

HOUSE No. 4945

The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES

**REPORT OF THE JOINT COMMITTEE ON
COVID-19 AND EMERGENCY PREPAREDNESS
AND MANAGEMENT**

FINDINGS AND RECOMMENDATIONS OF THE COMMITTEE

JANUARY 2021 – JUNE 2022

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Section 1: Introduction

Joint Committee Members ¹

House Members

Rep. William J. Driscoll, Jr. (House Chair)
Rep. Jon Santiago (House Vice Chair)
Rep. Orlando Ramos
Rep. Rob Consalvo
Rep. Elizabeth A. Malia
Rep. Chynah Tyler
Rep. Mindy Domb
Rep. Christina A. Minicucci
Rep. Jamie Z. Belsito
Rep. Paul K. Frost (House Ranking Member)
Rep. David T. Vieira

District

7th Norfolk District
9th Suffolk District
9th Hampden District
14th Suffolk District
11th Suffolk District
7th Suffolk District
3rd Hampshire District
14th Essex District
4th Essex District
7th Worcester District
3rd Barnstable District

Senate Members

Sen. Jo Comerford (Senate Chair)
Sen. Cindy F. Friedman (Senate Vice Chair)
Sen. John J. Cronin
Sen. Julian Cyr
Sen. Eric P. Lesser
Sen. Patrick M. O'Connor (Senate Ranking Member)

District

Hampshire, Franklin, Worcester
Fourth Middlesex
Worcester and Middlesex
Cape and Islands
First Hampden and Hampshire
Plymouth and Norfolk

Scope of Committee

The Committee on COVID-19 and Emergency Preparedness and Management serves as an oversight and advisory committee to monitor and investigate issues related to coronavirus disease (COVID-19) emergency response and recovery. Under its charter, the Committee is authorized to report recommendations for legislative action, strategies, and innovations, based on a review of information, material presented during oversight hearings, or findings of investigations, to equitably address and respond to the COVID-19 public health emergency and to promote the successful and safe recovery for all residents of the Commonwealth. The Committee is also charged with digesting the lessons of the state's current response so that the

¹ Rep. Carolyn C. Dykema, who represented the 8th Middlesex District from 2009-2022, previously served on the Joint Committee on COVID-19 & Emergency Preparedness & Management through the majority of the efforts referenced in this report.

Commonwealth can be better prepared and more resilient for the next disease outbreak or disaster.

To date, the Committee conducted 16 total hearings on topics ranging from the bills before the Committee, the state’s six Health and Medical Coordinating Coalitions (HMCCs), and the impact of the Omicron variant.

Joint Committee Hearings	Date
OVERSIGHT HEARING Vaccination Distribution Oversight Hearing	February 25, 2021
OVERSIGHT HEARING Vaccine Rollout & Emergency Response Structure & Planning	March 23, 2021
INFORMATIONAL HEARING COVID-19 Variants	April 13, 2021
INFORMATIONAL HEARING Hurricane and Natural Disaster Preparedness	June 4, 2021
REGIONAL LISTENING SESSION HMCC Region 1 Western Mass Region	June 11, 2021
BILL HEARING Legislation Referred to the Committee	June 30, 2021
REGIONAL LISTENING SESSION HMCC Region 5 Southeastern Mass, Cape & Islands	July 7, 2021
REGIONAL LISTENING SESSION HMCC Region 2 Central Mass	July 14, 2021
REGIONAL LISTENING SESSION HMCC Region 4ab Metro Boston Communities	July 16, 2021
REGIONAL LISTENING SESSION HMCC Region 4C Boston	July 21, 2011
REGIONAL LISTENING SESSIONS HMCC Region 3 Northeastern Mass HMCC Region 4ab Metro Boston	July 23, 2021
JOINT OVERSIGHT HEARING	July 26, 2021

Vaccinating Children Under 12 Against COVID-19	
JOINT OVERSIGHT HEARING Children's COVID-19 Vaccinations and Testing	October 21, 2021
OVERSIGHT HEARING Current Status of COVID-19 in the Commonwealth	December 16, 2021
OVERSIGHT HEARING Current Response to COVID-19 in the Commonwealth	January 11, 2022

In this report, the Committee highlights the HMCC Listening Session hearings, as the findings from those hearings remain particularly relevant and actionable.

Purpose of Report

The first recorded case of COVID-19 in the Commonwealth of Massachusetts was reported on February 1, 2020.² Since that time, the COVID-19 pandemic has affected hundreds of millions of people across the globe and in all 50 states. In Massachusetts alone, as of June 23, 2022, there have been 1,753,978 reported cases of COVID-19, leading to the deaths of 19,651 people.³ Nationwide, there have been over 86.3 million cases of COVID-19, causing over one million deaths.⁴ Federal, state, and municipal governments have worked for more than two years to stop the spread of COVID-19 and address immediate frontline needs – coordinating between themselves and with private and regional entities.

In Massachusetts, COVID-19 disproportionately affected poor communities and communities of color across the state. By reflecting on the Commonwealth’s response, our Commonwealth can emerge stronger and better able to drive an equitable emergency response the next time we face such a crisis.

The long-term future of the COVID-19 virus is difficult to predict. COVID-19 will eventually transition from a pandemic virus to an endemic virus, although when we will reach that point remains unclear. However, even endemic disease can still have significant epidemic waves and cause severe disease in some areas or among some populations.⁵ In Massachusetts, in 2022, hospitalizations rose sharply from late March through late May, and declined somewhat into June 2022. There is still a significant risk of more transmissible or vaccine-evading variants, and

² [Mass.Gov - “Man Returning from Wuhan, China is first case of 2019 Novel Coronavirus confirmed in Massachusetts.”](#)

³ [Mass.Gov – “COVID-19 Response Reporting.”](#)

⁴ [Center for Disease Control - COVID Data Tracker.](#)

⁵ [New York Times - “Is This What Endemic Disease Looks Like?”](#)

additional serious health impacts. In fact the World Health Organization has released a statement in March 2022 noting that the COVID-19 pandemic is far from over.⁶ Currently, COVID-19 remains a major threat; among children, COVID-19 is nearly six times more deadly than the seasonal flu,⁷ and across the whole of the country, the current weekly death projections remain far higher than recent flu seasons.⁸ The availability of vaccines for children from 6 months old to age 5, which began on June 21, 2022, is a welcome development that will provide them with substantial protection against severe disease. The Committee urges continued vigilance and focus on sustaining efforts known to be effective at further reducing infection rates, minimizing harm, and strengthening preparedness.

While this report does not make recommendations on all areas that are affected by the COVID-19 pandemic, the Committee has endeavored to highlight key areas focused on emergency preparedness and management.

In releasing this report, the Committee extends its gratitude to frontline workers, first responders, local and regional public health and municipal officials, and state colleagues who have worked tirelessly on behalf of Massachusetts residents throughout the pandemic. It is in their honor that we offer the following reflections.

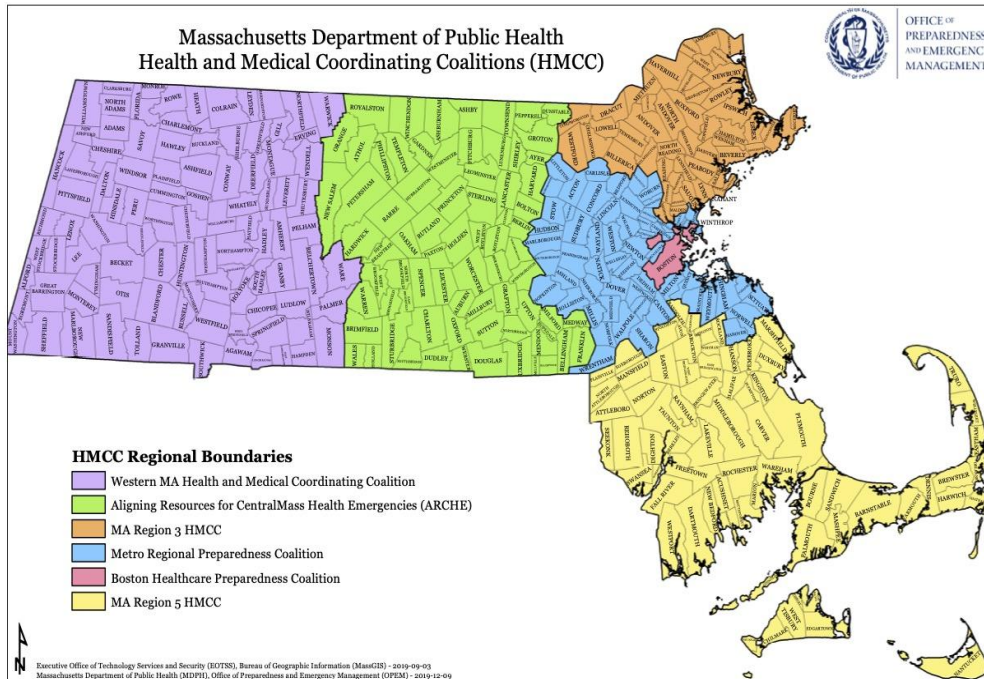
⁶ [Reuters - "COVID-19 pandemic is 'far from over' - WHO official."](#)

⁷ [Bloomberg Newsletter - "Covid Is Way More Lethal to Kids Than the Flu."](#)

⁸ [Dr. Bill Hanage on Twitter.](#)

Section 2: Highlighting Health and Medical Coordinating Coalitions

Overview of the Structure and Role of the HMCC Regions



To better understand our existing emergency management structure within the state, the Committee conducted a state-wide listening tour of the state’s six Health and Medical Coordinating Coalitions (HMCCs). HMCCs are regional collaboratives designed to promote cross-disciplinary planning and to support public health and medical responses during an emergency or disaster. They are overseen by the Office of Preparedness and Emergency Management (OPEM) within the Department of Public Health (DPH).⁹

In 2013, DPH introduced HMCCs to promote cross-disciplinary planning and support public health and medical response across the Commonwealth during emergencies and disasters.¹⁰ The HMCCs cover every municipality within the Commonwealth as shown by the map above.¹¹

HMCCs are designed to comply with federal requirements under the Hospital Preparedness Program (HPP) and Public Health Emergency Preparedness (PHEP) Cooperative Agreement, as funded by the Centers for Disease Control and Prevention (CDC).¹² Preparedness activities

⁹ [Mass.Gov – “Office of Preparedness and Emergency Management \(OPEM\).”](#)

¹⁰ [Massachusetts Municipal Association - “Health and Medical Coordinating Coalitions aid in COVID response.”](#)

¹¹ [Mass.Gov - “HMCC Regional Boundaries Map with Communities Labeled.”](#)

¹² [Metro Regional Preparedness Coalition - “Frequently Asked Questions.”](#)

funded by the PHEP program are targeted specifically for the development of emergency-ready public health departments.¹³

For each HMCC region, OPEM has chosen a sponsoring organization to oversee the fiscal and administrative aspects of the HMCC. Generally, within each HMCC there are at least two full-time dedicated staff members: a Program Manager and a Planning and Operations Coordinator. These staff members also serve as Regional Duty Officers, who assist with multi-agency responses during major public health incidents. Membership includes health and medical stakeholders, including hospitals, municipal public health, long-term care and assisted living facilities, community health centers, and emergency medical services (EMS). Regional and municipal emergency management can also participate. Other key members may include home healthcare agencies, hospice providers, behavioral health, and dialysis providers.¹⁴ HMCCs also coordinate with nonmember home health, hospice, and behavioral health providers, the Medical Reserve Corps, and other community organizations.¹⁵

The HMCCs are coordinating bodies only and hold no statutory authority to command or control a response.¹⁶ The role of the HMCC is to foster communication and collaboration within their region. To this end, most HMCCs have three base plans – preparedness, response, and continuity of operations. The preparedness plan details the day-to-day operations of the HMCC, while the response plan is triggered during an emergency event and has several subject area specific appendices. Lastly, the continuity of operations plan (COOP) details how the HMCC will resume operations following a major emergency. HMCCs also host various trainings and conduct multidisciplinary drills throughout the course of the year for stakeholders in their regions, and PHEP coalitions conduct health-related drills, for example emergency vaccine dispensing site drills.

[The HMCC Regions](#)

Region 1 | Western Massachusetts Region

HMCC Website: <https://region1hmcc.org>

Sponsoring Organization: Franklin Regional Council of Governments (FRCOG)

Region 2 | Central Massachusetts Region (Aligning Resources for Central Mass Health Emergencies - ARCHE)

HMCC Website: <https://archecoalition.org>

Sponsoring Organization: City of Worcester

¹³ [Metropolitan Area Planning Council - "Public Health Emergency Preparedness Handbook."](#)

¹⁴ [HMCC Region 3 – "About HMCC."](#)

¹⁵ [Region 1 Listening Session, June 11, 2021.](#)

¹⁶ [Region 3 Listening Session, July 23, 2021.](#)

Region 3 | Northeastern Massachusetts Region

HMCC Website: <https://hmcereg3.org>

Sponsoring Organization: Metropolitan Area Planning Council (MAPC)

Region 4ab | Metro Boston Region (Metro Regional Preparedness Coalition)

HMCC Website: <https://mrpcoalition.org/>

Sponsoring Organization: Cambridge Health Alliance (CHA)

Region 4C | Boston Region (Boston Healthcare Preparedness Coalition)

HMCC Website: [Region 4C - Boston Healthcare Preparedness Coalition](#)

Sponsoring Organization: Boston Public Health Commission (BPHC)

Region 5 | Southeastern Massachusetts, Cape and Islands Region

HMCC Website: <https://www.region5hmcc.com>

Sponsoring Organization: Massachusetts Association of Health Boards (MAHB)

Key HMCC Suggestions

One of the challenges shared by nearly all HMCC regions was the lack of support for municipal public health boards and departments. Health departments, especially in smaller communities, are often understaffed relative to their workload, and some municipalities lack any dedicated full-time staff. In some municipalities, local health officials lack proper credentials. As the HMCC model relies on local health departments, inadequate municipal infrastructure is a barrier to effective HMCC response.

