



San Francisco Village

**COVID - 19  
Research and Advisory Team:  
Report and Recommendations #18  
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This report contains a summary of the key updates on the status of Covid-19 that are more evident since our last report (July 5), along with our current recommendations for actions for SFV to consider taking. Sources include: CDC, WHO, SFDPH, CDPH, Science Journal, Nature Journal, the Lancet, New England Journal of Medicine, Journal of the American Medical Association, Scripps Research Institute, Johns Hopkins Coronavirus Resource Center, UCSF Medical Grand Rounds, STAT, Institute for Health Metrics & Evaluation, the Covid Tracking Project, other clinical journals, reports from public health professionals, and news media.

NOTE: We have shifted the order of the sections of this report so that after Recent Findings, San Francisco appears first, followed by Bay Area, California, US, and Recommendations.

## RECENT FINDINGS

### GLOBAL

New Cases: 219,983

Confirmed Cases: 12,322,395

Deaths: 556,335

#### 1) Herd Immunity Unlikely

Spain's large-scale study on the coronavirus indicates just 5% of its population has developed antibodies, strengthening evidence that a so-called herd immunity to Covid-19 is "unachievable," the medical journal the Lancet reported. The findings show that 95% of Spain's population remains susceptible to the virus. Herd immunity is achieved when enough of a population has become infected with a virus or bacteria -- or vaccinated against it -- to stop its circulation.

The European Center for Disease Control told CNN that Spain's research, on a nationwide representative sample of more than 61,000 participants, appears to be the largest study to date among a dozen serological studies on the coronavirus undertaken by European nations. There have been similar studies in China and the United States and the key finding from these representative cohorts is that most of the population appears to have remained unexposed to Covid-19, even in areas with widespread virus circulation.

"In light of these findings, any proposed approach to achieve herd immunity through natural infection is not only highly unethical, but also unachievable," said the Lancet's commentary authors. At present, herd immunity is difficult to achieve without accepting the collateral damage of many deaths in the susceptible population and overburdening of health systems

## 2) Mild Cases Could Mean a Long Haul

As virologists race to understand the biomechanics of Sars-CoV-2, one thing is becoming increasingly clear: even “mild” cases can be more complicated, dangerous and harder to shake than many first thought. Emerging medical research as well as anecdotal evidence from recovery support groups suggest that many survivors of “mild” Covid-19 experience lasting side effects. Mild cases of Covid-19 in which the patient was not hospitalized for the virus have been linked to blood clotting and severe strokes in people as young as 30.

Another troubling phenomenon now coming into focus is that of “long-haul” Covid-19 sufferers – people whose experience of the illness has lasted months. A Dutch study published earlier this month surveyed 1,622 Covid-19 patients who had reported enduring symptom. The patients, who had an average age of 53, reported intense fatigue (88%) persistent shortness of breath (75%) and chest pressure (45%). Ninety-one per cent of the patients weren’t hospitalized, suggesting they suffered these side effects despite their cases of Covid-19 qualifying as “mild”. While 85% of the surveyed patients considered themselves generally healthy before having Covid-19, only 6% still did so one month or more after getting the virus.

## 3) Drugs for Treating Covid-19 in the Absence of a Vaccine

Overcoming the technical challenges of developing a vaccine -- and the safety issues inherent in making one that works for the populations most at risk -- is no easy feat. Of the more than 100 vaccines currently in development, the ones tested on primates have not prevented nasal infections, though in one case the vaccine prevented the disease from spreading to the lungs where it is known to cause severe damage. However, since Covid-19 progresses somewhat differently in monkeys than in humans, it's hard to know how effective these vaccines will be in human trials.

One thing we do know is that some of the vaccines currently being tested in humans are already causing serious side effects. The side effects are likely a result of the powerful ingredients added to the vaccine to help inflame the body's immune system. These ingredients -- called adjuvants -- help vaccines work better, but if they can land the

young and healthy patients in the clinical trial in the hospital because of high fevers and fainting, imagine what they might do to those already ill with secondary conditions or to those who are older. Indeed, the elderly may need repeated doses of the vaccine, given how resistance to some vaccinations becomes progressively more profound with time.

But even without a vaccine, there is reason for hope that a medical solution to the crisis will soon be at hand. It will likely take the form of anti-Covid drugs that will be able to treat patients newly infected and prevent others from becoming ill.

Recent studies have shown two types of drugs with particular promise. The first are antivirals -- drugs that act on the virus itself and prevent it from replicating. The other set of drugs showing promise are monoclonal antibodies, which are lab-created antibodies that work by blocking SARS-CoV-2 spike proteins from attaching to the ACE2 cell receptors in our body. By blocking the attachment, they prevent infection altogether. The timeline for testing these drugs is much shorter than for a vaccine, in large part due to how quickly and easily their efficacy can be determined.

