



Commonwealth of Virginia



COVID-19 After-Action Report

Handling Instructions

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Introduction

Purpose

In response to the magnitude and length of the Coronavirus Disease 2019 (COVID-19) response, the Joint Subcommittee to Study Pandemic Response and Preparedness was established by the Virginia General Assembly with the passage of Senate Joint Resolution 10 (SJR10) during the 2022 session to assess and evaluate the Commonwealth's overall pandemic preparedness and response capabilities. As a result, this After-Action Report (AAR) provides a comprehensive overview of the COVID-19 pandemic's timeline and the subsequent actions taken by the Commonwealth. It serves to document the events and evaluate the efficacy of the measures implemented. Through critical assessment, the report aims to distill operational recommendations that may inform the development of future legislation, ensuring a robust and proactive response to similar emergencies.

Scope

COVID-19 required a highly complex response involving numerous agencies and external partners across the Commonwealth. Therefore, to produce a manageable and constructive AAR, the Joint Subcommittee and the report authors deliberately targeted key topics to be addressed by the report. **This report concentrates on the operational activities of the COVID-19 response and does not delve into policy-level decision-making.** The consultant team used a directed approach, including pre-identified participants and focus areas, to determine the scope of the project. Entities not covered by this report are encouraged to develop their own AARs.

This AAR is developed in response to the objectives of the Joint Subcommittee which are: to conduct independent research, review, and reporting on the performance of existing laws in the Commonwealth in relation to the Commonwealth's pandemic response and recommended corrective actions; and to submit a final report to the General Assembly containing an executive summary of its activities and recommendations and a report of its findings and recommendations for publication as a House or Senate document.

Upon completion, the Joint Subcommittee will review the report to identify key observations and recommendations, ensuring that all critical insights are integrated. Using this information, they will draft a comprehensive final report for delivery to the General Assembly with proposed legislative strategies for implementation.

To assist it in its goals, the Joint Subcommittee established three workgroups: 1) Government and Regulatory Systems; 2) Health Care Systems and Emergency Management; and 3) Education.



**Government and
Regulatory Systems**



**Health Care Systems and
Emergency Management**



Education



Government and Regulatory Systems

The subcommittee aims to evaluate the Governor's emergency powers and the feasibility of legislative oversight during prolonged states of emergency. It seeks to assess and enhance the adequacy, resilience, and performance of future emergency plans to ensure the effective responsiveness of the General Assembly, local governments, and the judicial system. Additionally, it may address the need to adapt the Virginia Freedom of Information Act, meeting rules for homeowners' associations, corporate entities, and the business regulatory system to better manage emergencies. Overall, the subcommittee prioritizes creating robust frameworks to improve governmental and organizational responses.

Subcommittee members



- Senator Scott A. Surovell, Chair
- Richard C. "Rip" Sullivan, Jr.
- Delegate Michael J. Webert
- Lisa Lucas-Burke (local elected official representing a rural locality)
- Martha Mugler (local elected official representing an urban locality)
- Jacqueline Grice (a private businessman)
- Executive Secretary of the Supreme Court of Virginia or designee
- Secretary of Finance or designee
- Secretary of Commerce and Trade or designee

Health Care Systems and Emergency Management

The subcommittee focuses on evaluating and improving the adequacy, resilience, and performance of both public and private health care systems, including pharmacies, hospitals, and long-term care facilities. It assesses the readiness of these entities to implement infection prevention and control measures, and the adequacy of regulations protecting vulnerable populations like the elderly and children. Additionally, the subcommittee examines the emergency management and public health systems, emphasizing the need for stockpiling pandemic supplies, assessing local health districts' performance, and enhancing the system's ability to detect and prevent future outbreaks. Overall, the subcommittee's objective is to strengthen health care systems and emergency response mechanisms to ensure enhanced readiness for any upcoming emergencies.

Subcommittee members



- Delegate Mark D. Sickles, Chair
- Senator Barbara A. Favola
- Delegate Debra D. Gardner
- S. Chris Jones (owner of a local pharmacy)
- Jennifer W. Siciliano (representing public hospital or health care system)
- Heather Jones M.D. (representing private hospital or health care system)
- Secretary of Health and Human Resources or designee
- Secretary of Public Safety and Homeland Security or designee

Education

The subcommittee seeks to evaluate and enhance the adequacy, resilience, and performance of K-12 and higher education systems. The pandemic resulted in divisions converting to remote learning for a portion of the 2019–20 school year and much of the 2020–21 school year. This major, unprecedented disruption presented numerous challenges for students, families, and education staff. The subcommittee prioritizes demonstrating the value of emergency planning to facilitate enhanced responsiveness in the future.

Subcommittee members



- Delegate Candi Mundon King, Chair
- Senator Ghazala F. Hashmi
- Senator David R. Suetterlein
- Delegate Irene Shin
- Katelyn Deel (representing K-12 public education system)
- Tara Dickerson-Anderson (representing four-year institution of higher education)
- Secretary of Education or designee



Participating Departments and Organizations

Individuals from the following Commonwealth of Virginia departments, agencies, and cooperative partners participated in this process:

Participants

- Board of Pharmacy
- Commission on Local Government
- Commonwealth Coordination Bureau
- Community Services Boards
- County/Municipal Departments, including Education, Emergency Management, Fire, Health, Law Enforcement
- Department for Aging and Rehabilitative Services (DARS)
- Department of Behavioral Health and Developmental Services (DBHDS)
- Department of Corrections (VADOC)
- Department of Deaf and Hard of Hearing (VDDHH)
- Department of Education (VDOE)
- Department of Emergency Management (VDEM)
- Department of Fire Program
- Department of Health (VDH)
- Department of Health Professions (VDHP)
- Department of Labor and Industry (DOLI)
- Department of Medical Assistance Services (DMAS)
- Department of Military Affairs
- Department of Motor Vehicles (DMV)
- Department of Social Services (VDSS)
- Department of Transportation
- Division of Rehabilitative Services (DARS)
- George Mason University
- House of Delegate's Clerk's Office
- Local Government Attorneys of Virginia Inc.
- Office of the Executive Secretary (OES)
- Office of the Governor
- Private Industry
- Professional Associations
- Safety & Health Codes Board
- Sentara Health
- State Corporation Commission
- State Council for Higher Education in Virginia (SCHEV)
- Virginia Adult Protective Services
- Virginia Association of Counties
- Virginia Association of Home Care and Hospice
- Virginia Association of School Nurses (VASN)
- Virginia Board for People with Disabilities
- Virginia Commonwealth University
- Virginia Employment Commission
- Virginia Hospitals and Healthcare Association (VHHA)
- Virginia Municipal League
- Virginia PTA (Virginia Congress of Parents and Teachers) (VAPTA)
- Virginia Restaurant, Lodging, & Travel Association (VRLTA)
- Virginia School Board Association (VSBA)
- Virginia State Police
- Virginia Trial Lawyer Association (VTLA)
- Wilson Workforce Rehabilitation Center (WWRC)



COVID-19 Incident Overview

Background

In the early stages of the pandemic, cases of the novel coronavirus were first reported in Wuhan, China, in late 2019. It was later identified as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), causing COVID-19. From the initial cases of COVID-19 in the U.S., it became evident that the virus was highly contagious and had the potential to spread rapidly within communities. As the virus spread worldwide, the World Health Organization (WHO) declared a Public Health Emergency of International Concern on January 30, 2020.

In the beginning, there was a lack of comprehensive knowledge about the novel coronavirus, including its transmission, severity, and long-term effects. The first confirmed case in Virginia was reported on March 7, 2020, prompting the Governor to declare a State of Emergency on March 12, 2020, and then issue a stay-at-home order from March 31, 2020, until June 10, 2020. A statewide mask order was in place on May 29, 2020, positioning Virginia as one of the first states to adopt such a measure. Following a plateau in cases during the Fall of 2020, Virginia experienced a surge in cases during the winter of 2020-21, mirroring increase in cases felt nationwide.

The Commonwealth's response evolved in 2021 with the initiation of a mass vaccination effort, beginning on December 15, 2020, as part of the country's COVID-19 vaccine campaign. By January 2021, Virginia had established a four-phase plan to prioritize vaccine eligibility based on profession and age group, culminating in the entire population becoming eligible for the vaccine on April 18, 2021. By May 10, 2021, half of the state's population had received at least one dose of the COVID-19 vaccine. As of May 10, 2023, Virginia had administered over 19 million COVID-19 vaccine doses, fully vaccinating approximately 77% of its population.

The Commonwealth of Virginia officially ended its COVID-19 emergency orders on July 1, 2021, marking a significant shift in the state's response to the pandemic. The conclusion of these orders came after over a year of extensive emergency measures, including widespread testing, vaccination campaigns, and public health restrictions. Throughout the pandemic, Virginia's emergency response was characterized by a coordinated effort across state and local agencies, healthcare providers, and community organizations. The state's approach evolved as the pandemic progressed, with initial efforts focused on containment and mitigation, followed by a transition towards vaccination and reopening.

The end of the emergency orders signified a move towards normalcy while continuing to emphasize the importance of vaccination and public health preparedness to address any future outbreaks. Though the emergency order has been rescinded, the Commonwealth continues to adapt its strategies to the evolving situation. For example, in January 2022, the Governor declared a limited state of emergency, issuing Executive Order 84 to provide relief for hospitals and healthcare workers. This order increased flexibility in patient transfers and allowed healthcare providers licensed in other states to practice in Virginia.

The legacy of Virginia's response to COVID-19 includes lessons learned in crisis management, the importance of flexibility in public health strategies, and the ongoing need for robust healthcare infrastructure.



Timeline of Key Events

The Commonwealth of Virginia COVID-19 timeline below catalogs critical state, nation, and international events during the COVID-19 pandemic between January 2020 and May 2023. For a timeline related specifically to Key Events, please see Appendix C.

December 31, 2019 The government in Wuhan, China confirms that health authorities are treating dozens of cases of pneumonia of unknown cause which surfaced in a Chinese seafood and poultry market in December 2019. 	February 7, 2020 Declaration of COVID-19 as a Communicable Disease of Public Health Threat for Virginia.
March 7, 2020 Virginia confirms its first case of COVID-19.	March 12, 2020 Governor Northam declares a State of Emergency in response to COVID-19. 
March 17, 2020 Governor Northam and State Health Commissioner Oliver issued a Public Health Emergency Order for Virginia in response to COVID-19.	March 23, 2020 All Virginia public schools K-12 closed for the remainder of the school year.
May 15, 2020 Phased reopening begins: Phase One of "Forward Virginia" begins. 	June 5, 2020 Phase Two of "Forward Virginia" begins for most of Virginia, with the exception of Richmond and Northern Virginia.
July 1, 2020 Virginia moves into Phase Three of "Forward Virginia".	December 15, 2020 First COVID-19 vaccine administered in Virginia. 
April 18, 2021 COVID-19 vaccine available to all Virginians aged 16 and older.	May 12, 2021 COVID-19 vaccine available to children 12 and older in Virginia.
May 28, 2021 All statewide restrictions on businesses and individuals due to COVID-19 were lifted. 	June 30, 2021 Virginia State of Emergency expired.
May 12, 2023 State Health Commissioner Shelton rescinds Declaration of COVID-19 as a Communicable Disease of Public Health Threat for Virginia.	



Methodology

Data Collection

To capture Virginia’s COVID-19 response as thoroughly as possible, this AAR was developed using multiple sources of information. Key participants consisting of personnel from multiple agencies and departments across the Commonwealth, as well as cooperative partners, were routinely engaged during the data collection period. Within the consultant team, a dedicated lead was appointed to concentrate exclusively on one of the three subcommittees. This strategic assignment was designed to ensure that specialized attention and expertise were directed toward the subcommittee’s specific objectives and tasks. The lead’s role involved facilitating communication and driving the progress of their assigned area to achieve the overarching goals of the project. This targeted approach allowed for a more efficient and effective operation within the subcommittee’s focus.

The project commenced with a clear directive, as the leads received a comprehensive list of agencies mandated for involvement within SJR10, from the Division of Legislative Services. This initial step enabled a series of coordinated outreach efforts, which successfully prompted various agencies and departments to appoint specific individuals as agency/department designees. The designees were responsible for providing the consultant with essential data, which included a range of source documents relevant to each agency or department’s planning and response to the COVID-19 pandemic. This collection encompassed documents such as agency-specific AARs, public health and emergency response strategies, as well as summaries, briefings, and memoranda pertaining to the pandemic response, all contributing to a comprehensive and uninterrupted flow of information. Subsequently, a thorough collection and assessment of documents was undertaken, laying the groundwork for the next phase of the project.

To deepen the engagement, the leads connected with the agency designees with a request to disseminate a partner survey. This survey was to be distributed not only within their respective agencies or departments but also among external groups under their purview or they deemed suitable to provide insight on the Commonwealth’s COVID-19 response. A separate survey was created to collect public feedback via the Joint Subcommittee’s website, aiming to gather broader constituent input on the Commonwealth’s response. Survey data from separate, external surveys was also reviewed and analyzed. The purpose of the various surveys was to gather a wide range of insights and perspectives.

Additionally, the designees were responsible for identifying potential interviewees, providing their contact details to facilitate the next of data gathering. With a roster of interviewees in place, the project advanced to the interview phase. Individual and group interviews were meticulously conducted, employing a set of pre-approved questions that were tailored to the unique expertise of each

250

Documents reviewed during the data call period

429

Survey respondents were engaged in Commonwealth’s responses between 2020 and 2023

432

Public survey respondents from all eight regions

47

Interviewees representing 19 state agencies and partner organizations



interviewee. Of note, interviews represent participants' recollections and analyses of events and actions.

Statement of Accuracy

Varying viewpoints are expected and valued in the AAR process. The views and statements expressed within this report were validated by multiple independent sources. Measures were put in place to maintain the confidentiality of the input provided by all participants, to allow them to respond openly without fear of repercussion. While representatives participated in interviews on behalf of incident management or organizational units, their responses may not encompass every perspective or event. Both surveys and interviews are inherently subjective, reflecting stakeholders' recollections and interpretations of events and actions. Details and recollection of events by respondents, post-incident, come with a degree of uncertainty.

Evaluation Approach

Upon the conclusion of the data collection, survey, and interview components of the project, the consultant team conducted a thorough analysis of the information received. A coding process was established to identify, highlight, and organize high-level themes across each focus area. For each interview, the team leveraged an analysis tool to identify the key observations raised by the interviewees. Next, the team organized observations by focus area, categorizing them as best practices, strengths, and/or areas for improvement. Due to the volume of observations gleaned from interviews, only those most pertinent to the pre-identified focus areas and within the confines of the scope are included in this report. This strategic approach ensured that the information collected was both relevant and insightful, contributing significantly to the project's objectives.

The project team reviewed all information gathered through the data call, surveys, and interviews to identify observations, including strengths, best practices, areas for improvement, and challenges. Observations are only included when the information or perspective is received from multiple sources or when information can be verified independently. In performing root cause analysis, the project team then returned to the available information to dig deeper and collect, organize, and validate data related to these observations, using thematic analysis. Finally, the project team used industry best practices as well as their practitioner knowledge and experience working with dozens of jurisdictions to develop recommendations. Recommendation suggestions from interview participants are considered and are incorporated when appropriate. After Tidal Basin formulated operational recommendations, the Commonwealth's Division of Legislative Services' legal team developed legislative policy options for the Joint Subcommittee's consideration within the General Assembly.



Observations and Recommendations

Focus Areas

The report organizes all observations into specific themes generated from data collected in response to the pandemic through document analysis, surveys, and interviews. Focus areas for the report were chosen based on their significance in achieving response goals, potential for improvement, and relevance to overall effectiveness and preparedness for future emergencies. The output is a thorough review of the response, including what was done well, what could be improved, observations, and overall lessons learned to help inform the future development of preparedness, policy, and procedures statewide.

The following focus areas represent the categories of information that were targeted for collection and analysis to inform the AAR development process. This analysis examines the operational components of the Commonwealth's COVID-19 response strategies and does not delve into an analysis of overarching policy decisions.

 Business Continuity and Continuity of Operations	 Communications	 Education	 Financial Management
 Judicial / Policy / Regulatory	 Logistics	 Operations	 Planning
 Public Health / Local Health Districts	 Public-Private Partnerships	 Technology	 Volunteer and Donation Coordination



General Observations

As the AAR took shape, several overarching observations emerged that reflect broader regional or national experiences rather than just the Commonwealth's response. The general observations are not categorized as strengths or areas for improvement, as they address universal aspects of the response rather than specifics of the Commonwealth. These insights provide valuable context for understanding the broader implications of the pandemic response efforts.



During the COVID-19 pandemic, serving underserved populations was challenging due to limited access to healthcare, economic hardships, and technological barriers. These factors led to disparities in healthcare availability and outcomes, particularly among those who are socioeconomically disadvantaged; people with limited English proficiency; geographically isolated or educationally disenfranchised people; people of color as well as those of ethnic and national origin minorities; women and children; individuals with disabilities and others with access and functional needs; and seniors.



Multiple funding streams and frequent changes to FEMA's requirements during the COVID-19 response created challenges due to the complexity and administrative burden they created. Organizations had to navigate varying rules and deadlines for multiple funding sources, which complicated the documentation process and delayed cost recovery efforts. This often required significant time and resources, diverting attention from immediate response needs.



Enforcing public health and safety mandates during the COVID-19 response was challenging at regional and national levels due to varying levels of public compliance, the politicization of health guidelines, and the logistical difficulties of monitoring and enforcement. The situation necessitated a coordinated effort that balanced public health interests with individual freedoms and legal considerations.



Multiple concurrent activations to other emergencies during the COVID-19 response complicated efforts at the national and regional scale because they stretched resources thin and created coordination challenges. States had to manage the pandemic alongside other crises, leading to competing priorities and the need for complex, multi-layered response strategies.

This report organizes all observations into specific themes generated from data collected in response to the pandemic and identifies strengths and areas of improvement identified by and captured from participants. Recommendations for improvements are listed in each focus area of the report.





Business Continuity and Continuity of Operations

The Business Continuity focus area investigates the impact of COVID-19 on essential services, administrative functions, and government operations, emphasizing factors that facilitated successful adaptation strategies. It also explores enhancements to continuity of operations plans for future disruptions, including financial strategies such as managing cash flow, accessing government programs, and mitigating economic losses resulting from the pandemic.

