2020 Overarching Jurisdictional SARS-COV-2 Testing Strategy

Jurisdiction:	California
Population Size:	39.51 Million

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

California (CA) has a multi-pronged approach to increasing availability and access for SARS-CoV-2 testing. Since late March, daily volumes of PCR testing in CA have increased from 2,000 tests/day to a current peak of ~67,000 tests/day with capacity to test 4-5% of the overall population monthly. Initiatives are in place to further expand testing volumes to support reopening. Maintaining and expanding capacity for testing requires resources, leadership, and active collaboration across stakeholders.

CA has a fully-integrated testing plan to optimize end-to-end testing workflows by: 1) Expanded access to testing, in accordance with regularly updated and broadening testing guidelines and tailored testing solutions for populations based on need (e.g., testing for high-risk/vulnerable populations); 2) Establish a network of sample collection sites that supports equitable access to testing across populations and geographies; 3) Optimize capacity for sample processing and improve turnaround time for COVID-19 testing by maximizing use of available high-throughput testing platforms at labs and an adequate workforce to meet current/future testing needs; and 4) Support timely and accurate reporting of test results and integrating testing with contact tracing.

Given high testing needs, CA is considering potential strategies to make costs of testing sustainable, including new, cost efficient testing options, facilitating connections between local testing sites and labs, and piloting new approaches to test processing (e.g., sample pooling). To execute this plan, the Testing Task Force “TTF” was established with multi-stakeholder collaboration comprised of public and private sector and academic partners to take a comprehensive view on testing and actively collaborate with all involved stakeholders, including elected officials, local public health officers, industry associations, manufacturers, health systems, and other entities.

Question A: The following actions are taken to facilitate access to reliable, timely, and accurate specimen processing: 1) Gathered full information about capacity for COVID-19 testing in CA, including all types of lab equipment and testing platforms potentially available for testing; 2) Identified labs that meet criteria for testing readiness, including CLIA licensure, registration with CA Laboratory Field Services, ability to process FDA EUA RT-PCR tests and ability to report test processing outputs through CalREDIE, the statewide system for electronic disease reporting and surveillance. Total capacity of labs that meet all readiness criteria exceeds 120k PCR tests / day; 3) Identified high-throughput labs across public health, academic, and commercial sectors and set up regular communication with lab directors to optimize utilization of available resources and identify opportunities to expand testing; 4) For testing platforms that account for majority of available capacity (including Roche 6800 and 8800 Cobas machines, Hologic Panther, Abbott m2000, Thermo Fisher, and BD platforms), established ongoing outreach to manufacturers to understand availability of supplies and connect labs that are facing supply shortages to manufacturers; 5) Gathered information about lab operations (e.g., working hours, workforce, and potential opportunities) to redirect equipment capacity to COVID-19 testing as needed; 6) Launched a new Lab Testing Metrics App (an application that interacts with all Covid-19 testing labs

across CA) to enhance reporting and proactively identify supply shortages, staffing needs as well as other bottlenecks that can potentially limit capacity for testing. The app allows labs to provide daily testing data and report supply shortages. Testing data is being reconciled with CalREDIE daily; and 7) Launched sample pooling pilot with Stanford Hospital and Clinics, aiming to utilize scarce resources for test processing more efficiently and potentially to lower testing costs. Pilot results are expected to become available in early June. Once sample pooling protocols are validated, the state will issue guidelines to support broader utilization of this approach across labs.

Information from these efforts allowed CA to identify testing platforms critical for scaling capacity statewide (e.g., Hologic Panther), establish infrastructure and create transparency across the system in order to manage risks (e.g., workforce and supply shortages), and prepare to scale testing volumes across various types of needs. To maximize the use of testing platforms, CA actively orchestrates how test processing capacity is used across testing needs and use cases, including fixed capacity for community-based testing, mobile testing solutions for rural areas, end-to-end testing solutions for congregate settings as well as surge capacity for outbreak response and contact tracing.