Some stakeholders struggled to effectively utilize additional pandemic-related funding. For example, organizations were hesitant to hire and train additional staff to manage new grants given that the funding was temporary. Additionally, there were administrative hurdles when it came to utilizing existing funds from the PHEP program. PHEP funding can be used exclusively for “planning” initiatives and exercises, but not for “response” initiatives or exercises. Thus, PHEP funds were not available for COVID response. This administrative divide does not exist in reality: planning is an ongoing process, one that continues even when response begins. The enforcement of this divide also differed across regions, exacerbating the confusion leading to more disparate regional response initiatives.

Because HMCCs receive funding through the Commonwealth, their budgets are subject to strict state oversight. More latitude to make budget adjustments without state approval would have eased the operational process. For example, one stakeholder wanted to shift funding away from travel expenses and towards acquiring Personal Protective Equipment (PPE) and spent a substantial amount of time going back and forth with state agencies in order to obtain approval.

Multiple HMCC stakeholders shared similar anecdotes and felt that having more latitude and flexibility in their own budgeting would enable better emergency response.

The Commonwealth's COVID-19 guidance, which HMCC members were expected to either enforce or follow themselves, often changed suddenly and without explanation. Sometimes HMCC stakeholders would first learn of changes to guidance when they were publicly reported. A lack of proactive communication about changes in guidance was not the only communication breakdown. Several stakeholders reported being unable to learn what supplies were available at stockpiles established by the Commonwealth.

The Committee also heard examples of communication issues specific to contact tracing. One example was a piece of software that automatically took contact tracing responsibility for certain cases away from municipalities and reassigned those cases to the Community Tracing Collaborative (CTC). Local health officials eventually learned that they had to log on to the software at midnight and claim the case before it was automatically reassigned. HMCC leaders also identified the need to build consistent partnerships with emergency preparedness networks.

Nearly all of the HMCC stakeholders identified the regional load of balancing calls as particularly helpful. These calls allowed hospitals to share real time data on their patient load and collaborate with other hospitals in the region to address capacity issues.

Many HMCC regions are large geographically and often it may be more efficient for towns in different HMCC regions to collaborate on patient load balancing, allowing hospitals to send or receive patients to and from hospitals in other regions that are geographically closer than hospitals in the same HMCC region. HMCC regional leadership also identified the importance of more deeply integrating Community Health Centers and EMS into the larger HMCC structure to benefit future emergency planning and response efforts.

Section 3: Policy and Regulatory Recommendations

Recommendation #1: Statewide response must be transparent, predictable, and well-communicated

Recommendation: The Committee recommends that the statewide response to COVID-19 be communicated thoroughly and with significant advance notice of any changes. Where appropriate, the state must consider and integrate input from responding local and regional officials into its response plans.

The Committee heard consistently about sudden and dramatic shifts in the state’s response, particularly around COVID-19 testing and the vaccine rollout. For example, some local and regional boards of public health and HMCC stakeholders prepared to administer and manage vaccine clinics, with some stakeholders conducting local vaccine drills, before the Commonwealth suddenly shifted its early strategy to focus on high throughput mass vaccination sites. In addition to the sudden shifts in strategy, the lack of communication and transparency where particularly frustrating as expert stakeholders were often left on standby waiting to get involved in the process.¹⁷

The Committee recommends that DPH and the Executive Office of Health and Human Services (EOHHS) establish a broad, inclusive mechanism for soliciting input and communicating response plans to stakeholders. The process should include transparent communication channels and advance notice of decisions and policies being considered.

Recommendation #2: Plans for vaccines should be suited to communities, particularly communities of color and other high-risk populations

Recommendation: The Committee recommends that emergency response planning prioritize those who are hardest hit to promote racial equity and cultural competency. Building trust among high-risk communities requires bringing people into the planning process and the implementation of response actions. Adhering to existing local action plans will help the state reach these populations.

Since the 2001 anthrax attacks, local boards of health identified over 600 sites to use as primary and secondary emergency dispensing sites for vaccinating the residents they served in case of an emergency. These plans are intended to be drilled yearly, often in the form of local flu vaccine

¹⁷ [The Boston Globe - “‘We don’t have any good answers.’ Local leaders frustrated with Baker’s decision to stop sending doses to local vaccination sites.”](#)

clinics, and “demonstrated their scalability to larger, more complex dispensing campaigns” during the 2009-2010 H1N1 flu pandemic.¹⁸ Hospital systems also have experience standing up vaccine operations and clinics.

Despite the confidence of HMCC members in their readiness to distribute vaccines, the Commonwealth prioritized the limited number of doses it had at first to mass vaccination sites located in venues that could accommodate large numbers of people.^{19, 20} While mass vaccination sites may have been efficient at delivering large quantities of vaccinations, the Commonwealth’s initial, almost singular, focus on these vaccine super-sites raised substantial and persistent equity concerns. In all, the state launched eight mass vaccination sites, located at Gillette Stadium in Foxborough, Fenway Park/the Hynes Convention Center in Boston, the Reggie Lewis Center in Boston, the Natick Mall, a Doubletree Hotel in Danvers, the Eastfield Mall in Springfield, and the former Circuit City in Dartmouth. Some of these sites were poorly served by public transportation, and only accessible via car or ridesharing. These sites cost the Commonwealth a substantial amount of money, and it’s likely those funds would have supported more equitable vaccine distribution if they were allocated to more sites across the state.

The geographic distribution of these sites was such that western Massachusetts, an area roughly the size of Rhode Island, had just one mass vaccination site, while the closest site to the Cape and Islands was in Dartmouth, over 50 miles away from Hyannis. Accessing these sites was a challenge for people who lacked access to a vehicle or in areas where public transit was limited. These large sites were also more difficult to access for the elderly, and the Committee heard repeatedly that the mass vaccination sites, surrounding information, and access points lacked the cultural competency necessary to ensure that they were equitably accessed by residents of color.^{21, 22} While the state would eventually establish a mobile vaccination program and stand up a number of pop-up-clinics, these efforts came later.

As of June 7, 2022, 77 percent of the Commonwealth’s Black residents and 79 percent of the Commonwealth’s Hispanic residents had received at least one dose of the vaccine, compared to 82 percent for white residents. For vaccine boosters, there are much greater disparities. As of the same date, 46 percent of Black residents and 41 percent of Hispanic residents had received at least one booster dose of the vaccine, compared to 62 percent for white residents.²³

Beginning in February 2021,²⁴ the Commonwealth decided to make some of the first publicly available doses available to residents through a website, which led to digital accessibility issues. What’s more, the launch of the Commonwealth’s vaccination scheduling site was marred with

¹⁸ [Massachusetts DPH - “Emergency Dispensing Sites \(EDS\): A Guide for Local Health on Planning for Medical Countermeasure Dispensing Operations \(July 2019\)”](#)

¹⁹ [February 25, 2021 Oversight Hearing](#)

²⁰ [March 23, 2021 Oversight Hearing](#)

²¹ [Region 5 Listening Session, July 7, 2021](#)

²² [February 25, 2021 Oversight Hearing](#)

²³ [Massachusetts DPH – “Weekly COVID-19 Vaccination Report - June 9, 2022”](#)

²⁴ [Boston Globe - “Massachusetts debuts new website to find COVID-19 vaccine appointments.”](#)

technical troubles, with sky-high demand for doses crashing the website in early- and mid-February.²⁵ The website would also show a location as having doses available, but by the time a resident completed the form the location would be out of doses. Additionally, the initial roll out did not offer an ability to sign up on a waiting list. Finally, residents who lacked the proficiency with or access to the technology needed to schedule an appointment through the website also experienced significant barriers to access.²⁶ This substantially impacted the equity of vaccine rollout, creating a “vaccine lottery,”²⁷ where the residents with the fastest computers and internet connections, or who worked in a setting that allowed them access to a computer, had an advantage in accessing a vaccination appointment.²⁸ After these website failures, the Commonwealth eventually upgraded the web portal and added the option of dialing 2-1-1 to allow residents to schedule a vaccination appointment over the phone with the help of a call specialist.²⁹

Additionally, throughout the pandemic response there were substantial concerns that the administration’s outreach at times lacked the necessary nuance and comprehensive plan to reach vaccine hesitant individuals and historically underserved populations. Local public health leaders and trusted messengers who know the people in their communities could have helped address vaccine hesitancy much earlier in the pandemic. Building trust among communities of color, immigrant communities, and other high-risk populations requires giving their representatives a seat at the table for both the planning and implementation of responses.

The administration’s response lacked cultural competency in other ways as well. Materials were not always made available in the necessary languages for communities with high immigrant populations. These communities struggled on their own to find translation services needed for critical outreach. Moreover, translated messages were not always presented in a culturally competent manner.

The Committee recommends that response plans be crafted to meet the specific needs of local communities, particularly communities of color and other marginalized populations.

Local leaders are best qualified to create plans and are in touch with the needs of their own communities. They have established connections with pediatricians, primary care doctors, faith leaders, and other community leaders. While state-run mass vaccination sites can play a role in an emergency response, they should not be the primary choice for vaccinating the population, especially when doses are in-demand and equity is a priority.

²⁵ [NBC Boston - “Massachusetts Vaccination Scheduling Website Crashes as Appointments Open for 65+.”](#)

²⁶ [February 25, 2021 Oversight Hearing](#)

²⁷ [February 25, 2021 Oversight Hearing](#)

²⁸ [March 23, 2021 Oversight Hearing](#)

²⁹ [WWLP - “State phone line now available to eligible residents looking to schedule COVID-19 vaccine appointment.”](#)

Recommendation #3: Strengthen local and regional public health infrastructure

Recommendation: The Committee recommends strengthening local and regional public health infrastructure so local officials can lead and plan for local emergency response. This will require sufficient funding streams and expanding regional initiatives.

Municipal public health officials understand the needs of their communities and are best suited to lead and plan for the local emergency response process, including public education, surveillance, data collection, and reporting, as well as supply management, contact tracing, vaccinations, and other tasks. However, there are stark differences and long-standing inequities between and within public health departments in the state's 351 cities and towns.

The Commonwealth is one of the few states that does not dedicate annual baseline or formulaic funding to local public health departments. As a result, municipalities in the Commonwealth have widely varying abilities to provide public health protections to residents. While some cities and towns have well-funded, professionally-staffed local public health departments, some local boards of health are staffed solely by volunteers, and others have only a single part time staff member. This is always dangerous for public health, and during the pandemic the consequences were severe.

Starting in FY 2021, the legislature funded modest public health excellence grants to support local public health services through partnerships with neighboring localities. These grants enabled cities and towns to increase staff capacity and efficiency through cross-jurisdictional sharing arrangements. Regional partnerships are critical to provide small towns with sufficient resources to meet their statutory obligations. For example, in Barnstable County, the county level Department of Health and Environment effectively coordinated responses for over a dozen localities through shared planning and service provisions. While these grants remain helpful, the Commonwealth still lacks a robust public health infrastructure capable of fully executing on needed disease surveillance and enforcement, and large-scale vaccine administration, should they be necessary.

The Committee recommends aggressive action to address these inequities, including both legislative and regulatory action, as well as funding. As part of the American Rescue Plan Act (ARPA) supplemental appropriations law (*An Act relative to immediate COVID-19 recovery needs*, Chapter 102 of the Acts of 2021), the legislature authorized \$200 million over five years for local and regional public health. The one-time funds include support for standardized and unified data systems, for staff training and education, and for direct support for essential functions, particularly to address health disparities. Additional ongoing funding will be needed to maintain the infrastructure supported by this allocation.

The Committee recommends the permanent establishment of a statutory framework for the funding, with local public health agencies required to meet quality standards.

Massachusetts is somewhat unique among the states, in that our local public health organizations have been established at the municipal level, as opposed to the county or regional level. The Commonwealth must enact legislation that would set statewide standards and provide funds to ensure that everyone has access to a core set of public health protections and that there are sufficient funds for robust capacity building and data collection. Local public health departments should unquestionably have sufficient resources to manage vaccination administration for the next pandemic.

Recommendation #4: Fortify supply chains and stockpiles

Recommendation: The Committee recommends that the Commonwealth have a well-maintained stockpile of personal protective equipment (PPE) and additional medical and non-medical supplies that can be immediately accessed and distributed when needed. The Commonwealth should also take efforts now to increase its capacity to manufacture key supplies in Massachusetts in order to fortify its supply chains.

The Commonwealth experienced severe shortages of critical supplies and materials, especially early in the pandemic. These shortages and struggles were not unique to Massachusetts, or even the United States, as the entire world scrambled to obtain and stockpile testing swabs, masks, and other PPE.

The Committee recommends that the Commonwealth have a well-maintained, long-term stockpile of adult-use and child-use high-quality, high-filtration, masks that can be rapidly distributed to all members of the Commonwealth if the need arises, along with additional necessary supplies. The administration should consider how to best utilize Massachusetts and domestic manufacturers in readiness policies. Additionally, the Commonwealth should determine how much of the stockpile inventory should be physically stored within the geographic boundaries of the Commonwealth. Monitoring the inventory and establishing supply rotation policies will be essential for emergency preparedness.

