

Workstream: Strengthen Culture of Servant Leadership

The REBOOT taskforce received feedback from employees expressing challenges connecting with leadership.[881] For instance, employees struggled to find time to meet with leadership due to the leaders' intense schedules.[882] From April 1, 2022, through January 31, 2023, VHA increased its education of the servant leadership philosophy by expanding existing leadership trainings and programs and encouraging use of the Servant Leadership Gaming Module.[883] The servant leadership philosophy emphasizes authenticity and putting employees ahead of leadership goals.[884] Servant leadership focuses on improving the employee experience.[885]

The implementation team worked to enhance other existing servant leadership trainings and learning opportunities.[886] Going forward, VHA plans to expand incentives to encourage servant leadership and reward employees who embrace the philosophy.[887]

VHA Travel Corps

During the Annex D Review Period, the VHA Travel Corps (also known as the Travel Nursing Corps or TNC) worked more than 81,737 hours, averaging 69 clinical field staff per day.[888] Travel Corps clinicians travel to support under-staffed VAMCs on a temporary assignment.[889] As of January 31, 2023, the Travel Corps consisted of 139 RN and 5 Nurse Practitioner (NP) positions.[890]

During the Review Period, the Travel Corps received an average of 50 new requests per month with the ability to fill around 8 of those 50 requests (16%) per month on average, meaning the demand for services exceeded service capacity.[891] VHA leadership reported that the Travel Corps was working to expand its clinical staff, which would allow the service to fill more requests, including potential expansion beyond nursing occupations.[892]

SUPPLY CHAIN RESILIENCE

From April 1, 2022, through January 31, 2023, VHA's supply chain continued to adapt to ensure uninterrupted delivery of care to Veterans.[893]

VHA leadership reported that the supply shortages throughout the pandemic highlighted VHA's dependency on foreign products; this dependency existed throughout the U.S. health care industry.[894] Without access to consistent delivery and manufacturing thoroughfares, VHA and other health care organizations were susceptible to supply chain interruptions.[895]

VHA leadership expressed the importance of learning from the pandemic response.[896] During the Annex D Review Period, VHA worked to improve supply chain resiliency for medical supplies by establishing cost-effective, efficient methods of securing materials.[897] VHA also continued to balance just-in-time and just-in-case approaches.[898]

Just-in-Time & Just-in-Case Approaches to Supply Procurement

Just-in-Time: Inventory is ordered only when it is needed to fulfill organizational needs. Highly efficient when supply chain is predictable, but easily disrupted.

Just-in-Case: Some supplies are ordered ahead of time and stored in case they are needed. This strategy creates flexibility through the use of larger inventories.

Source: Jiang, et. al, "From Just-in-Time, to Just-in-Case, to Just-in-Worst-Case: Simple Models of a Global Supply Chain under Uncertain Aggregate Shocks," 11/15/2021, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8592086/, accessed 4/11/2023; Furusawa et. al, "G20's Roles in Improving the Resilience of Supply Chains" 6/2022, https://www.eria.org/uploads/media/Books/2022-G20-New-Normal-New-Technology-New-Financing/9_Ch.5-G20-Roles-in-Improving-Resilience-Supply-Chains-NEW.pdf, accessed 4/12/2023. Ref.s D380, D382

Shortages

During the Review Period, FDA removed several medical devices from its COVID-19 Medical Device Shortage List because the demand or projected demand for these supplies and devices no longer exceeded the supplies available.[899] Some of the products removed from the shortage list from April 1, 2022, through January 31, 2023 included:[900]

- Medical gloves and gowns
- Surgical respirators and masks

Table 11.1 displays a selected list of medical devices and supplies that became scarce during the pandemic and remained scarce as of January 31, 2023; some of these products had been in low supply since 2020.[901]

Table 11.1: *Selected List of Medical Device & Supply Shortages, as of 1/31/2023*

Device Description	Device Category	Estimated Shortage Duration	Reason for Interruption	Initial Shortage Determination Date
Tube Tracheostomy and Tube Cuff	Ventilation, Anesthesiology	Data not available to estimate the duration	Shortage or discontinuance of a device component	10/31/2022
Dialysis-related Products	System, perfusion and kidney	Data not available to estimate the duration	Shortage or discontinuance of a device component; delay in shipping devices	1/7/2022
Tubes, vials, systems, serum separators, blood collection	Specimen collection equipment	Through the end of 2022	Increased demand for the device; requirements related to Good Manufacturing Practices (GMP) compliance	6/10/2021 **Revised**: 1/19/2022
Ventilator, Continuous, non-life-supporting	Ventilators, Ventilation-related products	Data not available to estimate the duration	Requirements related to GMP compliance; shortage or discontinuance of a device component	9/10/2021
Transport culture medium	Transport media device-testing supplies and equipment	The duration of the COVID-19 PHE	Demand increase for the device	8/14/2020
Continuous ventilator, facility use	Ventilators, Ventilation-related products	Data not available to estimate the duration	Demand increase for the device; requirements related to GMP compliance; shortage or discontinuance of a device component	8/14/2020 **Revised:** 2/25/2022

Note: The revised date represents a change to the information included the device description, the device category, or the reason for interruption columns.
Source: FDA, "Medical Device Shortages During the COVID-19 Public Health Emergency," https://www.fda.gov/medical-devices/coronavirus-covid-19-and-medical-devices/medical-device-shortages-during-covid-19-public-health-emergency#shortage, accessed 3/2/2023. Ref. D208

Semiconductors

Semiconductors are small electronic devices used to power everything from light switches to smartphones.[902] Many medical devices rely on semiconductors, including magnetic resonance imaging (MRIs) machines, patient monitors, blood pressure monitors, pacemakers and blood gas analyzers.[903]

There were already challenges in manufacturing semiconductors before the pandemic began, but the issues were exacerbated by an increased demand for consumer electronics during the COVID-19 era, combined with factory fires, manufacturing closures and energy shortages.[904]

The conflict in Ukraine, which began in February 2022, caused further delays in production because Ukraine is a major producer of the neon gas used in the manufacturing of semiconductor chips.[905] The United States sources approximately 90% of its semiconductor neon from Ukraine, and 70% of semiconductor manufacturing worldwide relies on Ukraine for the resource.[906] The primary reason for Ukraine's predominant role in the industry stems from its use of old-style steel mills, which produce neon gas as a byproduct.[907]

The full impact of neon gas production interruptions was not yet quantified by January 31, 2023, but the International Monetary Fund (IMF) noted the anticipated disruption in its annual World Economic Outlook, published in April 2022, along with a prediction of a double-digit decrease in Ukraine's gross domestic product.[908] IMF omitted specific gross domestic product projections for Ukraine from 2022 through 2027 due to the degree of uncertainty associated with its current state.[909]

In 2022, the White House instituted the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act, which provided $50 billion in funds for the Department of Commerce to expand U.S. manufacturing of semiconductors.[910] As of 2023, the United States accounted for only 10% of semiconductor manufacturing globally.[911]

During the Review Period, VHA addressed the semiconductor shortage by incorporating longer-than-usual procurement lead times into its planning process.[912] This allowed VHA to ensure that equipment was acquirable while also being mindful of the lifecycles of existing equipment.[913]

Contrast Media

Contrast media is an injectable dye that makes blood vessels and organs more visible during diagnostic imaging tests.[914] The increased visibility makes it easier for clinicians to detect issues in their patients.[915] Contrast media is a critical tool in the detection of cancer, as well as treatment planning and post-treatment monitoring.[916]

In spring 2022, a COVID-19 outbreak in Shanghai, China, resulted in a citywide lockdown and the closure of a major production facility for contrast dye.[917] To address concerns about shortages, VHA leadership maintained active communication with the manufacturer.[918] Senior leadership, along with radiology

department staff, hosted weekly calls with the manufacturer to receive updates regarding production capabilities.[919] Due to the close contact and careful collaboration between the manufacturer and VHA leadership, VA was able to manage the contrast media shortage while still providing needed testing and support for Veteran care.[920]

Resiliency & Regional Readiness Centers

During the Review Period, RRCs continued to adapt to supply chain shortages, becoming resiliency enablers.[921] VHA sustained the central procurement and distribution function for scarce medical supplies that was established early in the pandemic.[922] The centrally procured supplies were stored at RRCs.[923] From there, VAMCs were able to request supplies using the National Contingency Response Tool (NCRT).[924]

RRCs continued to focus on maintaining personal protective equipment (PPE) supplies during times of steady state while retaining the flexibility to become distribution locations when shortages occurred.[925] For example, as discussed in the Annex C Report, the United States was impacted by a blood tube shortage during the pandemic.[926] To support VAMCs during the shortage, RRCs managed the distribution of blood tubes.[927] RRC management of the blood tubes ensured that VAMCs had consistent access to needed supplies to support VHA's health care operations.[928]

As of January 31, 2023, two RRCs were open and supporting supply chain resilience, located in San Joaquin, California, and Susquehanna, Pennsylvania.[929] These two RRCs operated through partnerships with the Defense Logistics Agency (DLA).[930]

In November 2022, VHA closed a large RRC in Chambersburg, Pennsylvania.[931] VHA found that 2 RRCs were able to support the resilience requirements for all 18 VISNs.[932]

VHA leadership reported that RRCs will continue to evolve as the mission continues to change.[933] VHA is assessing the possibility of shifting the roles of RRCs to include all-hazards responses (responses to any hazard that may impact VHA operations or generate a VHA tasking under VA's Fourth Mission).[934]

During the Annex D Review Period, VHA used a data analytic tool to pull in data from legacy systems to sustain national visibility into its supply chain systems.[935] VHA leadership expressed that the tool required a significant amount of manual data management to achieve data quality from the 172 legacy system instances.[936]

Defense Medical Logistics Standard Support

During the Annex D Review Period, VA announced that it would no longer pursue implementation of the Defense Medical Logistics Standard Support (DMLSS).[937]

DMLSS is an information technology (IT) system used by DoD to support the modernization and standardization of supply chain management.[938] DMLSS will remain in use at the James A. Lovell Federal Health Care Center in Illinois (VISN 12), which is a Joint Executive Committee (JEC)–funded collaboration between VA and DoD.[939]

For more information on DMLSS, see the Initial Report, as well as updates in Annexes A, B and C.[940]

3D Printing

Throughout the pandemic, VHA's OHIL used advanced manufacturing, including 3D printing, to support supply chain gaps.[941] Innovations in 3D printing included PPE (such as masks) and medical devices (such as nasal swabs) to combat supply chain disruptions.[942] For more information regarding 3D printing, see the Research and Innovation section of this report.

