

# ELC ENHANCING DETECTION: MASSACHUSETTS TESTING PLAN

## 2020 Overarching Jurisdictional SARS-COV-2 Testing Strategy

<b>Jurisdiction:</b>	Massachusetts
<b>Population Size:</b>	6.9 million

### 1. Describe the overarching testing strategy in your state or jurisdiction.

1a.

To date, the health care system in Massachusetts has tested more than 500,000 people for COVID-19. On average, ~10,000 individuals are tested for COVID-19 in Massachusetts each day, comprising 4.4% of Massachusetts' population each month. The Commonwealth continues to work aggressively to expand access to testing to ensure:

- All symptomatic residents (including those with mild symptoms) have timely access to a diagnostic test
- All close contacts (including those that are asymptomatic) have timely access to a diagnostic test
- Access to testing for vulnerable and high-risk populations
- Capacity to support frequent testing of nursing facility staff, as recommended by CDC and CMS
- Massachusetts can reach its target of a <5% positive test rate by July
- Capacity to conduct intensive epidemiologic testing to establish the population rate (and change in rate) of incidence of COVID-19 infection and the prevalence of current and past COVID-19 infections

More than 45 labs currently process specimens for Massachusetts residents. The top 20 labs by volume account for over 95%+ of Massachusetts' processing capacity; the largest two labs account for about half of all tests. Out of the current 10,000 daily RT-PCR tests, Commercial laboratories (including Quest) process ~4,000, Academic Medical Centers and Hospital Laboratories process ~3,000, the Broad Institute of MIT and Harvard processes ~2,000, CVS processes ~800, and the State Public Health Laboratory (SPHL) processes ~400.

The Commonwealth currently has lab capacity to perform up to 30,000 tests per day. In the next month, the SPHL will receive a Roche Diagnostics cobas® 6800 machine, which will expand its capacity to 1,300 tests/day (not including the Abbot ARCHITECT serologic capacity of 1,600 antibody tests per day). In the next month, the Broad Institute is also expecting to expand its RT-PCR capacity. The goal lab capacity by the end of July is 45,000 tests per day.

The Commonwealth is actively working with the Broad Institute, Commercial Laboratories (including Quest), the SPHL, and Academic Medical Centers to promote the use of this capacity by encouraging

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new partnerships. To date, the Commonwealth has utilized the following strategies to expand access to testing and increase utilization of existing lab capacity:

- Encouraged a partnership between Community Health Centers and Quest to increase access to testing in Community Health Center (CHC) settings
- Provided testing supplies (e.g. swabs, VTM, tubes) to hospital systems, clinics and other healthcare providers to expand testing sites
- Established a partnership between the Massachusetts National Guard and the Broad Institute to support mobile testing in skilled nursing facilities, assisted living residences and rest homes
- Encouraged partnerships between emergency service providers and commercial labs to increase access to mobile testing
- Issued a procurement to expand testing sites in the Commonwealth
- Implemented a robust contact tracing program to ensure that close contacts are identified and tested

Parallel to diagnostic testing expansion, the Commonwealth plans to conduct intensive epidemiologic testing to establish the population rate (and rate change) of incidence of COVID-19 infection and the prevalence of current and past COVID-19 infections. To do this, both viral detection (PCR) and serologic (antibody) testing methods will be performed at the SPHL. Random sampling will help estimate overall levels of these public health measures and targeted testing strategies will help to detect outbreaks and pockets of higher incidence among vulnerable and hard-to-reach communities. This epidemiologic testing directed by state epidemiologists and local health departments will complement the high-volume diagnostic testing of symptomatic individuals and close contacts of cases to provide a real-time, dynamic picture of the progress of the COVID-19 pandemic in Massachusetts.

The Commonwealth anticipates that the testing environment will continue to shift in the coming months. During this time, Massachusetts will be nimble, taking advantage of scientific developments and prioritizing investments that will lead to shorter test processing time at existing laboratories. The goal is reliable same-day/next-day results for residents. This could include:

- New technologies that expand access to rapid point-of-care testing (e.g., antigen tests, CRISPR methods) in appropriate settings
- Improved processes to reduce time to transport samples from collection sites to laboratory processing sites
- Improved laboratory technologies to increase throughput and drive down average lab processing cost per test (target of <\$50/test)
- Improved resulting functionality to quickly deliver results to testing providers and into the Massachusetts Virtual Epidemiological Network (MAVEN), the Commonwealth's electronic epidemiological system of record

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- Use of pooled testing (i.e., combining 5-50+ samples per test) to further increase laboratory efficiency and enable mass testing for surveillance purposes

1b.