This stockpile must reflect the current scientific consensus that cloth masks provide insufficient protection; high-quality, adult-use masks should be defined as an N95 respirator sourced from a National Institute for Occupational Safety and Health (NIOSH)-Approved Particulate Filtering Facepiece Respirator manufacturer. High-quality child-use masks should be defined as a KN95 or KF94 respirator, sourced from a Food and Drug Administration (FDA) registered manufacturer using the FDA's list of Emergency Use Authorization (EUA)-authorized KN95 or KF94 models or the FDA's Establishment Registration & Device Listing database, and should be available in various sizes to fit children aged two and up.

The Commonwealth should make a concentrated effort to stockpile additional supplies, such as testing swabs and kits, vaccination supplies, ventilators, and other medical and non-medical supplies needed to respond in the event of a major respiratory illness emergency.

Procurement should not be a major barrier for the state's initial response to any crisis.

The Committee recommends that information surrounding this supply stockpile should also be as transparent as possible. The manufacturers, current amount of supplies, recent withdrawals from the supply, and necessary supply rotation and management policies should all be regularly publicly reported. Plans should include systems for dealing with items that are near the end of their useful shelf life.

The Committee recommends that the Commonwealth develop a plan for rapid distribution of masks to individuals keeping in mind the necessary prioritization of communities disproportionately affected by the COVID-19 outbreak. Additionally, local public health and emergency management officials should have a clear channel and consistent process available to access necessary supplies in the event of a local or regional emergency, like a regional COVID-19 cluster-outbreak. Local and regional access to the inventory can benefit municipal preparedness or response activities triggered by local conditions changing ahead of potential statewide measures or bulk distributions.

Recommendation #5: Create a mechanism to report at-home and rapid testing results to local boards of public health and the Department of Public Health

Recommendation: The Committee recommends the creation of a mechanism to report at-home and rapid testing results. Once implemented, DPH should publish the relevant data on how many positive rapid tests have been reported daily.

At the start of the pandemic testing was sparse, reflecting the limited available supplies and high demand. As the pandemic progressed, supplies of tests have generally improved. Now, at-home, self-administered, rapid COVID-19 antigen tests have been authorized for use by the FDA, and can be purchased online or over the counter at pharmacies. These tests are covered by health insurance, providing up to 8 tests per person per month, at no cost to the consumer.³⁰ Federal and state governments each launched programs to distribute millions of these tests at no cost to residents, understanding that these tests have proven to be a surveillance and response tool, due to their accessibility and low cost. In June 2022, the Baker administration announced that it

³⁰ [WGBH - "You can now get free rapid COVID tests at a pharmacy by showing your insurance card."](#)

would distribute an additional 2 million rapid tests for municipalities to provide to their residents.³¹

However, despite the efficacy of these at-home tests, DPH and local public health authorities do not have a mechanism for members of the public to report positive test results from home tests. While some towns have set up voluntary reporting systems, these are not widely known about or used.³² When someone receives a positive result on a home test, that information is not automatically shared with anyone, so close contacts may not be notified that they were exposed. This lack of reporting limits our ability to gather accurate data about the state of the virus in the Commonwealth and stem the spread of the virus.

The Committee recommends the creation of a mechanism to report rapid testing results to local boards of public health, DPH, or both. The mechanism must be linguistically, culturally, and technologically accessible. Once a mechanism is created, DPH should publish the relevant data on positive rapid tests, including demographic and geographic breakdowns. Additionally, allowing individuals a mechanism to report positive results allows the Commonwealth to create a process to follow up on positive results, providing residents with guidance on reaching out to medical providers and conducting contact tracing when needed. In addition to a reporting mechanism, the state will likely need to establish an incentive program to encourage people to report their testing results. This mechanism will be of critical importance for our preparedness and planning in the next phases of this pandemic. The Institute of Health Metrics and Evaluation estimates that we are only detecting roughly 13% of all COVID-19 infections across the country,³³ and this number is likely to drop as at-home tests become the primary diagnostic tool for many residents.

Reporting of rapid test results should feed quickly into treatment and care for those who test positive. A great deal of progress has been made on the development of antiviral therapeutics. Two antiviral pills (Paxlovid and Molnupiravir) and two antiviral treatments given by an intravenous (IV) infusion or injection (Remdesivir and Bebtelovimab) are currently available. Quick action is important as the antiviral pills must be taken within 5 days of one's first COVID-19 symptom, and the injections within 7 days.³⁴ Massachusetts regulations require insurers to cover these treatments without a need for prior authorizations or any patient cost sharing, such as deductibles or copays.³⁵

Massachusetts has developed programs to facilitate treatment availability for patients that are hard to reach through conventional medical care systems. A telehealth service can determine if a

³¹ [MassLive - "Baker administration to distribute over 2 million at-home COVID-19 rapid antigen tests to Massachusetts residents."](#)

³² [WGBH - "As state ignores at-home COVID test data, boards of health come up with their own solutions."](#)

³³ [Institute for Health Metrics and Evaluation - "COVID-19 Results Briefing: United States of America - May 5, 2022."](#)

³⁴ [Mass.gov - "Treatments for COVID-19."](#)

³⁵ [Mass.gov - "Insurance FAQs During COVID-19 \(CORONAVIRUS\) Public Health Crisis."](#)

Paxlovid prescription is appropriate, and the pills are available through a free overnight delivery service.³⁶ The remote clinical consultations are available in English, Spanish, Haitian Creole and Portuguese. Additionally, the federal government runs 75 different test-to-treat sites at pharmacies, community health centers, and clinics across the Commonwealth.³⁷ For the non-oral treatments, the Commonwealth has set up nine sites to provide treatment around the state through Gothams, a national commercial rapid response services firm.³⁸ Free transportation to these sites is also available. There is also an in-home treatment program for those who need care in their home.³⁹ In addition to providing these critical anti-viral treatments, test-to-treat sites and programs in Massachusetts should also provide a supply of high-quality masks, additional at-home tests for residents to take home with them and guidance for their proper use.

Recommendation #6: Prepare and plan for testing needs, including local production of testing materials

Recommendation: The Committee recommends that the Commonwealth prepare a scalable plan to increase testing and production of testing materials locally during emergencies. The Commonwealth should be prepared to be self-sufficient in its ability to provide testing for its residents during a pandemic.

Efforts to provide Commonwealth residents with COVID-19 testing resources faced many challenges in the early days of the pandemic, and some of those challenges persisted throughout, or resurfaced through multiple spikes. Some of these testing challenges were unique to COVID-19, some of those challenges were outside of the state's control, and some could have been avoided with better preparation and by following previously developed plans.

Asymptomatic spread of the coronavirus posed a significant challenge because widespread testing even of asymptomatic people was needed, placing significant demand on limited testing resources. Materials for COVID-19 tests and swabs were in high demand globally but production did not immediately increase, leading to widespread shortages. The federal government has tools to increase the production of emergency supplies, namely the Defense Production Act, but the Trump administration limited implementation of the law.

As a result of these issues, testing was severely limited during the early days of the pandemic, which allowed for widespread community transmission of COVID-19. Although frequent and widespread testing was understood early-on as key to containing the spread of COVID-19, most residents were not eligible to access a COVID-19 test during the early days of the pandemic as

³⁶ [Mass.gov - "Treatments for COVID-19"](#)

³⁷ [Office of the Assistant Secretary for Preparedness & Response - "Get medication for COVID-19"](#)

³⁸ [Mass.gov - "Information for providers about therapeutic treatments for COVID-19"](#)

³⁹ [Mass.gov - "In-home COVID-19 Treatment Program"](#)

testing was limited at first to only individuals who were symptomatic or had been exposed to someone who tested positive for coronavirus, as well as to nursing home residents and certain first responders.

When asymptomatic testing did become available to members of the general public there were long wait times at testing locations and test results were returned after four or five business days, possibly longer. The Commonwealth's response included action from the Division of Insurance requiring several measures: health insurance plans to eliminate prior approval requirements and prohibit cost sharing for COVID-19 testing,⁴⁰ partnerships with private contractors to operate COVID-19 testing and acquire testing resources, a state sponsored Stop the Spread testing program with mobile and school-based testing, and a public information campaign that publishes statewide testing data.

The Committee recommends that the Commonwealth prepare by having a plan to increase production of testing materials locally during emergencies.

The Commonwealth's testing rollout plan was controversial. By April 8, 2020, there were two state run testing sites available specifically to public safety personnel, at the Big E in West Springfield and Gillette Stadium in Foxborough. These sites served police officers, firefighters, EMS and Public Safety Answering Point (PSAP) personnel, correction officers, mortuary service providers, and state active-duty National Guard personnel who performed critical public safety functions. On April 10, 2020 after criticism around the state's eligibility criteria, grocery store workers gained access to these testing sites.

The Committee recommends advance planning for testing to help alleviate resource shortages and to provide a roadmap for navigating those shortages. It is likely that similar resource constraints during future pandemics may require limiting testing to certain priority populations at first. However, decisions around which populations should receive priority access to a scarce resource during a pandemic must be made transparently. The Governor's Advisory Board lacked transparency and offered no stated way to provide public input. When the announcement of certain categories of populations received backlash, sometimes those categories would quickly be amended and sometimes not at all.

In early April 2020, the Baker-Polito administration announced a mobile nursing home testing program to bring testing on-site for residents of long-term care facilities like nursing homes and rest homes. This was the first instance of the Commonwealth bringing COVID-19 testing to certain populations. The mobile COVID-19 testing infrastructure was later taken to the Department of Corrections facilities and K-12 schools to conduct testing if a cluster of cases had been detected. The mobile testing infrastructure was also eventually deployed to communities that did not have a Stop the Spread location. On July 18, 2020, the Commonwealth was already in Phase Three of a Four Phase reopening plan when the Stop the Spread Initiative was

⁴⁰ [Mass.gov - "Division of Insurance, COVID-19 \(Coronavirus\) Testing"](#)

announced. The Stop the Spread Initiative brought state-sponsored testing to communities that were above the state average in total cases and positive test rate. The first group of Stop the Spread communities was Chelsea, Everett, Fall River, Lawrence, Lowell, Lynn, Marlborough, and New Bedford.

The first iteration of a state-sponsored school testing program began in August 2020 when the Baker-Polito administration announced state-sponsored mobile testing units which could be requested to come to a public or private school to test a group of students, staff, or both if a potential cluster of COVID-19 had been identified and transmission appeared to have occurred within the school. On November 18, 2020, the administration announced it would also pilot Abbot BinaxNOW rapid test kits at 134 public school districts, charter schools, and special education schools that were providing any type of in-person instruction, including full in-person, hybrid instructional models, and in-person services for high-needs students. In January 2021, as vaccines were beginning to be administered, pooled testing in schools was first rolled out. Pooled testing involves mixing several test samples together in a “batch” or “pool,” and then testing the pooled sample with a diagnostic PCR test for detection of COVID-19. If a pooled test result is negative, then all individuals within that pool are presumed negative and may continue to remain in school. If a pooled test result is positive, then everyone in the pool is given an individual diagnostic test. The Commonwealth is now phasing out school-based testing, starting in the summer of 2022.

The Committee recommends that any state plans for conducting disease surveillance include plans to bring testing to residents and conduct pooled testing in schools so that those are not separate or secondary initiatives. Efforts to bring testing to residents were partially successful but limited. School-based testing was late in coming and poorly managed. A much larger mobile testing effort would have been possible had it been focused through HMCC members at the onset of the pandemic. Retailers like RiteAide and CVS were not expected to bring testing to Commonwealth residents, and any mobile testing efforts were separate from testing conducted by pharmacies and retailers. This meant different contracts, different vendors, and different initiatives had to be developed once mobile testing became possible.

Recommendation #7: Invest and prepare for contact tracing

Recommendation: The Committee recommends that the state invest in developing a branch of the MAVEN software or its equivalent specifically for contact tracing that contact tracers who are not from local health departments can access directly.

The plan for COVID-19 contact tracing in Massachusetts consisted of local health jurisdictions receiving information directly about confirmed positive cases and either conducting contact tracing themselves or leveraging assistance from the state to help with contact tracing as needed.

On April 3, 2020 the Baker-Polito administration announced the formation of the Community Tracing Collaborative (CTC), a collaboration with Partners in Health (PIH), to provide contact tracing assistance to municipalities. The CTC was a partnership between four groups: the Massachusetts COVID-19 Command Center, the Commonwealth Health Insurance Connector Authority (CCA), MA DPH, and PIH. The COVID-19 Command Center was responsible for overall direction and coordination of the CTC, while the CCA worked to establish a virtual support center and enable connectivity. DPH was in charge of maintaining data, guides, and processes. PIH was responsible for hiring, training, and managing the workforce.

The CTC was designed as “a scalable utility to augment and supplement the public health response and to support local public health jurisdictions with case investigation, contact tracing, as well as offering other supportive services during the COVID-19 pandemic.” The CTC received an average of 63 percent of total statewide new confirmed cases during its work.

Because the state was unprepared to conduct contact tracing, the system that was developed was inefficient, ineffective and expensive. Laboratories would upload COVID-19 test results into the state’s Massachusetts Virtual Epidemiologic Network (MAVEN) system where local boards of health, local health departments or their representatives at regional health collaboratives could access the information on positive COVID-19 test results. Local boards of health could then conduct contact tracing on a positive case within their jurisdiction or could assign a case, multiple cases, or all cases to the CTC.