During the Annex D Review Period, VHA's Office of Advanced Manufacturing (OAM) entered a partnership with a manufacturing company to develop 3D-printed soft-top health care products, such as mattresses and patient positioning devices.[943]

Under the collaborative partnership, VHA and the manufacturing company will work to co-create new soft-top devices that can be stored in a compact form.[944] The 3D-printed foaming agents allow the soft-top goods to expand up to seven times the original printed design on demand.[945] The compact form decreases shipping and inventory costs.[946]

3D Printing & Good Manufacturing Practice

During the Review Period, VHA reduced the number of facilities that have Good Manufacturing Practice (GMP) certification from 3 facilities to 1 facility.[947]

GMP certification is a system designed to ensure consistent production and quality standards of a manufactured good in all aspects of the production process.[948] GMP certifications are regulated by FDA.[949]

VHA leadership reported an additional focus to understand which products need to be produced under GMP certification to maximize production while minimizing costs.[950] GMP sites are more expensive and require additional oversight.[951]

Staff unloading supplies at a VAMC in Loma Linda, California. (Photo credit: VHA)

Interagency Coordination

During the Review Period, VHA continued to partner with multiple Federal organizations to support pandemic response.[952] Over the course of the pandemic, VHA leadership reported a shift in supply chain resilience planning from agency-by-agency action to a collaborative, whole-government approach.[953]

VA partners in supply chain efforts included HHS, DHS and the White House COVID-19 response team.[954] VHA leadership expressed the importance of the collaborations to provide early warning indicators of potential supply chain challenges.[955]

VHA also participated in the Defense Production Act Committee to discuss the distribution of medical resources.[956] The committee evaluated supply chain practices and the flow of goods and services as manufacturing and shipping conditions continued to shift.[957]

Joint Supply Chain Resilience Working Group

During the Review Period, VHA continued participation in the Joint Supply Chain Resilience Working Group (JSCRWG).[958] JSCRWG consists of 179 experts from the private industry and 27 Federal agencies.[959]

The group was established during the pandemic to support supply chain visibility, conduct resilience assessments and develop mitigation strategies.[960] JSCRWG continued to work on a national strategy to transform the public health supply chain.[961]

Warstopper Program

On December 29, 2022, the President of the United States signed into law the Joseph Maxwell Cleland and Robert Joseph Dole Memorial Veterans Benefits and Health Care Improvement Act of 2022 (Cleland-Dole Act).[962] The Cleland-Dole Act directed VA's participation in DLA's Warstopper Program.[963]

The Warstopper Program is a vendor-managed inventory system that allows DLA to access critical supplies during an emergency.[964] Warstopper is designed for DoD missions.[965] Prior to implementing Warstopper, VA and DoD will need to assess Warstopper's capabilities and limitations.[966] VHA leadership emphasized the importance of public health as a national security consideration.[967]

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RECOMMENDATIONS REVIEW

As a learning organization, VHA is committed to continuous improvement and innovation. With that in mind, VHA's COVID-19 Response Reports typically include a series of recommendations for improvements and future preparations to support and improve Veteran care.

For this report, VHA also looked back on select recommendations provided over the course of the pandemic and chronicled the organization's progress toward meeting some of the objectives therein. A series of potentially high-impact recommendations from previous reports are reviewed in the section to follow, including the impacts of the evolving pandemic on these recommendations, actions taken and future plans.

Each recommendation review opens with a text box that includes the original recommendation, a link to the report within which the recommendation was initially published and the end-date of that report's review period. Recommendations were current as of the date provided in the text box.

Clinical Contact Centers

Recommendation: Clinical Contact Centers (Initial Report, p.18, June 30, 2020): "Accelerate incorporation of virtual care into clinical processes enabled by accelerated implementation of integrated virtual care tools. It is also recommended that VHA develop a modernization strategy for Clinical Contact Centers to gain reliability, central visibility, agile surge adaptation, efficiency and integration of virtual care processes."

VA Health Connect Clinical Contact Centers are VISN-based telephone and virtual centers that provide remote health care advice and support for Veterans.[968] As of January 2023, VA Health Connect Clinical Contact Centers were able to provide comprehensive assistance to Veterans by providing services in four core areas:[969]

- Scheduling and administration
- Clinical triage
- Virtual clinic visits with health care providers
- Pharmacy services

Although VA Health Connect does not replace primary care, the staff can provide clinical services, including filling prescriptions.[970] VA Health Connect fields approximately 45 million calls per year, and Veterans can access the centers from any telephone or internet connection.[971]

Background

Prior to the pandemic, VA Health Connect was offering general assistance in access to care and treatment.[972] The original VA Health Connect Clinical Contact Center workforce consisted of MSAs and RNs who triaged calls.[973] Veterans welcomed the opportunity to gain services offered by VA Health Connect.[974]

Because VA Health Connect Clinical Contact Centers were managed locally, the services provided varied between VAMCs and among VISNs.[975] VHA leadership reported that the importance of standardization became a key lesson learned from early Clinical Contact Centers.[976]

VISN Reorganization

In May 2020, management of the VA Health Connect Clinical Contact Centers transitioned from VAMCs to VISNs.[977] In March 2021, the AUSH for Operations directed the VISNs to establish centralized, operational and integrated Clinical Contact Centers by December 31, 2021.[978] Transitioning to the VISN level allowed VA Health Connect Clinical Contact Centers to standardize and provide more expertise and services.[979] A national operational view allowed VHA to track and address chief complaints from the VISNs and support personnel resourcing as needed.[980]

VHA created and disseminated a VA Health Connect Guidebook to support enhancement and ensure nationally standardized processes and practices.[981] The VA Health Connect Guidebook included standardized functional statements for VA Health Connect Clinical Contact Center providers.[982] The guidebook was an instructional manual that also served to communicate the larger mission, goals and future modernization plans with VHA and VA Health Connect Clinical Contact Centers.[983] The guidebook was updated regularly and re-released with new information to keep staff as up to date as possible on scripts, metrics and upcoming plans for additional modernization.[984]

VHA established a VA Health Connect VISN Telephony Command Center in 2022 to accomplish the following:[985]

- Report on real-time operational telephony data using High Reliability Organization (HRO) principles
- Rapidly identify areas for continued improvement and understand trends to better meet mission objectives
- Increase Veteran access to services
- Improve the experience for Veterans and VA staff

From the VA Health Connect VISN Telephony Command Center, VHA tracked the total number of calls and the number of calls that were resolved on first contact.[986]

Pandemic Support

When this recommendation was written (June 2020), VHA was facing a high demand for virtual care and telehealth.[987] VA Health Connect quickly became integral to continuing care for Veterans during the pandemic emergency.[988]

The virtual aspect of the centers expanded access to care and shortened wait times for Veterans.[989] The option of telehealth allowed many Veterans who were wary of exposure to COVID-19 to avoid waiting rooms and potential infection.[990]

Status as of January 2023

As of January 31, 2023, VA Health Connect had expanded the original nursing and MSA staff to a wide range of positions, including physicians, NPs and physician assistants (PAs).[991]

VA Health Connect was also using standardized business processes across all of its Clinical Contact Centers to support efficient care and mitigate knowledge loss during staff turnover or movement.[992] Additional standardization included supplemental user training and clinical support teams.[993] Standardization of the systems allowed VHA to collect data that were transparent, reliable, validated and available in real time.[994]

A GAO report from February 2022 recommended that Clinical Contact Centers share a schedule for timelines on improvements and further services.[995] GAO also issued recommendations such as developing a method of rescheduling appointments more efficiently and tracking the status of refills and medication-related questions for the pharmacy.[996] As of January 2023, VHA had closed 3 of the 4 recommendations from the GAO report.[997]

Technology

Among the updates planned for VA Health Connect was the addition of Customer Relationship Management (CRM) software to store and share data, which will increase the ability of the Clinical Contact Centers to conduct resource sharing and allocation.[998]

The VA Health Connect Clinical Contact Centers CRM solution launched in March 2022 at VISN 17 with plans to integrate CRM software throughout VHA.[999] As of 2023, the CRM solution had been implemented in 10 VISNs, and more than 1,000 RNs and MSAs were actively using the system.[1000]

Once fully integrated, the CRM solution will serve as a platform for standardization within and across VISNs in services delivered and electronic health record (EHR) updates.[1001] The use of CRM will result in the consolidation of more than 65 tools and licenses and will create additional efficiency across VA Health Connect Clinical Contact Centers.[1002]

VHA leadership reported that although VA Health Connect was not yet fully integrated with CRM, VHA was already using CRM data to determine where improved telehealth was needed.[1003] CRM data also helped VHA identify locations that needed additional resources.[1004]

Treat to Treat

VA Health Connect played a critical role in the virtual Test to Treat pilot, launched in April 2022.[1005] Through this program, Veterans performed self-tests and, if they were positive for COVID-19, contacted their Clinical Contact Center for treatment options.[1006] The centers were able to provide Veterans with prescriptions for oral antiviral COVID-19 treatment without in-person appointments.[1007]

As of January 31, 2023, a total of 11 of the 18 VISNs were operating virtual Test to Treat programs.[1008] Workforce delays hindered the opening of virtual Test to Treat programs in the remaining VISNs because the program could not operate without clinical providers and other staff linked to the VA Health Connect Clinical Contact Centers.[1009] The remaining VISNs continued to provide Test to Treat services at a facility-by-facility level.[1010]

VHA leadership reported that the VHA Test to Treat program related to COVID-19 was successful.[1011] In light of that success, VHA leadership recommended that similar programming be considered to manage and treat future highly contagious diseases.[1012]

Future State

Further VA Health Connect initiatives will help connect Veterans to more types of care.[1013] VHA leadership reported that VA Health Connect could be a first point of contact for providing mental health assistance, PACT Act information and answers to other initiatives about which Veterans, families and caregivers may have questions.[1014]

VHA leadership pointed to Test to Treat as one area of possible expansion.[1015] Future self-test panels could show Veterans if they have COVID-19, RSV or influenza, which could then be treated at the VA Health Connect Clinical Contact Center level.[1016]

VA Health Connect also plans to expand tele-emergency care to additional VISNs during the next modernization phase.[1017]

VHA is looking forward to further modernization and enhancement of the VA Health Connect Clinical Contact Center experience for Veterans, including implementing a self-scheduling tool online, allowing Veterans to make appointments without a phone call.[1018]

VHA plans to increase the number of public affairs officers to help answer phones and market the VA Health Connect Clinical Contact Center service to Veterans for greater expansion of care.[1019] VHA leadership also plans to collect and analyze data on outcomes and customer satisfaction to monitor the effectiveness of VA Health Connect Clinical Contact Center Modernization and create further enhancements.[1020] VHA also plans to implement the shared schedule of milestones, activities and improvements for all VA Health Connect Clinical Contact Centers.[1021]

When considering potential updates to the recommendation from June 2020, VHA leadership proposed the following:[1022]

- Expand access to swift and efficient acute care, including support for mental health and emergency medical services.
- Increase focus on health equity data to confirm that underserved communities, rural, urban and other vulnerable Veterans are receiving the telehealth services they need.