Question B: To meet future testing needs and provide equitable access to testing, CA advances multiple initiatives that expand specimen collection capacity beyond traditional sites (e.g., hospitals, federally qualified health centers, urgent care centers) and expands testing capacity beyond traditional public health laboratories (e.g., expand to include other new labs, commercial, clinical, ensure these additional labs are lined to CalREDIE and using the Lab Testing Metrics App, and authorized under lab field services to conduct diagnostic testing).

Approach to expanding the network of collection sites is informed by several guiding principles, including: 1) Proximity. The testing network needs to ensure that every CAn can reach a collection site within 30 minutes in urban areas and within 60 minutes in rural areas; 2) Equity. Populations in various living situations (e.g., long-term care facilities) should have equitable access to collection sites including Correctional facilities, Rural CA, Primary language other than English, 3) Strategically placed collection sites to serve underserved communities; and 4) Appropriate prioritization. Expansion of sample collection capacity should initially prioritize addressing the frequent testing needs of high-priority populations, according to CA testing guidance.

Expanding testing capacity is informed by guiding principles, including: 1) Cost efficiency. Testing capacity should be expanded via the most cost-efficient option where possible (e.g., prioritize increasing existing site capacity over establishing new sites); 2) Technology. Developing partnerships with academic institutions to provide high-throughput laboratory testing and connections to research and development; and, 3) Appropriate prioritization. Public health laboratories and clinical laboratories with rapid turn-around times test the highest-priority, urgent specimens for faster disease control decisions while high-throughput labs provide regular testing for routine specimens.

Based on these guiding principles and identified testing needs, CA is planning to actively support the following types of collection sites: 1) Community-based collection sites in non-rural areas, including 78 OptumServe sites and 14 Verily sites that are already available and have capacity to collect up to 17k specimens daily. This network utilizes public spaces (e.g., schools, theaters, county fairs, etc.), focusing primarily on underserved communities across CA. The network will be further expanded based on utilization and unmet demand for testing that are being monitored at a county level. CA has launched a publicly available directory of all community-based sites that supports search by location and includes

links to schedule appointments; 2) Shared fixed sites and mobile solutions for rural areas, including 4 sites confirmed for launch in rural areas (in partnership with OptumServe) and mobile solutions to be deployed with Verily in 12 additional rural counties; 3) Rapid and mobile point of care solutions for outbreak response, including pop-up collection sites, emergency departments and collaborations with public health labs to ensure appropriate outbreak investigation and response; 4) Collection sites for exposed populations identified through contact tracing, including potential options to make specimen collection easily accessible in pharmacies (with rapid processing in local high-throughput labs) as well as home-based collection solutions (to reduce healthcare worker exposure).

To rapidly scale sample collection, CA is centrally procuring swabs, viral transport media, and sample collections kits (including approved alternatives) that are made available across CA through the existing Medical and Health Operational Area Coordinators that have an understanding of local needs and are best positioned to allocate limited supplies. CA is also leveraging local workforce to scale sample collection, by: 1) Engaging local workforce at new collection sites (e.g., OptumServe and Verily) to operate at maximum capacity; 2) Allowing pharmacists to order and collect specimens for authorized COVID-19 tests; 3) Exploring engagement of providers in adjacent professions (e.g., EMT/EMS) to support specimen collection at congregate settings; and 4) Redirecting state workforce toward priority needs related to testing and contact tracing.