These difficulties in part stemmed due to the initial lack of representation of local public health in the process. Public health nurses and other local and regional board of health staff could have brought their expertise to the software design and work flow protocols.

Initially, there were difficulties getting requisite information to the newly formed CTC. Without a separate, unique Customer Relationship Management (CRM) system, the contact tracers newly employed by the CTC would have had to directly access the state’s MAVEN system, where positive COVID-19 test results were being uploaded from laboratories. This presented multiple problems. MAVEN was not designed to be partitioned in a way that grants access only to COVID-19 data, so contact tracers would have been able to access data on the more than 90 diseases recorded in the MAVEN system. Additionally, while local officials could access MAVEN data solely for the people in their jurisdiction, statewide contact tracers needed access across all 351 jurisdictions.

Developing a unique CRM for the CTC, which had to be Health Insurance Portability and Accountability Act (HIPAA) compliant, was a costly and significant effort. The CTC estimates that \$68.3 million was spent on Accenture, AWS, and Salesforce software to meet this need. The

CRM was integrated with MAVEN with the hope of facilitating automated collaboration between the CTC and local boards of health, as well as allowing the CTC to generate public health and advanced reporting and analytics. These investments should not be abandoned following the end of the Commonwealth's work with CTC. Items such as scripts, training materials and others should be retained and shared with those continuing this work.

Integrating information between that CTC's CRM system and the state's MAVEN system on a daily basis presented yet another challenge. The CTC's CRM system was designed with the hope that it could exchange information with MAVEN in real time, but this effort was unsuccessful. At first, data was not returning from the CTC's system back to MAVEN so local boards of health did not have any visibility into what was happening with records they had sent to the CTC. A makeshift solution was developed, incorporating handmade reports created daily by CTC supervisors, summarizing cases for local boards of health.

Communication between the CTC and local health departments was also a challenge. The CTC was a brand-new entity that needed to communicate with all 351 local health jurisdictions but had no pre-existing relationships or contacts. It took time and effort for the CTC to obtain contact information for the relevant officials in each municipality, and then establish lines of communication. The CRM used by the CTC was not used at all by local health officials, so all data needed to be entered into MAVEN, and MAVEN data entry was not uniform throughout the 351 municipalities. If a case, contact, or cluster investigation activities crossed jurisdictional boundaries or crossed multiple schools or institutes of higher education, the CTC would need to communicate with officials in multiple jurisdictions. DPH and the CTC started a weekly Local Public Health Workgroup to discuss strategies to strengthen communication and working relationships. These conversations led to the creation of Local Health Liaison positions at the CTC, who served as single points of contact at the CTC for local public health personnel in each municipality.

The CTC also did not communicate with schools when students tested positive. Another complication was that students in boarding schools were not included in state contact tracing efforts, and those schools were told to do their tracing independently. Communication difficulties also arose when case numbers surged or declined, and CTC ramped its activities up or down, resulting in corresponding changes in the responsibilities for local and regional boards of health. Problems with these handoffs led to lags that impacted contact tracing services.

In general, local officials reported a lack of consistency in CTC protocols. Local officials also were challenged by the frequent turnover of their assigned CTC liaison. Often the CTC had out-of-date lists of local contact people, which added to the miscommunication. In accordance with CTC protocol, during case count surges, CTC would make a single phone call or send a single text to positive cases that had been assigned to them, and they would not follow up if they did not reach the person. Additionally, if the CTC did not reach the person and did not successfully

conduct contact tracing, the CTC would not notify the local board of health, and any close contacts who may have been exposed would not be notified.

The CTC's services were not used evenly by all municipalities. Some municipalities relied on their own contact tracing or relied on regional health collaboratives. As of March 2021, 339 of the state's 351 local boards had used the CTC and the CTC reported that as many as 200 municipalities were using their services at a given time. The CTC ceased operations on December 17, 2021 after making over 2.6 million calls across the commonwealth at a cost of \$157.9 million.⁴¹ Their work was transferred to local health departments and to the MassNotify system, which is a cell phone app built on Google and Apple's automated anonymous exposure notification technology.

The Committee recommends that the state develop a branch of the MAVEN software specifically for contact tracing which contact tracers can access directly. The CRM developed for the CTC's COVID-19 contact tracing will not have a useful life beyond this pandemic. The Commonwealth spent \$68.3 million on these software services, which would have represented a transformative investment for the Commonwealth's own public health data management systems, and yet this problem remains unresolved for future pandemics.

Recommendation #8: Fund contact tracing efforts by investing in local public health, with supplemental funding during disease outbreaks

Recommendation: The Committee recommends that the Commonwealth prepare and fund local health officials to lead contact tracing in future pandemics.

The April 2020 announcement of contact tracing came with a plan to spend \$44 million to hire 1,000 people. PIH hired contact tracers and employed them on behalf of the CTC. As the pandemic's reach exceeded projections, total hiring and spending far exceeded initial projections. PIH employed nearly 4,500 unique individuals over the course of CTC operations. From April 2020 to May 2020, PIH's workforce more than doubled from 650 to 1,328. Staffing levels declined during the summer of 2020 to as low as 582 in August, and eventually peaked in January 2021 at 2,375, with 2,296 full time employees. These employees assisted with making over two million calls to confirmed positive cases and their contacts. The CTC supported over 500,000 cases and over 250,000 contacts that were delegated from 220 cities and towns. This comprised an average of 63 percent of the contact tracing for positive cases in Massachusetts.

⁴¹ [The Boston Globe - "Nearly \\$160 million later, the state's COVID-19 contact tracing program is ending."](#)

PIH's budget for this work was \$165.3 million, with an average monthly spend of \$7.8 million over 21 months. Accenture, Amazon Web Services, and Salesforce were paid \$68.3 million over that same period for software costs. The Commonwealth Enterprise Group was paid \$3.5 million for project management, start-up, and oversight of the higher education contact tracing program, statewide travel quarantine program, and work on MassNotify. Archipelago Strategies was paid \$1.7 million for marketing, outreach and community awareness campaigns. The total cost of these contracts alone was over \$238 million, which does not reflect any costs incurred by local health jurisdictions.

After one and a half years of work the CTC averaged 79 percent of cases and contacts reached. There were five months where the CTC reached 90 percent or more of total cases and contacts. That success rate fell to 61 percent in November of 2020, and averaged 60 percent from July 2021 through October 2021.

Concern about lower success rates led to some instances of municipalities not referring cases to the CTC. Local health officials also were not notified of instances where they passed a case to the CTC but the CTC failed to successfully conduct contact tracing, and the CTC did not seek local assistance if a confirmed case was declining to quarantine or isolate. By making multiple calls and, if unsuccessful, working with the local board of health to find the person and alert them, regional health agents and public health nurses reported being able to reach closer to 100 percent of cases and contacts when they performed contact tracing.

The Committee recommends that the Commonwealth prepare local health jurisdictions to lead contact tracing in future pandemics, in addition to augmenting the MAVEN system. Having both local public health jurisdictions and the CTC conduct contact tracing meant that two entities were responsible for performing the same task, which is inefficient. Local health jurisdictions experience cross-jurisdictional problems when conducting contact tracing, such as when a resident lives in one town but works in another. Regional health collaboratives are the solution, but they require flexible funding as recommended by this report.

The Committee recommends that local health jurisdictions should also be funded to deliver baseline public health protections. Local health departments and regional health collaboratives should be the Commonwealth's first choice for conducting contact tracing, and any emergency funding should support their work.

Recommendation #9: Reduce bureaucratic and administrative hurdles for HMCCs to enable them to respond efficiently

Recommendation: The Committee recommends that PHEP coalitions and HMCCs be given the ability to operate more autonomously by executing plans

and designating funds in the manner they see fit in order to best operate with maximum efficiency.

Budget management and needing prior authorization was a frequent issue for PHEP coalitions and HMCC members. In fact, nearly every financial decision by HMCCs needs to be routed through OPEM for approval. HMCCs face additional bureaucratic hurdles due to an enforced divide between “planning” and “response” efforts. Funding received from the PHEP program can only be used by local regional health organizations for planning initiatives, and cannot be used for response efforts. In practice, this distinction creates a number of complications that delay getting critical work done locally and expeditiously. Many stakeholders testifying to the Committee argued that such a divide often does not exist, as planning efforts are a continual process that continuously affect response plans.

Additionally, this administrative divide was not applied consistently throughout the course of the pandemic. For example, one stakeholder sought approval to hold a training for quarantine and isolation practices in January 2020, but OPEM denied their use of PHEP funding on the basis that this training crossed the line between preparedness and response. When the stakeholder decided to conduct the training anyway, finding the funds through other sources, OPEM reversed its decision, but insisted that the exercise not be specific to COVID-19 and that the HMCC leadership could not support the training. Conversely, a stakeholder in a separate region was able to hold a vaccine rollout tabletop exercise without pushback or similar stipulations from OPEM. These administrative hurdles and their uneven application increase the burden on stakeholders.

Recommendation #10: Continue and expand state supported wastewater monitoring and epidemiology

Recommendation: The Committee recommends that the Commonwealth use wastewater surveillance as an essential tool for detecting and tracking the presence of COVID-19 and other diseases over time. This surveillance should be used as a mechanism to warn of re-emergences or outbreaks of disease and trigger the deployment of countermeasures to reduce transmission. The Commonwealth should initially expand additional wastewater monitoring, focused on adding more within municipalities, institutions of higher education, office campuses, congregate care settings, and prisons.

EOHHS, in collaboration with the Department of Environmental Protection (DEP) and Massachusetts Water Resources Authority (MWRA), conducts wastewater monitoring to track COVID-19 cases in the Commonwealth. MWRA’s pilot program is operated under a contract with BioBot Analytics, to test their samples. Biobot also monitors wastewater in 11 other

counties across the Commonwealth.⁴² Additionally, college campuses,⁴³ correctional facilities,⁴⁴ and even some individual cities have their own wastewater monitoring programs,⁴⁵ with some facilities using their monitoring program to pinpoint positive cases in particular buildings.⁴⁶

These programs have been an effective tool to monitor the state of and trends in case numbers throughout the pandemic. Wastewater monitoring uses a pooled sample of wastewater from a building or treatment facility, allowing for widespread epidemiological surveillance at lower cost and with less logistical burden when compared to more intensive measures such as mass individual testing. Particularly for middle-to-lower income municipalities, wastewater surveillance offers an economically feasible, long-term way to monitor disease transmission and prevalence.

Implementing an expanded, ongoing wastewater surveillance initiative would increase the Commonwealth's ability to spot disease outbreaks early, as well as estimate prevalence, track trends, and identify infection clusters. Because wastewater monitoring is not limited to just COVID-19, once in place this surveillance technology can be used for influenza and other rapidly-spreading diseases.

COVID-19 wastewater monitoring is far more effective than large-scale clinical testing, given that wastewater monitoring can effectively test thousands of individuals through one sample. This is especially helpful for the Commonwealth's equity commitment, as communities that are the hardest hit are often those whose residents struggle to get access to testing. Additionally, because wastewater monitoring is effectively automatic for residents, it does not require that an individual purchase or pay for any sort of testing. The passive and automated nature of this process also means that even when the rate of new testing drops, the Commonwealth would still be able to monitor for future COVID-19 surges and other illnesses.

The Committee recommends that the Commonwealth substantially expand wastewater surveillance as an essential tool for detecting and tracking the presence of COVID-19 and other diseases over time. This surveillance can warn of re-emergences or outbreaks of disease and aid in the deployment of countermeasures to reduce transmission. The wastewater data available as part of the MWRA's pilot program has proven to be invaluable, as it allows government leaders, epidemiologists, and even the general public to make informed decisions based on the current prevalence and disease trends. Wastewater sampling occurring in other parts of the state beyond the Boston region is also valuable to those communities.

⁴² [Biobot Analytics – “The Biobot Network of Wastewater Treatment Plants”](#)

⁴³ [UMass Dartmouth – “Wastewater Testing Information”](#)

⁴⁴ [MassLive.com - “Massachusetts jail monitoring wastewater to check for COVID-19.”](#)

⁴⁵ [Town of Provincetown, Massachusetts – “Provincetown Wastewater Surveillance – COVID”](#); [MassLive.com – “Amherst begins wastewater testing for COVID virus.”](#)

⁴⁶ [New England Public Media – “UMass Amherst has been testing wastewater of individual buildings to limit spread of COVID-19”](#)

Additionally, the Committee recommends that the Commonwealth should initially target additional wastewater monitoring, focused on adding within municipalities, institutions of higher education, schools and day care centers, office campuses, congregate care settings, and prisons. This approach should then scale up to include targeted municipalities with higher populations of disadvantaged people, and eventually to the creation of a statewide monitoring program targeting all areas of the Commonwealth, allowing for the monitoring of various viruses and diseases, including COVID-19. Much like the Commonwealth’s current wastewater surveillance, this ongoing approach would likely be best managed at a regional level, targeting specific locations.

The Committee also recommends that the data currently being gathered by the MWRA and at other sites should continue to be collected on a regular basis and made publicly available at all times. This data is an important tool for stakeholders and decision makers both in the Boston area and in the Commonwealth at large. This and future data should continue to be easily accessible.

Recommendation #11: Improve data gathering and release by the Commonwealth to make it more transparent, readily accessible, detailed, and timely

Recommendation: The Committee recommends that when making pandemic data public, DPH should work to include cross tabulations detailing infections, hospitalizations, and deaths by racial and ethnic background, and by age. To track surges, the data should be as granular as possible, mindful of the complexities in reporting for small populations.