Aside from health care testing sites at hospitals, outpatient clinics, and urgent care centers, Massachusetts currently offers the following testing sites to residents:

- Two drive-through testing sites, operated by the Massachusetts Executive Office for Public Safety and Security, in Foxborough and West Springfield. These sites serve public safety personnel and grocery store workers; each site performs ~200 tests per day.
- One Rapid Test site operated by CVS in Lowell, which tests ~1,000 individuals daily. This was developed as a pilot in partnership with the federal government, CVS and the Commonwealth.
- The successful Massachusetts Mobile Testing Program, which tests between 1,000 and 3,000 individuals each day in congregate living or other high-risk environments (e.g., nursing facilities, assisted living residences, group residential homes, corrections etc.). The Mobile Testing Program allows for safe onsite sample collection by trained personnel from the Massachusetts National Guard or a Commonwealth-contracted Emergency Medical Service Provider. The MANG is scheduled to sunset in June with the redeployment of the National Guard.
- Retail testing locations, including 22 testing sites in CVS stores and 7 sites in Walmart stores across the state with a combined capacity for over 2,000 tests per day.

Moving forward, the Commonwealth will continue to expand testing in the following ways:

Strategic Testing Expansion Program (STEP):

- A procurement to expand testing sites was released on May 22nd; providers will be selected to stand up new testing sites and expand access to mobile testing options across the state over the coming weeks
- STEP sites will provide fast, convenient access to drive-through and/or walk-through testing in community-based locations (e.g., churches, community centers, etc.)
- Standardized protocols will ensure strong feedback loops to primary care for follow-up (e.g., symptom tracking, close monitoring for individuals with underlying health conditions, advice on when to seek additional medical attention, etc.)
- New sites will be prioritized for areas with limited access to testing and areas with high incidence of COVID-19

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## Community Health Centers (CHCs) testing expansion:

- Will encourage easy-to-access options like walk-through, drive-through tents, etc.
- This is an important component of the strategy to address testing disparities, given CHC expertise in culturally and linguistically appropriate care

## Community-based organizations:

- The Commonwealth will leverage its 57 statewide sites that currently support, prevention, testing, and linkages to care for communicable diseases, such as HIV, viral hepatitis, and tuberculosis. Testing at these sites will be expanded to offer COVID-19 swabbing for PCR testing at the SPHL
- These programs are located in community-based organizations
- They will build on existing capacity to offer targeted testing to vulnerable and hard-to-reach communities, including non-English speakers, persons experiencing homelessness and incarceration, and persons with substance use and other behavioral disorders

## Pharmacy testing expansion:

- Pharmacists play an increasing role in the delivery of services in Massachusetts, including distribution of naloxone under standing orders to prevent fatal overdoses
- CVS, Walmart, and Rite Aid have already started to offer limited testing services in Massachusetts; the Commonwealth will continue to promote these resources

## Employer Sites

The Commonwealth will provide technical support and guidance targeted to business segments (e.g., large employers, small businesses, government, colleges and universities, etc.) that plan to conduct testing onsite

Today, nearly all (estimated 90%+) of testing sites use nasopharyngeal swabs to collect samples. However, as new sample collection methods become readily available (e.g., anterior nasal swabs, saliva samples), the Commonwealth will prioritize investment in and scale up methods that allow for self-collection and greater patient comfort, while also facilitating conservation of personal protective equipment. In selected settings, rapid test technology will be deployed to inform infection control decisions (e.g. cohorting of residents of congregate settings) and employment decisions (e.g. health care workers remaining on the job).

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1c.

The Commonwealth is working to expand availability of serological testing for target populations. The SPHL is currently validating the Abbott ARCHITECT serological assay, and other clinical and commercial laboratories are bringing FDA-approved assays onboard. As the clinical implications of COVID-19 antibodies become better understood, serological testing will likely be done in tandem with viral diagnostic testing to better inform clinical recommendations and in the future, COVID-19 vaccination efforts.