Strengths

Efforts by leadership to support state employee mental health were well-received.

Leadership's efforts to support staff mental health, including the Headspace app, Team of Teams, Mental Health Fridays, and a mental health awareness day, were well-received. Interviewees appreciated these initiatives and the positive working culture, though some felt more could be done and expressed uncertainty about additional support within the current operational environment.

Despite inadequate preparedness, most agencies and organizations were able to transition to continuity operations with minimal disruptions.

The transition to Continuity of Operations (COOP) plans during the pandemic was largely successful, with agencies like the Department of Labor and Industry (DOLI) adapting to remote work and maintaining essential services despite challenges such as personal protective equipment (PPE) procurement. Executive orders facilitated remote operations for boards and hearings, while pre-existing plans in schools and telehealth services ensured minimal disruption. Overall, the shift to remote work was smooth, supported by strong partnerships and effective planning.

The shift to remote work, initially for safety, also brought extra advantages.

The transition to telework provided benefits during the pandemic, such as ensuring safety, enhancing public meeting accessibility, and continuing essential services through telemedicine and remote court hearings. Individuals also highlighted other positive outcomes of remote work, including technological improvements, the opportunity for state offices to test distributed operations models, newfound flexibility and efficiencies.

Areas for Improvement

Observation 1.1: Despite efforts to support mental health, individuals still experienced challenges and could have benefited from more support.

Although efforts were made to support mental health, additional mental health and other resources, such as childcare, were needed. Interviewees noted that the pandemic exacerbated fatigue and strain on employees, leading to increased turnover. There was also insufficient guidance on mental health support, leaving staff, particularly those dealing with the deaths of loved ones, without adequate opportunities to process their experiences.



Recommendations

- 1.1.1 **Expand Access to Mental Health Resources.** Allocate additional funding and resources to expand mental health services, including counseling, therapy, and support groups, particularly for employees in high-stress roles such as healthcare workers and educators. This could include partnerships with local mental health organizations or providers that specialize in incident response and critical incident stress debriefing to offer accessible, confidential support tailored to the needs of those affected by the pandemic.
- 1.1.2 **Develop Comprehensive Mental Health Support Guidelines.** Create and implement clear, standardized guidelines for mental health support during extended incident response across all state agencies. These guidelines should include protocols for identifying and addressing mental health concerns, provide access to mental health professionals, and incorporate flexible options like childcare and paid time off to alleviate stress and prevent burnout.

Observation 1.2: The pandemic uncovered unrecognized challenges for continuity of operations.

The COVID-19 pandemic exposed significant challenges in maintaining operational continuity across state agencies. The sudden shift to telework highlighted gaps in digital infrastructure, including limited access to reliable technology and broadband connectivity, particularly in rural areas. Many agencies were unprepared for the rapid transition, resulting in inconsistent telework policies, reduced productivity, and difficulties in managing remote teams, in the early days of the response. The lack of a unified approach to teleworking also created disparities between departments, with some employees facing greater challenges in adapting to the new work environment.

Moreover, there was a significant lack of autonomy and flexibility in some agencies to shift processes and procedures to a remote format, hampering the ability to adapt quickly and efficiently. Many operational functions and records remained manual, further straining efforts to maintain continuity. The lack of digital infrastructure, particularly in areas with limited broadband access, compounded these challenges. The combined effects of these factors severely compromised the ability of staff to sustain consistent and effective operations during the pandemic.

Recommendations

- 1.2.1 **Develop a centralized Continuity of Operations framework for state agencies.** Establish a centralized framework for continuity of operations across all state agencies, mandating the creation and regular updating of agency-specific continuity plans. This framework should include standardized guidelines for digital infrastructure upgrades, remote work capabilities, and staff training on emergency procedures. Additionally, it should ensure regular drills and interagency coordination exercises to test and refine these plans, ensuring that state agencies can maintain essential functions and services during any disruption.
- 1.2.2 **Enhance digital infrastructure and automation.** Invest in expanding broadband access, especially in underserved areas, and upgrading state digital infrastructure to support the automation of operational functions and records for state agencies. This will enable a seamless transition to remote work and improve overall efficiency, reducing the strain on staff and enhancing the state's ability to maintain operational continuity during future crises.



Observation 1.3: Challenges arose during the transition back to in-person work including limited guidance, inequities, and safety concerns.

The transition back to in-person work after the COVID-19 pandemic revealed significant challenges, including gaps in state guidance, inequities in telework policies, and safety concerns. While remote work had proven effective and productive for many, the return to the office was difficult for those who had adapted to telework, leading to frustration and resistance. Inequities arose as some roles required a return to the office sooner than others, with inconsistent policies across state agencies exacerbating these disparities. Safety concerns, due to varied application of protocols, further heightened anxiety among employees during the transition.

Recommendations

- 1.3.1 **Establish consistent statewide telework policies for all state agencies.** Develop and implement consistent telework policies across all agencies to ensure equitable treatment of employees. These policies should include clear criteria for determining which roles require in-person work, guidelines for hybrid work arrangements, and transparent communication to reduce confusion and frustration among employees.

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Communications

The Communications focus area refers to the Commonwealth's ability to deliver timely and accurate communications in support of COVID-19 response, including general situational awareness for state employees. This focus area also encompasses interoperability among local, state and federal partners, and any communications-centric resource and capability gaps.

Strengths

Multiple communication platforms were successfully utilized to inform the public.

Several communication modes, including newsletters, text messaging, robocalls, and emails, ensured greater accessibility to messaging, with electronic communication proving particularly effective in reaching transient populations and overcoming postal service challenges. Additionally, a robust internet presence, a statewide case map, and the Commonwealth's COVID-19 dashboard were instrumental in providing timely updates and situational awareness. The Department of Education (DOE), complemented by the Parent Teacher Association (PTA), played a crucial role in disseminating information to communities, leveraging its extensive reach to families and individuals. These resources offered advocacy webinars and essential information on childcare, broadband, food access, and special education. Similarly, the National Association of School Nurses contributed valuable educational materials to school nurses, and the DOE superintendents' newsletter offered weekly updates on relief funds, enhancing transparency and accountability. Communication efforts were further strengthened by prioritizing engagement with trusted industry leaders, whose input on regulation guidance fostered compliance and trust.

Agencies and organizations used effective methods for internal information sharing.

Agencies used individual department-level websites and intranet sites to provide up-to-date links and guidance to both clients and staff, ensuring that everyone had access to the latest information. The existing relationship with hospitals allowed the Virginia Hospital & Healthcare Association (VHHA) to act as a crucial information conduit, facilitating bi-directional communication through weekly calls, subcommittees, and working groups. The Virginia Association of School Nurses (VASN) effectively reached school nurses at the local level by leveraging multiple communication modes, including newsletters, websites, emails, Instagram, social media, webinars, and regular calls. Multiple agencies reported that regular coordination calls among state agencies, particularly those involving Virginia Emergency Support Team (VEST) lead and support agencies, ensured comprehensive situational awareness for support agencies. These strategies ensured that internal information sharing was timely, comprehensive, and adaptable to the rapidly changing circumstances of the pandemic.

Agencies relied on information from the Virginia Department of Health (VDH) and other trusted sources when disseminating information.

The VDH served as a central source of truth, with its public-facing website providing essential information for state agencies. Supporting state agencies were diligent in maintaining this consistency by referring general questions to VDH, their public messaging, or other reliable sources. This reliance



on VDH and trusted sources enabled a unified and credible approach to information dissemination throughout the pandemic.

Areas for Improvement

Observation 2.1: Barriers to internal communication impacted public information dissemination.

Despite having ample Public Information Officers (PIOs) participating in the Joint Information Center (JIC), there was a lack of Subject Matter Experts (SMEs) assigned to the JIC to address specific public health-related questions, often causing significant delays as JIC personnel had to seek out answers in a rapidly changing environment. Additionally, the lack of coordination between the JIC and the Governor's communications team meant that information was sometimes relayed by the Governor's office without prior notification to operational staff, including those in the JIC, leaving personnel scrambling to respond to public inquiries. This may have impacted the opportunity to anticipate questions, research accurate answers, or correct information before it was released, further complicating effective communication efforts.

Recommendations

- 2.1.1 **Establish a dedicated SME pool.** Create a roster of SMEs for key agencies to be trained and readily available during emergencies. Ensure that SMEs are integrated into the JIC from the outset to provide timely and accurate responses to specific questions related to the emergency. This will reduce delays caused by the need to seek answers externally and enhance the JIC's capacity to handle complex inquiries efficiently.
- 2.1.2 **Implement a Centralized Information Management System (CIMS).** Deploy a centralized platform for managing and disseminating information during a crisis. This system should include real-time updates, FAQs, and guidance from SMEs. It would streamline the flow of information, enabling JIC staff to access accurate and up-to-date content quickly and reducing the time spent searching for answers.
- 2.1.3 **Improve coordination with executive offices.** Develop protocols to ensure that information from the Governor's office and other executive branches is communicated to operational staff, including the JIC, in advance. Implement a system for pre-briefings or notifications about upcoming announcements to allow JIC personnel to prepare responses and anticipate public inquiries, ensuring a more coordinated and informed public communication strategy.

Observation 2.2: An oversized working group was established to support health equity, hindering effective public messaging.

The group, which expanded to over 100 participants, encountered numerous internal conflicts, such as disagreements over translation specifics (e.g., which type of Spanish to use), which slowed down the decision-making process. Although the intention was to incorporate diverse perspectives to ensure equitable messaging, the number of participants led to delays in disseminating critical information and clinical guidance. This delay forced individual organizations to make independent decisions, impacting service continuity.

Recommendations

- 2.2.1 **Streamline the health equity working group structure.** Reduce the size of the working group to a more manageable number of participants. Focus on including key representatives who can provide diverse perspectives without overwhelming the decision-making process. Establish



smaller, specialized subcommittees for specific tasks such as translation or cultural considerations to enhance efficiency and effectiveness.

- 2.2.2 **Implement clear decision-making protocols.** Develop and enforce clear protocols for decision-making within the working group. Establish criteria for resolving conflicts and making decisions swiftly to avoid delays. This could include predefined guidelines for translation and other critical aspects to streamline the process and ensure timely dissemination of information.
- 2.2.3 **Establish a rapid response framework.** Develop a framework for rapid response to public health needs that includes pre-established protocols for equitable messaging and translations. This framework should allow for quick adaptation to emerging needs and ensure that critical information can be disseminated efficiently, even when the working group is focused on health equity.

Observation 2.3: Rapidly changing and often conflicting messaging at federal, state, and local levels made implementation of public health guidance difficult and contributed to public mistrust.

Interviewees noted that there were frustrations as guidance from researchers and scientists fluctuated, conflicting directives emerged from federal and state entities, and states varied in their responses, such as differing timelines for resuming normal operations in state programs. Hospitals faced difficulties interpreting and reconciling conflicting guidance from federal and state agencies, while long-term care facilities struggled with inconsistent regulations from multiple state agencies including Virginia Department of Social Services (VDSS), VDH, and the Department of Health Professions (DHP). This inconsistency led some to doubt the scientific community, resulting in decreased adherence to public health recommendations.

Recommendations

- 2.3.1 **Enhance ongoing public engagement and education.** Engage trusted community leaders and experts to help communicate complex information and foster understanding, including the reasons for guidance changes can help build trust and encourage adherence to recommendations.





Education

The Education focus area examines the impact of COVID-19 on educational systems, including the transition to remote learning and the challenges faced by students, educators, and parents. It highlights the adaptations made to ensure continuity of education and the disparities in access to technology and resources. This focus area also explores lessons learned and strategies for enhancing the resilience of educational institutions for future emergencies.

Strengths

Rapid adjustments, such as implementing waivers and redesigning programs, led to positive outcomes for school districts and their communities.

Early in the response, it was clear that there needed to be an “all of government” approach to pivot quickly to remote learning. These swift changes allowed educational institutions, including K-12 and higher education, to adapt quickly to evolving conditions, ensuring continuity of learning and support services despite the disruptions caused by the pandemic. Beyond academics, school districts were able to transition their entire nutrition and food services programs to continue providing essential wraparound services for students. By being flexible and responsive, school districts were able to address immediate challenges, support students and families effectively, and maintain operational resilience, ultimately contributing to a more successful and adaptable response to the crisis.

Areas for Improvement

Observation 3.1: The pandemic had a profound impact on students’ and educators’ well-being.

As schools are essential providers of structure, support, and social interaction within the community, both students and educational professionals faced unprecedented stress and challenges due to disruptions in their routines and environments. This strain underscored the need for enhanced mental health resources and support systems to address the emotional and psychological effects of the pandemic. Additionally, the closure of schools resulted in the loss of a social “safety net” for many vulnerable populations, including students with chronic health conditions, disabilities, food insecurity, and neglect/abuse situations.

Recommendations

- 3.1.1 **Enhance mental health support systems available for students and educational professionals.** Expand the availability of mental health counselors and social workers, both physically in schools and having telehealth options. Provide training for teachers and staff on recognizing mental health concerns in students and themselves, including trauma-informed care and psychological first aid. Create school-based peer-to-peer support networks for students and educators to create a sense of community and shared resilience.
- 3.1.2 **Establish community advisory boards and engage local leaders.** Engaging local leaders, parents and community members through advisory boards and/or community meetings has



proven successful in a variety of initiatives. These platforms can be an effective way to ensure that public health measures are developed in an inclusive manner and communicated in a wholistic way to the community.

- 3.1.3 **Propose strategies for hybrid learning models and mental health initiatives.** Explore strategies such as hybrid learning models, mental health initiatives within schools, and community-based programs that can be quickly implemented in response to school closures or similar disruptions. These models allow for flexibility and continuity in education while minimizing risk of infection. Highlight successful programs that were implemented during the pandemic as examples.

Observation 3.2: School districts encountered challenges in managing public information and operations due to legal restrictions, information needs, and capacity limitations.

These challenges included navigating legal restrictions, managing complex and evolving information needs, and dealing with capacity constraints. Legal restrictions often limited the ability to rapidly implement changes or communicate effectively. Meanwhile, the need for accurate and timely information placed a strain on existing resources, complicating efforts to provide clear guidance and support.

Recommendations

- 3.2.1 **Strengthen communication and public information strategies.** Create a centralized, statewide resource hub that provides communication strategies and guidance for public information, available to school districts and higher education institutions. The information provided should be appropriately tailored for both emergency situations as well as routine, ongoing pertinent communications.
- 3.2.2 **Create and maintain legal guidance and support networks.** Establish a legal advisory network specifically for school districts, offering real-time legal guidance during emergencies. This network should include legal experts who can help districts navigate complex regulations and implement necessary changes swiftly.
- 3.2.3 **Develop comprehensive plans for school closures.** Comprehensive plans that outline clear thresholds for school closures and transitions to remote learning are essential to maintaining educational continuity during emergencies. Communicating these policies to parents and other stakeholders during non-emergency periods can help manage expectations and build and maintain trust.





Financial Management

The Financial Management focus area explores novel approaches, successes, and challenges in procurement during the COVID-19 response. It investigates government assistance programs that provided financial aid to individuals, businesses, and impacted communities.

Strengths

Federal funding played a crucial role in various aspects, including bolstering staffing and providing community support.

Agencies in the Commonwealth successfully adapted and coordinated a significant influx of federal funds in a short period, demonstrating tremendous coordination, flexibility, and agility. For instance, the Department of Medical Assistance Services (DMAS) managed to issue hundreds of millions of dollars to providers within six months, facilitated by two tranches of Medicaid funding through the Families First Coronavirus Response Act and the Coronavirus Relief Act. This effort was marked by due diligence and accountability, as evidenced by the absence of adverse findings in federal or state audits. The federal funding also provided a critical boost to staffing numbers, enhancing response capabilities through the acquisition of numerous federal grants. This strengthened the response infrastructure, with benefits extending beyond the pandemic. Local health districts utilized COVID funding to hire much-needed staff, many of whom have been retained.

Areas for Improvement

Observation 4.1: Inadequate funding and heavy reliance on grants during calm periods impede preparedness and sustainability efforts crucial for supporting response capabilities during incidents.

Reliance on grants for core emergency management functions risks operational capacity, as demonstrated by FEMA's 10% cut in preparedness grants this year. Essential systems like WebEOC and Crisis Track, funded by these grants, could face severe challenges if funding decreases. This dependence on fluctuating grant funding threatens the consistent maintenance of crucial emergency management capabilities.

The educational sector within the Commonwealth also faces severe financial challenges. Many school facilities require updates to meet modern health and safety standards, an issue temporarily alleviated by initial pandemic-related funding, such as the DOE's HVAC upgrade grant. However, a sustainable, long-term funding solution is essential, especially given that the state ranks 42nd in the nation for education funding. This chronic underfunding not only affects infrastructure but also leads to staffing shortages, further exacerbating the difficulties in maintaining robust emergency management capabilities.

Additionally, inconsistencies in regional and central office public health capabilities, including the state pharmacy, underscore the need for significant investment. The Medical Reserve Corps (MRC) has



been invaluable, particularly for vaccination clinics, yet only half of the MRC coordinators across the state are funded, and the reduction in the state-level team impacts the volunteer registration system.

Finally, the logistical capacity built during the COVID response is threatened by funding constraints. The creation of a central Logistics Coordination Operations Center (LCOS) significantly enhanced the Commonwealth's capacity to manage resource requests, handling up to 400 of them daily during the peak of the COVID-19 response. This year's proposed budget includes two years of funding for the continuation of this vital facility, which has now proven its worth through multiple activations. Institutionalizing this support is crucial.

Recommendations

- 4.1.1 **Establish stable and diversified funding streams.** Institute dedicated, stable funding mechanisms at the state and local levels to reduce reliance on variable grant funding. This could involve legislative efforts to secure a portion of the state budget specifically for emergency management and public health preparedness efforts.

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Judicial/Policy/Regulatory

The Judicial/Policy/Regulatory focus area examines the impact of COVID-19 on judicial systems, including court operations, case backlog management, and access to justice. It assesses the resilience and adaptability of these systems in responding to public health emergencies and the lessons learned for future preparedness. Additionally, it addresses the technology investments and infrastructure improvements needed to enhance judicial capacity, the effectiveness of remote court proceedings, virtual hearings, and electronic filings, while maintaining fairness, transparency, and due process.