The Committee heard significant frustrations about the lack of data collection, reporting and transparency from the Commonwealth. Currently, Chapter 93 of the Acts of 2020⁴⁷ requires DPH to report daily the number of people tested for COVID-19 in the past 24 hours, the number of people who tested positive in the past 24 hours, the aggregate number of people tested as well as tested positive for COVID-19, the number of people hospitalized due to probable or confirmed COVID-19 or COVID-19 complications, the aggregate numbers of deaths from COVID-19 as well as deaths in the past 24 hours, and the number of known cases and mortalities among residents of elder care facilities. Additionally, the legislature required that demographic data be compiled and reported every three days for all those who are tested, test positive, and are hospitalized due to COVID-19.

⁴⁷ [The Commonwealth of Massachusetts – “Chapter 93, Acts of 2020”](#)

The Committee recommends that when publishing pandemic data, DPH should work to include cross tabulations detailing testing, infections, hospitalizations, and deaths across different racial and ethnic backgrounds, as well as across different age groups, primary language, occupation, and disability status. Without this disaggregated data, the state is in the dark about the nature of these inequities and therefore limited in its ability to take strategic action. Compiling and releasing this data on a daily basis in peak surge moments would increase the transparency of the Commonwealth’s response. Additionally, evidence from the United Kingdom suggests that governments can improve public trust by engaging in more robust and nuanced communication.⁴⁸ Second, releasing disaggregated data by municipality across racial and ethnicity, age, occupation, primary language, and disability status would allow for more targeted and culturally competent outreach, as well as setting and tracking equity goals. Lastly, as the response to the pandemic continues to evolve, many programs launched by the Commonwealth have begun to be phased out, such as the statewide school testing program. Our data infrastructure should not follow suit, and these data collection and reporting mechanisms are a necessary component of our current response to the virus. Given that the past two winters have seen sharp spikes in the number of new COVID-19 infections, the Committee urges that the Commonwealth preserve the whole of our public health data reporting until at least early 2023.

The MAVEN system does not collect data on sexual orientation and gender identity (SOGI), and it was not advisable to add this capability in the middle of an ongoing crisis. Collecting SOGI information would be helpful in identifying trends and better understanding disease prevalence. The Commonwealth should work to add the necessary enhancements to allow this data to be captured as is feasible.

The Commonwealth has already launched a number of equity initiatives most notably the administration’s vaccine equity initiative⁴⁹ and the over \$71 million passed by the legislature as part of the ARPA spending bill to create a four-year program to improve and address health disparities in communities with large populations of socially and economically disadvantaged groups.⁵⁰ However, ensuring that we have publicly available data on the disparate impacts of the pandemic across the Commonwealth is critical for holding decision makers accountable in their commitment to health equity. As the legislative and executive branch strive to use ARPA funding to address inequities, accountability will be key moving forward. Additionally, more granular data from immigrant communities would aid local public health in creating culturally competent outreach.

Additionally, the Committee recommends increasing the detail of staffing data published within health care settings. Emergency departments, behavioral health departments, and local public health have all reported staffing challenges. Understanding where and how many staff are

⁴⁸ [Plos One - “Trust and transparency in times of crisis: Results from an online survey during the first wave \(April 2020\) of the COVID-19 epidemic in the UK.”](#)

⁴⁹ [Mass.gov - “COVID-19 Vaccine Equity Initiative”](#)

⁵⁰ [The 192nd General Court of the Commonwealth of Massachusetts – “Bill H. 4269”](#)

absent due to a COVID-19 infection or to care for a loved one will be of assistance to regional leadership when performing inter- and intra-region hospital patient load balancing.

Lastly, the Committee recommends that the Commonwealth should make a concentrated effort to build public health data capacity at a regional and local level. Several HMCC regions reported frustrations with managing the Commonwealth’s data systems. One HMCC member reported having a full time staff member whose entire position became solely managing and entering data into the state’s system and felt as if they were “treading water” in terms of the workload. Currently there is no comprehensive local public health data system. The Commonwealth must build, align and re-shape data systems and build local and regional capacity to use them effectively.

Recommendation #12: Restructure and update the Commonwealth’s incident management structure to better align with well-established standardized incident organizational structures

Recommendation: The Committee recommends that (1) significant changes be made to the Commonwealth’s approach to Incident Command Structures (ICS) so that there is an established standardized system of management practices and organizational structure; (2) that Public Health and Emergency Management fully integrate hospital emergency management and clinical expertise into their overall emergency planning infrastructure and efforts; and (3) the DPH and the Massachusetts Emergency Management Agency (MEMA), along with the HMCC regions, should review additional ways to improve and enhance coordination, unified command opportunities and planning for future events.

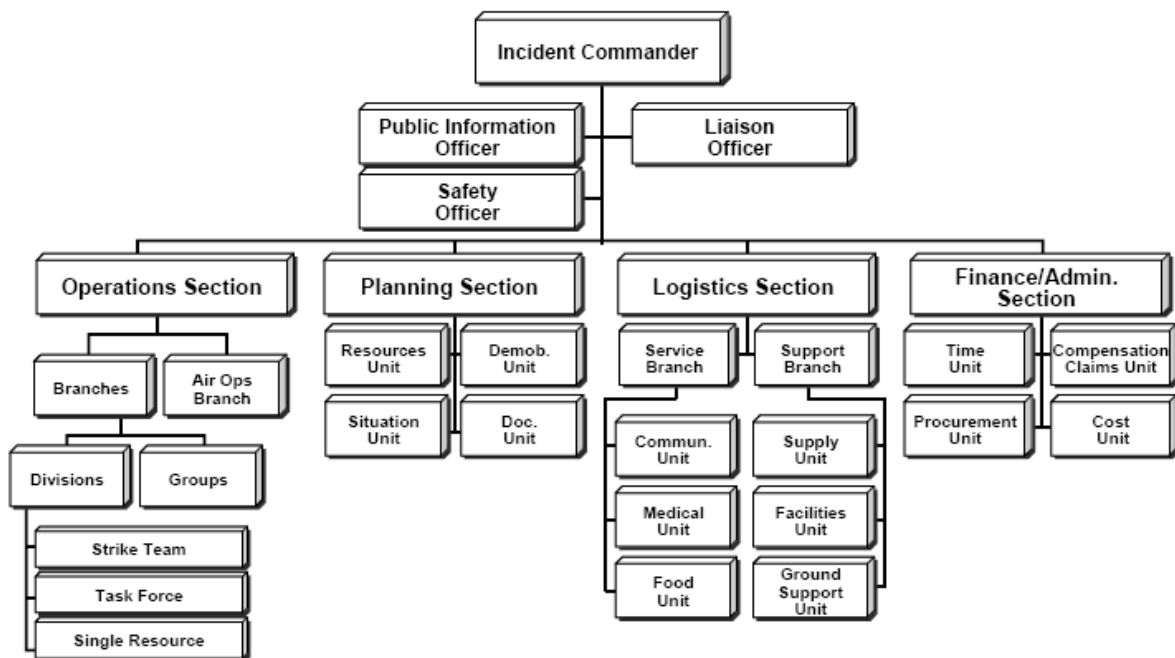
“The NIMS represents a core set of doctrine, principles, terminology, and organizational processes to enable effective, efficient and collaborative incident management at all levels. To provide the framework for interoperability and compatibility, the NIMS is based on a balance between flexibility and standardization” - US Department of Homeland Security March 1, 2004

By March 2020 it was clear that COVID-19 posed a dynamic threat and the Baker administration acknowledged the shifting landscape when it created the COVID-19 Command Center on March 14, 2020.

From both the Committee’s oversight hearings as well as the HMCC regional listening tour, a variety of issues related to the incident management structure for the response to COVID-19 implemented by the administration were a source of frustration for the Commonwealth’s local

partners and providers, such as hospitals, community health centers, and housing shelters, among others.

The National Incident Management System (NIMS) was developed in order to “enable responders at all jurisdictional levels and across all disciplines to work together more effectively and efficiently.” The standardized organizational structure, known as the ICS is considered one of the most important aspects of NIMS.⁵¹ The ICS structure is designed to be a standardized scalable incident organizational structure for the management of all hazards responses. This structure is headed by a single incident commander, except in cases of unified command or coordination and breaks the broader response teams into four sections: operations, planning, logistics, and finance/administration. The operations section develops the tactical organization and directs all resources to carry out the action plan, the planning section develops the incident action plan, the logistics section provides the resources and services needed to support the incident, and the finance/administration carries the fiduciary duties of the response operation. See chart template:

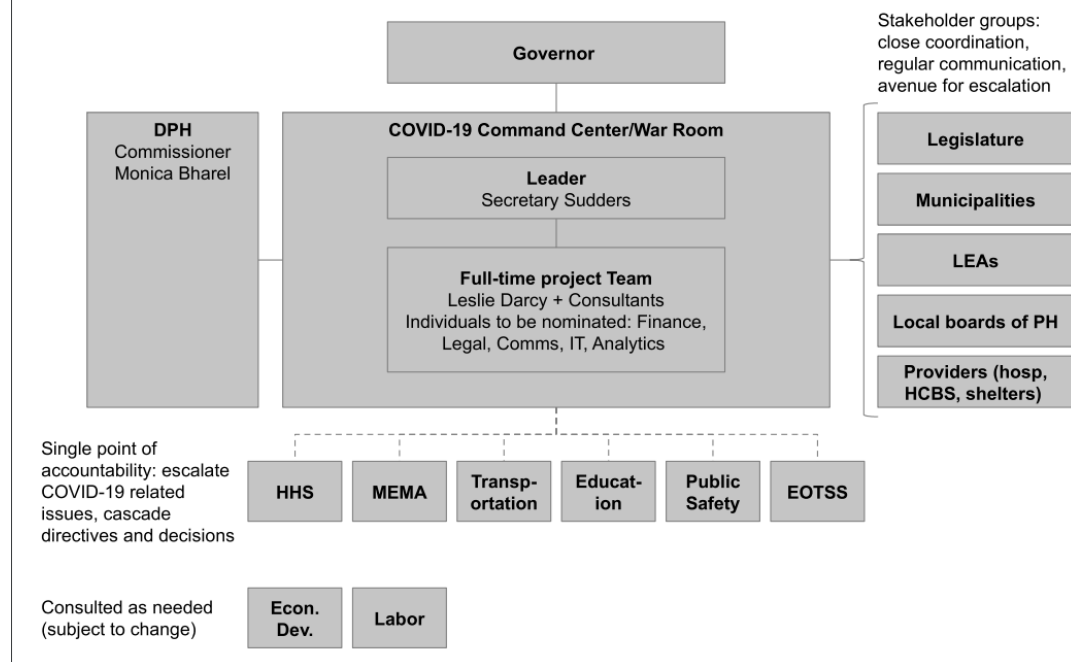


Within and across each of these sections, there is a clear delineation of duties and responsibilities from each person involved in the response process. These delineations allow for a clear chain of command, reduces duplicative efforts, eases multi-agency collaboration and communication, and allows for individuals to more easily be slotted in and out of the response process as needed,

⁵¹ [Federal Emergency Management Agency – “ICS Review Document.”](#)

ultimately increasing the efficiency of the overall response. Since 2006, federal funding for state, local, and tribal preparedness grants has been tied to compliance with the NIMS.

COVID-19 Command Center/War Room structure



The administration deviated from standard incident management practices with the COVID-19 Command Center as the primary response operations structure responsible for multi-agency, multi-discipline and all jurisdictional coordination. The COVID-19 Command Center, the core of the administration’s response to the virus, used a more amorphous, less defined structure, placing EOHHS Secretary Sudders at the helm of its operation. Beyond Secretary Sudders, the chain of command or duties of each office holder are unclear; the Baker administration chose a “hub and spoke” command structure for the COVID-19 Response Command Center.

This pandemic was, and still remains, a once in a generation public health crisis. DPH should naturally be in the lead for our emergency response, but the structure employed did not place DPH in the lead for responding to this public health crisis nor did it create a unified command with multiple agencies. It created parallel structures or duplicated other long-standing structures designed for this very purpose in emergency planning and response operations.

The administration’s vaccine rollout had a similar issue, leading yet again to an unclear chain of command early on. While there were many tasks that the Command Center was effective at, the creation of a new leadership structure was both unnecessary and counterproductive. Many stakeholders struggled to determine who within the Command Center they should reach out to,

and who was making the final decisions and recommendations to Secretary Sudders and Governor Baker.

Additionally, the lack of clearly defined roles makes effective oversight and process improvement more difficult. One of the main advantages of the ICS structure is that it helps to build integrated response structures across a local, regional, and Commonwealth level, but the use of the Command Center's duplicative, less defined structure prevented this type of clarity of structure. Integrated planning was not occurring on a regular basis if ever, and directives were handed down from above with little advance notice.

The complications created by deviating from nearly two decades of standardized incident management practice were never more evident than during the vaccine rollout. Local emergency dispensing plans began being operationalized when COVID-19 vaccines were approved federally but many local vaccine clinics were never utilized in the initial rollout because the Command Center decided to go in a different direction. Local public health was standing by, as were hospital networks, to distribute these vaccines but many pivots in the Commonwealth's plan during the early weeks created whiplash for practitioners, providers, and the public.

The leadership in vaccine rollout lacked a clear chain of command beyond the very top levels. The roles of each Commissioner and Assistant Commissioner were broadly defined, yet the specifics of each individual prong are not immediately clear from the organizational chart, nor was it clear how any of these particular focus areas interacted with the Command Center, beyond the fact that Secretary Sudders was at the head of both.

