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San Mateo County Public Health Laboratory Coronavirus Disease 2019 (COVID-19) Testing Plan

Board of Supervisor Meeting

Tuesday May 5th, 2020

Public Health Laboratory

- Conducts specialized test to detect, diagnose and control communicable disease.
- Testing supports communicable disease outbreaks including bioterrorism threats (e.g. Anthrax)
- Test for HIV, waterborne diseases, rabies*, malaria, tuberculosis, sexually transmitted diseases, enteric pathogens, West Nile Virus.
- Functions as reference laboratory for clinical laboratories.



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Public Health Laboratory

- Inform and educate clients (clinical/commercial labs)
- Surge capacity support for the CA State Laboratory and neighboring PHLs
- Testing support for case confirmation for public health programs
 - Surveillance (influenza, foodborne pathogens (WGS))
 - Outbreak investigations (new test WGS, AMD)
 - Specialized testing (rabies*, novel influenza (H1N1), **COVID-19**, other emerging infections)
- Prepare and respond to emergencies (e.g. Bioterrorism)



COVID-19 Timeline

Novel Coronavirus 2019 outbreak:

-China : December 2019

-United States: January 13th,2020

**CDC FDA Emergency Use
Authorization (EUA) Novel
Coronavirus 2019 available
February 2020**

**San Mateo Public Health Laboratory
(SMCPHL) partnership with CDPH-
VRDL and in house testing using
CDC assay commences:
VRDL - February 2020
SMCPHL- March 16th, 2020**



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CDPH COVID-19 Testing Guideline Criteria as of 05/2/2020

- **Tier 1 PCR with or without Serology**
- Hospitalized patients
- Symptomatic and asymptomatic healthcare workers, first responders, and other social service employees
- Symptomatic persons >65 years of age **OR** any age with chronic medical conditions that increase the risk of severe COVID 19 illness
- Persons identified for testing by public health contact investigations and disease control activities in high risk settings
- Screening of asymptomatic **residents or employees** of **congregate living facilities** including:
 - After positive cases have been identified in a facility
 - Prior to resident admission or re-admission to a facility
- Symptomatic and asymptomatic persons in essential occupations
 - E.g., utility workers, grocery store workers, food supply workers, other public employees