Strengths

Executive orders provided flexibility, enabling temporary waivers that eased health care licensure burdens and enhanced regulation enforcement.

These orders empowered licensing boards to grant temporary practice rights to out-of-state and retired healthcare professionals in Virginia, ensuring adequate staffing levels to meet the increased demand for medical services. Additionally, DHP played a crucial role in decision-making regarding these waivers, which included leniency on licensee late fees and the suspension of continuing education requirements. Moreover, executive orders bolstered regulatory enforcement capabilities, allowing agencies like the DOLI to enforce mask mandates and other public health directives effectively. Businesses that failed to comply with these mandates could be inspected and fined, ensuring greater adherence to essential health and safety regulations.

The use of technology for some courts in the Commonwealth's judicial system enabled adaptability, streamlining processes and easing administrative burdens.

While the integration of technology was inconsistent across the Commonwealth, where it was embraced it allowed for more efficient operations, with electronic filing and the acceptance of electronic signatures, reducing the need for physical presence and paper-based processes which reduce costs and improve efficiency. Remote hearings for routine and procedural matters enabled cases to progress and helped minimize delays.

Areas for Improvement

Observation 5.1: Failure to plan for the legal and regulatory changes necessary for effective pandemic response caused delays and complications.

The absence of pre-established frameworks for swiftly adapting regulations, such as those related to public health orders, workforce protections, and emergency procurement, hindered the ability of state agencies to respond promptly to the evolving situation. One major issue was the speed at which regulatory changes were enacted. Emergency standards required legal and regulatory justification, creating a need for a balanced and expedited response, which proved challenging. The impact of executive orders on businesses in the Commonwealth highlighted complexities in authority, as seen when an order directed the adoption of safety and health regulations, raising questions about the roles of the Commissioner versus the Safety and Health Codes Board. Additionally, a significant amount of



time was spent crafting and modifying temporary waivers during the pandemic. Codifying these processes in advance would streamline the response in future emergencies, ensuring that necessary legal and regulatory adjustments can be implemented more efficiently.

Recommendations

- 5.1.1 **Develop a pre-approved legal and regulatory framework for emergencies.** Establish a comprehensive, pre-approved legal and regulatory framework that outlines specific emergency standards and processes. This framework should include pre-drafted executive orders, temporary waivers, and other necessary regulatory adjustments that can be quickly enacted during a crisis. Such a framework may consist of various levels or phases that can reflect the length, impact, and type of incident.
- 5.1.2 **Create a rapid response legal and regulatory task force.** Form a dedicated task force composed of legal, regulatory, emergency management, and public health experts to oversee and expedite the creation and implementation of necessary emergency regulations that are not previously established. This task force should be activated during emergencies to ensure that all essential legal adjustments are made promptly and can be used to deconflict questions about roles and responsibilities related to this issue.

Observation 5.2: Judicial system staff made significant efforts to maintain transparency during social distancing periods but felt there was room for improvement.

To enhance communication and ensure that the pandemic response plan was followed, local judicial authorities directed the public to their websites and prioritized judicial emergency orders. The bench book and online resources provided valuable guidance to the courts, reflecting a commitment to maintaining operational continuity and clarity. However, the shift to virtual meetings posed challenges, such as ensuring adequate participation and upholding transparency in proceedings. While the system did not directly solicit public input on solving problems or participating in the process, it provided alternative avenues for engagement through email, phone, and publicly posted information. This approach helped maintain some level of transparency and communication but indicated areas where more proactive strategies could be developed to better engage the public and address transparency concerns during such crises.

Recommendations

- 5.2.1 **Solicit input on judicial processes.** Solicit input on methods for implementing judicial processes when public participation is not possible, utilizing surveys, feedback forms, and public comment periods. Ensure that these opportunities for providing input are widely publicized and easily accessible through multiple channels.
- 5.2.2 **Enhance virtual engagement and transparency mechanisms.** Implement robust virtual engagement platforms that allow for real-time public participation and input during judicial proceedings. This should include ideas gathered during the public input process and could consist of interactive webinars, live Q&A sessions, and virtual town halls specifically designed for judicial matters.

Observation 5.3: Acceptance of technology varied across the judicial system, resulting in inconsistent use of platforms and policies among courts.

The lack of uniformity in adopting many technological advancements, such as remote hearings, electronic filing systems, electronic signatures, and online scheduling systems resulted in inefficiencies and inconsistencies across the judicial system.



Recommendations

- 5.3.1 **Review statewide technology standards and protocols.** Conduct review of available technologies, including electronic filing systems, remote hearings, electronic signatures, and online scheduling systems, to determine how their adoption may ease ongoing administrative burdens of the judicial system while enhancing transparency and participation.
- 5.3.2 **Develop and implement consistent policies and procedures to ensure uniformity and efficiency.** Establish clear guidelines for the use of technology, including electronic filing systems, remote hearings, electronic signatures, and online scheduling systems. Standardize these practices across all courts to minimize discrepancies, enhance operational efficiency, and ensure equitable access to judicial processes. Regularly review and update these policies to adapt to technological advancements and address emerging needs, ensuring that all courts operate under the same framework and standards.

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Logistics

The Logistics focus area addresses the identification of pre-existing logistics plans for procuring, storing, and distributing essential supplies, as well as the establishment of roles and responsibilities before and during the pandemic. It highlights the challenges faced in coordinating logistics during the response. By examining these aspects, the focus area aims to improve future logistical preparedness and response efforts.

Strengths

Local, regional, and state partnerships played a crucial role in achieving logistical goals.

Collaborations with Regional Health Coalitions (RHCs) allowed the use of regional warehouses alongside the central LCOS, which efficiently and effectively supported the distribution of supplies and equipment to local jurisdictions. Many RHCs owned or leased warehouse space, facilitating the housing and distribution of supplies and, in some cases, leveraging their combined purchasing power to obtain necessary items. Support agencies, with established procurement processes, were not solely reliant on the VDH Central Office but collaborated through the Virginia Emergency Support Team (VEST) for enhanced bulk purchasing power. This coordinated effort between RHCs and state purchasing power was particularly beneficial for small and rural jurisdictions, which struggled to compete in the marketplace during times of scarce resource acquisition. These partnerships ensured a more equitable and efficient distribution of critical resources across all regions.

Logistical capacity that benefits all-hazards response saw significant improvement during the pandemic.

At the onset, the Commonwealth had a solid logistics management plan, which was continuously built upon as the state undertook central acquisition and distribution for the first time, adapting policies and procedures in real-time to capture lessons learned and best practices. The creation of LCOS by VDEM greatly enhanced the State's capacity. This facility expanded to 127,000 square feet and managed up to 400 resource requests per day during COVID-19, compared to 400 requests in total during Hurricane Florence. The development and use of a burn rate calculator provided a valuable tool for understanding resource needs and enabling proactive distribution to local jurisdictions, with burn rates collected and tracked to ensure proper billing to funding streams. Lastly, standardized contracts, developed in response to Hurricane Florence, were expanded and allowed for quick reactions to supply chain disruptions.

Areas for Improvement

Observation 6.1: Resource uncertainty resulted in widespread challenges in accessing and distributing essential supplies, such as Personal Protective Equipment (PPE) and testing kits, impacting frontline workers across several sectors.

Emergency purchasing and stockpiling exacerbated supply chain disruptions, especially for PPE, as all facets of the market—public, private, and individual—rushed to secure limited resources. Local entities



struggled to project accurate burn rates for PPE, leading to excessive initial purchases and resulting in massive stockpiles that now need to be liquidated.

Recommendations

- 6.1.1 **Establish a dynamic stockpile strategy.** Design a dynamic stockpile strategy that includes maintaining flexible reserves of essential supplies and implementing regular inventory assessments. This strategy should involve periodic reviews of stockpile levels, anticipated needs, and expiration dates to ensure that reserves are appropriate and actionable. Additionally, establish protocols for rotating, redistributing, and repurposing stockpiles to prevent waste and address emerging needs effectively.
- 6.1.2 **Implement a Centralized Resource Management (CRM) system.** Develop and deploy a CRM system that tracks and forecasts demand for critical supplies such as PPE and testing kits. This system should be capable of collecting and analyzing data from various sources to anticipate needs more accurately, reduce panic buying, and streamline distribution. Information gathered during the COVID response can provide assumptions to support informed forecasting.

Observation 6.2: The Commonwealth lacked the necessary resources to support local governments and healthcare organizations.

Frontline workers, including healthcare and judicial staff, faced significant difficulties in accessing PPE and testing kits, with some agencies eventually sourcing masks from international suppliers. Despite their critical infrastructure status, a prevailing bias that private healthcare entities could manage their supplies left hospitals with little state support. Additionally, the procurement of testing kits was problematic, as state agencies were restricted to certain suppliers and specific types of tests, which were not always suitable or acceptable for the diverse populations served. For example, many individuals would not consent to a nasal swab and preferred blood tests or saliva samples, which were not able to be used. These challenges were further compounded when Executive Directive 18 mandated vaccination or testing for returning to work.

Recommendations

- 6.2.1 **Strengthen public-private partnerships.** Establish robust partnerships with both public and private sector entities to enhance resource availability and support. This includes creating policies and/or agreements with private healthcare organizations to collaborate on resource sharing and ensuring that expectations are clear for all involved parties when it comes to resources needed to maintain essential service delivery.
- 6.2.2 **Establish a flexible and inclusive procurement strategy.** Develop a procurement strategy that allows state agencies to utilize a broader range of suppliers and types of tests during emergencies. This strategy should include supplier diversity (creating a vetted list of diverse suppliers, both domestic and international, for essential supplies such as PPE and testing kits and test variety) and test variety (including a variety of testing options in state procurement contracts, such as nasal swabs, blood tests, and saliva samples, to accommodate the preferences and needs of diverse populations).





Operations

The Operations focus area addresses the coordinated strategies used during the COVID-19 response, highlighting the importance of clear communication of roles and responsibilities across multiple agencies and sectors. It also underscores the lessons learned regarding the safety of frontline workers and the need for scalable and flexible operations, including surge capacity and resource allocation.

Strengths

The thoughtful structuring of the response organization provided numerous benefits.

In the SEOC, a close working relationship between Finance, Grants, Logistics, and Procurement ensured the success of these functions by maintaining constant communication to properly track funds, document activities, and ensure expenditures were in line with allowable expenses within each grant. This also assisted with effectively managing the complexity of concurrent activations (such as determining appropriate funding sources for PPE during both civil unrest and the pandemic). Individuals with broad knowledge of functional areas and decision-making authority were placed in section chief roles. Co-locating VDH and VDEM staff in section chief positions also proved successful, despite initial challenges in defining roles and responsibilities. Additionally, the establishment of various task forces, such as those for long-term care, assisted living, and the senior policy group, allowed for focused attention on specific aspects of the response, further enhancing the operational strength of the organization.

Leadership promptly identified shortcomings and took proactive measures to address them.

When it became apparent that the new organizational structure of the VDEM, which included the use of regional divisions, had not yet reached the "norming and performing" stage, leaders took decisive action. They brought in consultant McCrystal to implement the "Team of Teams" approach, which was designed to enhance both informal and formal lines of communication across local, regional, and state levels, as well as between VDH and VEST. This proactive measure helped to streamline coordination and improve overall effectiveness in the response effort.

Active involvement with underserved communities resulted in valuable lessons learned and the establishment of new best practices.

Mobile vaccination clinics emerged as a crucial tool for reaching rural and underserved populations, providing accessibility to vaccine distribution in areas that larger efforts might overlook. These clinics, while expensive and time-consuming to coordinate, allowed health services to meet people where they were, effectively bridging gaps in access. Initial overstaffing at rural vaccination sites taught valuable lessons about the actual demand for services, leading to more accurate staffing plans that improved efficiency and service delivery.

Additionally, engaging directly with underserved populations revealed the importance of tailored communication strategies. For example, on-site verbal interpreters proved essential for effectively communicating with migrant workers who often cannot read written translations. This approach, though



successful, highlighted the need for broader implementation. The use of trusted messengers and trusted agents within communities, including health department staff and local leaders, was also instrumental in overcoming mistrust and engaging populations that were otherwise skeptical of government efforts.

Efforts to provide culturally competent, visually appealing, and multi-lingual public information proved crucial in reaching diverse populations. The Department of Medical Assistance Services (DMAS) leveraged existing communication plans and collaborated with the Department of Blind and Visually Impaired to ensure accessibility for individuals with disabilities. Coordination between DMAS and the VDH enabled targeted outreach based on zip code data, ensuring that vaccination centers were accessible to those in need. Additionally, the DOE's food hub deliveries, supported by USDA funding, helped mitigate supply chain issues for school divisions.

Support agencies established their own coordination teams at the department level to manage the response.

The establishment of department-level coordination teams has been known to enhance efficiency and effectiveness by allowing for specialized focus on each department's unique needs, improving internal communication and coordination, and increasing flexibility and responsiveness to evolving situations. Additionally, having dedicated teams at the department level strengthens accountability and oversight, facilitating decision-making, clearer tracking of performance, and quicker resolution of issues.

Using contractors alleviated the burden on state staff and enhanced operational capacity and effectiveness.

For instance, employing a contractor to manage the call center dramatically increased the volume of calls handled, from 2,000 to 22,000, thereby improving the responsiveness and accessibility of information for the public. Additionally, contracting out the operation of community vaccination centers allowed state and local staff to focus on other critical tasks, effectively managing the high volume of vaccine distribution without overwhelming existing personnel. These strategic contractor engagements enabled a more efficient and scalable response, ensuring that essential services could be delivered promptly and effectively while minimizing strain on state resources.

Areas for Improvement

Observation 7.1: A lack of understanding of National Incident Management System (NIMS) principles, including the role of the Emergency Operations Center (EOC), the use of the Incident Command System (ICS), and resource management negatively impacted response operations.

Some agency heads exhibited a limited understanding of incident command, resulting in the absence of a cohesive incident command structure. This gap left these agencies to operate independently, hindering effective cross-collaboration and exacerbating delays. Additionally, many state agencies and partners lacked clarity on the role of the VEST, leading to territorial disputes and reduced collaboration when the EOC was activated. This confusion was compounded using a U.S. Forest Service Incident Management Team (IMT) that struggled with the role of the EOC in the ICS framework, further complicating coordination efforts. Moreover, some members of the Secretariat were overly involved in operational tasks rather than focusing on policy and strategic oversight, while an increased staffing footprint made it difficult to track roles and responsibilities, especially with the introduction of contractors.



Recommendations

- 7.1.1 **Conduct comprehensive NIMS and ICS training.** Implement mandatory, comprehensive training programs for all policymakers, agency heads, and key personnel on NIMS principles, the ICS, and the role of the EOC. These training sessions should cover the fundamentals of incident command, resource management, and the specific responsibilities and interactions of various roles within the EOC. Regular refresher courses should be included to ensure ongoing familiarity and effectiveness.
- 7.1.2 **Establish clear role definitions.** Develop and distribute clear documentation outlining the roles and responsibilities of all policymakers, agency heads, and key personnel within the ICS framework. Ensure that all participants understand the purpose and functions of the VEST and the EOC. This documentation should include protocols for communication, decision-making, and collaboration to prevent territorial disputes and improve overall coordination.
- 7.1.3 **Enhance tracking and resource management systems.** Implement robust systems for tracking roles, responsibilities, and resource allocation during emergencies. These systems should be capable of integrating information from multiple sources, including contractors and temporary staff, to provide real-time updates on operational status. Improved tracking will help manage the increased staffing footprint and ensure that everyone's responsibilities are clearly defined and monitored.

Observation 7.2: The pandemic response placed a significant strain on personnel resources.

Many VEST supporting agencies faced limitations due to lean staffing numbers, which restricted their ability to provide substantial support during this long-term event. Additionally, the administrative burden on individual agencies was overwhelming; for example, staff trained in epidemiology had to divert their attention to administrative tasks, such as managing contracts for over 1500 temporary contact tracing staff from 15 different staffing agencies, which could have been handled more efficiently with centralized coordination. Staffing shortages significantly impacted the ability to deliver necessary support, underscoring the need for clear guidance on managing capacity issues. Moreover, relying on a single team within the VEST led to burnout, as the team members were overextended and took on multiple responsibilities. Finally, the need for more specialized personnel became evident as the response progressed, particularly in managing the complex nature of occupational safety and health law.

Recommendations

- 7.2.1 **Centralize administrative tasks.** Establish a centralized administrative support team to handle non-technical tasks such as managing contracts and logistics for temporary staff. This would allow specialized personnel, like epidemiologists, to focus on their core responsibilities, improving efficiency and effectiveness.
- 7.2.2 **Implement rotational staffing.** Develop a rotational staffing plan for VEST personnel to ensure that personnel are not overextended. This plan should include regular shifts, mandatory rest periods, and cross-training to enable staff to take on multiple roles, ensuring continuity while preventing burnout.
- 7.2.3 **Expand and diversify the staffing pool.** Create a robust staffing strategy that includes recruiting and training additional specialized personnel in key areas such as occupational safety, health law, and mental health services. This can be achieved through partnerships with academic institutions, professional associations, and temporary staffing agencies to build a larger, more diverse pool of qualified individuals ready to respond during emergencies.





Planning

The Planning focus area integrates insights from the COVID-19 response, emphasizing the importance of preexisting pandemic preparedness plans and the inclusion of vulnerable populations. Future initiatives will prioritize equity and inclusivity, ensuring comprehensive support for all community segments.

Strengths

Lessons learned from prior responses enhanced preparedness initiatives, positively impacting the COVID-19 response and subsequent emergencies.