Others at the federal level have shared similar observations. Assessing the federal response to the pandemic, FEMA has advised that the NIMS/ICS structure be used throughout federal agencies as well as state and local governments to better enable integration in future response efforts. Early in the pandemic, FEMA was tasked with leading the inter-agency Unified Coordination Group (UCG), the first of its kind at the federal level. In order to grapple with the magnitude of this crisis, FEMA's UCG was headed up by four key principles; the FEMA Administrator, the Assistant Health and Human Services Secretary for Preparedness and Response, the Assistant Secretary of Health, and the Director of the Influenza Division at the National Center for Immunization and Respiratory Disease. While this structure presented its own challenges, it was effectively able to adapt to manage resource shortages and consistent engagement with political leaders in the White House Task Force and was an efficient decision making body. To better aid in future disaster response, FEMA has recommended the codification of the roles, operating procedure, and engagement strategy for the UCG.⁵² **See Appendix [1] for federal organization charts detailing the implementation of a standardized command structure during the Federal COVID-19 response.**

⁵² [Federal Emergency Management Agency – “Pandemic Response to Coronavirus Disease 2019 \(COVID-19\): Initial Assessment Report”](#)

In future emergency management situations, the standardized ICS structure(s) will enhance the Commonwealth's emergency response and improve organizational capacity. This centralized common structure with each individual having clearly delineated roles and responsibilities would better allow other stakeholders and leaders to engage with the Commonwealth's response and increase stakeholder collaboration. This is not to say that the Command Center was ineffective in all of its work, but the Command Center should have been a policy shop or policy group in a traditional ICS structure rather than the incident commander epicenter of all endeavors.

This centralized "hub and spoke" scheme resulted in local officials not being sufficiently engaged in the planning process. Local officials could have foreseen many of the issues that occurred. The Commonwealth's pandemic response relied heavily on local officials to implement guidance or provide services, but did not engage those local officials in the decision making process. Local officials on multiple occasions learned about guidance they were tasked with enforcing, or changes to that guidance when they saw it on the news.

There are additional improvements to be made in other aspects of the Commonwealth's response structure beyond the organizational structure. Namely, from an incident management perspective, improving the integration of clinical expertise into our local and state response will better enable informed decision making at all levels of Government. One example of this is the work performed by Boston's Medical Intelligence Center (MIC). The MIC served as the information gathering and consolidation arm for the HMCC region 4C response and was able to integrate multi-disciplinary information gathering to better inform government decision making.

One particular effort of the MIC that proved invaluable statewide was the Regional Load Balancing Collaborative. This program launched in Boston during the first surge, and integrated partnerships with a collective of hospitals and other essential partners, and allowed hospitals to share, in near-real-time, data related to their current patient loads, and make informed decisions about what hospitals had too many patients and needed to transfer to a hospital that had capacity available. This program eventually was expanded to all HMCC regions statewide, and improved situational awareness, collaboration, and data-sharing initiative. It also allowed institutional guidance to be distributed in near time.

This successful initiative was accomplished through clinician-led collaboration without unduly diverting key clinical assets at hospitals from their core clinical obligations or creating unnecessary administrative and bureaucratic burden. Use of the Regional Load Balancing Collaborative also ensured accountability and consistency across all regions of the Commonwealth

The Committee recommends that Public Health and Emergency Management fully integrate hospital emergency management and clinical expertise – including pediatric, behavioral health, and other specialty areas – into their overall emergency planning infrastructure and efforts, including in the setting of planning goals and deliverables across the Commonwealth as to the evaluation of existing plans. This will ensure that the necessary

expertise and assets are integrated into overall response efforts and will facilitate rapid creation of effective unified response strategies informed by key health care and emergency management expertise. This recommendation would ensure the HMCCs have a multi-disciplinary leadership team, composed of public health, hospitals, community health centers, and EMS, enabling more effective decision-making and multi-disciplinary collaboration in our short- and long-term goals. The MIC's efforts are real-world examples of how effective this integration can be in improving our emergency response efforts, and this would also further the Commonwealth's commitment to equity in all levels of our emergency response.

The Committee further recommends that DPH and MEMA, along with the HMCC regions, review additional ways to improve and enhance coordination, unified command opportunities, and planning for future events. Specifically, DPH, MEMA, and the HMCC regions should consider creating an equivalent of Boston's MIC that covers the collective HMCC regions, allowing the Commonwealth to apply similar MIC operational structures on a statewide level. In the long run, this review and these additional efforts should begin to codify the hospital patient load balancing, data sharing, and resource and information sharing that was present during the pandemic and create mechanisms to easily restart and scale-up these efforts in the event of a major emergency.

The Committee recommends building on the successes of the patient load balancing coordination efforts in future response planning. The patient load balancing coordination calls should continue to play a role in the Commonwealth's broader emergency response planning and efforts, both for the ongoing pandemic and in any future crises. Additionally, broadening the scope of these calls and data sharing, to include additional partners, such as EMS providers, would further increase stakeholder capacity and collaboration. Building and maintaining data and information sharing tools that facilitate patient load balancing operations, particularly during surges further support inter-agency and inter-institution operations.

Recommendation #13: Utilize anchor dates and trigger thresholds for emergency planning, response, and recovery

Recommendation: The Committee recommends identifying key indicators that provide early signals about virus transmission rather than relying on lagging indicators such as hospitalizations or mortality rates to trigger response actions.

The implementation of anchor dates, key data indicators, and trigger thresholds will enable better collaboration and increase trust in the government response. Projecting dates or publicizing thresholds for action helps the public know the purpose of and what to expect, as well as any collective pandemic management goals. For example, the anticipatory guidance from the administration in the spring of 2020 on reopening the Commonwealth from stay-at-home

measures provided specific indicators and measurable goals and timelines to meet those goals, and while they were adjusted at times, they identified the conditions being monitored for reopening.

Triggers for off ramps were shared but on ramps were not as explicit. During the spring and summer of 2020 most of the reopening plan and adjustments were understandable given the data and science available about the virus at the time; however the adjustments were slow in the fall and winter when transmission, hospitalizations, and death rose again. This inconsistency highlighted the difficulty of instituting reopening plans that did not include clear guidance on what circumstances may on ramp or restart countermeasures for a period of time. Particularly of note, the Commonwealth was slow to respond to the surge in late 2020, only scaling back the reopening process on December 8, 2020, after caseloads already began to rise.⁵³ Additionally, this rollback was only a partial step backwards and was not fully implemented until after December 25, 2020, cutting capacity in many indoor venues from 50 percent to 40 percent. This decision left many municipalities to scale back their own reopening schedule.⁵⁴ This ultimately left an inconsistent patchwork of different standards in different places. Cases continued to rise rapidly as result of holiday gatherings until falling off in the early spring of 2021.

The Committee recommends that the state work with HMCC members to develop plans that include benchmarks for changing measures and implementing on and off ramps when there is community transmission of a disease. These triggers for future crises, policies, and plans invoked by State leaders should be made available and should be supported by justified transparent data and science. Additionally, if regional and local officials are to be tasked with enforcement they should be consulted when the guidance is developed and given advance notice before it is changed. These plans need to be designed with modularity, to allow them to be scaled up quickly in the event of crisis conditions.

The Committee recommends identifying and prioritizing key indicators that can provide early signals and inform responsive actions aimed at reducing virus transmission and preserving healthcare capacity, rather than relying on lagging indicators such as hospitalizations or mortality rates to trigger response actions.

The Committee recommends that a series of dates serve as anchors for specific actions as the fall and winter of 2022 draws closer, triggering the integrated contingency and comprehensive planning process that further defines the Commonwealth’s thresholds and plans based on the available data and understanding of the pandemic.

⁵³ [Boston.com – “What to know now that Mass. has officially rolled back to Phase 3, Step 1 in the statewide reopening plan.”](#)

⁵⁴ [City of Boston – “Boston To Temporarily Return To Modified Phase Two, Step Two Of Reopening Plan.”](#)

The Commonwealth's plan should prioritize trigger-based countermeasures aimed at reducing the strain on hospitals in advance rather than waiting to take action when our healthcare system is nearly at capacity.

Additionally, setting clear thresholds and data trigger points would provide medical practitioners, emergency response stakeholders, and the public-at-large with clarity around what might cause a change in the Commonwealth's posture regarding the deployment of non-pharmaceutical interventions (NPIs), such as masking policies or other protections meant to decrease transmission, or to prepare for PPE or testing supply distributions aimed at combating a higher prevalence of COVID-19 or other respiratory viruses, such as influenza. The Commonwealth is more than capable of setting priorities and trigger thresholds that are informed by changes in wastewater epidemiology, hospital capacity, and other key indicators and data.

This proposal is not without precedent. Data thresholds and triggers were used by the Commonwealth at various points during the pandemic to provide the public and local governments with guidance during the 'reopening' process throughout 2020 and 2021. Data based thresholds were used at various points to determine when school districts would be learning in person or remotely. Data regarding test positivity rates and cases per capita determined thresholds that DPH organized into a color-coded system and informed local governments and stakeholders in their decision making, and in some cases were the basis for triggering masking policies or indoor and outdoor capacity restrictions.

In November 2020 and November 2021, Massachusetts experienced exponential increases in COVID-19 transmission that led to our second and third surge in cases, hospitalizations, and deaths. While the debate is not settled regarding whether or not COVID-19 is a seasonal virus, we should apply the precautionary principle and plan as if a high prevalence of COVID-19 will again occur as cooler weather returns in the fall and winter of 2022.

The Committee recommends that a series of dates serve as anchors for specific actions as the fall and winter of 2022-23 draws closer triggering an integrated contingency and comprehensive planning process that further defines the Commonwealth's plan based on the available data and understanding of the pandemic. The public should be briefed on the planning process, its outcomes related to its objectives, and how they can play a role or any actions they should take as various dates approach or trends change in order to help meet any collective goals.

The planning process should aim to bring together a variety of stakeholders and decision makers in order to assess the situation and resources on hand to identify gaps, shortfalls, constraints, friction, and trigger points for additional action in preparation for a potential surge of COVID-19 or other respiratory viruses. **See Appendix [2] for detailed examples of potential stakeholders and considerations for planning for the remainder of 2022.** The findings of these planning

initiatives should be routinely published to build practitioner and public awareness of the effort and its associated goals.

When appropriate, tying the planning work to anchor dates will also help provide the public with anticipatory guidance that explains the plans and the rationale behind them, including what metrics will trigger an adjustment or evolution of the plan. The hope is to build public trust in the planning process through increased transparency and awareness, and tangentially increase trust in our response process, so that individuals feel confident that preventive measures such as masking are introduced through a scientific and transparent process.

Recommendation #14: Establish a temporary COVID-19 Recovery Corps

Recommendation: The Committee recommends establishing a temporary COVID-19 Recovery Corps to engage volunteers in the ongoing need for response and recovery assistance in the Commonwealth.

Throughout the pandemic volunteers played a crucial role in our response and recovery and organized volunteerism can continue to be an important part of the ongoing response to this and future crises. The Medical Reserve Corps, which includes both clinical and non-clinical volunteers, along with student volunteers in the Academic Public Health Corps played important roles. In addition, the Massachusetts Service Alliance (MSA) was a consistent supporter of volunteerism throughout the pandemic.

The MSA is a private, non-profit organization that works to expand volunteerism and service in Massachusetts by providing individuals and organizations with funding, training, and support to enable them to strengthen our communities. The MSA also operates the Commonwealth Corps program, a service program founded by Governor Patrick in 2007, that focuses on cultivating, training, and placing service members and nurturing volunteerism across the Commonwealth.

MSA's network of service members assisted with the distribution of face masks, hand sanitizer, and other safety supplies to residents in Worcester. MSA service members also distributed hand warmers, a particular help to people experiencing housing insecurity or homelessness during the pandemic. Additionally, service members assisted with health education and youth education programs, adapting lessons to be conducted completely outside or shifting to remote online learning. The MSA also assisted organizations in increasing capacity for volunteers, administering over \$200,000 worth of COVID-19 resilience grants to 56 non-profit organizations. These grants targeted organizations that needed additional financial support for volunteer capacity, supplies, or projects that were impacted by COVID-19.

The Committee recommends that a COVID-19 Recovery Corps be established to further aid the recovery process, given the quantity and quality of work done by the MSA and Commonwealth Corps before and during the pandemic. If established, service members could be placed with health-focused organizations, including municipal public health departments, community health centers in high-risk communities, and service organizations providing food and supply distribution. As the recovery progresses, service members could help connect residents with job training, adult education, work readiness, and employment opportunities.

Creating a COVID-19 Recovery Corps, will cultivate a class of service members with the skills and commitment needed to remedy the deep scars this pandemic has left on the Commonwealth.

Recommendation #15: Improve indoor air quality in schools and other public settings

Recommendation: The Committee recommends that the Commonwealth establish a plan and funding mechanism to improve indoor air quality in schools and other public buildings.

Air quality is important for population health. Prolonged exposure to polluted air can cause respiratory disease. Those with pre-existing respiratory conditions were more likely to become severely ill from COVID-19. Additionally, adequate ventilation and filtration in indoor settings can help reduce transmission of COVID-19 and other airborne respiratory viruses. However many school buildings in the Commonwealth are old, have poor ventilation, or lack right-sized filtration devices. The Commonwealth also does not have comprehensive data on the air quality of our K-12 classrooms, where students and teachers alike spend at least eight hours per day.