Clinical Deployment Team Program

Recommendation: Clinical Deployment Teams (Annex A, p. 22, January 1, 2021): "Develop a system maintaining designated clinical staff ready for deployment on rotating schedules at selected VAMCs identified as deployment centers. Build sufficient capability and capacity in the system to serve as VHA's primary source for deployable staff with the volunteer system as augmentation."

Background

In late 2020, hospitals were overwhelmed by a surge of COVID-19 cases.[1023] Typically, VHA would deploy staff to areas of need during emergencies, but the pandemic reached many parts of the United States at the same time, which made deployment difficult because staff were needed to serve in their home facilities.[1024]

When this recommendation was written (January 2021), the progression of the COVID-19 pandemic response had made clear the need for additional deployment-ready staff for Veteran and Fourth Mission care.[1025]

Before the pandemic, VHA managed significant disasters and emergencies by pulling clinical and ancillary staff from their current positions and deploying them to emergency areas, using the volunteer-only Disaster Emergency Medical Personnel System (DEMPS).[1026] DEMPS volunteers included nurses, physicians, pharmacists, mental health counselors and engineers.[1027] In 2021, DEMPS was streamlined by appointing key leaders—Area Emergency Managers (AEMs) under the Office of Emergency Management (OEM)—as on-site deployment representatives.[1028] DEMPS improved personnel tracking, deployment transparency and direct support to deployed staff.[1029]

However, VHA still saw the need for more dedicated staff who would have the flexibility for deployment to the areas that needed them most.[1030] VHA sought to develop a standardized emergency health care response that could serve as a permanent option for emergencies.[1031] To address this need, VHA began to design a program that evolved into the Clinical Deployment Team (CDT)—a collection of dedicated, deployment-ready teams made up of full-time employees (FTEs).[1032] VHA aimed to use the 360 employees to fill the need for clinical personnel with the ability to deploy quickly and efficiently.[1033]

This program, designed to complement the DEMPS volunteer system, would bridge the gap exacerbated by the COVID-19 pandemic and concurrent disaster responses.[1034]

To create the CDT, FTEs would be divided into 20-person cadres, aligned by VISN and assigned to facilities within each VISN.[1035] Each CDT cadre is composed of the following types of clinical staff:[1036]

- Registered Nurses (11 personnel)
- Licensed Practical Nurses or Licensed Vocational Nurses (2 personnel)
- Medical Doctors, Doctors of Osteopathic Medicine or Advanced Nurse Practitioners (5 personnel in total)
- Licensed Clinical Social Workers (2 personnel)

To best develop the program, VHA leadership engaged with stakeholders centrally and in the field, and further created workstreams, including recruitment and retention, training and organization design.[1037]

Status as of January 2023

Hiring for CDTs continued throughout the Review Period; as of January 31, 2023, there were 7 people onboarded, 58 offers extended to potential employees and 207 open positions, for a fully staffed cohort of 360 people.[1038] The CDT cohort enhances

VHA's ability to pull from a readily deployable group of designated practitioners in addition to volunteers available through DEMPS.[1039]

Although OHT facilitated the implementation of CDTs, OEM is the business owner for the CDT program.[1040] As of January 31, 2023, OHT was planning to transition all of the CDT programmatic requirements, training schedules, organization designs, recruitment and retention, and communication plans to OEM in the coming months.[1041]

Future State

VHA intends to make the CDT deployable for more than just pandemic response: employees will be activated for any emergency or disaster where clinicians are needed in the area, either for direct health care needs of Veterans or Fourth Mission deployments.[1042] The CDT will enable VHA to support emergency needs while also continuing to provide care to Veterans.[1043] The CDT is expected to assure access to care during emergencies and disasters.[1044]

The CDT rotational plan identifies the deployment windows for CDT cadres, as shown in the sample deployment model provided in **Figure 12.1**.[1045] CDT staff may be deployed for up to 120 days per year; to include regularly scheduled national deployment, VISN-based deployment and additional voluntary deployment.[1046]

Figure 12.1: *Illustrative of a CDT Deployment Schedule*

VISN CDT Cohort	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
4, 8, 23	**Deploy**	Facility Staffing & CDT Prep					**Deploy**	Facility Staffing & CDT Prep				
1, 7, 12	Facility Staffing & CDT Prep	**Deploy**	Facility Staffing & CDT Prep					**Deploy**	Facility Staffing & CDT Prep			
5, 17, 20	Facility Staffing & CDT Prep		**Deploy**	Facility Staffing & CDT Prep					**Deploy**	Facility Staffing & CDT Prep		
2, 9, 22	Facility Staffing & CDT Prep			**Deploy**	Facility Staffing & CDT Prep					**Deploy**	Facility Staffing & CDT Prep	
6, 15, 21	Facility Staffing & CDT Prep				**Deploy**	Facility Staffing & CDT Prep					**Deploy**	Facility Staffing & CDT Prep
10, 16, 19	Facility Staffing & CDT Prep					**Deploy**	Facility Staffing & CDT Prep					**Deploy**

Source: VHA, “Clinical Deployment Teams FAQ,” accessed 5/8/2023. Ref. D390

The CDT cadres are assigned a deployment cohort made up of teams within three, geographically dispersed VISNs and each cohort is deployable twice a year based on the rotational schedule.[1047] When not scheduled for potential deployment, CDT personnel will serve as resources for their local facilities.[1048] Upon receipt of the mission assignment, the expectation is for CDT staff to arrive at the receiving facility within 72 hours.[1049]

CDT personnel will be provided with clinical privileges based upon credentials by their assigned facilities, and receiving facilities will be responsible for granting emergency privileges.[1050] Receiving facilities will also provide all medical supplies and gear.[1051]

Interagency Relationships

Recommendation: National and Interagency Coordination (Initial Report, p. 15, June 30, 2020): "Pursue interagency relationships and standing processes that enable a coordinated interagency response to public health crises. The aim of this coordinated interagency response would be to integrate Federal health capabilities in order to enhance the national readiness."

Background

The complexity and pace of the evolution of the COVID-19 pandemic required urgent, high-level emergency coordination among Federal agencies, Congress and state, local tribal and territorial (SLTT) governments to meet health care demands.[1052]

At the start of the pandemic, VHA did not have designated emergency management liaisons among these groups.[1053] VHA's role under the Fourth Mission to extend capabilities for emergency public health response was uncertain and varied throughout the country.[1054] Many states were not aware of the support they could have requested from VHA through FEMA, leaving a gap in potential health care resources.[1055] To gain visibility, VA leadership became assertive in communicating VHA capabilities and readiness to leaders of the national response.[1056]

As a result, VHA expanded its Fourth Mission support to state governments and IHS, demonstrating its value during a public emergency.[1057] Early inclusion of VHA in interagency planning and execution of the PHE response could have enhanced rapid support to states and community health organizations.[1058]

Status as of January 2023

VHA leadership identified coordination with HHS as a key component of future VHA emergency response.[1059] HHS is the lead Federal agency for ESF #8: Public Health and Medical Services.[1060]

Emergency Support Function #8

Emergency Support Functions (ESFs) are a form of federal support for the public during emergencies. ESF #8 provides supplemental public health and medical services and assistance to SLTT and jurisdictional governments for various public health and medical needs.

Source: PHE, Emergency Support Functions, accessed 4/12/2023,https://www.phe.gov/Preparedness/support/esf8/Pages/default.aspx#8. Ref. D383

As of January 2023, VHA had enhanced its relationship with HHS by appointing a program manager at the Secretary's Operations Center.[1061] Within HHS, the program manager served as the principle VHA stakeholder for public health emergencies and the provision of medical services during disasters, whether natural or human-made.[1062] VHA built on the successes of the COVID-19 ESF #8 by working with Federal partners to update and improve interagency planning and response capacities and capabilities, especially regarding Federal patient movement, regulation and definitive health care options.[1063]

To ensure interagency coordination among VAMCs and VHA networks, OEM utilized Regional and Area Emergency Managers (EMs) in major U.S. cities.[1064] These EMs supported VHA emergency management and continuity of operations planning and response, thereby increasing the resiliency and availability of health care services to Veterans.[1065]

Additionally, VHA EMs were connected with SLTT and Federal government bodies to provide support during disasters, military contingencies and in other times of necessity.[1066] These connections enhanced VA’s readiness to move from a local to a national level response effectively and with agility.[1067]

VHA also remained prepared for an effective and agile response by maintaining various mobile assets and personnel deployment systems that were readily available for deployment, response planning and exercise.[1068]

At the time of the Annex D Review Period, OEM continued to foster interagency relationships by engaging in weekly meetings with HHS and DoD leadership about public health and medical needs during disasters or emergencies.[1069] Specifically, OEM coordinated with HHS and DoD to support hospital preparedness by sharing training strategies to enhance capabilities.[1070] OEM also participated in biweekly meetings on infection and vaccine developments with HHS, FDA and CDC.[1071]

Table 12.1 shows a sample of interagency partnerships and VHA's roles, as of January 31, 2023.

Table 12.1: *VHA Interagency Partnerships and Contributions*

Federal Partner	VHA Role
HHS/ASPR	• Contributed to Noble Lifesaver tabletop exercise
FDA, DHS & CDC	• Contributed to a vaccine acceptance work group to inform vaccine research and best practices
DoD/DHA	• Served on Senior Leader Advisory Board for the Military-Civilian NDMS Interoperability Study (MCNIS) • Served as Subject Matter Expert in multi-modal patient movement • Served as interagency training conference faculty • Integrated VA-DoD Health Affairs and VHA Bed Management System
FEMA	• Coordinated VHA Incident Management System and FEMA Crisis Management System Branch • Coordinated Biological Incident Annex updates with FEMA • Synchronized VHA's capabilities with the FEMA Cyber Response • Coordinated Biological Incident Annex updates
The Joint Commission	• Served on the Standards Review Panel for Emergency Management standards for Home Care
Source: VHA leadership, response to email 4/11/2023. Ref. D381; VHA leadership response to vetting, 4/17/2023.	

