2020 Overarching Jurisdictional SARS-COV-2 Testing Strategy

Jurisdiction:	LA County
Population Size:	10,000,000

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

Los Angeles County (LAC) has reached the goal of testing 2% of the County population, or ~200,000 individuals each month. LAC is currently performing over 650,000 tests/month through our clinical providers, public health departments (County DPH, Pasadena PHD, and Long Beach PHD), as well as through community testing sites. Initial efforts during the emergency focused on outbreak investigations and community testing access through drive-through and walk-through sites often located in non-clinical settings (e.g. event venues and malls). We will be continuing to expand our existing infrastructure to address this crisis, and expand testing and contract tracing efforts. In addition, we are working with providers countywide to move more community testing into health care settings, while ramping up public health-led surveillance, contact and outbreak operations. This clinically integrated approach will improve the value of testing performed while ensuring close follow-up and family- and community- centered counseling and management post-testing. We are working closely with countywide testing partners to enhance their access to testing capacity and supplies, personnel, personal protective equipment, and training and technical assistance. LA County recently produced and disseminated a lab reference guide for COVID-19 molecular testing and we will continually update this reference guide that provides information to LA County providers on labs meeting specific criteria. In addition, this provides another opportunity to monitor test kits, reagent inventory and other supplies through direct and ongoing communication with testing partners. Testing coordinators have been assigned to work with the Public Health Laboratory to coordinate testing from different outbreaks, investigations, and community-based requests, as well as liaising with commercial laboratories for County supported testing in various settings (e.g., persons experiencing homelessness, other congregate living, correctional facilities, and more).

In addition to this cross-cutting approach, we have specific strategies for high-risk populations, including those living in congregate settings (e.g., shelters and homeless encampments, justice-involved, long term care facilities such as skilled nursing and assisted living, etc.). In these settings, we deploy strike teams and outreach teams to test onsite. We are also working to perform targeted outreach to vulnerable populations (e.g., elderly and other vulnerable communities) with the capacity to have bilingual staff onsite, as needed. This community-based outreach comprises culturally and linguistically appropriate communication and education approaches, inclusive of the creation of linkages to care services within impacted communities. With ARC GIS mapping, we are identifying areas of high need for additional testing sites, such as those in primarily Latinx and African American communities, as well as monitoring total tests completed by race/ethnicity, socioeconomic, gender orientation/identity and other factors, with comparisons to average volume of community testing, geographical spread of sites, and testing volume and capacity. This mapping also allows for visualization of the county's entire testing ecosystem, paired with data collected into our reporting systems. Additional testing sites have been and will be opened to address surges in areas of high need. The County recently announced, via a press

release and posting on the County's website, an extended commitment to operate additional drive through sites in 'hot spots' where data demonstrate high test positivity, low testing access, and high mortality. This effort includes partnerships with community-based organizations to target high-risk communities through street outreach teams delivering COVID-19 prevention messages door-to-door as another community-based communication strategy. As the pandemic progresses, and with advances in point-of care and serologic testing, we will work to incorporate these advances into our testing strategy. Point-of-care testing has seen limited implementation due to low sensitivity and low availability of test kits. We have a significant need for point-of-care and rapid testing approaches in hospitals, outbreak settings, and at entry to congregate settings like correctional facilities. We anticipate significant increases in use of point-of-care testing once it is more widely available. Public Health and Health Services have joint teams who collaborate to identify surges in cases and increases in testing needs among vulnerable populations such as those experiencing homelessness (sheltered and unsheltered), and low income adult residential and similar facilities which house residents on primarily accessing SSI benefits.

Serology testing is being explored with various types of facilities serving some of the most vulnerable populations in LA County. Public Health Lab (PHL) will continue perform seroprevalence surveillance studies and evaluate the value of serologic test for diagnostic purposes. At PHL, serology testing will be offered for seroprevalence studies and as an adjunct to molecular testing. Plasma and serum specimens are acceptable specimen types for SARS-COV2 IgM/IgG lateral flow and IgG chemiluminescent automated immunoassays. Serology testing will be offered for public health investigations, community-based providers, coroner-medical examiner, and for providers who have patients in congregate settings. For all testing, an orthogonal approach will be utilized.