The COVID-19 pandemic response was significantly strengthened by lessons learned from previous statewide response experiences, including hurricanes, the H1N1 outbreak, annual flu clinics, and pandemic exercises. These past experiences highlighted the importance of robust preparedness initiatives, which were then applied effectively during the COVID-19 crisis. For instance, the procurement and logistical challenges faced during Hurricane Florence informed better coordination and resource allocation, ensuring quicker deployment of supplies and personnel during the pandemic. Additionally, the routine operations of annual flu clinics provided a blueprint for mass vaccination efforts, while insights gained from pandemic exercises resulted in updated pandemic plans. Collectively, these lessons enhanced the overall preparedness, resulting in a more agile and effective response to the unprecedented demands of the COVID-19 pandemic. Insights gained from the COVID-19 response have, in turn, further enhanced readiness for future responses, resulting in updated processes, plans, and training.

Partnerships were crucial in achieving positive outcomes, and these were often strengthened through response.

Partnerships played a pivotal role in the Commonwealth's response to COVID-19 and many of those relationships forged during the pandemic have continued to be proven invaluable in addressing other public health challenges across the Commonwealth. Hospitals, traditionally competitors, came together in a united front, focusing on shared goals rather than rivalry. Hospital workgroups have been established around topics such as workplace violence and to respond to other emerging threats, such as Monkeypox. Another example is the unique circumstances surrounding the handling of COVID-19 deaths, which fostered closer connections between funeral providers and local emergency management coordinators, enhancing coordination during subsequent emergencies.

Efforts to coordinate multi-agency and multi-sectoral responses were crucial, with local courts working closely with individual sheriffs to navigate the differences in courthouse configurations. Public-Private Partnerships were instrumental in recovering from supply chain disruptions, particularly in securing essential PPE. The VDH and its support agencies, such as the Department of Behavioral Health and Developmental Services (DBHDS), successfully leveraged community partnerships to bolster vaccination efforts, especially for vulnerable populations. A notable example was the grassroots collaboration with community pharmacists to vaccinate individuals with developmental disabilities, where community partners served as the subject matter experts, providing critical support tailored to



the unique needs of their communities. These strengthened partnerships have continued to be a vital asset in public health responses across the Commonwealth.

Areas for Improvement

Observation 8.1: Existing agency or pandemic plans were insufficient in their scope and approach to the COVID-19 pandemic.

The COVID-19 pandemic revealed significant limitations in the existing pandemic and emergency operations plans across agencies as they were not designed to handle the scale, persistence, and complexity of the COVID-19 pandemic. While the plans provided a starting point for managing emergency situations, they were insufficiently equipped to address the extensive and evolving demands of a global health crisis. The pandemic's magnitude—characterized by widespread illness, overwhelming healthcare systems, and prolonged disruptions to daily life—was beyond the scope of the plans' original design. Additionally, existing plans generally lacked a focus on inclusivity, particularly concerning vulnerable populations such as residents in state residential facilities. These groups faced unique challenges during the pandemic, including heightened health risks and limited access to resources.

Despite these shortcomings, the existing pandemic and emergency operations plans offered a foundational structure that could be adapted and expanded upon to address the specific challenges posed by COVID-19. Agencies were able to use these plans as a starting point for developing more targeted responses and strategies, learning from initial shortcomings to improve their approach as the pandemic evolved.

Recommendations

- 8.1.1 **Review and update pandemic and emergency operations plans.** Conduct comprehensive review and revision of all agency pandemic and emergency operations plans to ensure they are equipped to handle the scale and complexity of future global health crises. This includes incorporating lessons learned such as flexible, scalable strategies that can adapt to prolonged disruptions and widespread impacts, ensuring that plans are robust enough to manage extensive and evolving demands.
- 8.1.2 **Integrate inclusivity and support for vulnerable populations.** Ensure integration of diverse stakeholders into plan updates to address the needs of vulnerable populations. This includes ensuring access to essential resources, healthcare, and tailored support during a crisis, with a focus on inclusivity and equitable treatment.
- 8.1.3 **Prioritize continuous plan evaluation.** Implement a continuous evaluation and adaptation process for all emergency operations plans, enabling agencies to regularly assess their effectiveness and make necessary adjustments based on lessons learned from ongoing or past crises. This proactive approach will help ensure that plans remain relevant, responsive, and capable of addressing emerging challenges.

Observation 8.2: A lack of interagency preparedness and response coordination hindered response operations.

The COVID-19 pandemic revealed several shortcomings in interagency preparedness and response coordination, which hindered the effectiveness of operations. Key issues included misalignment between public health and emergency management regions, leading to confusion and inefficiencies. Existing pandemic and operational plans were not widely shared across agencies, resulting in a



disjointed response as agencies worked in silos, especially early in the response. Existing programs and regional healthcare coalitions were underutilized due to unclear roles and capabilities. Additionally, key partners and vulnerable populations were not involved early enough in the planning process, leading to further challenges in managing the crisis effectively for those most affected by the virus.

Recommendations

- 8.2.1 **Review alignment of emergency management and public health regions.** Conduct comprehensive review of the current alignment between emergency management regions and public health regions. This review should assess potential overlaps, gaps, and misalignments that could hinder coordinated response efforts. Explore opportunities for better alignment or integration of these regions to ensure more cohesive and efficient collaboration during emergencies, ultimately enhancing the effectiveness of statewide response operations.
- 8.2.2 **Integration of key internal and external partners.** Identify partners' resources, expertise, and potential contributions to response efforts. Understanding these capabilities will help ensure that roles are clearly defined and that partners are effectively integrated into the overall emergency response strategy, enhancing coordination and operational efficiency during emergencies.

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Public Health / Local Health Districts

The Public Health / Local Health Districts focus area examines the efficacy and coordination of public health plans and protocols for disease surveillance, contact tracing, and vaccine distribution. It addresses the challenges in scaling up testing and contact tracing capacity, as well as the effectiveness of public health campaigns and community outreach. Additionally, it explores coordination with healthcare providers, logistical challenges in vaccine distribution, and issues related to vaccine hesitancy.

Strengths

Pre-existing relationships facilitated the collection of data and distribution of resources to healthcare facilities.

The utilization of the Virginia Hospital & Healthcare Association (VHHA), the state-contracted administrator of the Administration for Strategic Preparedness & Response Hospital Preparedness Program grant, provided an established avenue for data collection and resource coordination across the healthcare sector through a trusted source. Utilization of the VHHA's data collection system allowed for swift adjustments when data collection needs evolved. This centralized approach ensured consistency and standardization, enabling greater situational awareness during the pandemic. The ability to leverage the existing and ongoing relationships that the VHHA had with the hospitals across the Commonwealth provided flexibility and additional support to the entire healthcare system, including resource coordination and existing open communication channels.

The establishment of the VA Disaster Medical Advisory Committee, comprised of health and medical representatives, provided policy guidance and recommendations to executive leadership around scarce resources and crisis standards of care.

By providing policy guidance and recommendations to executive leadership on scarce resources and crisis standards of care, the multidisciplinary committee enhanced the healthcare system's ability to respond effectively and ethically during the pandemic. This structure ensured that critical decisions were grounded in expert knowledge and a multidisciplinary approach, strengthening overall resilience and the capacity to provide responsible and effective care while maintaining public trust in challenging circumstances.

Areas for Improvement

Observation 9.1: Decentralization of public health authority led to inconsistent guidance and enforcement across the Commonwealth.

The decentralization of the public health regions across the Commonwealth, each with varying capabilities and capacities, responded unevenly to the COVID-19 pandemic. This fragmentation not only created confusion but also resulted in conflicting guidance and disparities in the effectiveness of measures implemented. This impacted facilities across the healthcare system, including acute care hospitals, long term care facilities, and other residential care facilities.



Recommendations

- 9.1.1 **Review current structure of public health in the Commonwealth.** Conduct a thorough review of the current public health structure across the Commonwealth to assess its effectiveness and relevance in light of recent challenges and evolving needs. This review should evaluate whether the existing structure adequately supports coordinated response efforts, integrates new health demands, and aligns with best practices.
- 9.1.2 **Enhance regional coordination and support.** Establish mechanisms to improve coordination and support among decentralized public health regions. This could include regular inter-regional meetings, shared resources, and centralized training programs to align regional responses with statewide objectives.
- 9.1.3 **Centralize public health guidance and oversight during emergencies.** Centralizing public health guidance and oversight under VDH during state- or national-declared public health emergencies would ensure that all regions adhere to uniform protocols, enhancing coordination and reducing inconsistencies in response measures. This centralizing oversight allows for the swift dissemination of updated guidelines, efficient allocation of resources, and a unified strategy that can more effectively address statewide challenges, minimizing confusion, ensuring equitable enforcement of policies, and improving the overall effectiveness of the public health response.

Observation 9.2: Differences of opinion on vaccination distribution, both in policy and operations, led to conflict and hindered efficient implementation.

A combination of unclear policies, administrative delays, data collection challenges, and logistical friction collectively hindered the efficient implementation of vaccination efforts, exacerbating tensions and slowing overall response efforts in the early days. As the Commonwealth rolled out the vaccination efforts in early 2021, there was a lack of a clear and consistent definition of “front line staff” to be prioritized to receive the vaccine and be provided scarce PPE. This lack of consistent definition created different interpretations and inconsistencies across regions. The decision to prioritize vaccination based on occupation and underlying health conditions introduced additional complexity as the Commonwealth struggled to collect accurate data to determine who fell into these priority groups. As the Commonwealth came under scrutiny for reporting low vaccination rates, there was a tension created, with debates over whether to vaccinate large numbers of people quickly in central locations or to ensure equitable access across diverse communities.

Recommendations

- 9.2.1 **Inclusion of vaccination policies and definitions in pandemic plans.** Establish vaccination policies within state pandemic plans with provisions for review and adaptation upon plan activation, and during the response, based on the nature of the virus to be eradicated. Policies should address the designation of priority groups such as “front line staff” and those with underlying health conditions.
- 9.2.2 **Enhance data collection and coordination for vaccine distribution.** Invest in robust data collection systems and streamline coordination processes to accurately identify and track individuals within priority groups. This includes addressing data collection challenges and improving communication between agencies involved in vaccination efforts to ensure timely and equitable distribution of vaccines.



Observation 9.3: Key external partners were integrated into response late, resulting in redundancy, confusion, and frustration for healthcare partners.

A key pre-established relationship between the VHHA and the Commonwealth's hospitals was not utilized at the onset of the response, leading to redundancy, confusion, and frustration among healthcare partners. The delayed coordination hindered the efficiency of the response, as overlapping efforts and miscommunication strained resources and relationships. Incorporating external partners earlier in the process would likely have enhanced collaboration, streamlined operations, and ensured a more effective and unified approach to managing crises with the hospital across the Commonwealth.

Recommendations

- 9.3.1 **Incorporate external partners early in the response planning.** Integrate key external partners, such as the VHHA, regional healthcare coalitions, healthcare organizations and support agencies, into the emergency response planning process from the outset. This early involvement will facilitate better coordination, reduce redundancy, and minimize confusion, leading to more efficient and effective crisis management.
- 9.3.2 **Establish clear communication channels and protocols.** Develop and implement clear communication channels and protocols for engaging external partners during emergencies. This will ensure timely information sharing, reduce miscommunication, and streamline collaborative efforts, enhancing overall response efficiency and reducing frustration among partners.
- 9.3.3 **Strengthen and formalize partnerships before crises.** Establish and formalize relationships with key external partners prior to emergencies, including regular coordination meetings and joint planning, training, and exercises.

Observation 9.4: The existing data gathering systems for healthcare lacked cohesion due to the changing information needs of multiple stakeholders and the utilization of multiple reporting tools.

The existing data gathering systems for healthcare during the COVID-19 pandemic were characterized by a lack of cohesion, driven by the changing information needs of multiple stakeholders and the use of various reporting tools. The absence of a standardized set of essential elements of information, frequent changes in data requirements, and the delayed involvement of partners such as the VHHA which houses the data collection system that hospitals and VHA used prior to the pandemic across the Commonwealth all contributed to a fragmented and inefficient data collection process. Additionally, the inexperience of many healthcare facilities, including long-term care and assisted living facilities in regular data reporting further exacerbated these challenges.

Recommendations

- 9.4.1 **Establish standardized data collection framework.** Develop a standardized data collection framework for healthcare and other external partners, including local emergency management, involved in emergency responses that integrates essential elements of information across all reporting tools and stakeholders. This framework should establish consistent data requirements, streamline reporting processes, and provide clear guidelines to ensure cohesive and efficient data gathering and analysis during emergencies. Prioritize the integration of existing data collection systems and establish robust coordination mechanisms among all relevant partners, including those responsible for housing and managing data systems.
- 9.4.2 **Provide training and support for data reporting.** Conduct training and support to healthcare and other external partners to improve their data reporting capabilities. This support should focus on familiarizing these partners with standardized reporting requirements and tools, helping to ensure consistent and accurate data submission across the Commonwealth during emergencies.





Public-Private Partnerships

The Public-Private Partnerships focus area explores the utilization and key roles of them in addressing the pandemic. It highlights the main challenges in establishing and maintaining these partnerships and emphasizes the importance of ongoing collaboration between the public and private sectors for future preparedness. Additionally, it includes engagement with both non-profit and for-profit organizations to enhance response efforts.

Strengths

Public-private partnerships were crucial for a successful response and significantly contributed to supply chain and vaccination operations.

Public-private partnerships (PPPs) played a critical role in mitigating supply chain disruptions, especially for essential items such as personal protective equipment (PPE). Examples include distilleries shifting operations to produce hand sanitizer, and other textile manufacturing producing face masks. In addition, PPPs were instrumental in the vaccination efforts. The Commonwealth partnered with local pharmacies and healthcare providers for their expertise, proximity, and community knowledge to reach vulnerable populations. By leveraging private sector pharmacies, vaccines were made more accessible to communities, reducing the spread of the virus.

Areas for Improvement

Interviews did not yield areas for improvement for this focus area.





Technology

The Technology focus area encompasses critical technology topics such as the use of data analytics and modeling to inform decision-making and resource allocation. It also explores improvements in leveraging data for future public health purposes, ensuring more effective responses. Additionally, it addresses the scalability, sustainability, and resilience of the technology infrastructure used in public health emergencies.

Strengths

Technology was leveraged to provide data and data analytics that supported informed decision-making.

Data was collected across state agencies and key external partners to inform decision-makers on the ongoing impact of the pandemic across the Commonwealth. A significant strength of the Commonwealth's COVID-19 response was the effective use of technology to collect and analyze the data that supported informed decision-making. By leveraging advanced technological tools such as the modeling program from the University of Virginia, decision-makers were able to access real-time information, track trends, and forecast outcomes from Virginia and across the country, enabling more accurate and timely interventions. This strategic use of data not only enhanced the ability to respond to the evolving situation but also helped to allocate resources more efficiently and prioritize actions based on evidence, ultimately contributing to a more effective and coordinated public health response.

Employing technology enabled agencies and organizations to maintain operational continuity while adhering to social distancing measures.

A notable strength of the Commonwealth's COVID-19 response was the successful use of technology to enable educational facilities, state agencies, and key organizations to maintain operational continuity while adhering to social distancing measures. By adopting digital tools for remote work, virtual meetings, and online collaboration, entities were able to continue essential functions without compromising public health. This technological adaptability not only ensured the ongoing delivery of services but also demonstrated resilience and innovation in overcoming the challenges posed by the pandemic. Highlighted examples include local school divisions developing innovative solutions to facilitate student learning, health and human services agencies with client requiring face-to-face interventions, and the use of remote hearings and proceedings for the judicial system.

The transition to virtual communications and coordination yielded numerous benefits that can continue to make positive contributions beyond the pandemic.

Teleconferencing, virtual conferencing/meeting platforms, and other remote collaboration tools have led to significant efficiencies and cost savings, while enabling broader reach and more inclusive access to services and public engagement. Multiple interviewees highlighted the use of technology allowed for greater transparency and engagement for many state agencies' services. For example, the shift from in-person to virtual school (for schooling, events, and meetings) allowed more families and caretakers to participate, fostering greater involvement in students' activities. Additionally, these virtual platforms



have enhanced inclusivity for persons with disabilities, making it easier for them to engage with various services and events. These positive outcomes demonstrate the lasting value of virtual communication technologies in enhancing accessibility, efficiency, and community involvement.

Areas for Improvement

Observation 10.1: Inequities arose due to disparities in access to technology, such as broadband connectivity

There are still a number of communities and residents in the Commonwealth who do not have access to reliable, low-cost, high speed, broadband access, although this is improving with federal grants recently secured. While the transition to virtual services has been noted as beneficial in many ways, innovative, but not sustainable solutions, needed to be employed, such as temporary solar-powered mobile hot spots in strategic locations in the communities, to assist during those living in areas without widespread broadband connectivity. Technology was seen as helpful in facilitating remote participation in educational and government services purposes, but also posed challenges related to accessibility, especially for populations with limited access to broadband or digital devices.

Recommendations

- 10.1.1 **Expand and sustain broadband infrastructure investments.** Prioritize the expansion of reliable, high-speed broadband infrastructure, especially in underserved and rural areas. This includes continuing to leverage federal grants and funding to accelerate deployment and ensuring that investments are made in sustainable solutions that address long-term connectivity needs, reducing disparities in access to technology.
- 10.1.2 **Consider implementing technology access programs.** Research the feasibility of establishing programs to provide equitable access to digital devices and internet services for underserved populations. This could include initiatives such as subsidized internet plans, technology lending libraries, and targeted outreach to ensure that all residents can benefit from virtual services and digital resources.
- 10.1.3 **Support innovative connectivity solutions for immediate needs.** Integrate innovative solutions to address technology gaps during emergencies, such as strategically placing mobile hotspots in areas with poor connectivity, into emergency plans, to bridge digital divides and ensure effective communication and coordination during emergencies.

Observation 10.2: The implementation of technology to facilitate social distancing resulted in certain challenges.

To maintain continuity of services during periods of social distancing for health and safety, technology was utilized extensively. Although this approach proved beneficial, it also presented challenges for sectors such as education, the judicial system, and regulatory boards.

Instructional staff faced a steep learning curve due to a lack of prior experience in delivering instruction in this format. Student engagement proved challenging, particularly because students were not physically present during instruction. Meeting instructional objectives, especially in early literacy, presented significant difficulties.

Remote voting for regulatory boards and other elected boards during the COVID-19 pandemic contributed to a sense of distrust among stakeholders. The shift from traditional in-person voting to virtual platforms raised concerns about transparency, security, and the integrity of the decision-making process, despite measures taken to ensure accountability such as requiring members to be on camera and not allowing proxy voting.