Challenges

VHA leadership identified two key challenges:[1072]

- Educating other organizations about VHA capabilities and capacities
- Disseminating information about the correct processes through which to request VA aid at different levels

Because of the way VA mission funds are appropriated, community support from VA must fulfill the primary VA mission and/or must be requested through an organized process to provide the authority for the VA to render that assistance.[1073]

Additionally, VHA leadership reported that because VA is the second-largest department in the Federal government, it is essential to work on maintaining internal relationships and coordination among VA offices and to respond as a whole department rather than as fragmented parts.[1074]

Future State

VHA will continue its commitment to provide its full support to Veterans and the Nation for future pandemic response and in public health emergencies as needed.[1075]

At the time of this report, VHA's preparedness model included an all-hazards High Consequence Infection (HCI) response capability throughout all VA medical facilities.[1076] This model ensured active communication and coordination between VA and public health authorities, VAMCs and local health care coalitions to coordinate VA-wide HCI response and preparedness plans.[1077] VHA will utilize this model for future pandemic response.[1078]

Going forward, VA will continue working to plan and establish additional interagency engagements that are focused on preparedness and emergency response.[1079]

VHA leadership reported that increasing VA presence and interagency collaboration on for future HCI events was in progress and was a priority.[1080] VHA OEM worked to establish an HCI Coordination Unit to collaborate with HHS/ASPR, CDC and other Federal agencies.[1081] OEM also worked to identify opportunities to share health care infrastructure data with HHS ASPR to inform HCI response and other Fourth Mission requirements.[1082]

Another effort in progress at the time of this report was the reinstatement of the Senior Leadership Council on patient movement.[1083] VA leadership actively engaged with DoD, the ESF #8 community and FEMA to reinstate the council, which will focus on patient movement and interagency environments.[1084]

As of January 31, 2023, VHA was reestablished as a leader in the Federal patient movement process through partnerships with DoD, DHA, U.S. Transportation Command (USTRANSCOM), the U.S. Army Surgeon General's Office, HHS and FEMA.[1085]

VHA leadership noted the need to maintain strong, permanent relationships with other Federal agencies for emergency response, including the following:[1086]

- HHS
- DoD
- FEMA
- CDC

As of the end of the Review Period, VA was working with interagency partners on the Integrated Continental United States (CONUS) Medical Operations Plan (ICMOP) and the CONUS Patient Distribution Plan coordinated by DoD.[1087] VHA leadership recommended that VA pursue a specific forum to enhance points of engagement with DoD regarding national readiness for public health crises.[1088]

VHA had also increased its involvement with IHS and its efforts to expand working relationships with tribal health care partners.[1089] VA leadership recommended

maintaining efforts to strengthen partnerships with IHS to enhance preparedness for future responses.[1090]

Supply Chain

Recommendation: Supply Chain (Initial Report, p.451, June 30, 2020): "Modify the VHA Supply Chain Modernization Plan by incorporating elements of supply chain contingency resilience and accelerating transformation of management practices."

Background

The pandemic had a powerful impact on the supply chain across the Nation.[1091] For VHA (which has the largest supply chain within VA) and other health care organizations, supply chain disruptions in 2020 meant difficulty sourcing critical medical supplies like gloves, respirators and surgical masks.[1092]

Before the pandemic, VAMCs used a just-in-time supply chain strategy, serviced through prime vendor contracts.[1093] By March 2020, these prime vendors were unable to support VAMC PPE demands.[1094] To fill needs quickly, VHA obtained supplies through large central contracts, as well as other sources using credit card purchases.[1095]

VHA also created Regional Readiness Centers (RRCs) to store and obtain critical supplies.[1096] RRCs built resiliency into VHA's internal supply chain to ensure Veteran care when the supply chain was unable to support demand.[1097] For example, RRCs became a distribution center for centrally procured blood tubes during a shortage.[1098]

VHA leased its RRC warehouses through interagency agreements with HHS and DLA.[1099] The RRCs maintained a supply of PPE to distribute to VAMCs, which the VAMCs ordered through the NCRT.[1100] At the height of the pandemic, there were 9 RRCs, but through its partnership with DLA, VHA consolidated efforts to 2 RRCs: 1 on the east coast and 1 on the west coast.[1101]

Early in the pandemic response, VHA recognized challenges with its supply chain management tools, including system limitations that required the manual tracking of orders.[1102] VHA also recognized the need for nationwide visibility into supply chain inventories.[1103]

Status as of January 2023

In 2021, VA's supply chain modernization efforts shifted to the VA Office of Acquisition and Logistics (OAL).[1104] As of January 31, 2023, VHA continued to work

with OAL on supply chain modernization efforts.[1105] VHA leadership expressed the importance of collaborating with OAL, which provides policy, oversight and support for contracts.[1106] OAL's supply chain modernization efforts will provide nationwide visibility.[1107]

As of January 31, 2023, VHA was using an interim data analytic tool to support national visibility into legacy supply chain systems.[1108] However, the data analytic tool still required a significant amount of human intervention, as noted by VHA leadership.[1109]

VHA leadership reported success in the management and distribution of medical supplies through RRCs when local prime vendors were unable to meet demand.[1110] The two RRCs continued to support VAMCs throughout the Review Period.[1111]

Future State

OAL's supply chain modernization efforts will be implemented across all administrations of VA, including VHA.[1112] The supply chain modernization efforts will support national visibility and update systems to modernized solutions.[1113]

VHA leadership reported that VHA plans to pivot the RRCs to support future all-hazards responses.[1114] The all-hazards approach will ensure that VHA has the capacity to address a broad range of emergencies.[1115] All-hazards responses address a spectrum of emergences and disasters, including floods and dam failures, hurricanes, terrorist attacks and biological weapons.[1116]

VHA also plans to partner with DoD to enter DLA's Warstopper program.[1117] Warstopper is a type of vendor-managed inventory system that supports DLA's supply readiness capabilities.[1118] VHA and DLA will work closely to balance national security considerations (including public health) with Veteran care.[1119]

Support to State Veterans Homes

Recommendation: State Veterans Homes (Annex B, p.19, July 31, 2021): "Develop an information system to facilitate monitoring of State Veterans Homes (SVHs) for indicators of infectious disease risk, combining periodic assessment results with epidemiologic community data."

Background

The pandemic revealed the need for robust tracking of infection, vaccination, illness and death across all nursing homes, including SVHs, to monitor and support the elderly population.[1120] VHA had to rely on self-reported data from SVHs on residents,

staff and inventory, which was inconsistent across facilities and, at times, unreliable.[1121] Until legislation was passed in January 2021, VHA lacked the authority to compel reporting from SVHs.[1122]

As of FY 2021, approximately 14,500 Veterans were living in 153 SVHs throughout the Nation.[1123] SVHs are owned, operated, managed and financed by state governments, who work in partnership with VHA to provide SVHs with:[1124]

- Construction and renovation reimbursement
- Daily per diem payments based on each Veteran's eligibility
- Nurse hiring and retention grants for approved applications

CMS also provides some oversight of the SVH facilities that qualify for Medicare or Medicaid payments (approximately 76% of SVH facilities).[1125]

Status as of January 2023

Under legislation passed in January 2021, VHA was able to expand direct surveillance of SVHs for the duration of the PHE.[1126] Public Law (P.L.) 116-315—also called the Johnny Isakson and David P. Roe, M.D. Veterans Health Care and Benefits Improvement Act of 2020—required that SVHs report weekly data to the National Healthcare Safety Network of CDC (known as CDC/NHSN).[1127] Weekly reporting included the following data:[1128]

- The number of suspected and confirmed COVID-19 infections among residents and staff
- The number of COVID-19 deaths among residents and staff
- Demographic data
- An assessment of PPE and hand hygiene supplies
- Occupancy rates
- An assessment of staffing shortages (if any)

These data points were verified by VACO Geriatrics and Extended Care (GEC) Facility Based Program (FBP) staff twice a month and validated against CDC data.[1129]

P.L. 116-315 also required VA to post publicly on its website a selected subset of the data collected, including the following:[1130]

- The total number of residents and staff of SVHs infected with COVID-19
- The total number of these residents and staff who died COVID-19-associated deaths

SVH Vaccination Data

COVID-19 vaccines were not available at the time of enactment of P.L. 116-315 and were therefore not included in the law's data reporting requirements.[1131] Still, after vaccines became available, CDC/NHSN provided reporting tools for vaccination data.[1132] As of January 2023, many SVHs were reporting vaccination data to CDC/NHSN.[1133] Some did so because of reporting requirements other than P.L. 116-315, and some provided data on a voluntary basis.[1134]

VA also provided continual SVH monitoring through an internal VHA dashboard.[1135] The VHA dashboard system received data from the CDC/NHSN database.[1136] As of January 2023, VHA and CDC/NHSN were working collaboratively on data collection from the SVHs.[1137] CDC/NHSN staff informed VHA staff that CDC/NHSN transfers data for CMS-certified long-term care facilities to CMS, including those of the SVHs that are CMS-certified.[1138] CMS maintains its own dashboard for the public (available here: https://data.cms.gov/covid-19/covid-19-nursing-home-data).[1139]

Future State

VHA will continue to align its approach to infectious disease monitoring with CMS guidelines on surveys and standards, with an aim to provide Veterans with improved infectious disease control and quality prevention practices.[1140]

Looking toward the future, VHA plans to use data tracking to inform community prevalence rates of infection which in turn will inform visitation, testing and overall surveillance.[1141] The authority to collect SVH COVID-19 data is slated to last only for the duration of the PHE; when the PHE expires, almost a quarter of SVHs will no longer be required to report these COVID-19 metrics to CMS or VHA.[1142]

Veteran Vaccination Data

Recommendation: Veteran Vaccination Data (Annex B, p. 19, July 31, 2021): "Pursue legislative action to enable VA to obtain vaccination data on Veterans from state vaccination data.

Background

Vaccination record-sharing between VHA, other Federal agencies and U.S. state governments faced challenges throughout the pandemic.[1143] The limitations regarding health record-sharing complicated the vaccine distribution efforts between VHA and state governments.[1144]

Although many Veterans received their COVID-19 vaccines through VHA, community facilities outside VHA also offered vaccinations to eligible patients, including Veterans.[1145] Community partners included pharmacies, hospitals, urgent care facilities, primary care offices, health centers and Indian health centers.[1146] In each state, community partners had different acquisition and reporting requirements.[1147] VHA did not have access to records of vaccinations at all facilities outside VA, which meant VHA could not track all vaccinations for Veterans who received their doses elsewhere.[1148] This limited VHA's ability to build a complete picture of Veteran vaccination.[1149]