Recognizing this need, the legislature appropriated \$100 million in ARPA funding for ventilation and indoor air-quality improvements in school facilities, with priority given to school districts with high concentrations of economically disadvantaged students and English language learners, and in communities disproportionately impacted by the pandemic. Although these funds will help make air quality improvements in schools throughout the Commonwealth, there is no question that additional funds will be needed.

The Committee recommends that the Commonwealth implement a comprehensive strategy to improve air quality in our schools for grades kindergarten through high school. The strategy should include a statewide assessment of the air quality in each school, preparation of a phased-in plan and budget to bring each school's air quality and ventilation to state and American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standards, and implementation of the improvement plan. As with the already-approved funding,

the plan should focus on equity considerations in its prioritization schedule. Renovations of existing structures must be considered as well as new construction.

While the Department of Elementary and Secondary Education (DESE) has responsibility for education standards, they are not experts in school buildings or school construction, which is under the jurisdiction of the Massachusetts School Building Authority (MSBA). Similarly, DPH and the Bureau of Environmental Health (BEH) within the DEP have their own expertise in this area. Any plan should provide for a collaboration among these agencies to implement the strategy.⁵⁵

The Committee recommends that air quality standards be considered for all public buildings. In addition to addressing air quality in our schools, Massachusetts should take steps to improve ventilation and filtration in other public buildings to ensure these buildings are healthy environments for those who spend significant amounts of time there. Working in buildings that have mold can cause lung infections, and those who had pre-existing respiratory conditions were more likely to have severe illness from COVID-19.

Ventilation and filtration improvements will not just benefit our COVID-19 response, but can contribute to a long term response and mitigation efforts for other respiratory illnesses.

Recommendation #16: Designate a “Special Assistant to the Governor for COVID-19 Vaccine Administration” for all efforts related to vaccinations

Recommendation: The Committee recommends that a special assistant to the Governor be created to serve as the senior level position in the administration for the purposes of reinvigorating the efforts to close existing vaccination gaps, planning for future surges, and setting and meeting immediate and long term goals for COVID-19 vaccination rates in the Commonwealth.^{56, 57, 58, 59, 60}

Guidance on dosage and timing continues to evolve as ongoing research findings and vaccine development advances. In May 2022, the CDC issued new recommendations for booster vaccines for young children, and additional primary shots or boosters are being recommended for

⁵⁵ [United States Environmental Protection Agency - “Adequate Outdoor Air Ventilation Can Improve Ability to Perform, Raise Test Scores and Reduce Airborne Transmission of Infection.”](#)

⁵⁶ [Office of Governor Charlie Baker – “Baker-Polito Administration Announces the Executive Office of Technology Services and Security.”](#)

⁵⁷ [The 190th General Court of the Commonwealth of Massachusetts - “Reorg Plan H.3731.”](#)

⁵⁸ [The Office of Governor Deval L. Patrick - “Governor Patrick Announces Plan To Create Secretary of Education.”](#)

⁵⁹ [Office of Governor Deval L. Patrick - “No. 513: Establishing the Governor’s Science, Technology, Engineering and Math Advisory Council.”](#)

⁶⁰ [State House News Service - “Preparations Underway For Children’s COVID-19 Vaccine.”](#)

some.⁶¹ Then in June, 2022, vaccines were approved for infants and toddlers under age 5. Additionally, work is slowly proceeding on variant specific doses, which may change vaccine guidance and create new administrative burdens on our health networks.⁶² A coordinated, focused vaccine policy is critical now and for the foreseeable future.

The Committee recommends that the administration create a special assistant to the Governor and establish this new position as the senior-level COVID-19 vaccine administrator responsible for planning and executing all things related to the allocation, distribution, and administration of COVID-19 vaccines, including sharing the plans and progress reports with the public. The individual in this role will lead in the development of guidance on boosters and what is considered ‘up-to-date’ regarding COVID-19 as the situation continues to evolve in 2022 and 2023. This role must closely coordinate with DPH, which has the expertise and health-related expertise on vaccine matters.

Getting and keeping every eligible person in Massachusetts up-to-date with their COVID-19 vaccination is the best pathway toward reducing serious illness and ending the COVID-19 pandemic. A new office and point-person to project manage COVID-19 vaccine allocation, distribution, and administration can oversee and execute all plans related to COVID-19 vaccines. The special assistant could leverage and expand existing systems, structures, and partnerships, with a focus on collaborating with boards of health, municipalities, schools, and community health centers to ensure the equitable allocation, distribution, and administration of COVID-19 vaccinations and booster shots.

The Committee recommends that this “Special Assistant to the Governor for COVID-19 Vaccine Administration” make it a priority to address equity issues and disparities in COVID-19 vaccination rates, especially within the Black and Latinx population. This is particularly important given the expectation that we may soon have a vaccine approved for a subset of children under the age of five. The person in this role must be expert not simply in vaccines and infectious disease, but must be someone with a proven track record of trust within communities of color and must be committed to developing direct lines of communication with community-based organizations.

When state officials tout Massachusetts' high statewide vaccination rates using aggregate statewide data, it obscures the stark racial and geographic inequities in vaccination rates that currently exist.

Statewide, the vaccination rates of Black and Latine residents have lagged behind the rates of white residents. While the gap has narrowed, statewide data from May 2022 shows that 82 percent of white residents have received at least one dose of the vaccine, compared to 77 percent of Black residents and 78 percent of Latine residents.⁶³ But when we look in more detail at

⁶¹ [Mayo Clinic - “Are COVID-19 vaccine boosters or extra shots recommended?”](#)

⁶² [Nature Reviews Drug Discovery - “Pan-coronavirus vaccine pipeline takes form.”](#)

⁶³ [Massachusetts DPH - “Weekly COVID-19 Vaccination Report – May 26, 2022.”](#)

individual communities, we see that vaccination rates in lower-income Gateway cities and small towns lag behind wealthy suburbs. For example, in Weston, which has a median household income of over \$200,000, 91 percent of white residents have been vaccinated compared to upwards of 95 percent of Latine, Black, and Asian residents. Whereas, in Springfield, which has a median household income of just over \$39,000, 83 percent of white residents have received at least one dose of the vaccine, compared to 53 percent of Latine residents, 62 percent of Black residents, and 72 percent of Asian residents.⁶⁴

Further, when we look more closely at booster rates, we see this trend persist. Data from May 2022 show that 57 percent of eligible Massachusetts residents have received a COVID-19 booster shot. Of this population, 62 percent of white residents have received a booster shot, compared to 41 percent of Latine residents, 45 percent of Black residents, and 59 percent of Asian residents. When we look more closely at individual cities and towns, the racial and geographic gaps in rates of booster vaccines widen. For example, 56 percent of white residents in Weston have received a booster shot compared to 56 percent of Asian residents, 59 percent of Black residents, and 66 percent of Latine residents. Whereas, in Springfield, 43 percent of white residents have received a booster shot, compared to 16 percent of Latine residents, 25 percent of Black residents, and 33 percent of Asian residents.⁶⁵

This position could also serve as the branch section chief for a new branch in the Commonwealth's ICS organization for the pandemic response. Doing so would allow the Commonwealth to consolidate its efforts around COVID-19 vaccination and establish a clear chain of command. This senior-level role would be tasked with developing a clear, statewide plan for all areas related to COVID-19 vaccines, both for the short and long term, that is informed by public health experts.

In particular, integrated planning with HMCCs for potential future surges of COVID-19 transmission should be a priority.

See Appendix [3] for supplementary information on this recommendation

⁶⁴ [Massachusetts DPH - "Weekly COVID-19 Vaccination Report – May 26, 2022."](#)

⁶⁵ [Massachusetts DPH - "Weekly COVID-19 Vaccination Report – May 26, 2022."](#)

Section 4: Conclusion

There is no question that the last two years have presented municipal and state officials, as well as frontline workers and first responders with challenges so intense they defy quantification.

While much has been already accomplished, the state must take additional near-term steps in 2022 and 2023 to apply lessons learned and address the ongoing and dynamic public health emergency due to COVID-19. It is also imperative to achieve a better level of preparedness in the long term for the next disease outbreak, pandemic, or emergency. Whether the next emergency is a new COVID-19 variant or an entirely novel respiratory virus, the collective experience of the prior two years can guide us as we invest in updating structures and response plans.

Many of these recommendations are included in omnibus legislation approved by the Committee, H. 4714, *An Act for a Better Prepared Massachusetts*.⁶⁶ As of June 23, 2022, the legislation was also approved by the Health Care Financing Committee and is pending before the Senate Committee on Ways and Means.

While the Committee has presented a number of recommendations to improve our future preparedness and emergency response capacity and capabilities, these observations are by no means exhaustive of all possible improvements. Similarly, the successes and challenges that have been described above represent only a piece of the overall response to the pandemic. A statewide after-action-report will be needed to properly outline the Commonwealth's response in the past two years with the level of detail that it deserves, including a substantive analysis of the entirety of our pandemic response, especially as we transition into a new phase(s) of pandemic management. This kind of after action analysis could be accomplished as part of a comprehensive commission charged with a complete review of what transpired during the pandemic.

Despite these challenges, there is reason for optimism. Our understanding of how the virus behaves and what we can do to protect individuals and communities and minimize spread has improved. The COVID-19 vaccines have proven to be effective at limiting transmission, hospitalizations, and death. Researchers and scientists have published studies that detail the effectiveness of the pharmaceutical and non-pharmaceutical tools we have available to protect ourselves via collective and coordinated action if another surge arises.

Early in the pandemic, the state government acted with diligence to make substantive changes – from a public health order to stay home, to strong eviction protections, and more. In so doing, the state has proven it can lead adaptively. Dedicated officials at all levels clearly demonstrated that they can be trusted during a pandemic to get the job done. Legislation and funding has been passed to bolster local public health infrastructure so that we enter the next pandemic with

⁶⁶ [The 192nd General Court of the Commonwealth of Massachusetts - Bill H. 4714.](#)

stronger tools to fight back. The reflections in this Committee report and the efforts of so many continue to point the way forward toward what is needed now and the work to prepare for the next contagion, the next pandemic, the next disaster. These recommendations include components that require unwavering commitment in order to achieve the intended reforms. The Committee recommends that the state begin this work without delay.

Appendices | Key Takeaways and Considerations for the Future and Supplemental Committee Materials

Appendix [1]: Federal Organization Charts⁶⁷

The following are excerpts from FEMA’s Initial Assessment Report on the agency's operations in response to the COVID-19 pandemic between January and September of 2020. The selected excerpts showcase that, in the face of unprecedented challenges, conventional leadership structures can be adapted and scaled to meet the challenges posed by a particular crisis.

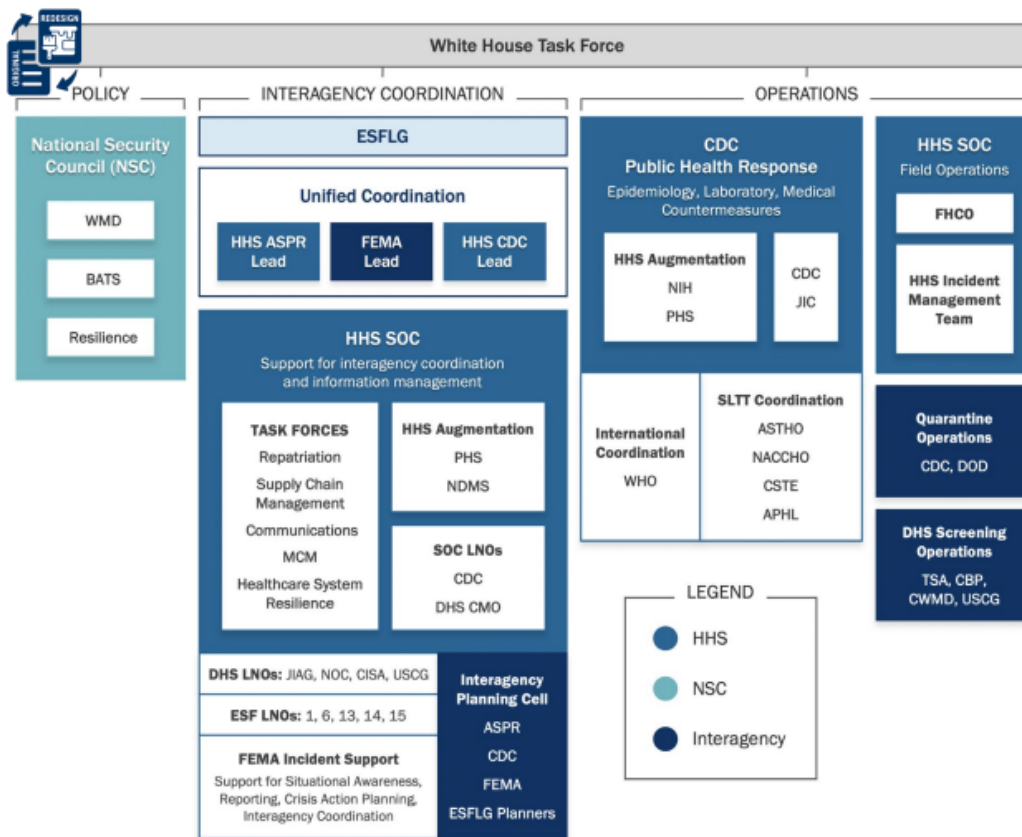


Figure 8. Initial COVID-19 Response Organization Structure as Shown in the March 13, 2020, PanCAP Adapted USG COVID-19 Response Plan

The image above shows the initial leadership structure of the federal government's response to the COVID-19 pandemic. Almost immediately, this structure was changed, as FEMA took the lead in coordinating the federal response. The passages below discuss the revised leadership

⁶⁷ [Federal Emergency Management Agency - “Pandemic Response to Coronavirus Disease 2019 \(COVID-19\): Initial Assessment Report.”](#)

structure implemented by FEMA after the White House Task designated the agency to lead federal response.