Question C. Understanding the need for speedy, cost-efficient, and readily accessible testing, CA is pursuing the following actions: 1) Evaluating alternative testing options, including various options for serological testing. In addition to expanding capacity for PCR testing, CA completed an in-depth assessment of serologic testing. CDPH and the TTF have released guidelines for specific appropriate indications for serologic test utilization by clinical providers and laboratories. Based on what is currently known about serology tests, the state is pursuing use of these tests in the following situations: A. Determine prevalence: Surveillance studies to determine population-level estimates of exposure to SARS-CoV-2 (i.e., prevalence) in a community, typically through a serologic survey; B) Identify convalescent plasma donors: Identification of individuals who have recovered from SARS-CoV-2 infection (viral RNA negative) and are SARS-CoV-2 serology positive and can potentially donate plasma; and C) Identify a false negative PCR result: In cases with high clinical suspicion for COVID-19 and negative SARS CoV-2 viral RNA test, a positive serology test would provide support for recent or prior SARS-CoV-2 infection. 2) Making serologic testing available for providers and labs across CA. In April 2020, the state has procured and made available to local labs and providers 1.5 million serology testing kits for Abbott Architect and Alinity platforms.

CA will continue assessment of new testing options, including point of care and various serology tests (antigen and antibody). Given limited opportunities to replace PCR with serology testing in the near-term, CA is evaluating alternate PCR processing methodologies to conserve PCR tests (e.g., specimen pooling). Academic labs are in the process of validating a methodology and may be able to apply the techniques to broader testing of asymptomatic populations in the future.

Question D. In this time of rapidly changing circumstances, CA has made efforts openly and transparently communicate with all relevant stakeholders, including general public, elected officials, county public health officers and emergency response teams, provider community, industry associations (e.g., California Hospital Association, California Association of Healthcare Facilities), and others.

Communication efforts include: 1) TTF website: repository of all communication and public materials (e.g., CDPH guidelines, TTF newsletters) as they pertain to SARS-CoV-2 testing; 2) Regular webinars for local/state/federal elected officials: provide an update on efforts underway and answer questions; 3) Regular webinars for county health officers: provide an update on centrally-driven distribution of supplies and collection efforts and tracking of county testing metrics; 4) Strategic planning sessions with county public health officers, emergency response teams, and testing site coordinators; 5) Weekly working sessions and briefings with lab directors and health system leaders; 6) Coordination of statewide network of 30 public health laboratories to provide guidance and assess critical needs; and 7) Test Matching to link requests from local health jurisdictions to testing resources in commercial, clinical, academic and public health labs.

In addition to managing statewide communication efforts, the TTF supports communication at a local level, including community outreach guides for local stakeholders and communication toolkits to promote appropriate utilization of testing sites. In addition to regular communication, CA is making investments in enhanced reporting and data transparency, including: 1) New Lab Testing Metrics App that supports daily information exchange with labs, gathering accurate information about testing volumes and supply shortages; 2) Statewide and county-level testing dashboards as a single source of truth about testing volumes; and 3) Additional dashboards available to selected stakeholders (e.g., testing site utilization dashboards with aggregated profiles of tested populations, supply distribution updates)

Regular reporting informs outreach efforts and has clear connection to state/local decision-making. Example, decisions to expand collection sites' capacity are based on regular utilization monitoring and feedback from counties. Decisions to engage non-traditional testing laboratories are based on needs to rapidly scale testing to accommodate increased demand. CA provides significant autonomy to counties to define and implement solutions that address local needs while establishing effective state-level oversight to ensure appropriate utilization of state/federal resources, equitable access, and focus on cost-effective solutions.

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*	1,350,000	1,800,000							3,150,000
Serology	250,000	575,000							825,000
TOTAL	1,600,000	2,375,000	0	0	0	0	0	0	

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
OptumServe	Community-based	Quest	12,500	0		Healthcare and safety workers, racial and ethnic minorities, other populations
Verily (Physical, Mobile)	Drive-thru testing site	Quest	8,000			Healthcare and safety workers, racial and ethnic minorities, other populations Healthcare and safety workers, racial and ethnic minorities, other populations

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Adventist	Hospitals or clinical facility		500	40		Patients
Cedars-Sinai Hospital Lab	Hospitals or clinical facility		350	1,100		Patients

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Dignity	hospitals or clinical facility		550			Patients
KorvaLabs	Community-based		12,000			Healthcare and safety workers, other essential workers, SNF, other populations
Labcorp	[Select One]		5,300	3,500		
Providence	Hospitals or clinical facility		1,250			Patients
Quest	[Select One]		19,000	3,900		