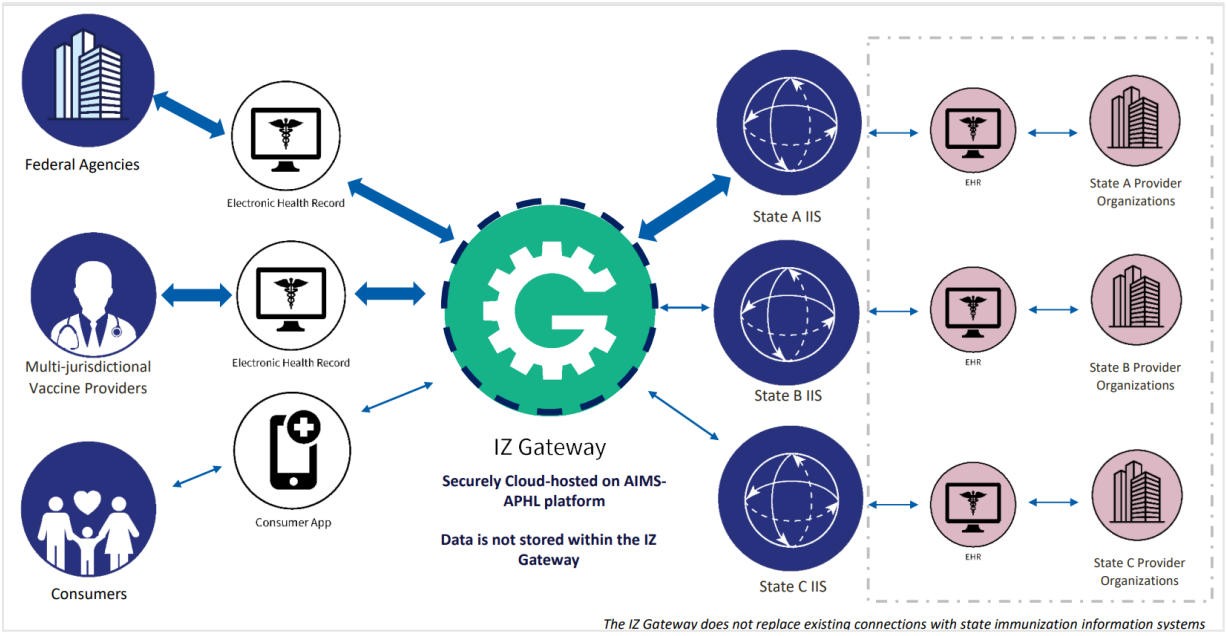
Staff prepare vaccines at the Battle Creek VAMC in Grand Rapids, Michigan. (Photo credit: VHA)

Privacy laws (including the Privacy Act and 38 U.S. Code § 5701) limited VHA's ability to share Veterans' identities with state governments.[1150] For VHA to disclose information about a Veteran to a state government, the individual Veteran had to provide signed, written authorization to disclose their immunization record.[1151] No efficient workflow was in place for hundreds of thousands of Veterans to provide written authorization to share information between VHA and the states.[1152] The reverse was true as well: if a Veteran was vaccinated at a VHA facility, their state government lacked insight into the vaccination status of that resident.[1153]

Status as of January 2023

To create the most complete records possible, VHA launched an effort to improve two-way information sharing by participating in the CDC-managed IZ Gateway.[1154] The IZ Gateway, an immunization information router, was designed to allow health record-sharing between government bodies, including state governments, VHA, FDA, CDC and HHS.[1155] **Figure 12.2** provides an example of the type of data exchange made possible by the IZ Gateway.

Figure 12.2: *Example of Data Exchange within IZ Gateway*



Source: CDC, "Introduction to the IZ Gateway Multi-Jurisdictional Vaccine Provider – Jurisdiction Data Exchange Agreement (PJA), 2/18/2022, accessed 3/14/2023, https://www.networkforphl.org/wp-content/uploads/2022/02/IZ-Gateway-Provider-Jurisdiction-Agreement-Webinar_Final-1.pdf. Ref. D313

The IZ Gateway conformed to Federal laws protecting health care record privacy.[1156] Laws related to personal health records like the Health Insurance Portability and Accountability Act (HIPAA) contained exceptions that allow disclosure of patient health data to public health entities for surveillance purposes; however, interpretations of these exceptions varied, which created complications.[1157] Similarly, laws related to patient consent differed from state to state, which impacted the sharing of vaccine information through an immunization information system (IIS) like the IZ Gateway.[1158]

Although the IZ Gateway streamlined some of these processes, agencies and other participating bodies still needed to create individual agreements with each organization in order to share data with them.[1159] Participation in the IZ Gateway included significant requirements for each agency and organization, including

technology standards, policy requirements and sometimes complex steps to complete records requests.[1160]

In collaboration with CDC, VHA began development work to onboard to the IZ Gateway in September 2021, and necessary agreements were in place by January 2022.[1161]

As of January 31, 2023, VHA was reporting immunization data to more than 30 states through the IZ Gateway.[1162] Widespread participation in the IZ Gateway would allow for more complete national data on vaccination.[1163] With participation from multiple government sources, the IZ Gateway would provide a more complete picture of Veterans' immunization records and give providers a tool to confirm preventative care in giving other immunizations, such as the shingles vaccine and annual influenza vaccine.[1164] As of January 31, 2023, VHA was not yet receiving data from state governments; this data-sharing from states to VHA was expected to begin in spring 2023.[1165]

Future State

VHA leadership reported that the IZ Gateway could represent a long-term solution that would allow VHA to be better prepared with data infrastructure for future pandemics.[1166] Through the IZ Gateway, VHA could increase patient safety by preventing duplicate immunizations.[1167]

Of the states that have not yet agreed to participate, VHA is still pursuing agreements with 11 states, working with state and CDC representatives.[1168]

Workforce

Recommendation: Workforce (Initial Report, p. 452, June 30, 2020): "Assess the outcomes and effectiveness of processes for expedited hiring and onboarding of new employees to determine what processes should be incorporated into permanent policy and guidance."

Background

At the beginning of the pandemic, VHA recognized the importance of increasing its capacity for inpatient care to support Veterans and Fourth Mission Assignments.[1169] VHA implemented expedited hiring and onboarding processes to support increased need.[1170] The streamlined hiring and onboarding process enabled flexibility and expanded VHA's capacity to provide COVID-19 care.[1171]

The expedited hiring and onboarding policies implemented in March and April 2020 included the following:

- Removing bi-weekly pay caps based on an annualized limitation of $160,100[1172]
- Allowing increased retention bonuses and hiring bonuses for hard-to-fill positions[1173]
- Increasing the number of hours that part-time and intermittent hires could work[1174]
- Allowing physical examinations and drug testing to be completed post-employment[1175]
- Delaying fingerprinting and inspections of employment eligibility documents[1176]

VHA leadership reported that not every facility used the expedited hiring policies at the start of the pandemic, in part because not all facilities were impacted by COVID-19 in the same way or at the same time.[1177] The use of expedited hiring policies became more consistent across VHA as COVID-19 waves continued.[1178]

Time to Hire

T2H refers to the period of time between when a position receives managerial approval to be posted as a vacancy and when the position is filled.

Source: VHA leadership, Interview #19, timestamp 17:38, 2/14/2023.

Prior to these policy changes, VHA onboarding exceeded 60 days.[1179] The expedited hiring policies decreased VHA's T2H.[1180] Early in the pandemic, VHA was able to onboard selectees in three days using the expedited hiring policies.[1181]

Status as of January 2023

The use of these expedited onboarding policies decreased in 2021 and ceased in early 2022.[1182] VHA's T2H increased from an average of 83 days in 2020 to 123 days in January 2023.[1183] VHA leadership reported that shifts in the labor market and economy impacted VHA's ability to fill positions swiftly.[1184]

As of January 31, 2023, VHA was working to resolve additional onboarding challenges.[1185] Within its information technology (IT) infrastructure, VHA did not have control systems in place to track post-employment steps or to provide visibility into skipped steps.[1186]

Extending Expedited Hiring Policies

During the Review Period, VHA continued to pursue policy and legislative actions to extend hiring policies.[1187] VHA was successful in extending policies related to compensation.[1188] In 2022, the President of the United States signed the Retention

and Income Security Enhancement (RAISE) Act and the Promise to Address Comprehensive Toxics Act of 2022 (PACT Act) into law.[1189] The new legislation provided VHA with additional capabilities that supported hiring, including increasing the salaries for occupations in VHA's workforce.[1190]

Although many of the expedited policies were necessary to combat T2H delays, policy initiatives had to be balanced with potential risk.[1191] For example, during the pandemic, VHA was able to complete employee physical examination requirements after hiring, though they were usually required pre-employment; this shift in policy supported VA's emergency hiring needs.[1192] To address risk, VHA only delayed annual medical evaluation or pre-placement physical examination as a last resort, based on the unavailability of Employee Occupational Health resources.[1193] VHA also provided clear information about these physical examinations to incoming employees.[1194]

Future State

VHA leadership reported ongoing efforts to streamline the hiring process and address IT challenges.[1195]

Looking into the future, VHA plans to shift its approach from locally-focused hiring to streamlining national hiring processes.[1196] This approach aims to limit variation in hiring practices.[1197] VHA is also working to standardize ancillary steps of the hiring process, for instance, standard position descriptions and recruitment package requirements.[1198]

VHA is continuing to pursue policies and implement policy to support faster hiring, including the elimination of VA professional standard boards (PSBs).[1199] PSBs were comprised of 3-5 employees who reviewed employment applications to evaluate the best qualified personnel.[1200] The elimination of PSBs will help decrease T2H and eliminate an element of complexity in the hiring process.[1201]

CONCLUSIONS

Through its operations as a learning organization, VHA has continued to grow and develop throughout the pandemic. As shown in the Recommendations Review section of this Report, VHA has made progress related to many of the findings, conclusions and recommendations from the initial VHA COVID-19 Response Report, Annex A, Annex B and Annex C, and that progress is expected to continue into the future.

An examination of this period of the response has led VHA to some additional findings, conclusions and recommendations.

Overall Response

The Overall Finding for This Period of the Pandemic Response: VHA effectively adjusted its care and support to Veterans during this period of the pandemic, which featured waves of infection caused by highly transmissible subvariants of the virus responsible for COVID-19. VHA sustained the full scope of health services to Veterans during this period while confronting ongoing pandemic challenges through clinical processes, vaccination, research, staffing strategies and pursuit of health equity.

Testing

Finding: VHA established effective and efficient COVID-19 testing mechanisms that were risk-based and standardized. Through testing, VHA was able to provide timely treatment and mitigate the risk of viral spread among Veterans and staff. This approach enabled a full scope of health care operations during this period while managing risk to Veterans and staff.

Finding: VHA SeqFORCE provided networked viral genetic sequencing capacity that will be an important capability for monitoring viruses responsible for infectious disease in cooperation with other health agencies.

Finding: Through self-testing and virtual Test to Treat, VHA established a process of care that will be useful into the future, particularly as home diagnostics for infectious diseases become more available.

Finding: Veteran health equity in Test to Treat will be an important consideration for the future, particularly in regard to access to home diagnostics, virtual care and medications.

Context:

A series of Omicron subvariants attained dominance at various intervals during this period. Both were characterized by high transmissibility with lower rates of serious illness, hospitalization and mortality. This, coupled with the broad availability of antigen test kits for self-testing, led to a substantial increase in self-testing for COVID-19 during the Review Period. The availability of self-tests was significantly enhanced by national PHE actions that made self-test kits available to many in the U.S. general population at no out-of-pocket cost.

The improved availability of testing supplies, along with expanded knowledge about transmission of SARS-CoV-2, led to broader public knowledge of testing as a personal tool to guide decisions about isolation after exposure and during recovery from infection.

The rapid evolution of viral variants with high transmissibility demonstrated the importance of genetic sequencing and agile research. These mechanisms will enable public health measures and therapeutics to keep pace with the spread of the virus.