With scientific advancement, serological testing will be used to understand the presence of antibodies, an indicator of past infection and hopefully immunity, within the general population. With confirmation of the utility and accuracy of serologic testing, the Commonwealth will implement a broad surveillance strategy to measure the proportion of the population that have detectable antibodies (“seroprevalence”) to help us understand the prevalence of prior infection of COVID-19 in persons who were asymptomatic, minimally symptomatic, and/or who were not otherwise tested for infection.

Over the past few weeks, several health systems across Massachusetts have been experimenting with antibody testing to measure seroprevalence in “hotspot” communities (e.g., Chelsea). Additional widespread use of serological testing is currently planned for nursing facility staff throughout June and July. Screening of antibodies in newborn heel stick dried blood spots (routinely obtained for all newborns in Massachusetts through the New England Newborn Screening Program) is being piloted to detect prior COVID-19 infection in postpartum women and will be available on an ongoing basis. This strategy has the potential to provide an ongoing estimate of population-level COVID-19 exposure.

1d.

The Commonwealth will invest in additional dedicated staff within the Massachusetts Department of Public Health (MDPH) Office of Preparedness and Emergency Management (OPEM) to coordinate the purchase, receipt, inventorying, allocation, and distribution of critical supplies from commercial sources as well as the Strategic National Stockpile. This grant will fund a centralized, coordinated system to assess needs and inventory of PPE, laboratory reagents, specimen collection supplies, and other materials. This system will be centrally staffed and work across OPEM, the SPHL, and the Massachusetts Emergency Management Agency (MEMA). This will allow for greater visibility, strategic allocation, and timely distribution of available supplies using the MEMA-contracted courier service.

The Commonwealth currently contracts with Buoy to conduct daily outreach to testing sites to keep track of testing capacity.

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**Table #1a: Number of individuals planned to be tested, by month**

BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
Diagnostics*	318,000	450,000							768,000
Serology	35,000	100,000							135,000
TOTAL	353,000	550,000	0	0	0	0	0	0	

**Table #1b: Planned expansion of testing jurisdiction-wide**

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<b>Name of testing entity</b>	<b>Testing venue (select from drop down)</b>	<b>Performing Lab (if different from testing entity)</b>	<b>Daily diagnostic throughput</b>	<b>Daily serologic throughput</b>	<b>Platforms or devices used (list all)</b>	<b>Specific at-risk populations targeted (list all)</b>
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Steward Healthcare	Hospitals or clinical facility	Steward hospitals and laboratory facilities; Quest Diagnostics; LabCorp	5,000			
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<p>Mass General Brigham</p>	<p>Hospitals or clinical facility</p>	<p>Mass General Brigham Hospitals (including Mass General, Brigham and Women's, North Shore Medical Center, Newton Wellesley Hospital, and others); Broad Institute</p>	<p style="text-align: center;">3,200</p>			
<p>CVS</p>	<p>Drug store or pharmacy</p>	<p>CVS; Third Party Lab</p>	<p style="text-align: center;">2,300</p>			

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Strategic Testing Expansion Program Sites (procurement released 5/22)	Drive-thru testing site	TBD	2,000			Mobile testing providers will be available for engagement with nursing homes, homeless shelters, and other congregate living settings; STEP sites will be targeted at communities with limited access to testing and other high-risk factors

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
CareWell	Hospitals or clinical facility	CareWell; Quest Diagnostics	2,000			

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Community Health Centers & Federally Qualified Health Centers	Hospitals or clinical facility	Quest Diagnostics	2,000			These testing providers serve many at risk populations, including elderly, racial and ethnic minorities, homeless individuals, etc.

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Wellforce	Hospitals or clinical facility	Tufts Medical Center, Lowell General Hospital	2,000			
Massachusetts National Guard (mobile testing)	Community-based	Broad Institute	1,500			Congregate care populations, including nursing facilities and group residential homes

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Atrius Health - Harvard Vanguard	Hospitals or clinical facility	Atrius Health; Quest Diagnostics	1,500			

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Beth Israel Deaconess Medical Center / Lahey Health	Hospitals or clinical facility	BIDMC / Lahey Health	2,000			

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Fallon EMS (mobile testing)	Hospitals or clinical facility	Quest Diagnostics	1,500			Congregate care populations, including nursing facilities and group residential homes