“The agency’s response to COVID-19 has been unprecedented. When the White House directed FEMA to lead operations, COVID-19 became the first national pandemic response that FEMA has led since the agency was established in 1979.”

“Initial planning envisioned that HHS, rather than FEMA, would take the lead in the pandemic response...the decision to shift the lead role from HHS to FEMA involved a rapid adjustment to the operation’s organizational structure and real-time adaptations of coordination mechanisms. ... Although the new organizational construct required for this response presented challenges to the task forces integrating into the [National Response Coordination Center], these issues were resolved as integration and coordination improved overtime.”

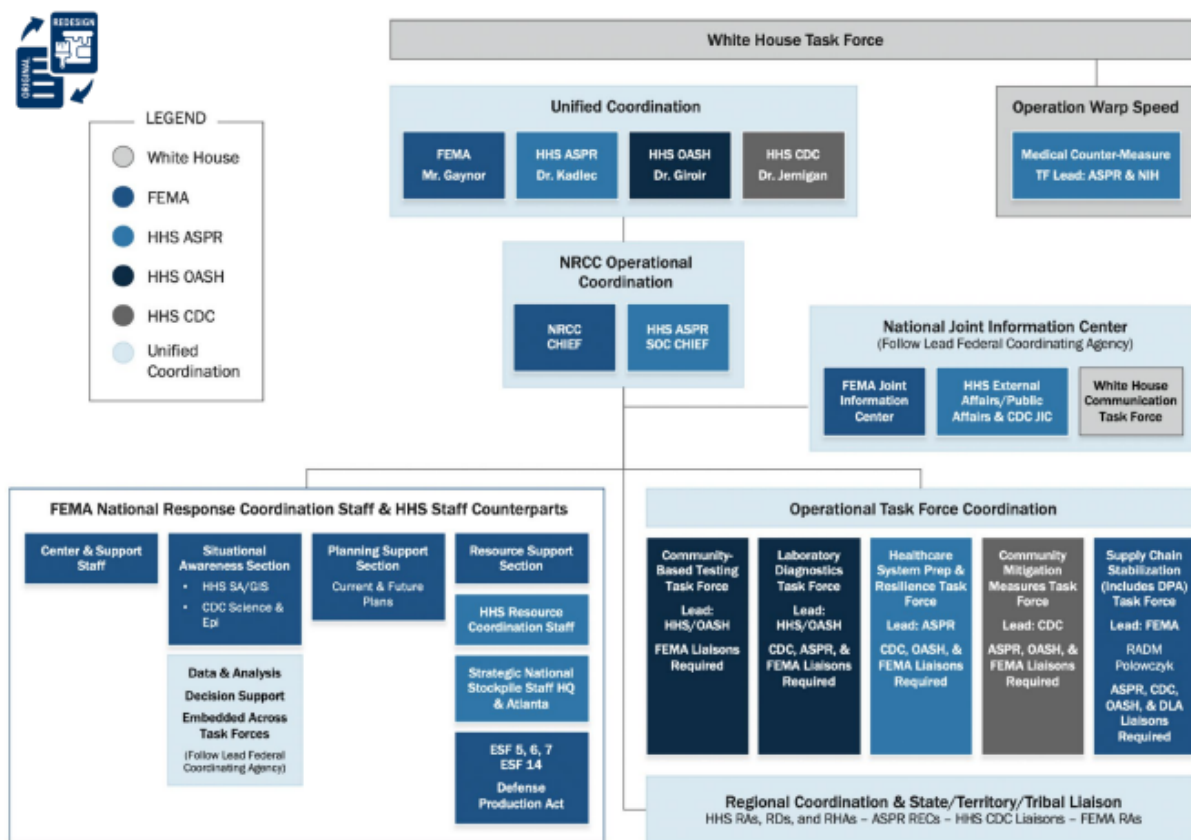


Figure 12. Revised UCG Structure in COVID-19 Response^e

The revised structure of the Unified Coordination Group, headed by FEMA and the principal agency heads. The UCG was established to guide the federal government's response to the

COVID-19 pandemic, with the primary role of approving, elevating, and adjudicating strategic operational and policy decisions about the nation's limited supply of medical supplies and equipment. This revised structure was created after leadership of the COVID-19 response shifted from the Department of Health and Human Services to FEMA during the early parts of the pandemic. The operational task forces, the NRCC, the NJIC, and the rest of the operational and coordination staff provided data driven analysis to help the UCG weigh the vast range of considerations for resource allocation.

“To manage significant competition for resources and support requests from federal and [State Local Territorial and Tribal] partners, an interagency principals-level UCG was established to guide the federal government’s response efforts to the COVID-19 pandemic. ... The COVID-19 UCG was the first federal interagency UCG FEMA had implemented. ... Overall, the UCG effectively adapted its role to meet the challenges presented by the pandemic as federal government priorities shifted to managing resource scarcity challenges across the nation. ... A future federal interagency UCG should build upon the lessons learned during the COVID-19 response in preparation and coordination for nationwide disasters. Specifically, formal doctrine should codify updated guidance on the roles, operating procedures, and engagement strategy for the UCG.”

Appendix [2]: Considerations for Future Planning and Action

In the planning process, consider setting a series of dates that serve as anchors and triggers for action. Using dates to convene key stakeholders may prove to be better in the fall of 2022, rather than attempting to set data triggers and thresholds too far in advance of a possible seasonal surge. Different variants and emerging sciences have changed over the course of the pandemic, such as our understanding of how cases relate to risks and hospitalizations. Triggers and indicators may need to be adjusted every quarter. If the evolution is done transparently, and in a way that gives the public anticipatory guidance via briefings about the process and the outcomes, it will benefit all involved and residents of the Commonwealth.

The planning process should include key participants across sectors to ensure collaboration and cooperation between state, regional, and local governments as well as between the private/public sectors. It is important that all possible response partners are included. Specifying the lead agency or unified command as well as any task force designations and representatives of the interests of key stakeholders is crucial at any subsequent “Command Centers” that are established or, in the case of the COVID-19 pandemic, continue to operate.

Planning stakeholders should consider the following list:

- A. Utilize the Federal Emergency Management Agency (FEMA) Comprehensive Preparedness Guide 101 (CPG 101) or a similar guide in the planning process for the fall and winter of 2022 - 2023 regarding integrated planning for future surges.
- B. Define what environmental surveillance is needed and where. Define any and all key indicators, their thresholds, or trigger points for increasing and decreasing public health measures, NPIs, possible restrictions etc.
 - a. Examples:
 - i. **Key Indicators:** Wastewater surveillance data. Hospitalizations for COVID. Test positivity rate. Daily or weekly case data. Staffing or attendance data.
 - ii. **Triggers:** Wastewater surveillance data is at a predetermined value, or it exceeds a specific threshold for predetermined duration that could indicate a surge has begun; reported positive case numbers or the positivity rate have hit X amount in a certain timeframe. Hospitalizations are increasing at a rapid rate or staffed bed availability has reached X, ICU data indicates severe illness increasing, absenteeism in schools or certain sectors has reached X,
 - iii. **Possible Response Actions:** Task Force assembles, or the lead agency, or both re-establishes the Command Center to its fullest capabilities. Unless the Governor has already declared a public health or state of emergency, the Planning Group/Task Force shall make recommendations that certain measures should be taken in response to this data: coordinated statewide NPIs, mask, and rapid test distribution.
- C. Possible key indicators or actions related to vaccinations:
 - a. The target boosted and “up to date vaccination rate” for school age, statewide, high risk populations must be set and shared widely with the appropriate parties.
 - b. If we do not reach X by Y date it will trigger an increase in clinics and outreach to improve our rate of fully and up to date vaccinations. This is crucial as we know that fully up to date including a booster has been shown to prevent transmission, severe outcomes, hospitalizations, and death.
- D. Possible key indicator(s) or actions related to healthcare and hospitals:
 - a. Triggers could include factors such as if the hospitals are rationing care, have a specified decrease in bed capacity, or are scaling back on elective surgeries or non-emergency procedures.

- b. Consider using these indicators for triggering mask mandates, reductions, or both in capacity at public venues, if these measures have not already been implemented earlier, until transmission rates of the virus are stable or hospitals resume normal operations.
- E. Possible key indicator(s) or actions related to education:
- a. Consider following the guidance found in the [February 14, 2022 JAMA Network report](#) titled “Model-Estimated Association Between Simulated US Elementary School–Related SARS-CoV-2 Transmission, Mitigation Interventions, and Vaccine Coverage Across Local Incidence Levels” (Giardina et al. 2 - 16) to set mask mandate guidance for in-school mitigation efforts.
 - b. School districts shall submit, to DESE, an annual Continuity of Operations Plans (COOP) in August prior to each new school year that includes remote and hybrid schooling and plans for distributing tests, masks, or other supplies related to an emergency they may be asked to distribute individually or in coordination with local public health officials.
- F. Possible indicators and actions related to the declaration of a public health emergency:
- a. The declaration could automatically enable orders or proposed legislation being filed to activate remote authorization and remote meetings (local option) and other mechanisms that make remote work or social distancing possible.
 - b. What declarations, legal, or regulatory relief can be made in order to help support response strategies in the event that we enter another surge or crisis period?
- G. The following is an example of anchor dates to guide the transparent preparation process for a potential seasonal surge:

August 2022 - September 2022

Convene the comprehensive planning group

Begin public facing routine data reporting requirements (if such has been stopped previously)

Stand up daily public dashboard for COVID-19 trends and key indicators

Review state stockpiles and resource inventories

Draft objectives, thresholds, and triggers for November 2022 to February 2023

October 2022

Vaccination clinics and a push to meet any gaps in communities staying up to date on vaccination status

Pre-stage:

- additional vaccine doses;
- high quality, high filtration masks;
- testing supplies; and
- therapeutics and antivirals

Set objectives, thresholds, and triggers for November 2022 to February 2023

Publish publicly and disseminate the approach with purpose statements

November 2022

Distribute masks and test supplies to the public

Utilize election day and other civic events as distribution opportunities

Review thresholds and trends. Begin NPIs or any restrictions if triggered by key indicators or at the recommendation of the group based on other considerations which might include reports and intelligence gathered from other states or countries

Hospitalization outlook: Hospitals shall report their current status, concerns, and needs moving forward in December and January

December 2022

Legislature holds oversight hearing on state response and updates, such hearing shall include testimony from the Governor and members of their administration. Invite testimony from other stakeholders that were included in this comprehensive integrated planning and process

Appendix [3]: Addendum to Recommendation to Designate a “Special Assistant to the Governor for COVID-19 Vaccine Administration” (recommendation #16)

The Committee recommends that the charges assigned to this senior-level position include (but are not limited to) the following:

Equity

- Direct funding to trusted community organizations for outreach and engagement in communities of color and implement 20 percent additional doses for the most impacted communities.
 - Communities most impacted shall be defined by the zip code of residents rather than the location of the clinic.
 - Additional allocations shall be distributed through partnerships with community organizations and mobile vaccination programs, along with additional methods.
- Collect and maintain reporting of demographic data on COVID-19 hospitalization rates in Massachusetts so that it may be used to measure the current impact on Black, Indigenous, and People of Color (BIPOC) and Immigrant communities and used to inform decisions around vaccine outreach and distribution.
- Prepare vaccine distribution information and outreach so that it is inclusive of residents who speak Spanish, Portuguese, Haitian Creole, Cape Verdean Creole, Vietnamese, Khmer & Mandarin, among other languages.⁶⁸
- Vaccine distribution information and outreach includes, but is not limited to, the following: website, call center, print materials, staff at key vaccination sites, and media campaigns.
- Efforts must be made to engage healthcare professionals and residents of color, as well as those with diverse language backgrounds, in producing media campaigns around vaccinations.
- Appoint a senior-level director of COVID-19 Vaccination Equity and Outreach who is tasked with eliminating barriers of entry and inequity in COVID-19 vaccination efforts specific to Black, Latinx, immigrant, and low-income communities.
- Implement vaccination allocation guidelines consistently across different geographic locations and healthcare providers within Massachusetts. Eliminate inconsistency and assure that allocation criteria are being applied consistently. When supply and local conditions disrupt or prevent such consistency, then the Special Assistant to the Governor for COVID-19 Vaccine Administration should provide the public with timely, open, and transparent insights into the changes a specific region or cohort might be facing.
- Evaluate and analyze the data collected by the DPH.

⁶⁸[Vaccine Equity Coalition - "Demands for Governor Baker."](#)

- Maintain the Daily COVID-19 Vaccine Report (currently maintained by the DPH).
- Collect and maintain reporting of demographic data on COVID-19 hospitalization rates in Massachusetts so that it may be used to measure the current impact on BIPOC and Immigrant communities and used to inform decisions around vaccine outreach and distribution.

Media/Communication/Outreach

- Serve as the public health communicator around COVID-19 vaccine messaging to ensure that up-to-date, comprehensible information is disseminated in a coordinated and consistent manner.
- Provide consistent communication to the public via a multi-pronged communication approach to build public confidence around best practices and around vaccines, booster shots, and vaccinating the K-12 population. A multi-pronged approach is one that includes a unified, proactive, and highly visible communication structure with community and stakeholder engagement.