Conclusions:

During the Review Period, VHA diagnostic testing for COVID-19 was no longer slowed by the national shortfalls in supplies and equipment seen earlier in the pandemic. Testing counts stabilized at an average volume of 8,400 VHA-administered tests per day. This period also featured broader availability of antigen test kits for self-testing.

Test to Treat became more prevalent as Veterans' COVID-19 symptoms trended mild and moderate, and oral antiviral medications became more readily available. The Test to Treat process—which leveraged self-testing, virtual care and rapid delivery of prescription medication—proved effective in providing Veterans with evidence-based care, lessening the probability of severe illness.

This balance between laboratory testing and self-testing with early use of evidence-based therapy may set a new template for approaching infectious disease of concern going forward. The success of future Test to Treat programming will hinge on rapid development of testing and agile research on therapeutics.

The VHA SeqFORCE network of laboratories performing genetic sequencing of the virus responsible for COVID-19 demonstrated the value of sequencing to monitor the evolution of viral variants. VHA's contributions to national and international genetic sequencing will be important to biosurveillance for viral pathogens in the future.

Vaccination

Finding: VHA continued its interagency collaboration to establish exchange of vaccination data between states and Federal agencies through the CDC IZ Gateway, which will be important to coordinated future public health actions in support of Veterans.

Finding: Despite active communications to Veterans about the protection afforded by the bivalent COVID-19 vaccine, VHA saw significantly diminished interest in the bivalent vaccine among Veterans, matching the trend in the U.S. general population.

Context:

Research found that the Omicron variant and its subvariants showed increasing resistance to immunity from vaccination or prior infection. As a result, pharmaceutical companies developed bivalent COVID-19 mRNA vaccine boosters. Two bivalent boosters received EUAs from FDA during the Review Period.

CDC issued recommendations providing eligibility criteria for booster doses of the bivalent vaccine and conducted research demonstrating the effectiveness of the boosters in reducing the probability of hospitalization or death from COVID-19 among those with prior immunity from either vaccination or infection. However, interest in vaccination waned among the U.S. population, and research showed that many were either unaware of their eligibility for a booster or believed that their immunity from prior infection was sufficiently protective.

Conclusions:

VHA sustained its active outreach and communications to Veterans about the benefits of remaining up to date on COVID-19 vaccination, including receipt of the bivalent booster. Nevertheless, Veterans followed the national trend in showing diminished interest in COVID-19 vaccination. In response, VHA promoted vaccination during medical encounters unrelated to COVID-19 and integrated COVID-19 vaccination into its vaccination processes.

VHA completed preparatory actions for participation in the CDC IZ Gateway and initiated sharing of Veteran vaccination data with approximately 30 state and territory

immunization registries via the Gateway during this reporting period. VHA expected to begin receiving vaccination data from the states and territories in spring 2023. VHA plans to utilize the IZ Gateway to enable sharing of all Veteran immunization data between VHA, states and territories.

For VHA, access to vaccination data will allow the organization to create a complete picture of each Veteran's vaccination history, informing outreach and other decision making.

Research

Finding: VHA research continued to produce and publish important evidence regarding the health impacts of COVID-19. VHA research was particularly impactful in its contributions of new knowledge about the long-term health effects of COVID-19.

Finding: VAIRRS is providing broad visibility of VHA research across funding sources. VAIRRS is an important tool for coordinating global clinical research efforts.

Context:

During the Review Period, the predominant variants of the SARS-CoV-2 virus continued to mutate and change, showing reduced sensitivity to immunity and shifting sensitivities to therapeutic agents. These changes made new and innovative research all the more important.

Studies yielded insights into the long-term health effects of COVID-19, generating knowledge that only properly designed and conducted clinical research can provide. Many of these insights provided new awareness that was important to health care delivery. PubMed data shows VA was a highly productive organization in publishing such research.

Conclusions:

During the Review Period, VHA continued its prodigious contributions to research focused on COVID-19, publishing 707 VA-affiliated studies, launching 3 new clinical trials and continuing clinical trials on therapeutics and vaccines. VHA studies of post-COVID conditions and the long-term health effects of COVID-19 were often cited in medical journals as contributing important new evidence. This effort was sustained as VHA rebalanced its clinical research program to address questions unrelated to COVID-19 that were important to the health of Veterans.

Through VAIRRS, outside research entities were able to access and use VHA research, which enabled coordination and collaboration of research efforts. The COPE-VA multi-agency partnership to use real world evidence to study COVID-19 therapeutics gained a favorable review from a scientific review committee, leading to funding and launching a study.

Health Equity

Finding: Although VHA efforts significantly diminished health disparities among Veterans during the pandemic, COVID-19 health impacts remained disproportionately high for AI/AN Veterans, particularly during periods of rapid spread of COVID-19 accompanied by high rates of serious illness.

Context:

During the Annex D Review Period, national data showed little evidence of disparity in COVID-19 death rates by race and ethnicity. This may be due to the lower rates of serious illness associated with the common variant of the virus during this period. It may also be attributed to higher immunity in the population, stemming from vaccination and prior infection.

Retrospective analysis shows widened disparities in rates of cases and deaths earlier in the pandemic. At that time, the virus was producing higher rates of serious illness in People of Color and AI/AN groups. These disparities continued through the initial Omicron wave in January and February 2022.

The evidence suggests that disparities were greater in times of high infection, which may point to underlying root causes such as socioeconomic and access to care factors—issues that will most likely persist. For example, research using VA data earlier in the pandemic showed an association between health disparities in AI/AN Veterans and rural residences lacking indoor plumbing.

Conclusions:

VHA actions in pursuit of health equity succeeded in narrowing disparities among Veterans Using VHA Services, compared to the U.S. general population. Vaccination rates among Black and Hispanic Veterans exceeded those of White Veterans—a reverse of the national disparity.

Some health disparities in the pandemic remain. For instance, a published study showed that Veterans of Color experienced longer wait times for orthopedic consultations during the pandemic. No disparity was detected among cardiology

referrals, indicating that factors may exist specific to certain types of care. This warrants further study.

Veterans Experiencing Homelessness

Finding: VHA outreach to Veterans experiencing homelessness has proven effective in mitigating impacts to this population; however, the expiration of the national COVID-19 PHE will prompt consideration of avenues for sustaining tools linked to the PHE, such as temporary Veteran housing through the GPD Program.

Context:

Nationally, the pandemic imposed significant health risk on people experiencing homelessness in the U.S. population. Contributing factors included infeasibility of social distancing, poor access to hygiene, poorly controlled chronic medical conditions and inadequate access to health care. Although the overall number of people experiencing homelessness declined during the pandemic, HUD also reported an increase in the number of people with chronic patterns of homelessness.

Conclusions:

VHA expanded its outreach and assistance to Veterans experiencing homelessness during the pandemic. The number of Veterans experiencing homelessness, both sheltered and unsheltered, decreased by 11% from 2020 to 2022, according to HUD. VHA's outreach aimed to mitigate COVID-19 risk among these Veterans. For instance, VHA provided disposable smart phones for access to virtual care.

Some of the expanded outreach, such as the increased funding for the VA GPD Program, was enabled by the COVID-19 PHE, raising the possibility of diminished pandemic support to these Veterans when the PHE expires.

Clinical Operations

Finding: VHA responded to the changing nature of the SARS-CoV-2 virus by providing timely adjustment of treatment guidelines and managing distribution of therapeutic agents. This included greater focus on ambulatory treatment for mild to moderate COVID-19.

Finding: New attributes of the predominant strain of the SARS-CoV-2 virus, coupled with population immunity, generated lower rates of serious illness, hospitalization and mortality during this period of the pandemic.

Finding: VHA integrated COVID-19 protection and treatment into its standard health care operations and clinical processes, sustaining the full scope of Veterans' health services during this period with a particular focus on access to care.

Finding: Modernization of the Clinical Contact Centers, a strategic effort initiated during the pandemic, provided system-wide monitoring of service to Veterans and a foundation for continuous improvement. The linkage to virtual care proved important to expanding the virtual Test to Treat Program for COVID-19.

Finding: Veteran use of MH RRTPs remained significantly below pre-pandemic levels.

Context:

In the United States during this period, the Omicron variants spread readily but produced lower rates of serious illness and death compared to earlier waves of the pandemic. The general public evolved to full mobility and resumption of congregate gatherings while COVID-19 infection was most often a mild to moderate illness with recovery at home. Despite this, COVID-19 continued to have a significant health impact on the U.S. population with rates of death and mortality exceeding rates for influenza through this period. Additionally, studies showed that approximately 15% of COVID-19 cases led to one or more of the post-COVID conditions associated with Long COVID.

Conclusions:

During this period of the pandemic, VHA sustained the full scope of health services to Veterans and focused on helping Veterans catch up on preventive screenings and care deferred earlier in the pandemic. The diminished demand for inpatient care for COVID-19 during this period eliminated the need to activate surge plans in VAMCs and negated the need to defer non-urgent or elective care.

Protection of Veterans and staff from COVID-19 remained a priority throughout the Review Period, and VHA continued to apply guidance employing measures to mitigate the spread of COVID-19 in its facilities. Screening for up-to-date vaccination was integrated into non-COVID health care encounters. Enhanced mitigation measures were employed to protect vulnerable Veterans such as CLC residents.

Mitigation measures were linked to community risk levels for spread of COVID-19 as defined by CDC.

VHA adapted its care for Veterans infected with COVID-19 to address the characteristics of the illness linked to the Omicron variants that gained dominance during this period. VHA closely monitored evidence of shifting sensitivities to therapeutics and VHA PBM-issued guidelines to clinicians while managing the distribution of recommended therapeutic agents to match supply with demand.

The resistance of the Omicron and its subvariants to monoclonal antibodies led to the removal of EUAs for these agents during this period. The diminished sensitivity of the variants to selected therapeutics also led the FDA to remove the EUA for the only approved prophylactic medication for COVID-19. As evidence demonstrated the effectiveness of selected oral antiviral medications in decreasing the probability of severe illness and decreasing the probability of Long COVID, VHA expanded its Test-to-Treat processes to provide timely access to oral antiviral drugs based on self-testing and virtual visits.

An aspect of clinical care for which utilization has remained significantly below pre-pandemic levels is Mental Health Residential Treatment. This persistent lag in utilization warrants careful assessment to understand if the change stems from potential causes such as barriers to care, changes in therapeutic processes or greater use of community care.

The clinical knowledge of post-COVID conditions known as Long COVID gradually expanded during this period from published research although many clinicians shared the sense that a much greater understanding will come at a later time. VHA issued guidelines for evaluation and multi-disciplinary care for Long COVID. VHA also piloted teleconsultation for Long COVID to make expertise accessible throughout its sites.

Overall, VHA transformed its clinical operations to a sustained full scope of services while integrating COVID-19 protection and treatment into standard operating procedures.

Workforce

Finding: VHA shared the U.S. health care industry challenge of increased rates of staff turnover. Although VHA staff turnover rates were lower than those seen in the private sector, VHA's hiring and onboarding processes posed significant challenges to the timely fill of open health care positions.