Recommendations

- 10.2.1 **Develop comprehensive technology training and support programs.** Provide training and support programs for sectors such as education, the judicial system, and regulatory boards to ensure effective use of technology during emergencies. This training should address the transition to virtual formats, enhance digital literacy, and provide ongoing technical support to address challenges related to remote instruction and virtual meetings, ensuring continuity of services while maintaining high standards of engagement and effectiveness.
- 10.2.2 **Enhance digital infrastructure and access during emergencies.** Invest in strengthening digital infrastructure and ensuring equitable access to technology for all sectors during emergencies. This includes expanding broadband connectivity, providing necessary digital tools and resources, and creating contingency plans to address technology-related challenges that arise during emergencies, ensuring that all sectors can effectively maintain operations and service continuity.
- 10.2.3 **Establish consistent protocols for remote voting and decision-making.** Develop and comprehensive protocols for remote voting and decision-making processes for public-facing boards and other elected bodies to enhance transparency and trust. These protocols should include secure and verifiable systems for remote voting, clear guidelines for ensuring integrity, and mechanisms for stakeholder oversight to address concerns about transparency and security during virtual meetings and decision-making.

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Volunteer and Donation Coordination

The Volunteer and Donation Coordination focus area explores the recruitment, training, and utilization of volunteers in the COVID-19 response, emphasizing their critical role. It also addresses coordination with local non-profits and community organizations, focusing on the impact of donated goods and services. Additionally, it examines the effectiveness and equity of systems for accepting, organizing, and distributing these resources across the entire Commonwealth.

Strengths

Interviews did not yield strengths for this focus area.

Areas for Improvement

Observation 11.1: Before the vaccine was available, it was difficult to obtain volunteer support due to concerns about contracting the virus.

The virus posed a significant risk to everyone, but particularly to older individuals, who are more vulnerable to severe outcomes. This was a concern as many potential volunteers were retirees, who generally had more time to contribute but also fell into the higher-risk category. The fear of exposure and the potential health consequences for themselves or their loved ones made many retirees hesitant to engage in volunteer activities. This reluctance was compounded by the uncertainty and high transmission rates associated with the virus, leading to a notable decline in volunteer participation during a critical time when additional support was urgently needed.

Recommendations

- 11.1.1 **Provide comprehensive health and safety training.** Offer thorough health and safety training for volunteers, including proper use of PPE, hygiene practices, and safe interaction protocols. This training should aim to build confidence in volunteers by ensuring they understand how to protect themselves and others effectively.
- 11.1.2 **Establish a health monitoring and support system.** Create a health monitoring system for volunteers that includes regular health screenings, access to disease testing, and mental health support services. Providing volunteers with health support and monitoring can alleviate fears and ensure early detection and management of potential health issues.
- 11.1.3 **Engage a more diverse demographic.** Target and recruit younger demographics, such as college students and young professionals, who may be less vulnerable to severe outcomes from a public health threat. Collaborate with educational institutions and professional organizations to mobilize these groups effectively.



Appendices

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Appendix A: Survey Results

The following is a summary of findings derived from the stakeholder survey. To ensure the anonymity of the respondents, questions and responses with identifying information are not included. Responses have been edited for grammar, spelling, and clarity. 753 responses were submitted during the survey period. To ensure the accuracy of the data analysis, only the 433 responses from individuals who confirmed their active engagement in the Commonwealth’s response during the period covered by this report.

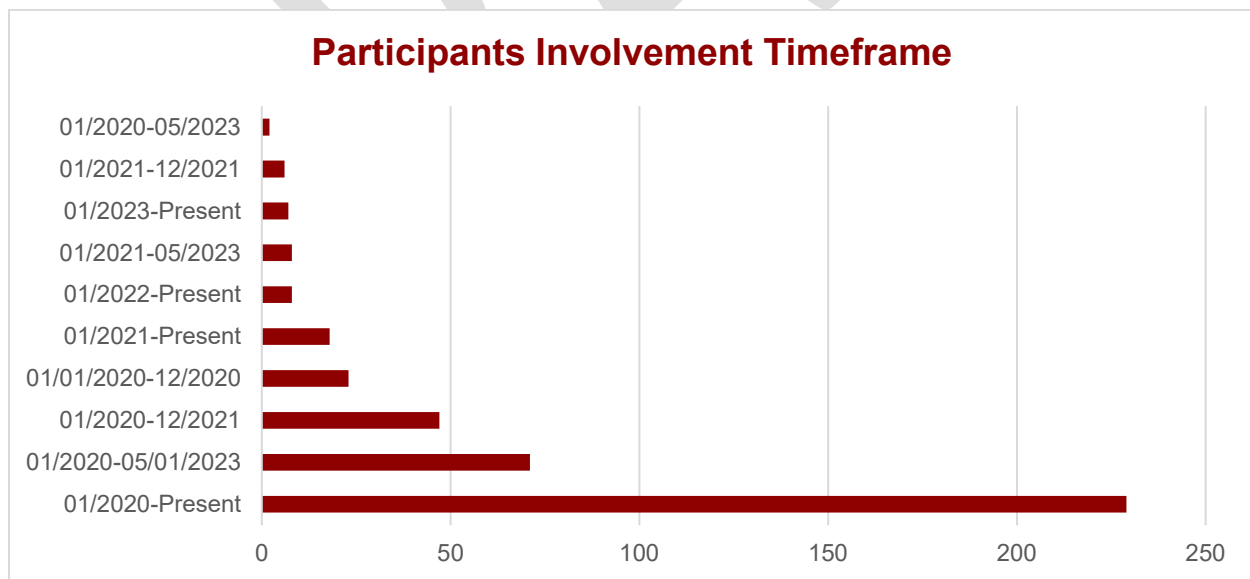
Survey introduction: You are invited to participate in a survey to inform the Commonwealth of Virginia’s COVID-19 After Action Report / Improvement Plan (AAR). This AAR is intended to document strengths, best practices, and areas for improvement associated with the response to COVID-19 during the State of Emergency (January 2020 – May 2023).

Participants are encouraged to consider the broader *statewide* response to COVID-19, rather than one individual agency’s response actions or performance when responding to the survey questions.

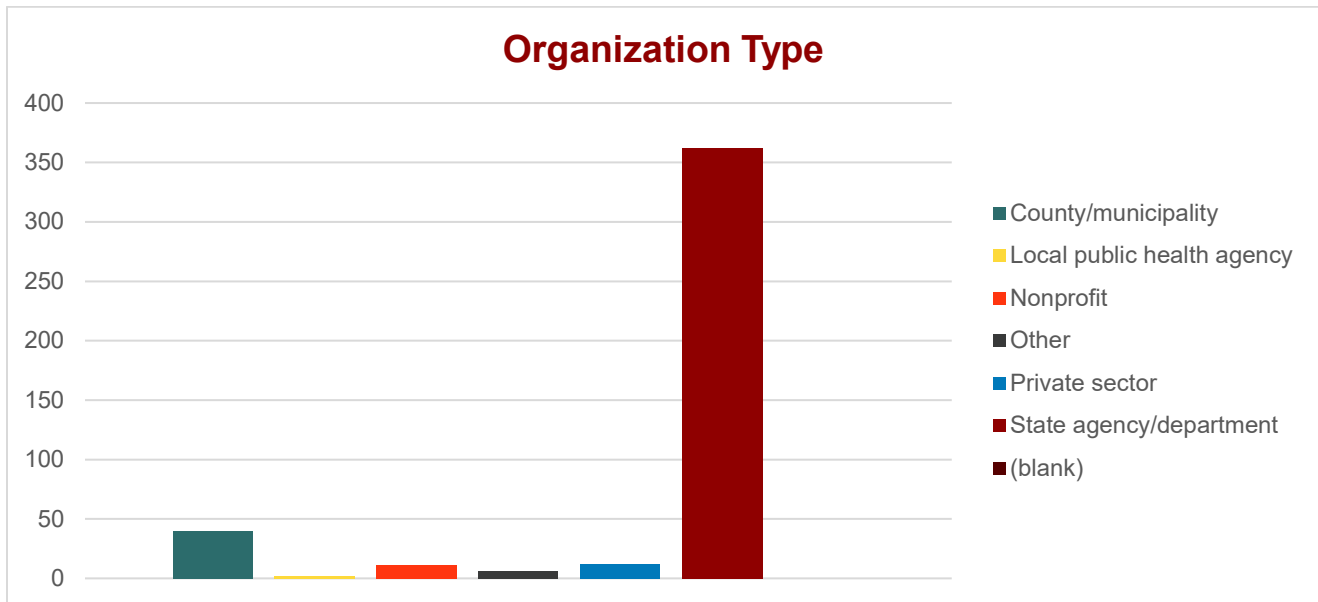
Participation in this survey is voluntary. All survey responses will be reviewed by Tidal Basin, LLC, an emergency management consulting firm hired by the Commonwealth to develop the AAR. The responses provided in this survey may be presented as quotes or aggregate data in the final AAR; all efforts will be made to anonymize feedback. (Estimated time for completion: 10-30 minutes)

Demographic Questions

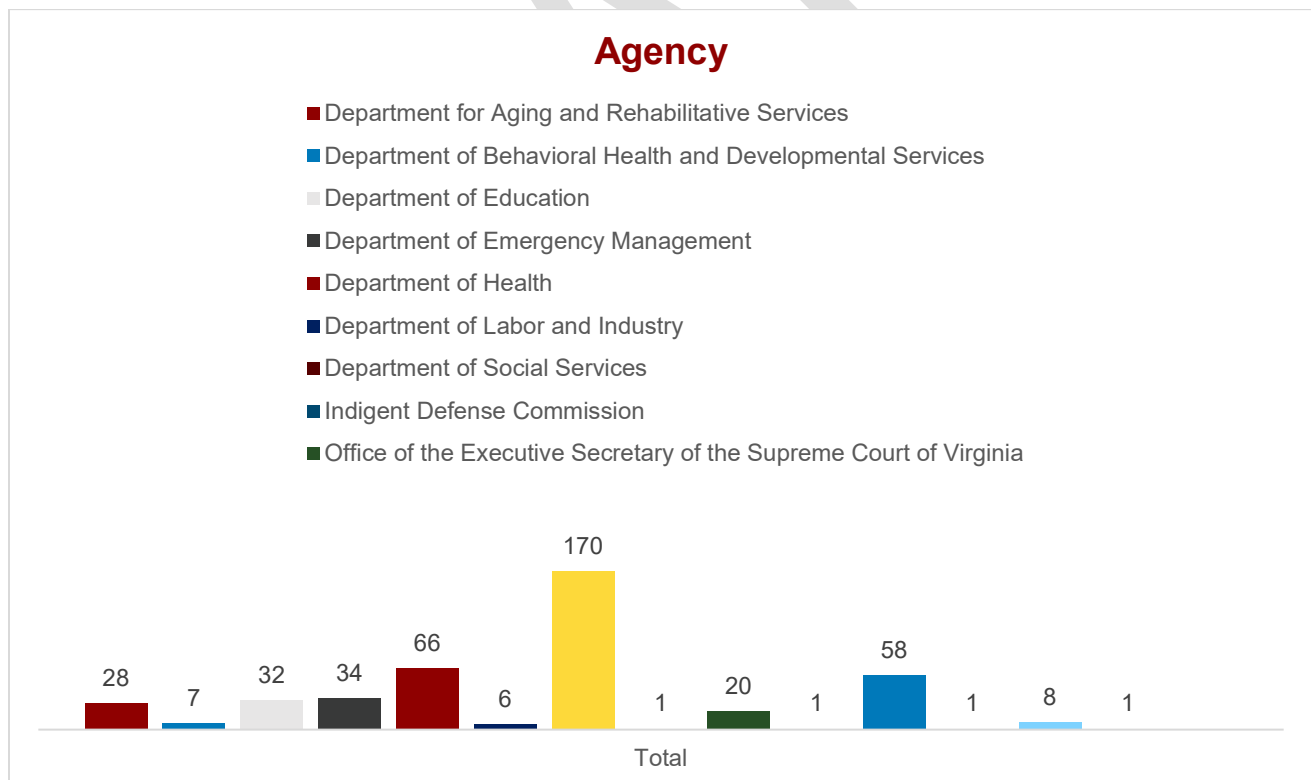
- Please select the timeframe(s) when you were involved in the Commonwealth’s response to COVID-19.



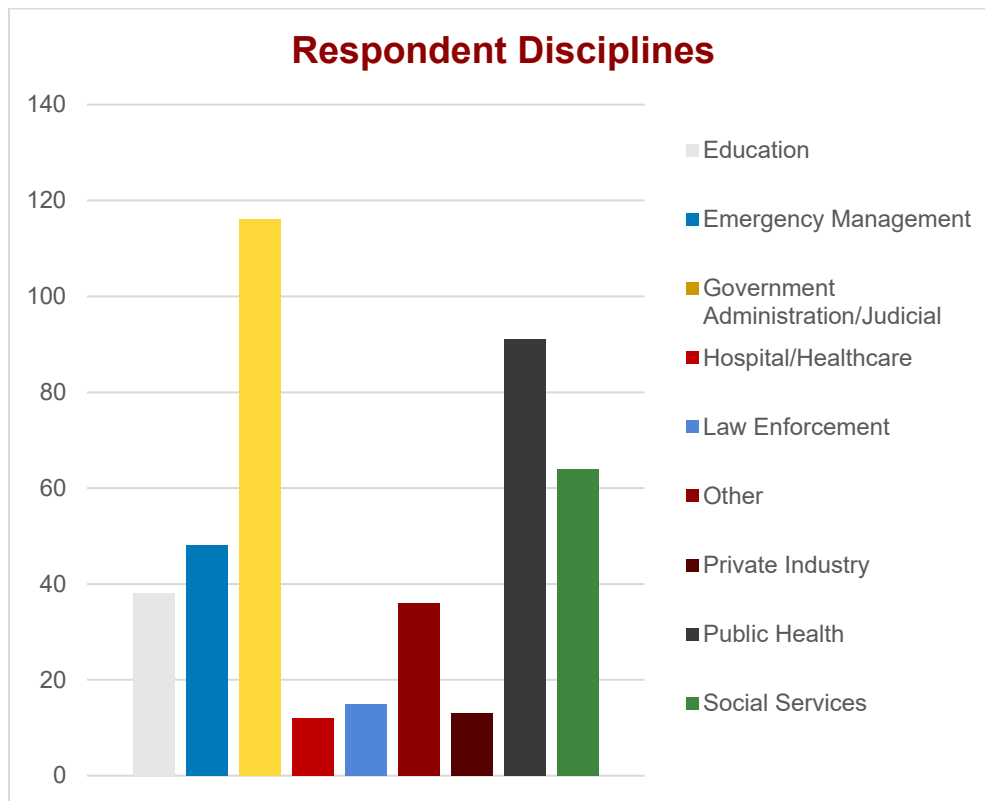
- Which of the following best describes your organization that you were a part of during the response?



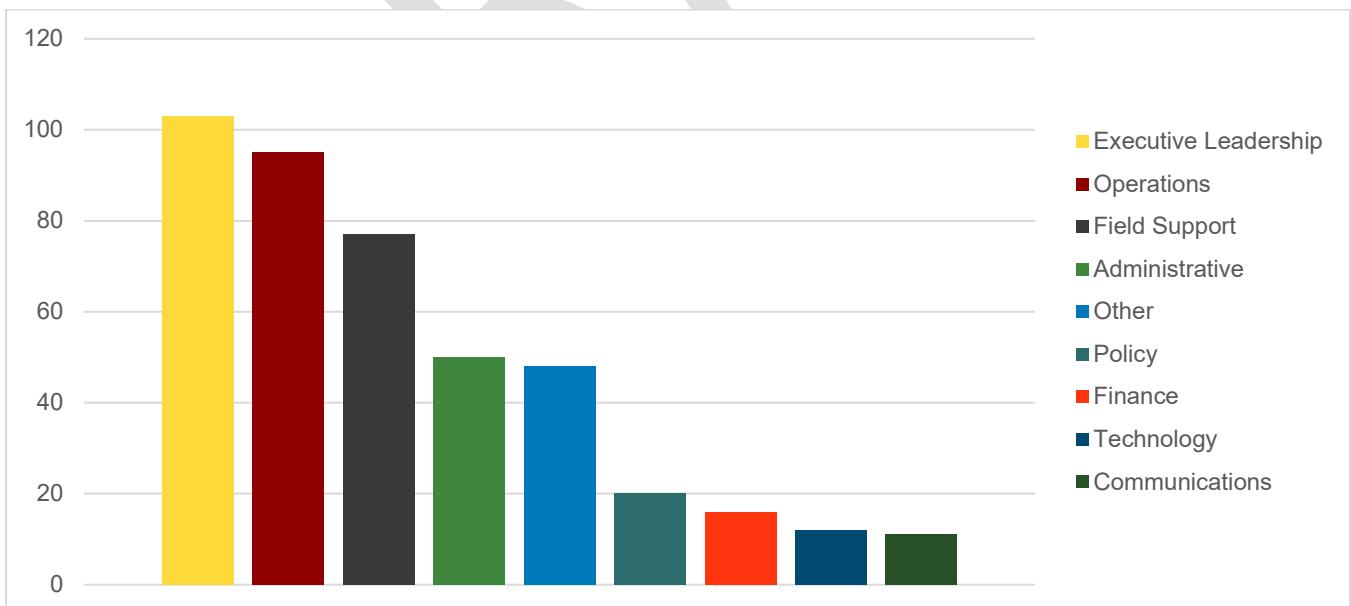
- What agency or department did you primarily work for during the COVID-19 response?



- Which of the following best describes the discipline you are affiliated with?