CDPH COVID-19 Testing Guideline Criteria as of 05/2/2020

- **Tier 2**

- Testing Modality: PCR with or without Serology

- Lower risk asymptomatic persons

- **Community Surveillance**

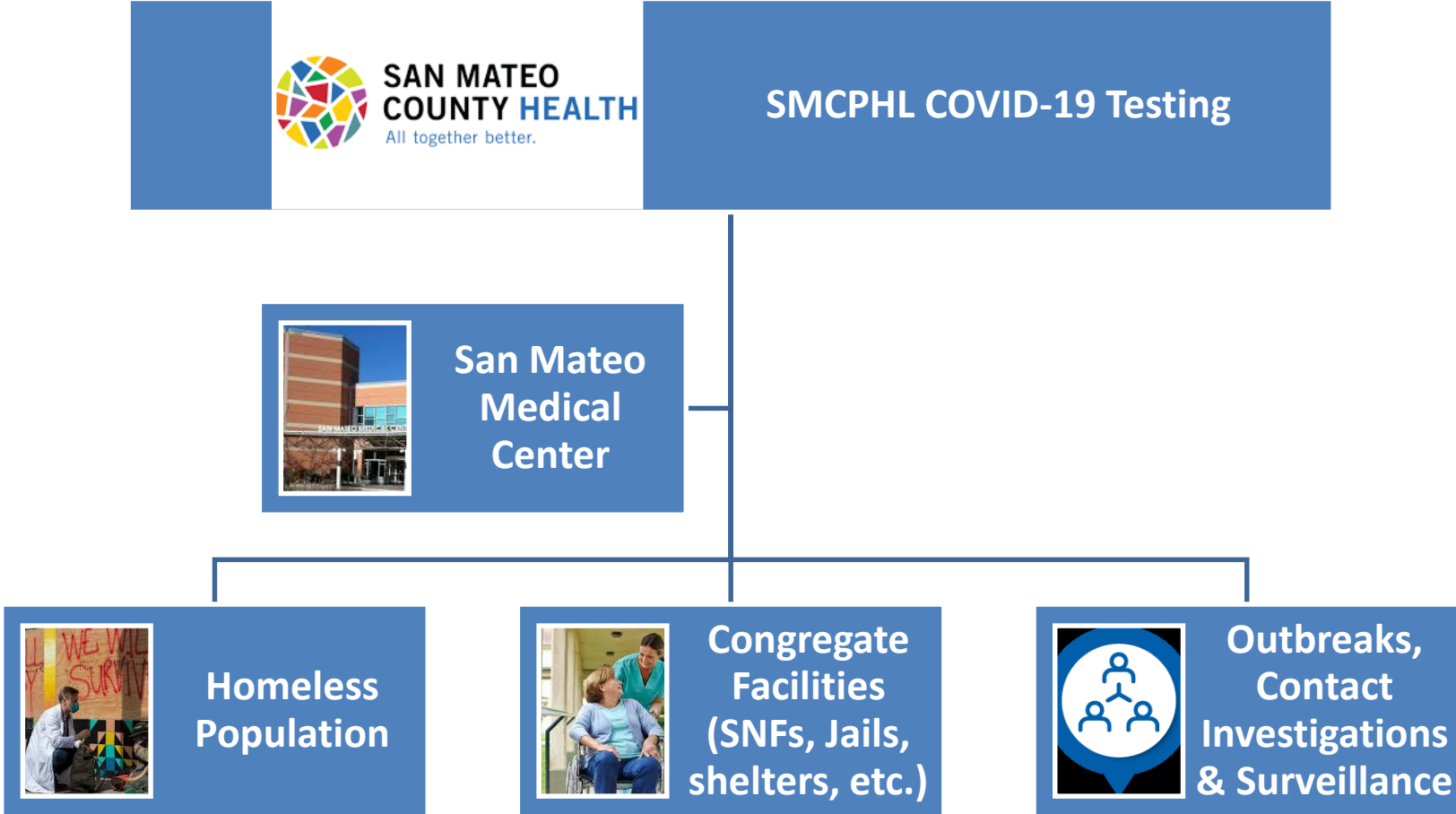
Test Modality: PCR or Serology

- Surveillance testing of asymptomatic persons as part of community or regional surveillance programs

- Testing should accompany result disclosure and linkage to services.