Finally, we also expect to see an increase in employer-driven workforce testing and direct to consumer testing - e.g. through newly FDA-approved home-base sampling methodologies and through pharmacies. CVS began testing in LA County in late May, and direct to consumer tests are now available.

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*	578,353	662,512	875,000	1,100,000	1,100,000	1,100,000	1,100,000	1,100,000	7,615,865
Serology			1,000	2,500	2,500	2,500	2,500	2,500	13,500
TOTAL	578,353	662,512	876,000	1,102,500	1,102,500	1,102,500	1,102,500	1,102,500	

*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)
DPH PEH Outbreak Testing	Commercial or private lab	Sonic/WestPac	1,000		Persons experiencing homelessness
DHS PEH Surveillance (Sheltered and Unsheltered)	Commercial or private lab	Sonic/Westpac	1,000		Persons experiencing homelessness
DHS Correctional Health Services (Jails)	Commercial or private lab	Quest	600		Correctional Facilities

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)
DPH Surveillance and Outbreak testing in non-PEH facilities	Commercial or private lab	Let's Get Checked	1,700		Elderly, disabled, nursing homes, other congregate living settings
Community Testing (e.g. clinics/hospitals, other community testing sites)	Drive-thru testing site	Fulgent, and numerous others	20,000		All populations will be tested - including racial and ethnic minorities, healthcare workers
City of LA Testing (not inclusive of community testing)	Drive-thru testing site	Korva (Curative) labs	9,000		All populations will be tested - including racial and ethnic minorities, healthcare workers
CVS Health	Drug store or pharmacy		1,450		All populations will be tested - including racial and ethnic minorities, healthcare workers
LA County Public Health Laboratory	Public health lab		1,000	390	Persons experiencing homelessness, other congregated living settings, prisons, juvenile detention facilities, nursing homes, assisted living facilities, disabled, healthcare workers and first responders.

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.

Los Angeles County (LAC) has reached the goal of testing 2% of the County population which translates into approximately 200,000 individuals each month. LAC is currently performing over 650,000 tests/month through our clinical providers, three public health departments (County DPH, Pasadena PHD, and Long Beach PHD), as well as through community testing sites which are overseen by the state, City of LA and LA County. Initial efforts during the emergency focused on outbreak investigations and community testing access through drive-through and walk-through sites often located in non-clinical settings (e.g. event venues and malls). We will be continuing to expand our existing infrastructure to address this crisis, and expand testing and contract tracing efforts. Ongoing efforts include expansion of drive through and walk through sites led by the LA County Department of Public Health, Department of Health Services, and working with providers countywide to move more community testing into health care settings, while ramping up public health-led surveillance, contact and outbreak operations. The LA County Department of Public Health in partnership with the Department of Health Services will ensure access to testing for County jails, juvenile correctional facilities, and for persons experiencing homelessness who are unsheltered or live in high-risk, congregate settings. The County has active contracts with multiple commercial labs to meet testing needs. We will use these commercial labs to supplement the capacity of our public health laboratories and continue to open additional County supported drive through test sites, as needed. Communication with testing partners and assessment of supply chains and availability will occur over multiple channels, including direct contact through a Public Health coordinator troubleshooting any issues experienced by contracted labs, conducting County-developed surveys and updating lists of labs meeting specific criteria, and posting information online.

We have a comprehensive strategy to prioritize testing for vulnerable and at-risk populations. State guidance on testing in skilled nursing facilities requires the facilities to perform testing on residents and staff. The County will work with these facilities to ensure adequate surveillance and outbreak testing and management. For congregate settings that house persons experiencing homelessness, LA County will support active surveillance testing in a subset of high-risk facilities and encampments, and support outbreak testing in these facilities, including other congregate living facilities such as adult residential facilities and residential care facilities for the elderly through CDC funds. For individuals living in marginalized communities, LA County will perform targeted outreach and engagement activities to ensure the most vulnerable groups have access to testing and subsequent intervention. This community-based outreach comprises culturally and linguistically appropriate communication and education approaches, inclusive of the creation of linkages to care services within impacted communities. These 'hot spots' have been identified through GIS mapping of Countywide data, highlighting vulnerable communities experiencing high test positivity, low testing access, and high mortality. In addition, Public Health is partnering with the University of California, Los Angeles (UCLA) and St Johns Wellness Center to test approximately 100 persons per week for sentinel surveillance. St. John's is a Federally Qualified Health Center (FQHC) serving some of the most vulnerable populations in LA County and offering a spectrum of services. We will collect information on age, sex, race/ethnicity,