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Southern CA Permanente Medical Group	Hospitals or clinical facility		2,750			Patients
Scripps	hospitals or clinical facility		500			Patients

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Sharp Memorial Hospital	Hospitals or clinical facility		750			Patients
Stanford	Hospitals or clinical facility		980			Patients

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Sutter	Hospitals or clinical facility		980			Patients

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Kaiser Permanente Berkeley (Regional Laboratory)	Hospitals or clinical facility		2,200			Patients
UC Davis	Hospitals or clinical facility		280	50		Patients

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
UC Irvine	Hospitals or clinical facility		320	70		Patients

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
UCLA	Hospitals or clinical facility		350	230		Patients

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
UCSD	Hospitals or clinical facility		1,000	380		Patients
UCSF	Hospitals or clinical facility		1,100	35		Patients

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
USC	Hospitals or clinical facility		400	190		Patients
Westpac Labs	Commercial or private lab		2,600	400		

Los Angeles County PHL	Public health lab		577			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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San Diego County PHL	Public health lab		550			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Orange County PHL	Public health lab		398			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
San Francisco County PHL	Public health lab		375			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Sonoma County PHL	Public health lab		282			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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Ventura County PHL	Public health lab		282			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
CDPH Viral and Rickettsial Disease Laboratory (VRDL)	Public health lab		229			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Napa-Solano-Yolo-Marin County PHL	Public health lab		223			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Santa Clara County PHL	Public health lab		208			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Sacramento County PHL	Public health lab		190			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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Alameda County PHL	Public health lab		188			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Monterey County PHL	Public health lab		182			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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San Joaquin County PHL	Public health lab		159			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance
San Bernardino County PHL	Public health lab		148			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Contra Costa County PHL	Public health lab		133			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
San Luis Obispo County PHL	Public health lab		112			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Riverside County PHL	Public health lab		108			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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Tulare County PHL	Public health lab		107			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Humboldt County PHL	Public health lab		91			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance
Long Beach City PHL	Public health lab		85			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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Shasta County PHL	Public health lab		78			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance
Fresno County PHL	Public health lab		66			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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San Mateo County PHL	Public health lab		58		=	Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance
Imperial County PHL	Public health lab		57			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Butte County PHL	Public health lab		25			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance
Kern County PHL	Public health lab		25			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance
Santa Barbara County PHL	Public health lab		25			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance

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**	**Platforms or devices used** (list all)	**Specific at-risk populations targeted** (list all)
Kings County PHL	Public health lab		10			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance
Madera County PHL	Public health lab		10			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance
Merced County PHL	Public health lab		10			Patients, outbreaks, contacts, SNFs, healthcare and safety workers, racial and ethnic minorities, other populations, surveillance
Other			7,829	1,971		Other labs

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 CA Department of Public Health (CDPH) is leading the statewide effort to scale capacity for testing and address testing needs in CA. CDPH collaborates with other state departments (e.g., CA Department of Corrections and Rehabilitations, CA Department of State Hospitals) and multiple private/public stakeholders. CDPH works in close collaboration with the Governor's Office, launching testing efforts that are needed to support plans for state reopening and easing of social distancing measures.

Question A: CA's 58 counties and 61 Local Health Jurisdictions (LHJ) function autonomously to protect public health and work in partnership with one another and CDPH. Each LHJ has an Local Health Officer with broad jurisdictional authority to protect public health by any means necessary under CA statute and regulations. CDPH maintains close collaborations with LHJs and has taken several measures to increase capacity for sample collection, test processing, and reporting at local, regional, and state levels.

CA's 30 public health laboratories (PHLs) serve as the front-line testing capacity for emerging diseases and outbreaks. Providing standardized supplies, reagents and instruments to PHLs significantly improves capacity, throughput, timeliness and consistency of results. Assisting the PHLs to build robust electronic data transmission methods improves state and local understanding of disease prevalence.