San Mateo County Testing Groups



Samples Tested through SMCPHL and Partners as of 04/29/20

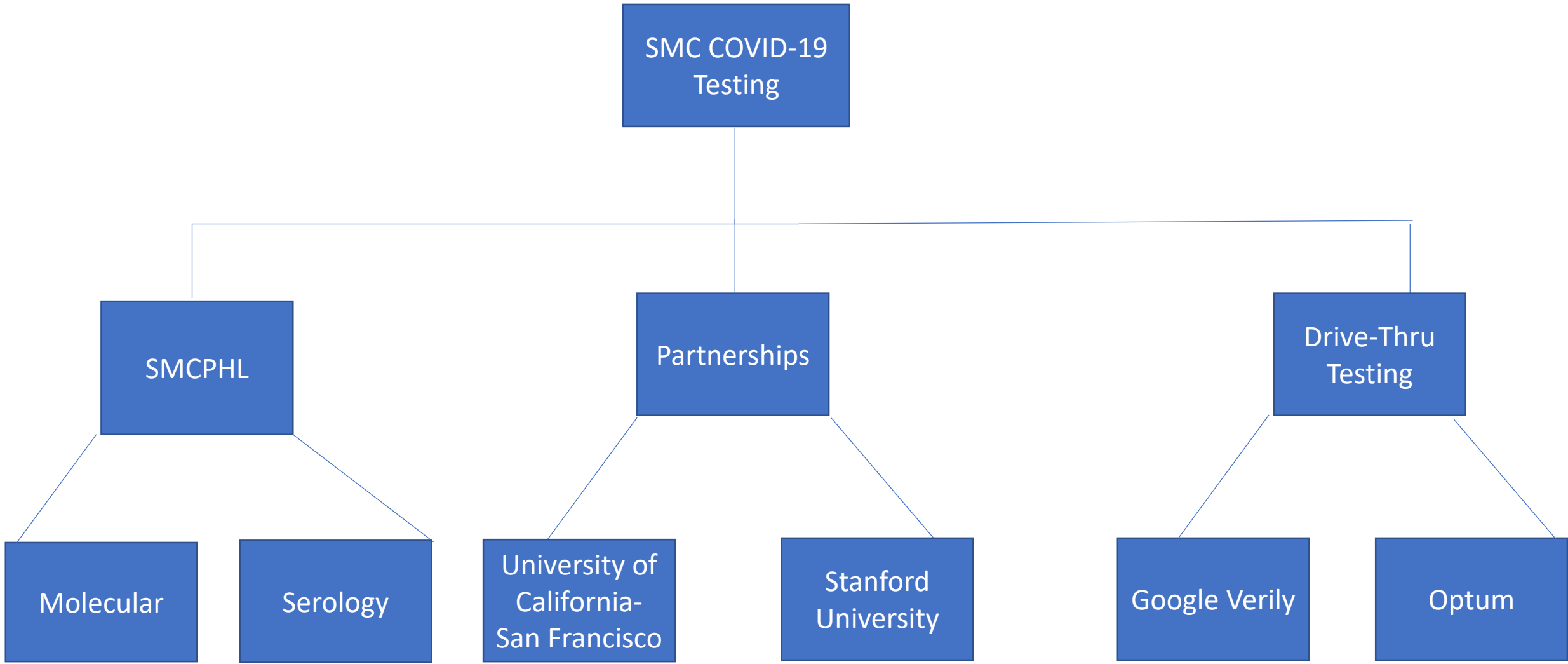
Testing Site	Number Samples Tested	Number of Positives
SMCPHL (as of 3/16/20)	488	103
California Department of Public Health –Viral and Rickettsial Disease Department	159	33
University of California at San Francisco	389	28
Total	1,036	164
		Total Positivity (%) 16

Note: *Currently, our testing schedule is Monday through Friday with the expansion to include weekends. Volunteers have been interviewed/hired to expand testing capacity.*



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SMC PHL Testing Surge Plan



SMCPHL Molecular and Serology Testing Platforms

NOTE: *Emergency Use Authorization Molecular and Serology assays approved by the Food and Drug Administration should be used for COVID-19 testing*

Molecular Platforms

Serological Assays



Hologic Panther

- Throughput – 275 in 8 hour shift



Cepheid GeneXpert

- 45 min assay, with 2 hour TAT
- 64 tests in a 8 hour shift



CDC COVID-19

Real-time RT-PCR

- 2.5 hours per run, 3X day
- 60 samples in 8 hour shift



Abbott SARS-COV-2 IgM and IgG Assays

- Surveillance Testing
- 30 minutes
- 100 tests per hour = 800 in 8 hour shift



Lateral Flow Assays

- STAT
- 15minutes



Timeline to bring on assays is June/July 2020 ,wnich is based upon vendor availability

SMC Partnerships with UCSF and Stanford

- Allows for testing of personnel and residents of SNFs and other congregate settings

diagnostic

asymptomatic surveillance

- Both Stanford and UCSF facilities can test up to 2000 tests per day, allowing, SMC to county residents.



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UCSF

University of California
San Francisco

Stanford University

Daily Testing Capacity with SMC Surge Plan

Testing Facility	Daily Testing Capacity
SMCPHL	500
UCSF	300
Stanford	300
Optum (2 sites)	260
Verily	240
Total – 1600 per day	



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Interesting Case

San Mateo Medical Center ICU patient tested at Stanford University March 2020

NP swab – COVID-19 RNA Not Detected

Patient exhibited signs of COVID-19 infection and paired with contact history SMMC requested SMCPHL to do COVID-19 testing on sputum sample

Sputum Sample – COVID-19 RNA Detected



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Questions and Answers



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