and geography of all persons tested and those testing positive. We will track the percentage who test positive over time as a proxy indicator for COVID-19 activity. LA County will also leverage funding from health plans to cover as much testing as possible, preserving CDC funds for testing gaps. Guidance paired with technical assistance will be provided to long term care facilities which have the capacity to form partnerships with commercial labs and seek arrangements where insurance providers can be billed directly for testing. To manage and coordinate testing at Public Health, a coordinator works with the different programs and departments needing testing and assists to determine which laboratories specimens will be sent to depending on the patient population type.

LA County will leverage temporary personnel services agreements (e.g., physician, nurse and licensed vocational nurse registries) and contracts to community partners to hire staff to support testing and outreach and engagement activities. The majority of the anticipated staff will be hired in August 2020 and onboarding protocols are in place. County will work with the state to obtain necessary personal protective equipment (PPE) for testing providers. Other supplies – test kits and reagents - are provided currently through our contracted commercial labs. The County will monitor supply levels of its testing partners (test kits, reagents) and work with partners to troubleshoot early indications of supply shortages, as well as expand partnerships with other testing partners meeting select criteria. Through the use of self-collected specimen collection procedures, we have greatly reduced PPE need, limiting supply chain challenges that were common early in the pandemic.

The Public Health Laboratory works directly with program epidemiologists, community field services, area medical directors/health officers, public health clinics, and department testing coordinator to determine which outbreaks and clients will be sent to the public health lab for testing. All supplies and courier are taken of by the Public Health Laboratory. Expansion of testing at the Public Health Laboratory will be achieved in summer 2020 with the implementation of multiple serology assays, high-throughput molecular tests, additional courier service, and online ordering portal for physicians. Currently tests can only be ordered at the Public Health Lab by manual test request forms or by direct electronic interface to our laboratory information system. Expansion of testing will allow the Public Health Lab to obtain additional outbreak investigations and drive-through community testing at the Public Health Clinics. The majority of clients tested through the public health lab are uninsured, incarcerated, living in congregate settings (SNF, Assisted Living, Group Home, etc.), contact to known cases, healthcare workers, homeless, or live in underprivileged communities with lower socioeconomic status. Testing at the Public Health Lab follows priority tiered patient guidance established by CDC: 1) hospitalized patients including ICU patients, symptomatic HCW; 2) symptomatic elderly patients in congregate settings, symptomatic patients with underlying immunocompromised conditions, symptomatic first responders; 3) community-based testing for symptomatic patients and essential workers; and 4) asymptomatic patients.

Serology testing is being explored with various types of facilities serving some of the most vulnerable populations in LA County and the Public Health Laboratory is prepared to meet the upcoming demand for this type of testing. The Public Health Laboratory has validated four different assays for SARS-COV2

serological testing. Two assays will be used for IgG/IgM lateral flow and include the Cellex SARS-COV2 rapid test and Autobio SARS-COV2 rapid test. Both lateral flow assays will be performed concurrently on specimens following an orthogonal algorithm. For automated serology testing, the Abbot SARS-COV2 IgG CIA and Diasorin Liaison SARS-COV2 IgG assays have been validated. Similar to lateral flow testing, two automated tests will be performed on each specimen. Multiple tests per specimen will be performed as each serology test workflow (lateral flow vs. automated CIA) detects antibodies against either nucleoprotein or spike protein. Serology tests are orderable as IgG/IgM or IgG only. Notification of test availability is through the laboratory test catalog, email notification to public health partner programs, and lab update memo. Serology will be offered in conjunction with PCR for community-based testing and for coroner's office for diagnostic testing. Stand-alone IgG serology will be offered for community based seroprevalence testing. Retrospective sampling of remnant serum/plasma samples received at the Public Health Laboratory for other diseases will be utilized for seroprevalence assessments as well. Serology testing will be offered over 1 shift/5 days per week.