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Lawrence General Hospital	Hospitals or clinical facility	Lawrence General Hospital; Quest Diagnostics; Broad Institute	1,500			
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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Boston Medical Center	Hospitals or clinical facility	Boston Medical Center	1,500			
UMass Memorial	Hospitals or clinical facility	UMass Virology Lab	1,500			
Brewster EMS (mobile testing)	Other	Labcorp	1,500			

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Baystate Health	Hospitals or clinical facility	Baystate Health		1,000		
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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Emerson Hospital	Hospitals or clinical facility	Emerson Hospital; Broad Institute	1,000			
Urgent Care - Other	Hospitals or clinical facility	Varies	1,000			
Cambridge Health Alliance (CHA)	Hospitals or clinical facility	Labcorp; Cambridge Health Alliance	1,000			
Cape Cod Hospital	Hospitals or clinical facility	Cape Cod Hospital	750			

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
AFC Urgent Care	Hospitals or clinical facility	AFC Urgent Care; Quest Diagnostics	700			
Convenient MD	Hospitals or clinical facility	LabCorp	700			

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Mercy Medical Center	Hospitals or clinical facility	Mercy Medical Center	500			
South Shore Hospital	Hospitals or clinical facility	South Shore Hospital	500			

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Walmart	Other	Quest Diagnostics; eTrue North	350			
Orig3n	Commercial or private lab	Orig3n	250			

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Berkshire Medical Center	Hospitals or clinical facility	Berkshire Medical Center; Quest Diagnostics	250			



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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Big E	Drive-thru testing site	Quest Diagnostics	200			Essential workers, first responders

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Gillette Stadium Parking Lot	Drive-thru testing site	Quest Diagnostics	200			Essential workers, first responders
Southcoast Health	Hospitals or clinical facility	Southcoast Health	200			

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Boston Children's Hospital	Hospitals or clinical facility	Boston Children's Hospital	200			

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Serology Testing Sites Vary	Other	Quest Diagnostics		2,000		
Serology Testing Sites Vary	Other	State Public Health Lab		1,600		

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Serology Testing Sites Vary	Other	LabCorp		300		
Serology Testing Sites Vary	Other	AFC Urgent Care		150		

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## 2020 Direct Expansion of SARS-COV-2 Testing by Health Departments

### **2. Describe your public health department's direct impact on testing expansion in your jurisdiction.**

2a.

Today, most sample collection (65%) occurs at a distributed network of testing sites operated by traditional health care providers (e.g., Hospitals, Outpatient Offices/Clinics, Community Health Centers, Urgent Care Sites, etc.). These health care sites operate a number of drive-through and walk-in locations, in addition to traditional hospital or clinic-based settings.

Transparent, up-to-date information on these sites is accessible via multiple platforms to ensure that all Massachusetts residents can access testing at a time, location, and setting that is most convenient for them. Massachusetts maintains an online list of many of these statewide testing sites, which is available through Mass.Gov and updated twice per week. The list includes locations and contact information to call ahead for availability and appointments. Massachusetts also offers access to Buoy, a free online health assistant, to all residents. On Buoy, individuals fill out a brief survey about their symptoms and risk factors. If testing for COVID-19 is recommended, Buoy shows available testing sites closest to the individual's zip code and that day's test availability. Community Tracing Collaborative (CTC) staff also assist identified close contacts to make testing appointments using the Buoy system.

Going forward, the Commonwealth's efforts will aim to ensure expanded access to testing by further building capacity at the 250+ existing testing locations. The Department of Public Health has been analyzing data on the geographic concentration of COVID-19 burden (including cases, hospitalizations, and deaths), as well as testing rates and other risk and demographic factors that may be correlated with disease burden (e.g., population density, residence in congregate settings, low health literacy). Federal funding will be used to add new Strategic Testing Program Expansion (STEP) sites in communities identified by the Department of Public Health that have limited access to testing, a high burden of COVID-19 cases, or other increased risk factors. The Commonwealth aims to open over 20 of these sites by the end of July.

In addition to expanding testing sites, the Massachusetts SPHL has contracted to install the Roche Diagnostics cobas® 6800 platform in June 2020. The SPHL expects to receive sufficient supplies and reagents to enable 1,300 tests/day. This will support its network of 57 contracted community-based testing providers, as well as epidemiologic testing coordinated through the 351 local health departments in the Commonwealth. The SPHL will also conduct randomly sampled testing in tandem with the Harvard School of Public Health. This will include at least 5,000 households linked to the US Census' American Community Survey sample to provide more complete demographic, risk, exposure, and health care engagement data to complement these test results.

