

ELC ENHANCING DETECTION: CHICAGO TESTING PLAN

2020 Overarching Jurisdictional SARS-COV-2 Testing Strategy

Jurisdiction:	Chicago
Population Size:	2,700,000

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

The State of Illinois has publicly committed to ramping up to 30,000 tests per day in the effort to continue the fight against COVID-19. Chicago has established the minimum goal of testing 5% of Chicago residents monthly (4,500 tests daily) as one of the criteria to enable the gradual, phased reopening of the economy, with the goal of increasing to 10,000 tests per day in the effort to continue the fight against COVID-19. CDPH is committed to ensuring testing is accessible for all Chicago residents with symptoms of COVID-19; available by increasing specimen collection and testing supplies and building capacity in clinical settings; adaptable to provide testing in affected communities based on evolving epidemiology. In addition to leveraging robust testing at the IL Department of Health's State Laboratory, CDPH plans to make testing widely available by partnering closely with academic hospital laboratories, federally qualified health centers, and other outpatient settings. The proposed implementation plan aims to leverage clinical and laboratory infrastructure to significantly improve both testing capacity and reporting for adequate support of case identification, contact tracing and surveillance. Building on groundwork established by ELC CARES funds, Implementation plan includes:

- Ensure adequate personnel and support in order to coordinate outreach to providers and laboratory partners and coordinate testing to support capacity to:
 - o Increased testing volume by 50% in clinical settings across the city that already have testing in place (hospital outpatient clinics, etc)
 - o Ensure access to testing for all symptomatic first responders and frontline workers through contractual agreements for additional testing in hospital/clinical facilities
 - o Improve access to resources for FQHCs (i.e. Quarantine/Isolation housing referral process, support for healthcare workers, access to PPE) to better equip their systems for testing expansion by:
 - ☐ assigning FQHC liaison,
 - ☐ creating FQHC resource page online,
 - ☐ coordinating with public health preparedness team
- Sustaining community-based testing by:
 - o Leveraging collaboration with community-based organization and Community Organized Relief Effort (CORE) for specimen collection
 - o Sustaining reference laboratory capacity to support community-based testing (Curative/TEMPUS)
 - o Adding mobile capacity for responsive community-based testing in areas of greater need/lower access

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- o Ensuring coordination with pharmacies and urgent care providers
- Communicate with laboratory partners and coordinate with IL to maximize clinical lab testing capacity:
 - o Assess lab equipment testing capacity
 - o Coordinate allocation of reagents to ensure testing potential is fulfilled
 - o Expand testing to serve population beyond clinical testing patient population

CDPH will continue to participate in regular meetings with hospital laboratories, and commercial and reference labs as well as review data submitted about capacity and performance to identify and address emerging challenges.

In addition to delivering the right number of tests and testing supplies to maximize testing capacity, ensuring the right technical, infection control, quality assurance and reporting infrastructure is in place, is critical for Chicago and IL to successfully control disease spread and reopen the economy.

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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*	135,000	148,500	163,350	179,685	197,654	217,419	239,161	263,077	1,543,845
Serology	7,500	8,250	9,075	9,983	10,981	12,079	13,287	14,615	85,770
TOTAL	142,500	156,750	172,425	189,668	208,634	229,498	252,447	277,692	

*Each jurisdiction is expected to expand testing to reach a minimum of 2% of the jurisdictional population.

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

Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic through-put	Daily serologic through-put	Specific at-risk populations targeted (list all)
Chatam CBTS	Community-based	LabCorp	750		All symptomatic individuals
Illinois DPH-Lab	Public health lab	IDPH	200	50	CDPH public health-directed testing in Chicago congregate settings
Cook County Health System	Hospitals or clinical facility	Stroger Lab	500		First responders with symptoms including: law enforcement, fire services, emergency medical services, and emergency management officials, who anticipate close contact with persons with confirmed or possible COVID-19 in the course of their work.

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic through-put	Daily serologic through-put	Specific at-risk populations targeted (list all)
Rush University Medical Center	Hospitals or clinical facility	LabCorp	150		CDPH public health-directed testing in Chicago congregate settings (e.g., Skilled Nursing facilities and Shelters)
University of Illinois Health	Hospitals or clinical facility	UIC-lab	150		CDPH public health-directed testing in Chicago congregate settings (e.g., Skilled Nursing facilities and Shelters)
Academic Partners	Hospitals or clinical facility	TBD	500	100	Individuals identified during contact tracing/cluster investigation (e.g., high risk contacts, contacts in sensitive occupations, work place clusters). Establish additional contract with academic partners.
Esperanza	Federally Qualified Health Center	LabCorp	250		Community members receive telehealth visit with a provider, who determines testing need (based on symptoms, risk, or type of work)
Access Community Health Network	Federally Qualified Health Center	Quest	150		Community members receive telehealth visit with a provider, who determines testing need (based on symptoms, risk, or type of work)
Lawndale Christian Health Center	Federally Qualified Health Center	IDPH	100		Community members receive telehealth visit with a provider, who determines testing

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic through-put	Daily serologic through-put	Specific at-risk populations targeted (list all)
					need (based on symptoms, risk, or type of work)
PCC Community Wellness Center	Federally Qualified Health Center	Quest	100		Community members receive telehealth visit with a provider, who determines testing need (based on symptoms, risk, or type of work)
Mobile Testing	Federally Qualified Health Center	Tempus	200		Mobile van assessment and testing in high-prevalence communities With FQHCs partners
Mobile Testing	Hospitals or clinical facility	TBD	50		Mobile van assessment and testing in high-prevalence communities with hospital partners
Harwood Heights - CBTS	Hospitals or clinical facility	Quest	750		All symptomatic individuals
CORE	Drive-thru testing site	CURATIVE	1,000		5 CBTS All symptomatic individuals
CORE-Mobile Testing	Drive-thru testing site	CURATIVE	200		All symptomatic individuals
Outpatient setting	Commercial or private lab	Tempus	300		All symptomatic individuals

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic through-put	Daily serologic through-put	Specific at-risk populations targeted (list all)
Wallgreens	Drug store or pharmacy	Commercial Reference	200		All symptomatic individuals
CVS	Drug store or pharmacy	Commercial Reference	200		All symptomatic individuals

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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.