Establishment of a network of specimen collection sites by the Testing Task Force (TTF) enabled LHJs to expand testing capacity for specific populations, prioritize testing in underserved communities and for vulnerable populations and tailored solutions for essential workers. Efforts to expand capacity for sample collection include: 1) Partnering with OptumServe and Verily to setup 100+ new collection sites with total additional capacity of ~17K PCR tests/day (additional capacity expansion will be considered and approved by the state based on unmet needs and resource utilization across counties), including a) OptumServe and Verily provide end-to-end solutions, from sample collection supplies to contracting with commercial labs for test processing to reporting individual test results; b) Both partners secure workforce for sample collection sites, leveraging local resources and delivering required training and onboarding; c) The vendors are responsible for logistics for transporting specimens to the partner labs; and d) CA provides ongoing oversight, makes decisions about capacity expansion or resource reallocation based on site performance, facilitates community outreach at a local level, as needed to ensure appropriate site utilization; 2) Providing access to testing for populations in rural areas, including mobile sites, CDPH has leveraged partnership with OptumServe to open 6 testing sites shared by rural counties and led geospatial modelling to identify site locations that would make testing accessible for people living in remote rural areas. CDPH and the Governor's Office of Emergency Services (OES) are launching a new partnership with Verily to set up mobile testing units that would cover 12 rural counties and enable the population in these areas to access testing without having to travel long distances; 3) Procuring and distributing collection supplies (e.g., swabs, viral transport media) through a) Active outreach to suppliers and local partners, coordination of supply needs with FEMA, and efforts to explore multiple alternative supply options (e.g., 3D printed swabs) helped the CDPH secure significant volumes of supplies to cover initial needs post reopening (1.4M of 2.0M swabs received to date have been distributed, additional ~12M swabs are confirmed for delivery). Additional efforts and resources are

needed to secure supplies through end of 2020; and b) Distribution to counties leverages the existing emergency response coordination infrastructure led by CDPH and OES, CA streamlines ordering and distribution, ensures equitable availability, and tracks ongoing and changing demand for supplies over time.

To ensure sufficient capacity for testing, CA is validating the overall lab capacity, expanding capacity of PHLs available for COVID-19 testing, and facilitating connections between other labs, testing sites, and populations that need testing. CA initiatives to scale testing include:

1) Identifying high-throughput labs (e.g., public health, academic and commercial) and optimizing end-to-end testing workflows based on geographic proximity, lab capabilities (e.g., billing, specimen transportation), turnaround time. Specific examples of optimized end-to-end testing facilitated by CDPH include: a) Expanding existing capacity of PHLs by addressing supply shortages and operational bottlenecks through supply procurement from agencies and vendors, procurement of new testing equipment or device platforms, support for electronic laboratory reporting through the Lab Testing Metrics app, and construction of interfaces for data transmission (e.g., Laboratory Information Management System and a web portal for electronic test order and result); b) Partnering with academic labs (e.g., Stanford, USCF, UCLA) and supporting efforts to serve as processing hubs for the neighboring testing locations (e.g., community-based sites); c) Initiating contracts with commercial labs that offer end-to-end testing solutions and have significant available capacity; d)Actively collaborating with national labs (e.g., Quest, Labcorp) to ensure effective utilization of their capacity; and E) Partnering with labs that offer advanced capabilities and services (e.g., genome sequencing with CZ BioHub)

2) Procuring selected testing supplies for high-throughput platforms (e.g., Abbott m2000 and Alinity) and actively collaborating with manufacturers to coordinate supply availability (e.g., Roche, Hologic, Thermo Fisher); and 3) Identifying opportunities to further expand lab capacity and validate testing readiness for commercial and research labs that currently don't perform COVID-19 testing.