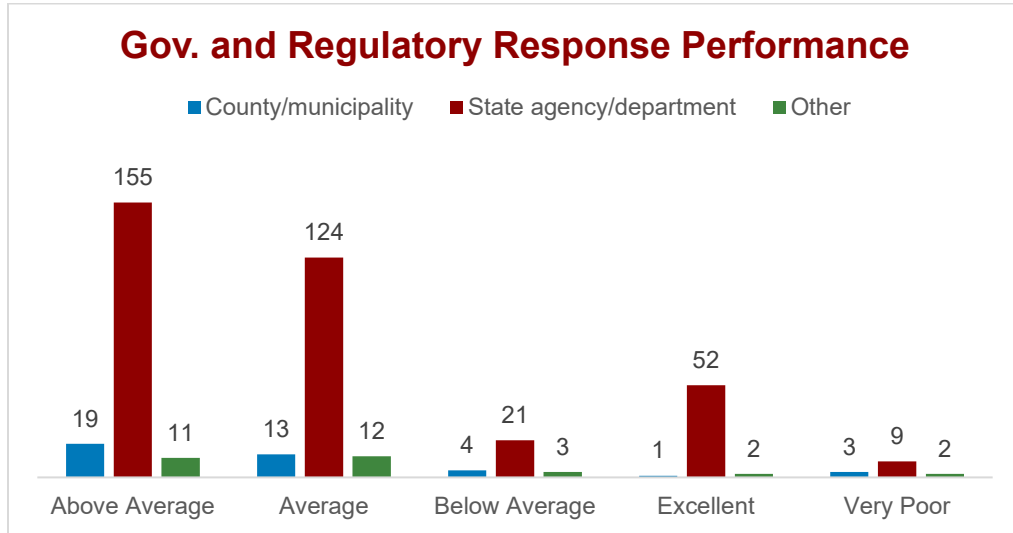
- What role(s) best reflect your responsibilities during the response?



Response Questions

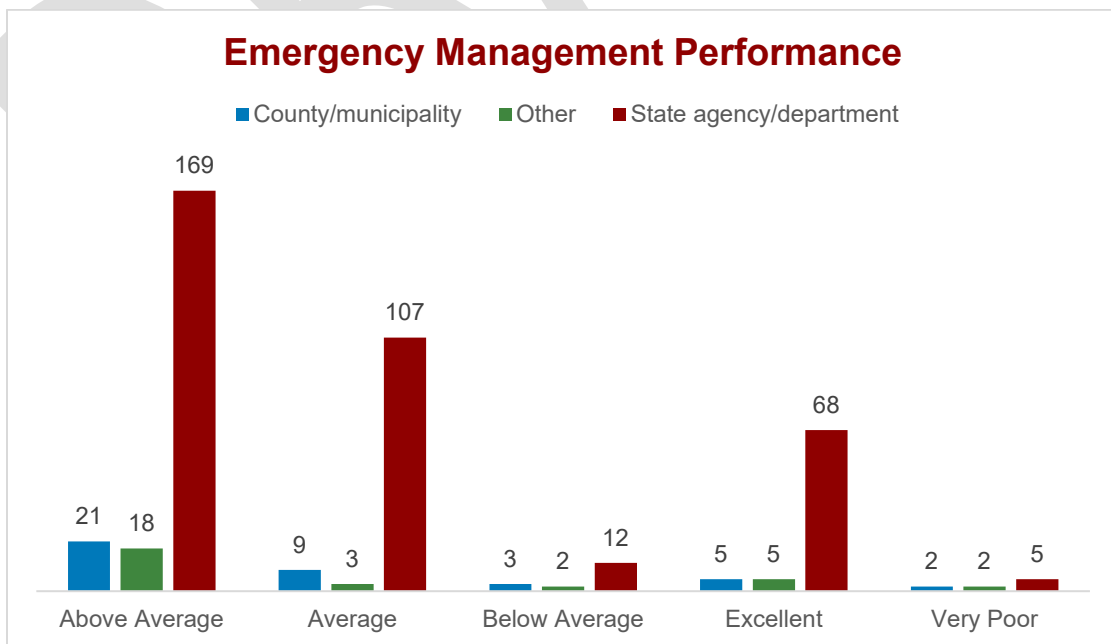
- Rate the overall adequacy, resiliency, and performance of government and regulatory systems during the COVID-19 response

For example: General assembly, local government, judicial system, business regulatory system, etc.



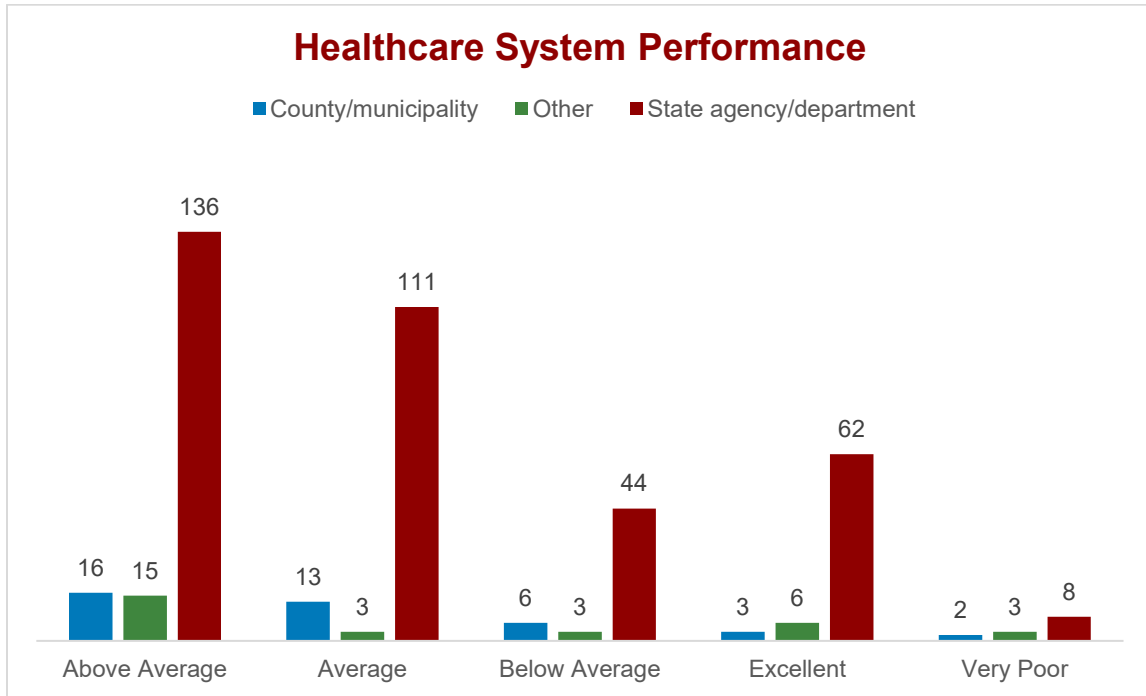
- Rate the overall adequacy, resiliency, and performance of emergency management during the COVID-19 response.

For example: State emergency management agencies, local emergency management agencies, law enforcements and public safety agencies, etc.



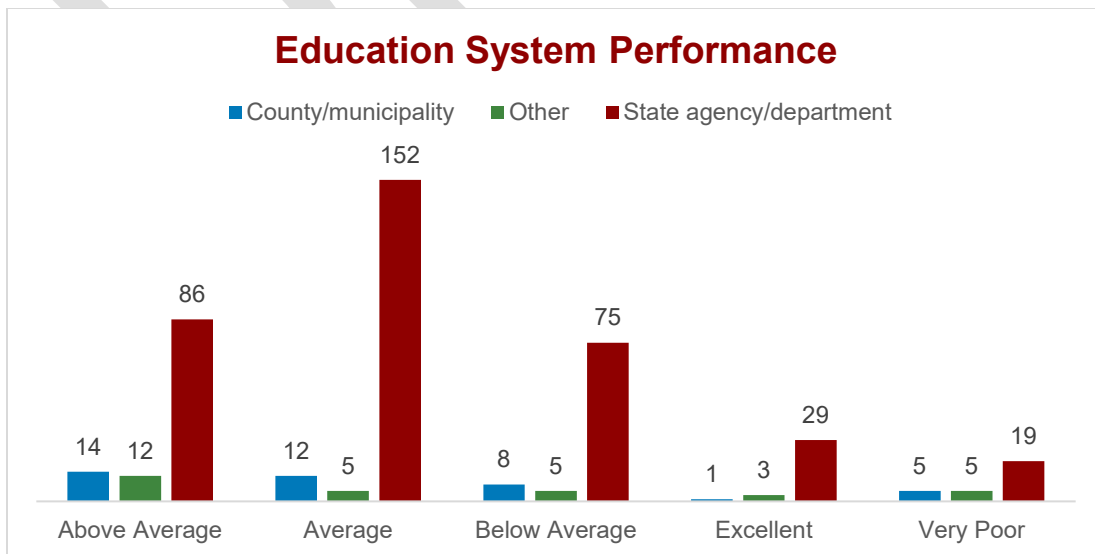
- Rate the overall adequacy, resiliency, and performance of healthcare systems during the COVID-19 response

For example: public and private healthcare systems, pharmacies, hospitals, independent providers, health system providers, federally qualified health centers, urgent care centers, long-term care agencies and organizations, and congregated care facilities, etc.



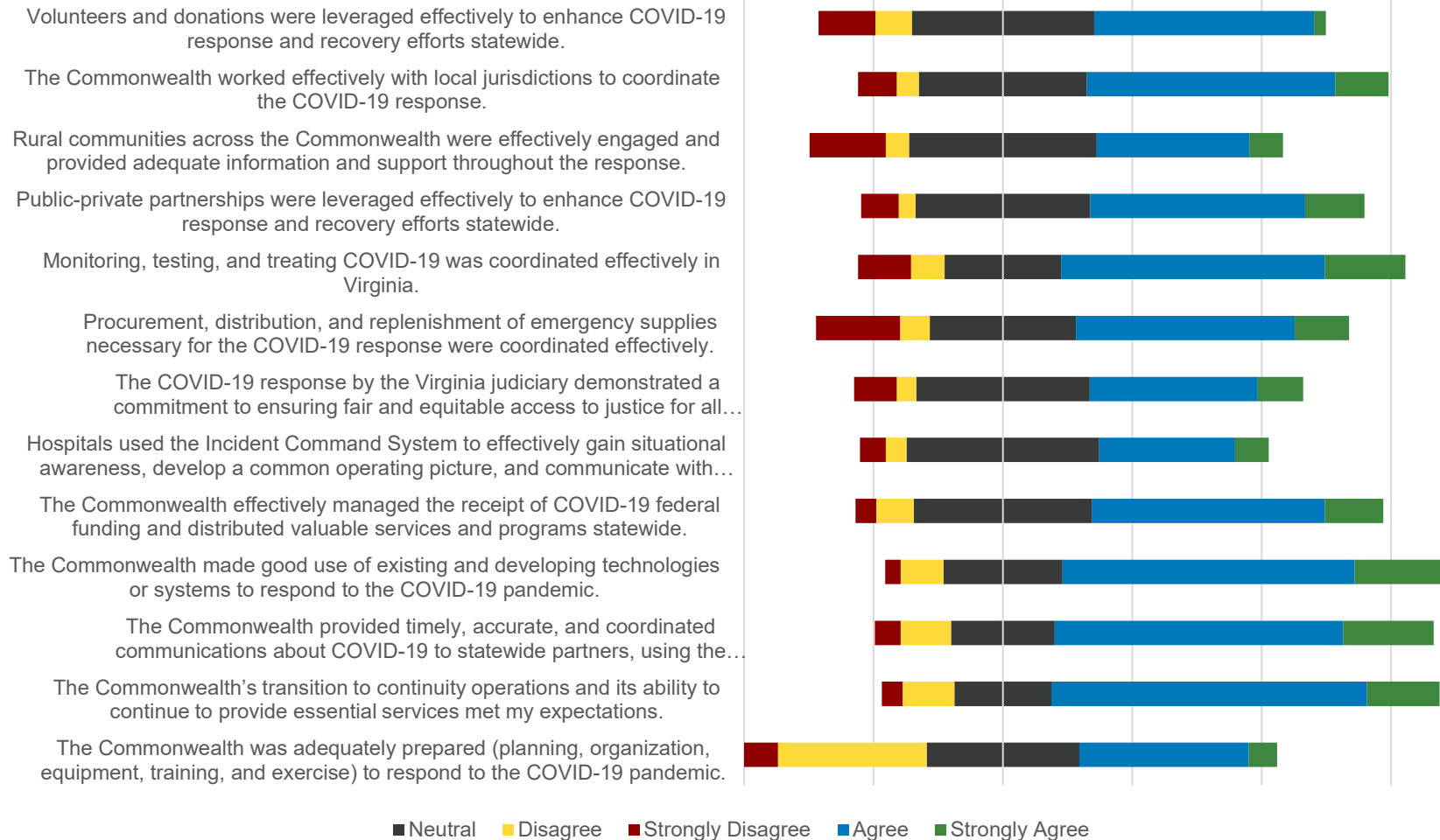
- Rate the overall adequacy, resiliency, and performance of the education system during the COVID-19 response.

For example: K-12 and higher education systems.



- To what extent do you agree with the following statements:

Commonwealth Preparedness and Response



Concluding questions:

- Please provide the top three strengths or best practices you believe the Commonwealth demonstrated during the response.
- Please provide the top three challenges or areas of improvement you believe the Commonwealth demonstrated during the response.
- Do you have anything else you would like to include?

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Appendix B: Interview Results

Interviews were conducted virtually and scheduled for one (1) hour. Interviewees were identified by the agency designees. The list of questions below is the full list of potential questions. Not all questions were used in every interview as participants completed a pre-interview questionnaire to identify the focus areas and questions most relevant to their involvement in the COVID response.

Participating Organizations

The following departments, agencies, and organizations participated in the interview process:

General Questions

- In a few sentences, please describe your role and your organization's role in the COVID-19 response in Virginia.
- What capability does your organization have to plan for emergencies? Has this changed since COVID-19?
- Describe your organization's involvement in initial SEOC activation for COVID-19 response.

Business Continuity and Continuity of Operations

- What were the disruptions in essential services, administrative functions, or government operations? What were the key factors that enabled successful adaptation?
- What improvements have and could be made to enhance COOP strategies for future disruptions or emergencies?
- What were the financial implications of the COVID-19 pandemic on businesses, and how did organizations manage cash flow, access government assistance programs, and mitigate economic losses?

Communications

- What channels of communication were most utilized and successful in disseminating information?
- Were there challenges in reaching diverse populations, non-English speakers, or vulnerable communities?
- What improvements can be made to enhance transparency, accessibility, and timeliness of communications?
- How well were communication plans integrated with overall emergency response plans? Were there clear protocols for disseminating information, updates, and directives?

Planning

- What pre-existing pandemic preparedness plans were utilized in guiding the COVID-19 response?
- How were vulnerable populations, including the elderly, individuals with disabilities, and communities of color, included in pandemic preparedness planning and response efforts prior to



the COVID-19 response, and what steps can be taken to improve equity and inclusivity in future preparedness initiatives?

Operations

- What strategies were implemented to manage and coordinate multi-agency and multi-sectoral response efforts, and how were roles and responsibilities clearly defined and communicated?
- What strategies were employed to ensure the safety and well-being of frontline workers and essential personnel involved in COVID-19 response operations, including healthcare workers, first responders, and critical infrastructure employees?
- What lessons were learned regarding the scalability and flexibility of operations, including surge capacity planning, resource allocation, and logistical support, during a prolonged crisis like the COVID-19 pandemic?

Finance

- Please describe novel approaches, successes and challenges faced with procurement during the COVID-19 response.
- What government relief programs were utilized to provide financial assistance to individuals, businesses, and communities impacted by COVID-19? Could you please share some success stories, and also possible areas that could still use additional funding?
- What measures were taken to ensure transparency and accountability in the use of COVID-19 relief funds, and how were outcomes and impacts monitored and evaluated?
- How did the pandemic impact fiscal sustainability and long-term financial planning for governments and organizations, and what adjustments were made to budgetary priorities and spending plans?

Technology

- How were data analytics and modeling used to inform decision-making and resource allocation during the COVID-19 response, and what improvements could be made in leveraging data for future public health emergencies?
- What lessons were learned regarding the scalability, sustainability, and resilience of technology infrastructure used in the COVID-19 response, and how can these insights inform future preparedness efforts for similar health crises?

Education

- Describe how educational institutions adapted to remote learning and virtual instruction during the COVID-19 pandemic, and what were the main challenges encountered in transitioning to online education?
- How can the innovations and best practices developed during the COVID-19 pandemic be leveraged to improve the quality, accessibility, and inclusivity of education systems in the post-pandemic era?
- What strategies were implemented to address disparities in access to technology and internet connectivity among students and educators during remote learning?



- How did the pandemic impact the academic achievement, social-emotional well-being, and mental health of students, and what support services were provided to address these needs?
- How were teachers and educators supported in developing digital literacy skills, adapting curriculum materials, and delivering effective instruction in online and hybrid learning environments?
- How were parent and caregiver engagement strategies adapted to support student learning and academic success during remote and hybrid learning models, and what lessons were learned from these efforts?

Hospital Incident Management

- How were hospital bed capacity, ICU availability, and medical resources managed?
- How did coordination between hospitals, clinics, and long-term care facilities for patient care evolve? What was effective and what could be improved upon?
- How were data systems used to track COVID-19 cases, hospitalizations, and EMS responses? Were there challenges in data interoperability, accuracy, or real-time reporting?
- What were the main challenges in maintaining staffing levels, equipment, and supplies, and what strategies proved most effective in overcoming those challenges?

Judicial

- How did the COVID-19 pandemic impact the functioning of judicial systems, including court operations, case backlog management, and access to justice?
- What lessons were learned regarding the resilience and adaptability of judicial systems in responding to public health emergencies, and how can these lessons inform future preparedness efforts?
- What technological investments or infrastructure improvements are needed to enhance the capacity of judicial systems to function effectively during future crises, while maintaining fairness, transparency, and due process?
- How effective were remote court proceedings, virtual hearings, and electronic filings in maintaining judicial operations during periods of lockdowns and social distancing?

Logistics

- What pre-existing logistics were in place for procuring, storing, and distributing essential supplies?
- Who was responsible and how were inventory levels monitored and managed?? What improvements can be made to enhance stockpile readiness and replenishment processes?
- Were there challenges in coordinating shipments, managing delivery schedules, and ensuring timely arrivals? What strategies were effective in overcoming transportation bottlenecks or restrictions?

Public Health

- What were the challenges in scaling up testing and contact tracing capacity (including reaching underserved populations)? What strategies were effective?