The Chicago Department of Public Health (CDPH) does not own or operate a public health laboratory; CDPH relies on the Illinois DPH laboratory (IDPH-Lab) for public health testing. CDPH aims to augment public health testing for Chicago residents by establishing private-public partnership with academic medical centers, and university clinical laboratories to augment testing capacity and expertise in addition to those provided by IDPH-lab. This testing collaboration with leaders in laboratory science will deploy new and emerging technologies, as they develop for COVID-19 diagnosis. Beyond diagnostic purposes, CDPH will aim to establish testing capacity to characterize pathogens for public health surveillance and response (e.g. Next-generation Sequencing (NGS), Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR), Viral culture, Bio-banking). To optimize testing capacity CDPH will enhance data integration and bioinformatics for follow-up and contact tracing.

Local epidemiology will be closely monitored to ensure that testing sites are situated appropriately in areas with the greatest need (e.g., If a substantial outbreak in a long-term care facility is identified, testing resources will be targeted to that facility as needed). Leveraging the framework established with ELC CARES funding, CDPH will expand capacity for specimen collection and testing in congregant settings with contractual support with academic partners. Contractual support with additional partners will allow to support testing capacity for first responders and frontline workers and testing in other environments, including critical infrastructure worksites, and educational settings. Additionally, CDPH will seek to establish contractual support with IL based commercial reference laboratories and academic medical centers for surge capacity (e.g., TEMPUS, RUSH, UIC).

An increase in laboratory equipment, reagents, and specimen collection supplies is critical to enhancing testing capacity. CDPH will continue to convene a group of interdisciplinary professionals from various clinical laboratories and state agencies to specifically focus on ensuring an accessible, available, and adaptable testing for Chicago and IL. CDPH will develop mobile testing capabilities to ensure flexibility in specimen collection and testing response. Since CDPH does not own or operate a public health laboratory, the table below is not completed. Testing strategy relies on contractual and academic partnerships, the coordination of which is supported by ELC-funded CDPH staff.

CDPH has secured ongoing ability to deploy testing in congregate setting that include specimen collection, data gathering and reference laboratory capacity to address testing of vulnerable populations in shelters and skilled nursing facilities. This capacity allows both house-wide routine surveillance in these setting as well as testing for early response of identified cases. CDPH will also leverage this established capacity for response in other congregant settings (e.g., workplace settings).

CDPH conducted serologic testing in shelters and skilled nursing facility; along with virologic testing in these settings serology allowed to identify individuals with serologic positive results without prior evidence of infection by molecular testing, as well describe serologic results among those with prior

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molecular evidence of infection. Chicago is also a participating center in blood donor seroprevalence survey expansion of the Recipient Epidemiology and Donor Evaluation Study (REDS) program. CDPH will integrate seroprevalence at different time points collected by this program to inform and evaluate Chicago COVID-19 response. Building on serologic/virologic testing in these congregant settings, CDPH will continue to develop models for targeted serologic testing and serologic/virologic community-based surveillance strategies. Short term, the aim of such testing is to understand population specific disease burden, as well as understand the association of prior PCR positive, asymptomatic infection on serologic response. Longer term, the goal is also to develop serologic studies to better capture the disease burden across our city, comparing it to known past active infection data. Such data will inform our understanding of true disease burden, and also help identify communities where testing for active infection is or was suboptimal.

CDPH will continue to collaborate with medical academic partners to assess emergency technologies and novel strategies for SARS-CoV-2 testing including:

- Supporting Chicago Coronavirus Assessment Network (Chicago CAN) activities
- Review and inform Rapid Acceleration of Diagnostics (RADx) projects aimed at addressing testing in hard to reach populations and evaluation of emerging testing strategies
- Inform and evaluate academic partners' strategies for testing in on-campus settings
- Evaluate opportunities to implement sewage surveillance

As testing capacity increases, reporting to public health of critical data elements automated electronic exchange is of fundamental importance. CDPH has already issued PH orders to improve timeliness and completeness of public health reporting for prompt identification of cases for investigation and contact tracing and established a CDPH owned COVID-19 Datahub for effective electronic case reporting by integrating electronic medical record and laboratory reporting.

- Improve completeness of laboratory reporting structure for COVID-19 by ELR
- Integrate electronic health records for the purposes of collecting essential data on patients tested for COVID-19 in the COVID-19 Datahub
- Support Health Level Seven (HL7) electronic data feeds into CDPH owned COVID-19 Datahub
- Ensure integration of Electronic Test Order systems and laboratory reporting into surveillance data systems

Enhanced testing capacity is a critical aspect to successfully inform aggressive mitigation and containment strategies. CDPH testing plan aims to complement the IL state public health laboratory with enhanced capacity for diagnostic testing of symptomatic individuals, universal testing in congregant/outbreak settings, and virologic and serologic testing for contact tracing and surveillance purposes.

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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									
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)									

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BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
Volume of additional swabs needed to meet planned testing levels ⁺⁺									
Volume of additional media (VTM, MTM, saline, etc.) needed to meet planned testing levels ⁺⁺									

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

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Volume of additional reagents needed to meet planned testing levels, by testing unit and platform (i.e. 100K/day - Hologic panther; 100k/day - Thermofisher)									

* 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.