Question B: Given the limited availability of diagnostic tests in March 2020, the CDPH set forth guidance for public health officials, health care providers, and labs for determining prioritization of specific groups for PCR molecular testing. As testing capacity rapidly expanded across CA, the guidance was updated to support expanded testing. Based on these guidelines, CDPH has recommended several tiers of prioritization: Tier 1: Testing of the most vulnerable populations (e.g., hospitalized patients, symptomatic and asymptomatic healthcare workers, first responders and social service workers, persons over the age of 65 or any age with underlying medical conditions at risk for more severe COVID 19 illness, individuals identified through contact tracing, workers and residents of congregate settings, other essential workers). Tier 2: Testing of broader populations that are lower risk and asymptomatic, and Community surveillance: Surveillance testing of asymptomatic persons as part of community or regional surveillance programs.

To support testing in line with these guidelines, measures taken include: 1) Prioritizing underserved communities and equitable access to testing when placing new collection sites (e.g., in partnership with OptumServe and Verily); 2) Arranging for healthcare workers, essential employees, and other high-priority populations to be tested at new collection sites (e.g., OptumServe, Verily; and 3) Setting up tailored solutions for testing of vulnerable populations in congregate settings such as offering a statewide testing model for SNF workers, including options for onsite sample collection and rapid point-of-care processing in case of outbreaks. CDPH provided a comprehensive list of testing labs and vendors

across CA on the Testing Task Force website, https://testing.covid19.ca.gov/, ready to provide end-to-end scalable testing for employers including SNFs and correctional facilities, facilitating onsite access to testing for correction facilities' workers and inmates, and opening special collection sites for homeless populations (with culturally competent trained staff, walk-in availability, additional support resources). 3) Offering financial assistance to selected populations where insurance coverage is not feasible (e.g., coverage of testing costs for uninsured populations if they are sampled at OptumServe sites or other settings).

CDPH and PHLs will play a central role in responding to outbreaks, including securing surge capacity for sample collection and using public health lab capabilities for test processing and outbreak investigation.

Question C: The TTF identified 3 areas of improvement in the end-to-end logistics of testing. To address these gaps in the testing infrastructure, CA is taking the following measures: 1) Matching labs to collection sites based on a match-making model: this is aimed to reduce underutilization of capacity in some high throughput labs and ensure access to testing for healthcare facilities with low throughput or supply constrained labs. The model matches high throughput labs to collection sites in the neighboring areas; 2) Procuring supplies centrally and using a robust distribution model to ensure areas of high demand have sufficient supplies while inventory is not being held in other parts of the state; and 3) Tracking and reporting testing, supply distribution, site utilization, and other performance metrics frequently and transparently through regularly published dashboards and reports at a state and county level. In addition, the state has enhanced data collection efforts and launched a "Lab Metrics App" that is collecting lab level data on processing and planned upgrades to the central test tracking system (CalREDIE)

Question D: CDPH released guidelines that limit the use of serologic testing to a few use cases, including surveillance studies to determine COVID-19 prevalence, identification of convalescent plasma donors, identification of false negative PCR test results when clinical suspicion is high for COVID 19, and indicating prior COVID-19 infection. CDPH has a working group of experts with scientific and commercial understanding of serology to stay updated on the developments in the space and refresh guidelines as appropriate as new information or tests become available.

PHLs are expected to conduct serologic testing for epidemiological studies as well as plasma donation screening. Platforms to be used include the Abbott Architect and Alinity, Diasorin Liasion, Bio-Rad EVOLIS, Dynex DS2, and various semi-autormated instruments. Utilization of serology testing for diagnostic purposes or to support return-to-work decisions is not recommended according to the state guidelines.