- How effective were vaccine clinics, associated outreach efforts, and partnerships with healthcare providers? Were there challenges in vaccine supply, distribution logistics, or vaccine hesitancy? What strategies were effective?
- Were public health campaigns, educational materials, and outreach efforts effective? What strategies were used to address misinformation and promote evidence-based practices?
- How effective were public health plans for responding to the COVID-19 pandemic? How well were plans coordinated with healthcare providers, emergency services, and community partners?
- Were there sufficient protocols in place for disease surveillance, testing, contact tracing, and vaccine distribution?

Public-Private Partnerships

- Was there an organized Public-Private Partnership program pre-pandemic?
- What public-private partnerships (PPPs) were leveraged and what were the key roles played by each sector in addressing the pandemic?
- What were the main challenges encountered in establishing and maintaining effective PPPs during the COVID-19 pandemic, and how were these challenges addressed?
- How can the partnerships forged during the COVID-19 response be leveraged for ongoing collaboration between the public and private sectors in addressing future public health challenges and emergencies?
- Describe your organization's engagement with non-profit organizations. How did those efforts contribute to the broader response efforts in VA? Did the relationship between the Commonwealth and non-profit sector change during COVID?
- Describe your organization's engagement with for-profit organizations. How did those efforts contribute to the broader response efforts in VA? Did the relationship between the Commonwealth and private sector change during COVID?

Regulatory

- How were emergency powers and authorities invoked by government entities at various levels to implement COVID-19 mitigation measures, and what were the implications for civil liberties and democratic governance?
- What were the main challenges encountered in enforcing COVID-19-related laws and regulations, such as mask mandates, social distancing requirements, and business closures, and how were these challenges addressed?
- How can the legal and regulatory lessons learned from the COVID-19 pandemic inform future pandemic preparedness efforts, including the development of more resilient and adaptable legal frameworks for public health emergencies?
- How effectively did existing laws and regulations facilitate the COVID-19 response, and were there any gaps or deficiencies in the legal framework that impeded the response efforts?
- How were data privacy and security laws balanced with the need for public health surveillance, contact tracing, and data sharing initiatives during the pandemic response?



Rural Community Engagement

- How were rural communities engaged in the COVID-19 response efforts, and what were the key strategies used for outreach?
- What specific barriers or obstacles unique to rural areas that hindered community engagement efforts, and how were these overcome?
- What innovative approaches or best practices identified in engaging rural populations that could be replicated or scaled in future public health emergencies?
- How did the demographics and socioeconomic characteristics of rural communities influence their response to COVID-19 and their engagement in mitigation efforts?
- What feedback was received from residents of rural areas regarding the adequacy of support and resources provided during the pandemic, and how can future response efforts better address their needs?

Volunteer and Donation Coordination

- How were volunteers recruited, trained, and coordinated to support operations?
- What systems were in place for accepting, organizing, and distributing donations of goods and services?
- How were local nonprofits and community organizations coordinated with effectively to maximize the impact of donated goods and services?
- What were some of the challenges in managing the volunteer workforce, including scheduling and assignments?
- Was there an equitable distribution of donated resources across different regions of the state during the response and recovery effort?

Closeout Questions

- As you reflect on your experience during the COVID-19 response, do any of the following stand out to you:
 - Strengths in Virginia's response
 - Areas for improvement in Virginia's response
- Best practices that Virginia adopted during the response, that should be captured into policies and plans for future disaster responses
- What investments are still needed to enhance the Commonwealth's resiliency against future pandemics or other major disasters?
- Are there any additional items you'd like to share before we conclude today's interview?



Appendix C: Key Events Timeline

Date	Event Description	Event Type Level
12/31/19	The government in Wuhan, China confirms that health authorities are treating dozens of cases of pneumonia of unknown cause which surfaced in a Chinese seafood and poultry market in December 2019.	International
1/17/20	The United States (U.S.) responds to the outbreak in China by implementing screenings for symptoms at airports in San Francisco, New York, and Los Angeles.	National
1/20/20	The World Health Organization's (WHO) release their first situation report, in response to China reporting 139 new cases of Coronavirus Disease (COVID-19) and three deaths. The report confirms cases in Japan, South Korea, and Thailand.	International
1/20/20	Officials in Washington state confirm the first case on U.S. soil.	National
1/20/20	The National Institutes of Health (NIH) announces that it is working on a vaccine against COVID-19.	National
1/29/20	The White House announces the formation of a new task force that will help monitor and contain the spread of the virus and ensure Americans have accurate and up-to-date health and travel information.	National
1/30/20	The U.S. reports its first confirmed case of person-to-person transmission of COVID-19.	National
1/30/20	WHO determines that the outbreak constitutes a Public Health Emergency of International Concern.	International
1/31/20	U.S. Health and Human Services (HHS) Secretary issues a Public Health Emergency (PHE) for the U.S.	National
2/6/20	First COVID-19 death in the U.S.; link to COVID-19 is confirmed April 21.	National
2/7/20	Declaration of COVID-19 as a Communicable Disease of Public Health Threat for Virginia	State
2/26/20	CDC officials say that a California patient being treated for COVID-19 is the first U.S. case of unknown origin. The patient, who didn't have any relevant travel history nor exposure to another known patient, is the first possible U.S. case of "community spread."	National
2/29/20	First reported death linked to COVID-19 reported near Seattle, WA.	National



Date	Event Description	Event Type Level
3/4/20	The CDC formally removes earlier restrictions that limited COVID-19 testing of the general public to people in the hospital unless they have close contact with confirmed COVID-19 cases.	National
3/7/20	Virginia confirms its first case of COVID-19.	State
3/11/20	WHO declares COVID-19 a global pandemic.	International
3/12/20	Governor Northam declares a State of Emergency in response to COVID-19.	State
3/13/20	All K-12 schools in Virginia ordered to close for a minimum of two weeks.	State
3/13/20	President Trump declares a National Emergency under the National Emergencies Act, freeing up \$50 billion in federal resources to combat COVID- 19.	National
3/14/20	Virginia records its first death due to COVID-19	State
3/15/20	The CDC recommends no gatherings of 50 or more people in the U.S. The following day, President Trump advises citizens to avoid groups of more than 10.	National
3/17/20	Governor Northam and State Health Commissioner Oliver issued a Public Health Emergency Order for Virginia in response to COVID-19.	State
3/23/20	All Virginia public schools K-12 closed for the remainder of the school year.	State
3/23/20	Governor Northam issues executive order closing recreational facilities, limiting dining to take-out, curbside, and delivery, and banning gatherings of more than 10 people.	State
3/18/20	President Trump signs into law a COVID-19 relief package that includes provisions for free testing for COVID-19 and paid emergency leave.	National
3/26/20	The U.S. leads the world in confirmed cases. The U.S. officially becomes the country hardest hit by the pandemic with at least 81,321 confirmed infections and more than 1,000 deaths.	International
3/27/20	President Trump signs a \$2 trillion stimulus deal to offset the economic damage of COVID-19, producing one of the most expensive and far-reaching measures in the history of Congress.	National



Date	Event Description	Event Type Level
3/30/20	Governor Northam issues Emergency Order 55, establishing a statewide stay at home order, effective through June 10.	State
4/3/20	President Trump says his administration is now recommending Americans wear “non-medical cloth” face coverings, a reversal of previous guidance that suggested were unnecessary for people who weren’t sick.	National
4/3/20	The Commonwealth was declared as a major disaster area, retroactive to January 20, 2020. This declaration allowed Virginia’s state, local, and tribal governments to access additional federal funds.	State
4/24/20	Forward Virginia, a blueprint for easing public health restrictions utilizing a phased approach in the State, was unveiled.	State
4/26/20	The global death toll from COVID-19 surpasses 200,000.	International
4/28/20	The U.S. passes one million confirmed cases of COVID-19.	National
4/30/20	President Trump launches Operation Warp Speed, an initiative to produce a vaccine for COVID-19 as quickly as possible.	National
5/1/20	The U.S. Food and Drug Administration (FDA) issues an emergency-use authorization for remdesivir, the first authorized therapy drug for COVID-19 in hospitalized patients with severe cases.	National
5/11/20	The Trump Administration announces that the federal government is sending \$11 billion to states to expand COVID-19 testing capabilities. The relief package signed on April 24, 2020, includes \$25 billion for testing, with \$11 billion for states, localities, territories, and tribes.	National
5/15/20	Phased reopening begins: Phase One of “Forward Virginia” begins	State
5/27/20	Data collected by Johns Hopkins University reports that COVID-19 has killed more than 100,000 people across the U.S., meaning that an average of almost 900 Americans died each day since the first known COVID-19-related death reported nearly four months earlier.	National
5/29/20	Public building mask mandate effective (ages 10+)	State
6/5/20	Phase Two of “Forward Virginia” begins for most of Virginia, with the exception of Richmond and Northern Virginia	State
6/11/20	The U.S. passes 2 million confirmed cases of the virus.	National



Date	Event Description	Event Type Level
7/1/20	Virginia moves into Phase Three of Forward Virginia.	State
7/7/20	The Trump administration notifies Congress and the UN that the U.S. is formally withdrawing from WHO. The withdrawal goes into effect on July 6, 2021.	International
7/10/20	The U.S. sets seven records in 11 days. On July 10, the U.S. reaches 68,000 new cases for the first time, setting a single-day record for the seventh time in 11 days. The infection rate is underscored by alarming growth in the South and West.	National
7/15/20	VA is first in the nation to formally adopt workplace safety standards; Virginia Occupational Safety & Health Program (VOSH)	State
8/1/20	The New York Times reports that the U.S. saw July cases more than double the total of any other month with more than 1.9 million new infections recorded in July, nearly 42 percent of the more than 4.5 million cases reported nationwide since the pandemic began and more than double the number documented in any other month.	National
8/16/20	The CDC begins developing a plan to distribute a COVID-19 vaccine.	National
8/22/20	Global COVID-19 deaths surpass 800,000.	International
8/23/20	The FDA issues an emergency use authorization for the use of convalescent plasma to treat COVID-19.	National
9/22/20	The U.S. death toll from COVID-19 surpasses 200,000.	National
9/28/20	Global deaths from COVID-19 reach 1 million.	International
11/8/20	The U.S. surpasses 10 million infections.	National
11/17/20	FDA authorizes the first at-home COVID-19 test which requires a prescription from a health care provider and can return results in about 30 minutes.	National
11/18/20	The U.S. death toll hits 250,000.	National
12/11/20	The FDA approves a vaccine by Pfizer for emergency use clearing the way for millions of highly vulnerable people to begin receiving the vaccine within days.	National
12/13/20	Pfizer begins distributing COVID-19 vaccines in the U.S.	National



Date	Event Description	Event Type Level
12/14/20	The U.S. death toll from COVID-19 surpasses 300,000.	National
12/14/20	A stay-at-home order goes into effect in Virginia between the hours of 12am and 5am. Universal mask requirements are in effect, and new limits on social gatherings are instituted.	State
12/15/20	First COVID-19 vaccine administered in Virginia.	State
12/18/20	The FDA approves the Moderna COVID vaccine for emergency use, allowing the shipment of millions more doses of COVID-19 vaccines across the nation.	National
2/22/21	The death toll from COVID-19 exceeds 500,000 in the U.S.	National
2/27/21	The FDA grants emergency use authorization to Johnson & Johnson's COVID-19 vaccine, the first single-dose COVID-19 vaccine available in the U.S.	National
4/17/21	The global tally of deaths from COVID-19 surpasses 3 million.	International
4/18/21	COVID-19 vaccine available to all Virginians aged 16 and older.	State
5/12/21	COVID-19 vaccine available to children 12 and older in Virginia.	State
5/17/21	FEMA issues <i>COVID-19 Pandemic Operational Guidance</i> to support response and recovery.	National
5/28/21	All statewide restrictions on businesses and individuals due to COVID-19 were lifted.	State
6/30/21	Virginia State of Emergency expired.	State
3/12/22	The Virginia General Assembly passed Senate Joint Resolution No. 10, establishing a joint committee to study pandemic response and preparedness in the Commonwealth.	State
5/11/23	Federal Public Health Emergency for COVID-19 expired.	National
5/12/23	State Health Commissioner rescinds Declaration of COVID-19 as a Communicable Disease of Public Health Threat for Virginia	State



Appendix D: Glossary

AFTER-ACTION REPORT (AAR): A report covering response actions, application of the Incident Command System, modifications to plans and procedures, training needs, and recovery activities.

AREA FOR IMPROVEMENT: Identified gaps or weaknesses in a response that need to be addressed in future planning and operations.

CARES ACT: The Coronavirus Aid, Relief, and Economic Security Act was signed into law on March 27, 2020. The bill dedicated historic government funding to support large and small businesses, industries, individuals, families, gig workers, independent contractors, and the healthcare system.

CHAIN OF COMMAND: The orderly line of authority within the ranks of incident management organizations.

CHALLENGE: Specific difficulties or obstacles encountered during a response, which impacted the effectiveness or efficiency of operations, and which the incident response team has no control over.

CONTACT TRACING: A public health strategy used to identify and notify individuals who have been in close contact with someone infected with an illness, helping to prevent further spread.

CONTINUITY OF OPERATIONS (COOP): Plans and procedures to ensure that essential functions continue during and after an emergency, including the COVID-19 pandemic.

COOPERATIVE PARTNER: Organizations or entities that work collaboratively with public health and emergency management agencies to respond to the pandemic.

COORDINATION: The process of systematically analyzing a situation, developing relevant information, and informing the appropriate command authority of viable alternatives for the selection of the most effective combination of available resources to meet specific objectives. The coordination process does not involve dispatch actions. However, personnel responsible for coordination may perform command or dispatch functions within the limits established by specific agency delegations, procedures, legal authority, etc.

COVID-19: COVID-19 is a disease caused by a virus called SARS-CoV-2. Most people with COVID-19 have mild symptoms, but some people become severely ill. Older adults and people who have certain underlying medical conditions are more likely to get severely ill. Post-COVID conditions are a wide range of health problems people can experience four or more weeks after first getting COVID-19. Even those who do not become severely ill from COVID-19 may experience post-COVID conditions.

CULTURAL COMPETENCY: The ability of healthcare and emergency management personnel to understand and respond effectively to the cultural and language needs of diverse populations.



DISASTER: A situation that creates an actual or imminent serious threat to the health and safety of persons or a situation that has resulted or is likely to result in catastrophic loss to property or the environment and for which traditional sources of relief and assistance within the affected area are unable to repair or prevent the injury or loss. A disaster usually exhausts local resources and requires outside help.

DISEASE SURVEILLANCE: The systematic collection, analysis, and interpretation of health data to detect and monitor the spread of illness.

EMERGENCY: An unforeseen combination of circumstances that calls for immediate action to prevent a disaster from developing or occurring. An emergency can usually be handled with the resources of the local unit of government.

EMERGENCY DECLARATION: A formal statement by authorities that an emergency situation exists, which activates response plans and provides access to additional resources.

EMERGENCY MANAGEMENT: The field focused on preparing for, responding to, and recovering from emergencies, to reduce their impact on communities.

EMERGENCY OPERATIONS CENTER (EOC): A central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management or disaster management functions at a strategic level during an emergency and ensuring the continuity of operations of a company, political subdivision, or other organization.

EMERGENCY OPERATIONS PLAN (EOP): The EOP provides the structure and processes that the organization utilizes to respond to and initially recover from an incident.

ESSENTIAL ELEMENTS OF INFORMATION: Key pieces of information that are critical to making informed decisions during a response, such as infection rates or hospital capacity.

ESSENTIAL FUNCTIONS: The critical activities performed by organizations, especially after disruption of normal activities.

ESSENTIAL SUPPLIES: Critical items, such as personal protective equipment (PPE), ventilators, and testing kits, necessary for an effective COVID-19 response.

EXECUTIVE ORDER (EO): An executive order is a directive by the executive branch of government that manages the operations of the government. Also referred to as an emergency order or executive directive.

FRONTLINE WORKERS: Individuals, such as healthcare providers, first responders, and essential service workers, who played a crucial role in the COVID-19 response.



FUNCTION: In ICS, function refers to the five major activities in the ICS: Command, Operations, Planning and Intelligence, Logistics, and Finance/Administration. At the EOC the term "Management" is used in place of "Command." The term "function" is also used when describing the activity involved.

HEALTHCARE COALITION: A group of healthcare organizations and public health entities working together to respond to health emergencies.

HEALTH EQUITY: Efforts to ensure that all populations, especially underserved groups, have access to the necessary health services and resources.

INCIDENT: An occurrence or event, either human-caused or by natural phenomena, that requires action by emergency response personnel to prevent or minimize loss of life or damage to property and/or natural resources.

INCIDENT COMMAND SYSTEM (ICS): The nationally used, standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, with the responsibility for the management of resources to effectively accomplish stated objectives pertinent to an incident.

INCIDENT MANAGEMENT: The broad spectrum of activities and organizations providing operations, coordination, and support applied at all levels of government, using both governmental and nongovernmental resources to plan for, respond to, and recover from an incident, regardless of cause, size, or complexity.

INCIDENT MANAGEMENT TEAM (IMT): An incident management team is dispatched or mobilized during complex emergency incidents to provide a command-and-control infrastructure to manage the operational, logistical, informational, planning, fiscal, community, political, and safety issues associated with complex incidents.

INTEROPERABILITY: The ability of different agencies and organizations to work together effectively during an emergency, including communication and resource sharing.

JOINT INFORMATION CENTER (JIC): The JIC is a central location that facilitates operation of the Joint Information System. It is the central point of contact for all news media. Public information Officers from all participating agencies should co-locate at the JIC.

JURISDICTION: Jurisdictions are usually incorporated locations, recognized by the U.S. Census Bureau. Jurisdictions include, but are not limited to, cities, towns, townships, boroughs, villages, counties, and parishes.



LOCAL GOVERNMENT: Public entities responsible for security and welfare of a designated area as established by law. A county, municipality, city, town, township, local public authority, school district, special district, intrastate district, council of governments, regional or interstate government entity, agency or instrumentality of a local government, or a tribe or authorized tribal authority.

LOGISTICS: The process and procedure for providing resources and other services to support incident management.