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The SPHL has also contracted with Abbott Laboratories to expand the use of its existing ARCHITECT platform to conduct serologic testing in conjunction with planned epidemiologic testing. Using this machine, the SPHL will be able to conduct up to 1,600 antibody assays per day. The Abbott ARCHITECT platform already conducts high-volume HIV, HCV, and syphilis testing from serological samples collected through 57 contracted community-based integrated infectious disease prevention and screening sites in Massachusetts. Therefore, the mechanisms for obtaining additional serum specimens via these sites already exists and will serve as an entry point to testing vulnerable and hard-to-reach individuals, as a supplement to more readily obtainable commercial antibody tests.

2b.

To directly address testing disparities, Massachusetts will pursue strategies to promote testing among communities of color, rural communities, low-income groups, individuals with disabilities, and individuals over age 65.

These strategies will include:

- Continued analysis of racial, ethnic, and lingual disparities that exist in COVID-19 testing
- Developing communications about testing services in multiple languages
- Launching the Strategic Testing Expansion Program (STEP) sites in high-prevalence, low-income communities
- Improving accessibility for individuals with disabilities
- Supporting partnerships with local social service providers (e.g., homeless shelters, community/senior centers, food pantries, etc.) to connect visitors to local testing

Overall, these additional testing sites will expand the capacity, efficiency, and footprint of test sampling sites available across Massachusetts.

Correctional facilities and health care facilities, especially nursing facilities and other congregate care settings, will continue to conduct widespread testing in their facilities. All Massachusetts nursing facilities completed baseline testing of staff and residents in May. It is established that nursing facilities are at high risk for extensive transmission and resulting mortality; 65% of all deaths from COVID-19 in Massachusetts have occurred in long term care facilities. Massachusetts will continue to require testing in Nursing Facilities and to publish data about positive cases and COVID-19 related deaths.

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MDPH also contracts with 57 integrated infectious disease (HIV/HCV/STI/TB) prevention and screening sites statewide serving persons with substance use/opioid use disorder, incarcerated individuals, persons experiencing homelessness, individuals lacking health insurance, and non-English speakers. All sites are fully accessible and have access to interpreter services for persons who are deaf or hard of hearing. These sites will be enhanced with Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases (ELC) Cooperative Agreement resources to offer COVID-19 testing and will support linkage to public health and health care services.

2c.

Quest and Lab Corp are currently processing samples collected via anterior nasal swabs. The Broad Institute is currently in the process of validating saliva sampling and anterior nasal swabs. UMass Memorial Medical Center has just finalized its validation of saliva sampling. The Commonwealth continues to promote alternative sampling methods as a strategy to make testing more efficient. Sampling via these alternative methods increases the simplicity, speed, convenience, and comfort of testing, while reducing the training, staff, and personal protective equipment (PPE) resources required to collect samples.

Analysis of specimen types used by various clinical laboratories through regular surveillance by the SPHL will enable more targeted allocation of swabs and viral transport medium (VTM) to maximize supplies. The Commonwealth has developed a coordinated supply chain management system through the MDPH Office of Preparedness and Emergency Management that supports the needs of our testing partners.

While all acute-care hospitals in Massachusetts and most health centers utilize electronic health record systems and participate in the MDPH's Electronic Laboratory Reporting (ELR) system, many nursing homes, assisted living programs, and other congregate care sites are not. High-volume, repeated testing in these settings requires the expansion of the ELR system to enable rapid resulting of PCR tests to inform infection prevention processes at the sites, and to enable rapid, automated integration of these results into MAVEN. The Commonwealth plans to enable these sites to participate in the ELR system with their existing IT assets by providing training, data mapping, testing and validation, and selected IT updates at the user end. This will be facilitated by the revamping of the SPHL Laboratory Information Management System (LIMS) to enable better acceptance of direct data feeds from commercial and clinical laboratories, to sort these data more precisely by specimen submitter, and to integrate them seamlessly into MAVEN. This improved LIMS has already been procured, and ELC resources will permit its accelerated installation and needed modifications.

2d.



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The SPHL has contracted with Abbott Laboratories to expand its use of the existing ARCHITECT platform for COVID-19 serology, currently used for HIV/HCV/syphilis serum testing. Validation of this assay against known positive and negative serum specimens collected by the Massachusetts National Guard is underway and expected to be completed in early June 2020. Needed supplies and reagents have been ordered in anticipation of this completed validation.