Question E: CDPH is taking a more direct role in critical areas. These areas will be the focus for resource utilization: 1) Investing in a reporting infrastructure, establishing new tools and augmenting existing systems to measure testing volumes daily and at a granular level (e.g., county level dashboards, lab level dashboard). Insights inform decisions to redeploy resources and focus efforts to de-bottleneck testing on important geographies and vulnerable populations; 2) Engaging with local jurisdictions to ensure they have sufficient testing capacity to meet the current target of 1.5 tests per day per 1000 people, one of the metrics required for reopening; 3) Focus on serving vulnerable populations with guidance on testing frequency and working with relevant departments and local authorities to ensure availability and access to testing; 4) Conduct population-based surveillance to understand population level trends in prevalence by, region and statewide. This surveillance will be conducted in partnership with Emory University as

part of a national prevalence monitoring effort; and 5) CDPH is leading efforts to integrate testing, genomic sequencing and contact tracing, ensuring availability of “fast track” testing options for individuals identified through contact tracing as well as appropriate follow-up with care and social support, to the extent these resources are available.

Question F: In parallel to supporting the community mitigation and surveillance testing plans, measures are being taken to creating lab capacity, procure supplies, and augment the workforce. Planned measures include: 1)Exploring local workforce options to strengthen and expand sample collection capabilities. OptumServe is preferentially employing local workforce. We are linking local employers to lab list on the TTF website; 2) Procuring and distributing swabs, viral transport media, and collection kits. A multi-stakeholder group focused on supplies is tracking supplies available for distribution and projecting future needs to inform potential shortfalls and place orders ahead of time; 3) Working with labs for an ongoing understanding of what reagents are short in supply and connecting them with appropriate manufacturers. CDPH is prepared to recommend the purchase critical supplies of reagents directly if appropriate; 4) Tracking test processing needs and availability of equipment throughput to support testing demand. CDPH is also prepared to recommend the state purchase equipment on behalf of labs or enter contracts with national labs to create capacity; 5) Working with the state and local authorities to create a contact tracing workforce of 10,000 people, as part of phase one, for identifying potentially exposed populations for rapid testing. CA estimates a need for a total of 20,000 contact tracers; 6) Rapid procurement, hiring, and on-boarding of new contact tracing staff will be accomplished through contract agencies; and 7) Ability to acquire supplies, reagents, test kits and collection materials required for expanding testing is dependent on federal supply.

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	No additional staff needed	No additional staff needed							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)	No additional equipment needed								0
Volume of additional swabs needed to meet planned testing levels++	1,350,000	1,800,000							3,150,000
Volume of additional media (VTM, MTM, saline, etc.) needed to meet planned testing levels++	1,350,000	1,800,000							3,150,000

ELC ENHANCING DETECTION: CALIFORNIA TESTING PLAN

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)	Tests for our 15 installed Roche Cobas (1.5-2M tests/month) New Aptima kits for the 163 Hologic Panthers installed in California (1-1.5M tests/month Additional Cepheid GeneXpert tests for 41 machines (100K tests/month) Qiagen RNeasy Mini Kits (100K kits/month) Abbot ID Now Kits –	Tests for our 15 installed Roche Cobas (1.5-2M tests/month) New Aptima kits for the 163 Hologic Panthers installed in California (1-1.5M tests/month Additional Cepheid GeneXpert tests for 41 machines (100K tests/month) Qiagen RNeasy Mini Kits (100K kits/month) Abbot ID Now Kits – 1,800 kits / month							

BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
	1,800 kits/month Tests for our 15 installed Roche Cobas (1.5-2M tests/month) New Aptima kits for the 163 Hologic Panthers installed in California (1-1.5M tests/month Additional Cepheid GeneXpert tests for 41 machines (100K tests/month) Qiagen RNeasy Mini Kits (100K kits/month)	(100K tests/month) Qiagen RNeasy Mini Kits (100K kits/month) Abbot ID Now Kits – 1,800 kits / month							

BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
	Abbot ID Now Kits – 1,800 kits / month								
FOR SEROLOGIC TESTING									

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	No additional equipment needed	1 high-throughput serology instrument for CDPH-VRDL (Abbott Architect) 12 serology instruments for public health labs							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)	No additional reagents needed	No additional reagents needed							

* 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.