The Public Health Laboratory has validated 3 molecular tests for SARS-COV2 and a fourth assay is in development. The current tests in use are the CDC 2019 nCOV real-time PCR assay and Hologic Panther Fusion. Abbott ID NOW COVID-19 and Hologic Panther TMA SARS-COV2 are in development. The public health laboratory has 10 ABI 7500 fast DX, 3 Qiacube, 3 EZ1, 2 MP 2.0, 1 MP24, 1 MP Compact available for CDC PCR. The lab has 1 Panther Fusion and 4 Panthers. Two additional Panthers are being delivered in July 2020. There is 1 Abbott ID now instrument. Notification of test availablity is through the laboratory test catalog, email notificaiton to public health partner programs, and lab update memo. By mid-summer 2020, it is expected that all 6 Panthers and 1 Fusion will be available to utilize for SARS-COV2 testing. Expansion of molecular testing has required substantial modifications of the building and lab spaces to allow for high-throughput instruments to be installed. Additional staff have been hired to assist with testing. Molecular testing will be offered over 2 shifts/7 days per week.

Laboratory supply inventory is maintained by the Public Health Laboratory. Clients can order supplies and have them delivered via contracted courier. Courier is available 24/7/365. The Public Health Lab staff are available to provide training on specimen collection and handling for SARS-COV2 molecular testing and serology. Training is done either at the Public Health Lab or remotely thru video teleconference. The Laboratory Director is on-call to provide technical and clinical consultation for results after-hours, on weekends, and holidays. A contract is in development with a clinical laboratory for surge support but the Public Health Laboratory can also reach out to other nearby local Public Health Labs or state laboratories with membership in the Pacific Rim Consortium (CA, WA, OR, HI, Guam, AK, NV) if assistance is needed with overflow testing.

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	90	190	5	0	0	0	0	0	285
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)	16,627	22,115	0	0	0	0	0	0	38,742

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[++]	N/A	N/A	875,000	1,100,000	1,100,000	1,100,000	1,100,000	1,100,000	6,375,000
Volume of additional media (VTM, MTM, saline, etc.) needed to meet planned testing levels[++]	N/A	N/A	875,000	1,100,000	1,100,000	1,100,000	1,100,000	1,100,000	6,375,000

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)	N/A	N/A	Hologic Panther Fusion 9,000	Hologic Panther Fusion and TMA 30,000	Hologic Panther Fusion and TMA 30,000	Hologic Panther Fusion and TMA 30,000	Hologic Panther Fusion and TMA 30,000	Hologic Panther Fusion and TMA 30,000	
FOR SEROLOGIC TESTING									
Number of additional* equipment and devices to meet planned testing levels	0	0	0	0	0	0	0	0	0

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)	0	0	3300/mo Abbott IgG, 3300/mo Diasorin IgG, 1,000/mo Cellex IgM/IgG, 1,000/mo Autobio IgM/IgG	3300/moAbbott IgG, 3300/mo Diasorin IgG, 1,000/mo Cellex IgM/IgG, 1,000/mo Autobio IgM/IgG	3300/mo Abbott IgG, 3300/mo Diasorin IgG, 1,000/mo Cellex IgM/IgG, 1,000/mo Autobio IgM/IgG	3300/mo Abbott IgG, 3300/mo Diasorin IgG, 10000/mo Cellex IgM/IgG, 1,000/mo Autobio IgM/IgG	3300/mo Abbott IgG, 3300/mo Diasorin IgG, 1,000/mo Cellex IgM/IgG, 1,000/mo Autobio IgM/IgG	3300/mo Abbott IgG, 3300/mo Diasorin IgG, 1,000/mo Cellex IgM/IgG, 1,000/mo Autobio IgM/IgG	

* 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.