2e.

The Commonwealth, with ELC support, will continue developing its innovative contact tracing model, which is already being leveraged by other states. So far, the Community Tracing Collaborative (CTC) has hired over 1,600 full time employees, with new staff being onboarded regularly. The CTC has established partnerships with all 351 Massachusetts Local Boards of Health and continues to work closely with the Department of Public Health. The data solution (CRM/Salesforce) that guides the work of the CTC and supports the call center is fully integrated with MAVEN. Surveillance COVID-19 case data travels electronically to the CTC. Once case and contact outreach have been performed by call center staff, data about these successful engagements travels back to MAVEN and is available to the local board of health. This seamless integration supports the work of local boards of health and ensures complete and timely isolation or quarantine instruction to cases and contacts, respectively.

Massachusetts will continue to bolster its statewide surveillance efforts. Data from increased molecular testing or rapid antigen testing, with demonstrated reliability, will be used by MDPH to continue its surveillance work: monitoring the intensity, geographic spread, and severity of COVID-19 in the population. This will help to estimate the burden of disease, assess the direction of recent time trends, and inform the Commonwealth's continued response to the pandemic. MDPH will also continue to monitor changes in risk groups that are most affected by COVID-19 to guide prevention efforts, predict the impact on the Commonwealth's healthcare system, and inform future community mitigation measures.

MDPH, with ELC support, plans to invest in critical data systems to better track testing coverage, detect outbreaks/effectiveness of mitigation efforts, and conduct ongoing sentinel surveillance of COVID-19 both statewide and within vulnerable populations. The MAVEN surveillance system will be enhanced to collect additional data on occupation, disability, sexual orientation/gender identity, immunization status (when relevant), housing status (including homelessness, incarceration, congregate vs. non-congregate setting), and clinical status (hospitalized, recovered, etc.). Parallel to these enhancements will be the expansion of the state Electronic Laboratory Reporting and SPHL Laboratory Information Management System systems (as described above), further development of our syndromic surveillance analytic capability, expansion of the use of Electronic Health Record Support for Public Health which pulls reportable disease data directly from EHRs, and COVID-19 death reporting from our Vital Records system.

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2f.

Under this ELC grant, MPDH will expand its managerial complement to include a Project Manager and a Fiscal Manager wholly devoted to accomplishing the procurement, hiring, and onboarding tasks committed to herein. Governor Baker's declaration of a State of Emergency has enabled several critical processes, which are ordinarily time-consuming and procedurally complex, to be streamlined and accelerated, including single source contracting, rapid purchasing, redirection of human resources staffing to accelerate hiring review, and dedicated onboarding resources. Under this grant, considerable clinical, epidemiologic, laboratory, administration and finance, and informatics/IT staff and contractual personnel are anticipated to be added to our existing staff complement. The State of Emergency renders this expansion feasible within the critical timeframes needed to respond to the COVID-19 pandemic.

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**Table #2: Planned expansion of testing driven by public health departments**

BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
Number of additional* staff to meet planned testing levels	0	0							0
FOR DIAGNOSTIC TESTING									
How many additional* testing equipment/devices are needed to meet planned testing levels? (provide an estimated number, and include platform details in narrative above)	0	1							1
Volume of additional swabs needed to meet planned testing levels <sup>++</sup>	0	0							0
Volume of additional media (VTM, MTM, saline, etc.) needed to meet planned testing levels <sup>++</sup>	0	0							0
Volume of additional reagents needed to meet planned testing levels, by testing unit and platform (i.e. 100K/day - Hologic panther; 100k/day - Thermofisher)	0	1,300/day Roche cobas 6800							1,300/day
FOR SEROLOGIC TESTING									

## ELC ENHANCING DETECTION: MASSACHUSETTS TESTING PLAN

BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
Number of additional* equipment and devices to meet planned testing levels	0	1							1
Volume of additional reagents needed to meet planned testing levels, by testing unit and platform (i.e. 100K/day - Hologic panther; 100k/day - Thermofisher)	0	1,600/day Abbott ARCHITECT							1600/day

\* Report new monthly additions only, not cumulative levels

++ For May and June, only include needs beyond the supplies provided by FEMA. Report new monthly additions only, not cumulative levels.