Finding: VHA actions focused on recruitment and retention led to an increase in candidates for hiring and lower turnover rates compared with the industry at large. However, efforts to standardize streamlined hiring and onboarding processes have not yet generated measurable improvement.

Context:

The pandemic accelerated changes to the U.S. health care workforce that were recognized prior to the pandemic. Pre-pandemic attrition from the workforce in clinical nursing and primary care accelerated over the extended length of the pandemic. Nationally, the staffing shortfall was most acute during the initial Omicron wave in January and February 2022 when U.S. hospitals were unable to fully staff inpatient units. The staffing shortfalls persisted through this period of the pandemic, and health system leaders have concluded that the shortfall will persist and require fundamental changes in the development of the workforce, roles in provision of care and restructured processes of care to improve recruiting and retention.

Conclusions:

VHA approached staffing concerns during this period as both a near-term and long-term issue in need of solutions. VHA applied a comprehensive strategy that included recruitment, use of newly available pay authorities, streamlined hiring/onboarding, professional development opportunities and actions to address professional burnout. VHA developed measures to assess progress and a dashboard.

Although VHA's efforts attained a net positive impact on staffing health care positions, one skill set (practical nurse) remained net negative, and nursing assistants were net positive by a very small amount. Comparison with industry studies showed that turnover among VHA health care staff was significantly below health care industry turnover rates.

VHA used time-to-fill as a key performance indicator during this period but did not achieve a decrease in time-to-fill: The average time to fill increased to 248 days at the end of the period. Of note, the latter portion of the period included a hiring surge; more than 6,000 new staff were onboarded in January 2023.

Streamlining of hiring and onboarding will be important to sustain the health care workforce into the future. Attaining system-side use of streamlined HR processes, coupled with continued actions to enhance retention, will be important in a very competitive market for qualified staff.

Supply Chain

Finding: VHA arrived at an effective balance between central procurement and local procurement through prime vendors to supply health care operations, including central processes for procurement of scarce items.

Finding: VHA continued its role in national efforts to attain a resilient supply chain for future health emergencies. VHA initiated work with the Defense Logistics Agency to map VHA's participation in the DoD Warstopper Program.

Context:

The Federal government sustained activities through this period to identify actions to attain a resilient U.S. supply chain. These efforts shifted during this period to a collaborative, whole-of-government approach in recognition of the complexity and magnitude of the challenges.

Conclusions:

VHA arrived at a balance between the central procurement processes developed during the early months of the pandemic and its legacy local procurement of supplies through local prime vendors. The central procurement process with electronic ordering, processed using VHA's tool known as NCRT, continued to ensure that VAMCs had a central source of supplies when prime vendors could not meet their needs.

The RRCs continue to mature through the Review Period. RRCs serve as distribution centers for centrally procured supplies and contingency inventory sites. They have been consolidated into two sites. VHA continued to use its interim dashboard to monitor inventory levels for pandemic supplies.

As VA pursues a strategy for supply chain modernization, it will map the priorities and actions to digitize and link the processes to attain responsiveness, resilience and efficiency.

VHA sustained its engagement in national efforts to arrive at a more resilient supply chain for future contingencies. VHA continues its work with DoD to fold VHA into the DLA Warstopper Program to further assure VHA's resilience. VHA also sustained its participation in the Defense Production Act Committee, an activity highly relevant to emergency response.

Recommendations Review

This section describes new findings and conclusions stemming from a review of recommendations from past reports in this series (see https://www.publichealth.va.gov/n-coronavirus/COVID_19_Response_Reports.asp).

Recommendation Reviewed: Clinical Contact Center Modernization (2020)

Finding: Within its Access Strategy, VHA made considerable progress in VA Health Connect Clinical Contact Center modernization, establishing a foundation for expansion and continuous improvement in this interface to Veterans.

Conclusion:

Review with VHA leadership revealed considerable progress on reorganization of VA Health Connect Clinical Contact Centers, implementation of new technical infrastructure and development of standard operational processes. A Command Center was established, presenting daily performance measures from all VISNs to VHA and VISN leaders. Work is in progress to implement standard processes to fully leverage technology and digital tools. Lessons learned in the pandemic response have informed actions, but did not change the impetus to modernize this important service to Veterans.

Recommendation Reviewed: Creation of Clinical Deployment Teams (2021)

Finding: VHA made progress in populating its initial cadre of Clinical Deployment Teams in the VISNs during this Review Period. Exercising and preparing these teams will be key to preparedness for deployments that will inform the scope and capacity for this capability into the future.

Conclusion:

The VHA Governing Board assessed options and recommendations from a VISN-led working group, and a VHA Executive Decision Memorandum directed the establishment of CDTs in the VISNs. The teams are currently being populated. In assessing the Fourth Mission experience in the pandemic, VHA decided to designate 360 positions for the CDTs rather than the 1,000 or more originally recommended.

Recommendation Reviewed: Standing Interagency Processes for Preparedness (2020)

Finding: VHA's permanent presence in HHS ESF #8 and the Ops Center is poised to significantly facilitate VHA contributions to future Federal response to health emergencies. There does not appear to be formal interaction between VHA and DoD in regard to coordinated response with their unique capacity and deployment capabilities.

Conclusion:

VHA has established permanent representation on HHS ESF #8, which is the lead body with a mission to coordinate the Federal health response in times of emergency. Additionally, VHA OEM has a full-time program manager in the HHS Operations Center. VHA is participating in weekly meetings pertaining to preparedness for disaster response and infectious disease of concern with DoD, FDA and CDC.

Recommendation Reviewed: Risk Monitoring for State Veterans Homes (2021)

Finding: When the PHE ends, VHA will no longer have authority to require all SVHs to report COVID-19 data. Per its MOU with CDC/NHSN, VHA will continue to monitor the 75% of SVHs that (per CMS mandate) report data to CDC.

Conclusion:

SVHs were required to provide VHA with data pertaining to COVID-19 cases, deaths, PPE inventory and other information for most of the pandemic era. However, the requirement for all SVHs to report data, established in the Veterans Health Care and Improvement Act of 2020, expires with the PHE. There may be an opportunity to continue data tracking, if SVHs voluntarily share the data. Voluntary data could also include other communicable diseases, in addition to COVID-19.

Recommendation Reviewed: Supply Chain Modernization Strategy (2020)

Finding: Although the VA supply chain modernization strategy is in development under the leadership of the VA Office of Acquisitions and Logistics, modernization remains a priority for efficiency, resiliency and preparedness.

Conclusion:

Following publication of this recommendation in 2020, the responsibility for identifying a strategy for supply chain modernization shifted to the VA Office of Acquisitions and Logistics. Additionally, VA decided to discontinue its implementation plan for DMLSS and identify a new enterprise IT solution in its strategy, which is in development. In the interim, VHA has effectively used interim processes and interim tools to supply the provision of health care and the pandemic response. Supply chain modernization remains a priority for VA.

Recommendation Reviewed: National Exchange of Vaccination Data (2021)

Finding: VHA is collaborating with CDC to establish sharing of vaccination data in the interest of public health with states, tribal nations and other Federal health entities.

Conclusion:

VHA completed preparatory actions for participation in the CDC IZ Gateway and initiated sharing of Veteran vaccination data with approximately 30 state and territory immunization registries via the Gateway during this reporting period. VHA expected to begin receiving vaccination data from the states and territories in spring 2023. VHA leadership aim for the IZ Gateway to enable sharing of all Veteran immunization data between VHA, states and territories.

Recommendation Reviewed: Permanent Processes for Streamlined Hiring and Onboarding of VHA staff

Finding: VHA is working to establish streamlined processes for hiring and onboarding. These streamlined processes have not yet been adopted consistently across the VISNs.

Conclusion:

Health care staffing became a persistent and concerning issue nationally as the pandemic progressed. Recognizing this, VHA worked to establish a strategy focused on recruitment, expanded pay authorities, streamlined hiring, streamlined onboarding, staff development, mitigation of burnout and other retention measures. VHA continued to develop standard streamlined hiring and onboarding processes, but the time-to-hire key performance measure continued to increase throughout the pandemic.

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RECOMMENDATIONS

The following recommendations are supplementary to those in the Initial Report and Annexes A, B and C.

1. Testing and Test-to-Treat

(a) Conduct a study of health equity among Veterans within the current Test to Treat processes to assess the following:

- Equity in access to virtual care
- Access to self-testing
- Access to oral antiviral therapy

(b) Conduct studies to assess potential impacts resulting from the expiration of the national PHE, as well as options to mitigate changes in funding and authority.

2. Veterans Experiencing Homelessness

Assess the pandemic support to Veterans experiencing homelessness to determine if there are interventions linked to the national PHE that warrant sustainment by some other means.

3. Clinical Operations

Conduct a study of Mental Health Residential Treatment Programs to identify the root causes underlying the diminished use of these services. Determine if the diminished utilization stems from a change in clinical need versus other factors that require mitigation.

4. Workforce

Develop a strategy in coordination with the VISNs to encourage adoption of VHA standards for streamlined hiring and onboarding of staff.

5. Interagency

(a) Pursue interagency points of engagement for sustained and recurring VHA interactions, focused on monitoring of emerging infectious diseases of concern.

(b) Pursue formal interaction between VHA and DoD in regard to coordinated response with their unique capacity and deployment capabilities to facilitate coordinated presentation of capabilities to ESF #8.

6. State Veterans Homes

Partner with SVH facilities to encourage maintaining reporting to the VHA dashboard beyond the expiration of the PHE. Participation would be voluntary and designed to facilitate collaboration and shared learning. Reporting would encompass facilities regardless of their CMS accreditation status. As part of this effort, VHA could expand the scope of reporting to include other infectious diseases that may pose a threat to the SVH Veteran population, using the COVID-19 monitoring protocols as a blueprint and proactively providing outreach where support is needed.