MEDICAL RESERVE CORPS: A network of medical and public health professionals who volunteer to assist with emergency response efforts.

PANDEMIC: An influenza pandemic is a global outbreak of a new influenza A virus that is very different from current and recently circulating human seasonal influenza A viruses. Pandemics happen when new (novel) influenza A viruses emerge which are able to infect people easily and spread from person to person in an efficient and sustained way.

PANDEMIC PLAN: A comprehensive plan outlining the strategies and procedures for responding to a pandemic, like COVID-19, ensuring an organized and effective approach.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Specialized clothing or equipment worn for protection against health and safety hazards. Personal protective equipment is designed to protect many parts of the body, e.g., eyes, head, face, hands, feet, and ears.

PREPAREDNESS: Actions taken to plan, organize, equip, train, and exercise to build and sustain the capabilities necessary to prevent, protect against, mitigate the effect of, respond to, and recover from threats and hazards.

PRIVATE SECTOR: Organizations and individuals that are not part of any governmental structure. The private sector includes for-profit and not-for-profit organizations, formal and informal structures, commerce, and industry.

PSYCHOLOGICAL FIRST AID: A set of techniques used to support individuals experiencing stress or trauma during an emergency, promoting emotional well-being.

PUBLIC HEALTH: The field concerned with protecting and improving the health of communities, playing a central role in managing the COVID-19 pandemic.

PUBLIC INFORMATION: Information disseminated to the public by official sources during an emergency, using broadcast and print media. This includes: 1) instructions on survival and health preservation actions to take (what to do, what not to do, evacuation procedures, etc.), 2) status information on the disaster situation (number of deaths, injuries, property damage, etc.), and 3) other useful information (state/federal assistance available).



PUBLIC INFORMATION OFFICER (PIO): A member of the ICS Command Staff responsible for interfacing with the public and media and/or with other agencies with incident-related information needs.

PUBLIC-PRIVATE PARTNERSHIP: Collaborative efforts between government agencies and private sector entities to address the challenges posed by an emergency.

QUARANTINE: Separating and restricting the movement of people exposed (or potentially exposed) to a contagious disease. A quarantine may be self-imposed (self-quarantine) or mandated by the authorities.

RECOVERY: The capabilities necessary to assist communities affected by an incident to recovery effectively.

RESOURCE: Personnel, equipment, teams, supplies, and facilities available for assignment to incident operations and for which status is maintained. Resources are described by kind and type and may be used in operational support or supervisory capacities at an incident or at an EOC.

RESPONSE: The capabilities necessary to save lives, protect property and the environment, and meet basic human needs after an incident has occurred.

SOCIAL DISTANCING: A technique used to limit or slow the spread of communicable diseases by decreasing the number of opportunities for the agent to be passed from one person to another. Examples of social distancing include school or daycare closures, limitations on public meetings and gatherings, encouraging workers to telecommute, etc.

STATE EMERGENCY OPERATIONS CENTER (SEOC): The SEOC is where state, local, and federal agencies coordinate the response to a disaster, emergency, or terrorist event within the state.

STATE OF EMERGENCY: The Virginia governor may declare a peacetime emergency in response to an act of nature, industrial accident, hazardous materials accident, or major health threat or civil disturbance that endangers life and property and for which local government resources are inadequate to handle the situation. The governor may also declare a state of emergency if a threat of armed violence, sabotage, or act of terrorism is imminent.

STRENGTH: Aspects of the COVID-19 response that were particularly effective and should be maintained or enhanced in future operations.

SUBJECT MATTER EXPERT: An individual with specialized knowledge or expertise who provides guidance.



TASK FORCE: A group of experts and officials assembled to address specific challenges during the COVID-19 response.

TELEWORK: A work flexibility arrangement under which an employee performs the duties and responsibilities of their position and other authorized activities from an approved worksite other than the location from which the employee would otherwise work.

TEMPORARY (LEGISLATIVE) WAIVER: A temporary suspension or alteration of regulations to facilitate a more effective response

THEMATIC ANALYSIS: A method used to identify patterns or themes within qualitative data, often employed in analyzing feedback and outcomes.

TRAUMA-INFORMED CARE: An approach that recognizes and responds to the impact of trauma, crucial for supporting individuals affected by the stress and challenges of disaster response.

UNDERSERVED POPULATION: Communities that lack adequate access to healthcare and resources, requiring focused efforts to ensure equitable response and recovery

VEST: Virginia Emergency Support Team, consisting of more than 105 Executive Branch agencies, private sector partners, and volunteer organizations with assigned responsibilities in the Commonwealth of Virginia Emergency Operations Plan



Appendix E: Acronyms and Abbreviations

Acronym	Meaning
AAR	After-Action Report
CARES	The Coronavirus Aid, Relief, and Economic Security Act
CIMS	Centralized Information Management System
COOP	Continuity of Operations
COVID	Coronavirus Disease
CRM	Centralized Resource Management
DBHDS	Department of Behavioral Health and Developmental Services
DHP	Department of Health Professions
DMAS	Department of Medical Assistance Services
DOE	Department of Education
DOLI	Department of Labor and Industry
EO	Executive Order
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
ICS	Incident Command System
ICU	Intensive Care Unit
IMT	Incident Management Team
JIC	Joint Information Center
LCOS	Logistics Coordination Operations Center

Acronym	Meaning
MRC	Medical Reserve Corps
NIMS	National Incident Management System
PIO	Public Information Officer
PPE	Personal Protective Equipment
PTA	Parent Teacher Association
RMS	Resource Management System
SARS	Severe Acute Respiratory Syndrome
SEOC	State Emergency Operations Center
SME	Subject Matter Expert
VASN	Virginia Association of School Nurses
VDEM	Virginia Department of Emergency Management
VDH	Virginia Department of Health
VDSS	Virginia Department of Social Services
VEST	Virginia Emergency Support Team
VHA	Veterans Health Administration
VHHA	Virginia Hospitals and Healthcare Association
VAPTA	Virginia Congress of Parents and Teachers
WHO	World Health Organization



Appendix F: Senate Joint Resolution No. 10

2022 SESSION

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SENATE JOINT RESOLUTION NO. 10

Offered January 12, 2022

Prefiled January 11, 2022

Establishing a joint subcommittee to study pandemic response and preparedness in the Commonwealth Report.

Patron—Surovell

Referred to Committee on Rules

WHEREAS, outbreaks of infectious disease have recurred throughout Virginia's recorded history since the time of the first European settlements, beginning with outbreaks in Jamestown that contributed to the deaths of 80 percent of its earliest settlers and spread rapidly among Native American communities, devastating entire populations; and

WHEREAS, the General Assembly was forced to adjourn its 1696 session in Jamestown due to a smallpox epidemic, and an outbreak beginning in 1747 again brought the legislature and economy to a halt; other periodic smallpox outbreaks killed countless Virginians and left survivors permanently scarred or blind until inoculation became widespread; and

WHEREAS, after the first cases of cholera appeared in the United States in the early 1800s, three outbreaks of the disease struck Virginia between 1832 and 1866, and cholera continued to pose a threat until sanitary reform curbed its spread; and

WHEREAS, an outbreak of yellow fever struck Norfolk and Portsmouth in 1855, forcing the closure of businesses and ports, shutting down both cities' governments, and claiming an estimated 4,000 lives between the two cities; and

WHEREAS, a new and highly contagious strain of influenza spread throughout the world in 1918 and 1919, exacerbated by the conditions of World War I; the pandemic forced school closures and prohibitions on public gatherings, and it claimed the lives of at least 16,000 Virginians and an estimated 50 million people worldwide; and

WHEREAS, the World Health Organization declared COVID-19 a pandemic on March 11, 2020, and the first known cases of the virus in Virginia were reported soon thereafter; in the year that followed, schools and businesses were forced to close, health care providers were overburdened, and the normal functioning of government was interrupted; hundreds of thousands of Virginians became infected with the virus and thousands died, and its final toll is still unknown; and

WHEREAS, the COVID-19 pandemic is the Commonwealth's most recent public health crisis but will not be its last, and it is essential in its aftermath to examine the effectiveness of the laws of the Commonwealth during the pandemic, the response of all levels of government, and the preparedness of various levels of government and, in particular, state institutions in Virginia to deal with future emergencies; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That a joint subcommittee be established to study pandemic response and preparedness in the Commonwealth. The joint subcommittee shall have a total membership of 24 members that shall consist of 10 legislative members, eight nonlegislative citizen members, and six ex officio members. Members shall be appointed as follows: five members of the Senate, to include one member of the Senate Committee on Education and Health, one member of the Senate Committee on Finance and Appropriations, one member of the Senate Committee on General Laws and Technology, one member of the Senate Committee on the Judiciary, and one member of the Senate Committee on Rehabilitation and Social Services, each to be appointed by the Senate Committee on Rules; five members of the House of Delegates, to include one member of the House Committee on Appropriations, one member of the House Committee for Courts of Justice, one member of the House Committee on Education, one member of the House Committee on General Laws, and one member of the House Committee on Health, Welfare and Institutions, each to be appointed by the Speaker of the House of Delegates; four nonlegislative citizen members, to include a representative from the K-12 public education system, a representative from a public hospital or health care system, a local elected official representing an urban locality, and an individual who owns a local pharmacy, each to be appointed by the Senate Committee on Rules; four nonlegislative citizen members, to include a local elected official representing a rural locality, a representative from a private hospital or health care system, a representative from a four-year institution of higher education, and a representative from a private business, each to be appointed by the Speaker of the House of Delegates; and the Secretaries of Commerce and Trade, Education, Finance, Health and Human Resources, and Public Safety and Homeland Security, or their designees, and the Executive Secretary of the Supreme Court of Virginia, or

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59 his designee, all of whom shall serve ex officio with nonvoting privileges. Nonlegislative citizen
60 members of the joint subcommittee shall be citizens of the Commonwealth of Virginia. Unless otherwise
61 approved in writing by the chairman of the joint subcommittee and the respective Clerk, nonlegislative
62 citizen members shall only be reimbursed for travel originating and ending within the Commonwealth of
63 Virginia for the purpose of attending meetings. If a companion joint resolution of the other chamber is
64 agreed to, written authorization of both Clerks shall be required. The joint subcommittee shall elect a
65 chairman and vice-chairman from among its membership, who shall be members of the General
66 Assembly.

67 In conducting its study, the joint subcommittee shall examine the performance of existing laws in the
68 Commonwealth in relation to the Commonwealth's pandemic response and develop recommendations
69 regarding: (i) the scope of the Governor's powers in long-term states of emergency and the feasibility of
70 legislative oversight of such powers; (ii) the adequacy, resilience, and performance of the General
71 Assembly and local governments; (iii) the adequacy, resilience, and performance of public and private
72 health care systems, pharmacies, hospitals, independent providers, health system providers, federally
73 qualified health centers, urgent care centers, long-term care agencies and organizations, and congregate
74 care facilities, including (a) an assessment of the readiness of all such facilities and providers to
75 implement infection prevention and control measures in order to prevent and stop the spread of
76 infectious diseases and (b) an assessment of the adequacy of regulations relating to vulnerable
77 Virginians, including the elderly, the infirm, and children; (iv) the adequacy, resilience, and performance
78 of the emergency management and public health care systems, including (a) the need for stockpiling and
79 planning for distribution of pandemic response supplies and materials, (b) the performance of local
80 health districts and the feasibility of allowing for local decision-making during pandemics, in contrast to
81 delivery of routine services, and (c) the existing system's ability to detect and prevent future outbreaks
82 and deploy health care solutions; (v) the adequacy, resilience, and performance of the judicial system
83 and the need to develop future emergency plans to facilitate better responsiveness; (vi) the adequacy,
84 resilience, and performance of Virginia Freedom of Information Act, homeowners' association, and
85 corporate meeting rules and the need to develop future emergency plans to facilitate better
86 responsiveness; (vii) the adequacy, resilience, and performance of the K-12 and higher education systems
87 and the need to develop future emergency plans to facilitate better responsiveness; and (viii) the
88 adequacy, resilience, and performance of the business regulatory system and the need to develop future
89 emergency plans to facilitate better responsiveness.

90 Administrative staff support shall be provided by the Office of the Clerk of the Senate. Legal,
91 research, policy analysis, and other services as requested by the joint subcommittee shall be provided by
92 the Division of Legislative Services. Technical assistance shall be provided by the Department of Health,
93 the Department of Emergency Management, the Department of Medical Assistance Services, the
94 Department of Behavioral Health and Developmental Services, the Department for Aging and
95 Rehabilitative Services, the Department of Social Services, the Department of Labor and Industry, the
96 Department of Education, the Board of Pharmacy, and the Office of the Executive Secretary of the
97 Supreme Court of Virginia, upon request. All agencies of the Commonwealth shall provide assistance to
98 the joint subcommittee for this study, upon request.

99 The joint subcommittee shall be limited to four meetings for the 2022 interim and four meetings for
100 the 2023 interim, and the direct costs of this study shall not exceed \$178,400 for each year without
101 approval as set out in this resolution. Of this amount, an estimated \$150,000 is allocated for consulting
102 services. Approval for unbudgeted nonmember-related expenses shall require the written authorization of
103 the chairman of the joint subcommittee and the respective Clerk. If a companion joint resolution of the
104 other chamber is agreed to, written authorization of both Clerks shall be required.

105 No recommendation of the joint subcommittee shall be adopted if a majority of the Senate members
106 or a majority of the House members appointed to the joint subcommittee (1) vote against the
107 recommendation and (2) vote for the recommendation to fail notwithstanding the majority vote of the
108 joint subcommittee.

109 The joint subcommittee shall submit to the General Assembly an interim report containing an
110 executive summary of its activity and work no later than December 1, 2022, and a final report
111 containing an executive summary of its activities and recommendations no later than September 1, 2023.
112 Each executive summary shall state whether the joint subcommittee intends to submit to the General
113 Assembly and the Governor a report of its findings and recommendations for publication as a House or
114 Senate document. The executive summaries and reports shall be submitted as provided in the procedures
115 of the Division of Legislative Automated Systems for the processing of legislative documents and
116 reports and shall be posted on the General Assembly's website.

117 Implementation of this resolution is subject to subsequent approval and certification by the Joint
118 Rules Committee. The Committee may approve or disapprove expenditures for this study, extend or
119 delay the period for the conduct of the study, or authorize additional meetings during the 2022 or 2023
120 interims.



Appendix G: Recommendations Organized by Subcommittee Subject Matter Area

Subcommittees



Focus Areas





Government and Regulatory Systems Subcommittee



Business Continuity and Continuity of Operations

- 1.2.1 Develop a centralized Continuity of Operations framework for state agencies
- 1.2.2 Enhance digital infrastructure and automation
- 1.3.1 Establish consistent statewide telework policies for all state agencies



Communications

- 2.1.3 Improve coordination with executive offices



Financial Management

- 4.1.1 Establish stable and diversified funding streams



Judicial / Policy / Regulatory

- 5.1.1 Develop a pre-approved legal and regulatory framework for emergencies
- 5.1.2 Create a rapid response legal and regulatory task force
- 5.2.1 Solicit input on judicial processes
- 5.2.2 Enhance virtual engagement and transparency mechanisms
- 5.3.1 Review statewide technology standards and protocols
- 5.3.2 Develop and implement consistent policies and procedures to ensure uniformity and efficiency



Logistics

- 6.1.1 Establish a dynamic stockpile strategy
- 6.1.2 Implement a Centralized Resource Management (CRM) system
- 6.2.1 Strengthen public-private partnerships
- 6.2.2 Establish a flexible and inclusive procurement strategy



Technology

- 10.1.1 Expand and sustain broadband infrastructure investments
- 10.1.2 Consider implementing technology access programs
- 10.1.3 Support innovative connectivity solutions for immediate needs
- 10.2.1 Develop comprehensive technology training and support programs
- 10.2.2 Enhance digital infrastructure and access during emergencies
- 10.2.3 Establish consistent protocols for remote voting and decision-making





Health Care Systems and Emergency Management Subcommittee



Business Continuity and Continuity of Operations

- 1.1.1 Expand access to mental health resources
- 1.1.2 Develop comprehensive mental health support guidelines



Communications

- 2.1.1 Establish a dedicated SME pool
- 2.1.2 Implement a centralized information management system (CIMS)
- 2.2.1 Streamline the health equity working group structure
- 2.2.2 Implement clear decision-making protocols
- 2.2.3 Establish a rapid response framework
- 2.3.1 Enhance ongoing public engagement and education



Operations

- 7.1.1 Conduct comprehensive NIMS and ICS training
- 7.1.2 Establish clear role definitions
- 7.1.3 Enhance tracking and resource management systems
- 7.2.1 Centralize administrative tasks
- 7.2.2 Implement rotational staffing
- 7.2.3 Expand and diversify the staffing pool



Planning

- 8.1.1 Review and update pandemic and emergency operations plans
- 8.1.2 Integrate inclusivity and support for vulnerable populations
- 8.1.3 Prioritize continuous plan evaluation
- 8.2.1 Review alignment of emergency management and public health regions
- 8.2.2 Integration of key internal and external partners



Public Health / Local Health Districts

- 9.1.2 Enhance regional coordination and support
- 9.1.3 Centralize public health guidance and oversight during emergencies
- 9.2.1 Inclusion of vaccination policies and definitions in pandemic plans
- 9.2.2 Enhance data collection and coordination for vaccine distribution
- 9.3.1 Incorporate external partners early in the response planning
- 9.3.2 Establish clear communication channels and protocols
- 9.3.3 Strengthen and formalize partnerships before crises
- 9.4.1 Establish standardized data collection framework
- 9.4.2 Provide training and support for data reporting



Volunteer and Donation Coordination

- 11.1.1 Provide comprehensive health and safety training
- 11.1.2 Establish a health monitoring and support system
- 11.1.3 Engage a more diverse demographic





Education Subcommittee



Education

- 3.1.1** Enhance mental health support systems available for students and educational professionals
- 3.1.2** Establish community advisory boards and engage local leaders
- 3.1.3** Propose strategies for hybrid learning models and mental health initiatives
- 3.2.1** Strengthen communication and public information strategies
- 3.2.2** Create and maintain legal guidance and support networks
- 3.2.3** Develop comprehensive plans for school closures

DRAFT