APPENDICES

Appendix A: Acronyms

Acronym	Expansion
ACTIV	Accelerating COVID-19 Therapeutic Interventions and Vaccines
AI	artificial intelligence
AI/AN	American Indian or Alaska Native
AMR	antimicrobial resistance
APA	American Psychological Association
AR	augmented reality
ASPR	Administration for Strategic Preparedness and Response
BARDA	Biomedical Advanced Research and Development Authority
BIPOC	Black, Indigenous and Other People of Color
CARES	Coronavirus Aid, Relief, and Economic Security
CBOC	community-based outpatient clinic
CDC	Centers for Disease Control and Prevention
CDC/NHSN	CDC/National Healthcare Safety Network
CDT	Clinical Deployment Teams
CHAMPVA	Civilian Health and Medical Program of the Department of Veterans Affairs
CHIPS	Creating Helpful Incentives to Produce Semiconductors
CLC	Community Living Center
CLIA	Clinical Laboratory Improvement Amendment
CMS	Centers for Medicare and Medicaid Services
CNO	Chief Nursing Officer
COPE-VA	COVID-19 Pharmacotherapy Effectiveness in the VA Healthcare System
CORC	COVID-19 Observation Research Collaboratory
CRM	Customer Relationship Management
DEA	Drug Enforcement Agency
DEMPS	Disaster Emergency Medical Personnel System
DHS	Department of Homeland Security
DLA	Defense Logistics Agency
DMLSS	Defense Medical Logistics Standard Support
DoD	Department of Defense
EAP	Employee Assistance Program
EES	Employee Education Service
EHR	electronic health record

Acronym	Expansion
EHRM	electronic health records management
EPA	Environmental Protection Agency
ESF	Emergency Support Function
EUA	emergency use authorization
FBP	Facility Based Program
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FERPA	Family Education Rights and Privacy Act
FIT	fecal immunochemical test
FMLA	Family and Medical Leave
FTE	full-time employee
FY	fiscal year
GAD	Generalized anxiety disorder
GAO	Government Accountability Office
GEC	Geriatrics and Extended Care
GISAID	Global Initiative on Sharing Avian Influenza Data
GMP	Good Manufacturing Practices
GPD	Grant and Per Diem Program
HCP	health care personnel
HEI	Healthcare Equality Index
HHS	Department of Health and Human Services
HIPAA	Health Insurance Portability and Accountability Act
HIV	human immunodeficiency virus
HPO	Homeless Program Office
HPSP	Health Professional Scholarship Program
HRO	High Reliability Organization
HUD	Department of Housing and Urban Development
IAA	Interagency Agreement
ICMOP	Integrated CONUS Medical Operations Plan
IHS	Indian Health Service
IIS	immunization information system
IMF	International Monetary Fund
IT	information technology
IV	intravenous
J&J	Johnson and Johnson
JSCRWG	Joint Supply Chain Resilience Working Group
LEAF	Light Electronic Action Framework
LGBTQ+	lesbian, gay, bisexual, transgender and queer identities

Acronym	Expansion
MA	Mission Assignment
mAb	monoclonal antibody
MCP	metacarpophalangeal
MCNIS	Military-Civilian NDMS Interoperability Study
MDD	Major depressive disorder
MH RRTP	Mental Health Residential Rehabilitation Treatment Program
MRI	magnetic resonance imaging
mRNA	messenger ribonucleic acid
MSA	Medical Support Assistant
NCHV	National Coalition for Homeless Veterans
NCRT	National Contingency Response Tool
NDMS	National Disaster Medical System
NHLBI	National Heart, Lung, and Blood Institute
NIAID	National Institute of Allergy and Infectious Diseases
NIH	National Institutes of Health
NP	nurse practitioner
NST	National Surveillance Tool
OAL	Office of Acquisition and Logistics
OAM	Office of Advanced Manufacturing
OEM	Office of Emergency Management
OHE	Office of Health Equity
OHIL	Office of Healthcare Innovation and Learning
OHT	Office of Healthcare Transformation
OIT	Office of Information and Technology
ONS	Office of Nursing Services
OPPCS	Orthotic, Prosthetic, Ped-orthic Clinical Services
ORD	Office of Research and Development
ORH	Office of Rural Health
OSE	Onboarding Surge Event
OSTP	Office of Science and Technology Policy
OTGR	Office of Tribal Government Relations
P.L.	Public Law
PA	physician assistant
PACT	Promise to Address Comprehensive Toxics
PASC	post-acute sequelae
PBM	Pharmacy Benefits Management
PCR	polymerase chain reaction
PHE	public health emergency

Acronym	Expansion
PHS	Population Health Services
PIT	Point-in-Time
PPE	personal protective equipment
PSB	professional standard board
PSY	Veterans who had psychotic conditions
PTSD	Post-traumatic stress disorder
RAISE	Retention and Income Security Enhancement
RAP	Reimbursement Agreements Program
RDT	Readily Deployable Team
REBOOT	Reduce Employee Burnout and Optimize Organizational Thriving
RECOVER	Researching COVID to Enhance Recovery
RHV	Veterans who had recently experienced homelessness
RN	Registered Nurse
RRC	Regional Readiness Center
RSV	respiratory syncytial virus
RVH	Reimagining Veterans Health Care
RWE	real-world evidence
SAVE LIVES	Strengthening and Amplifying Vaccination Efforts to Locally Immunize All Veterans and Every Spouse
SCI	Spinal Cord Injury
SDoH	Social Determinants of Health
SeqFORCE	Sequencing for Research Clinical and Epidemiology
SIGI	Self-Identified Gender Identification
SLTT	state, local, tribal and territorial
SOC	standard of care
STRIVE	Strategies and Treatments for Respiratory and Infections and Viral Emergencies
SVH	State Veterans Home
T2F	time to fill
T2H	time to hire
TMS	Talent Management System
TNC	Travel Nursing Corps
USDA	U.S. Department of Agriculture
USPS	U.S. Postal Service
VA SeqCURE	VA Sequencing Collaborations United for Research and Epidemiology

Acronym	Expansion
VA SHIELD	VA Science and Health Initiative to Combat Infectious and Emerging Life-Threatening Diseases
VACO	VA Central Office
VAERS	Vaccine Adverse Event Reporting System
VAHCS	VA Health Care System
VAIRRS	VA Innovation and Research Review System
VAMC	VA Medical Center
VCS	Veterans Canteen Service
VHACO	VHA Central Office
VISN	Veterans Integrated Service Network
VJO	Veterans Justice Outreach
VRC	VISN Rural Consult
VVC	VA Video Connect
WHO	World Health Organization
WMC	Workforce Management and Consulting
WOC	without compensation

Appendix B: Stakeholder Interviews

The table below lists the interviews completed by the COVID-19 Response Reporting Team that contributed to the creation of Annex D. Interviewees' titles and positions were as of January 31, 2023.

Date	Interviewee Name	Position
2/2/2023	Dr. Carolyn Clancy	Assistant Under Secretary for Health for Discovery, Education and Affiliate Networks
2/24/2023	Mr. Alfred Montoya	Acting Assistant Under Secretary for Health for Support Services
2/24/2023	Mr. Andrew Centineo	Executive Director for Acquisition, Technology and Logistics, VHA Procurement and Logistics Office
2/10/2023; 3/14/2023	Ms. RimaAnn Nelson	Assistant Under Secretary for Health for Operations
2/17/2023; 2/22/2023	Dr. Jennifer Strawn	Executive Director for the Office of Nursing Services and Deputy Chief Nursing Officer
2/14/2023	Dr. Erica Scavella	Assistant Under Secretary for Health for Clinical Services and Chief Medical Officer for VHA
2/22/2023	Dr. Kevin Galpin	Executive Director for Telehealth Services, VHA Office of Connected Care
2/14/2023	Ms. Nancy Wilk	Director for Connected Health Implementation, VHA Office of Connected Care
2/14/2023	Dr. Meredith Josephs	Executive Director for Connected Health, VHA Office of Connected Care
2/22/2023	Dr. Ralph Schapira	Staff Physician, Southeast Louisiana Veterans Health Care System
2/22/2023	Ms. Marian Adly	White House Presidential Innovation Fellow, Office of Chief Technology Officer
2/22/2023	Dr. Angela Park	Program Manager, Office of Health Care Transformation
2/22/2023	Dr. Amanda Lienau	Director of Data Analytics and Innovation, VHA Office of Healthcare Innovation and Learning
2/10/2023; 3/13/2023	Ms. Maria Bouchard	Director of VA Health Connect, Office of Integrated Veteran Care
2/10/2023	Dr. Sophia Califano	Deputy Chief Consultant for Preventive Medicine
2/10/2023	Dr. Jennifer Martin	Deputy Chief Consultant for Formulary Management, Pharmacy Benefits Management Services
2/3/2023	Dr. Jessica Wang-Rodriguez	Executive Director, VHA National Pathology and Laboratory Medicine Service

Date	Interviewee Name	Position
2/2/2023	Dr. Jane Kim	Executive Director for Preventative Medicine, VA National Center for Health Promotion and Disease Prevention
2/6/2023	Dr. Makoto Jones	Director, Biosurveillance, Antimicrobial Stewardship and Infection Control (BASIC), VHA Office of Analytics and Performance Integration
2/16/2023	Dr. Daniel Nackley	Medical Advisor, Office of Occupational Safety and Health
2/16/2023	Ms. Rachel Hewson	Clinical Employee Occupational Health Program Manager, Office of Occupational Safety and Health
2/17/2023	Mr. David Isaacks	Network Director, VA Sunshine Healthcare Network
2/17/2023	Mr. Carlos Escobar	Executive Director, VA Caribbean Healthcare System
2/9/2023	Dr. Grant Huang	Deputy Chief Research and Development Officer for Enterprise Optimization and Director of the Cooperative Studies Program, VHA Office of Research and Development
2/9/2023	Ms. Amanda Garcia	Program Analyst, VHA Office of Research and Development
2/13/2023	Dr. Beth Ripley	Acting Chief Officer, VHA Office of Healthcare Innovation and Learning
2/7/2023; 4/14/2023	Dr. Ernest Moy	Executive Director, VHA Office of Health Equity
2/14/2023; 2/15/2023	Ms. Jessica Bonjorni	Chief, Human Capital Management
2/17/2023	Dr. Scotte Hartronft	Executive Director, Office of Geriatrics & Extended Care
2/7/2023	Dr. Mark Holodniy	Director, Office of Public Health Surveillance and Research
2/7/2023	Dr. Aarthi Chary	Infectious Disease Specialist, VA Palo Alto Health Care System
2/15/2022	Dr. Jillian Weber	National Program Manager for Homeless Patient Aligned Care Teams, VHA Homeless Programs Office
2/15/2023	Dr. Pamela Belperio	Deputy Director for Health Solutions, Office of Population Health Services
2/15/2023	Ms. Stephania Griffin	Director, Information Access and Privacy Office
2/22/2023	Dr. Peter Kaboli	Acting Executive Director, VA Office of Rural Health

Date	Interviewee Name	Position
2/22/2023	Dr. Michael Ohl	Staff Physician, Iowa City VA Medical Center
2/15/2023	Ms. Noel Ballard	Program Manager, Office of Healthcare Transformation
2/17/2023	Mr. Derrick Jaastad	Executive Director, VHA Office of Emergency Management
2/17/2023	Mr. Paul Brannigan	Associate Director for Operations, VHA Office of Emergency Management
3/13/2023	Dr. Mark Hausman	Executive Director for Integrated Access, VHA Office of Integrated Veteran Care
4/4/2023	Dr. Steven Lieberman	Deputy Under Secretary for Health
4/14/2023	Ms. Stephanie Birdwell	Director, Office of Tribal Government Relations
3/14/2023	Dr. Michelle Dorsey	Deputy Assistant Under Secretary for Health for Operations

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