#### 4) Understanding Aerosol Spread

Aerosols are particles that are suspended in the air. When humans breathe, talk, sing, cough or sneeze, the emitted respiratory droplets mix in the surrounding air and form an aerosol. Because larger droplets quickly fall to the ground, respiratory aerosols are often described as being made up of smaller droplets that are less than 5 microns, or about one tenth the width of a human hair. While coughing generates the largest quantity of droplets, research has shown that just two to three minutes of talking can produce as many droplets as one cough.

Droplets that are smaller than 5 microns can remain suspended in the air for many minutes to hours because the effect of air drag relative to gravity is large. In addition, the water content of virus-carrying droplets evaporates while they are airborne, decreasing their size. Even if most of the fluid evaporates from a virus-laden droplet, the droplet does not disappear; it just becomes smaller, and the smaller the droplet, the longer it will stay suspended in the air. Because smaller diameter droplets are more efficient at penetrating deep into the pulmonary

system, they also pose a much greater infection risk. Early research on the SARS-CoV-2 virus has shown that it is viable as an aerosol for up to 3 hours.

While masking and staying 6 feet from other people reduces exposure, it might not be sufficient in all situations, such as in enclosed, poorly ventilated rooms. Mitigating risk is therefore based on decreasing both aerosol concentration levels and exposure time.

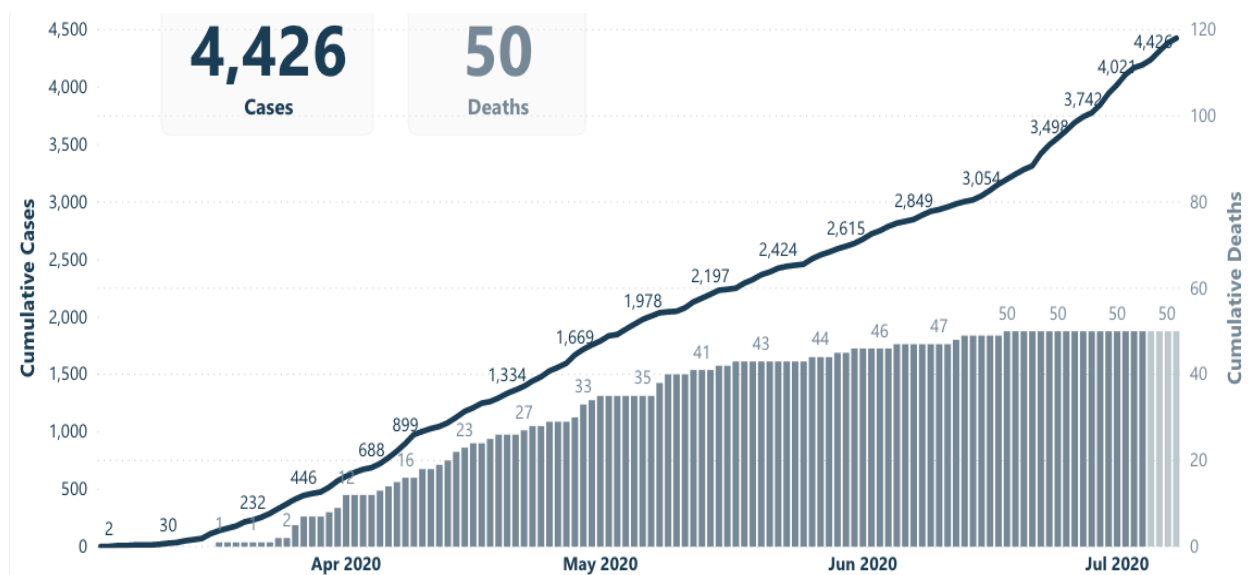
## SAN FRANCISCO

Total Tested: 181,341

Total Positives: 4,426 up by 110 (2.6%) since Friday

Total Deaths: 50 up by 0 since 6/28

Hospitalized: 84 — up by 10 as of 7/9, with 20 in ICU beds. There has been a 21% increase in hospitalizations over the past 7 days which puts San Francisco at Level 4: High Alert. However acute beds (40) and ICU beds (19) are at Level 1: Meeting Target



### 1) Increase in cases and hospitalizations

San Francisco Department of Public Health (DPH) reported a jump in confirmed COVID-19 cases in the city of 171 — a 4-percent uptick and two and a half times higher than the average daily new case count of the last two weeks. The city has added 531 new cases since Monday, and 916 cases over the last 14 days, which puts us dangerously close to

being on the state's watch list — this equates to an average of 103.7 cases per 100,000 residents, in the state's accounting, and the threshold for the watch list is 100 cases per 100,000 residents.

Mayor London Breed and Public Health Director Dr. Grant Colfax already made the decision to pause all reopenings early last week, and no indoor dining restaurants or nail/hair salons have been allowed open yet.

On the positive side, San Francisco has not seen a new death from COVID-19 since June 28. 50 people in the city have died from complications from the disease since the pandemic began

## **BAY AREA**

Bay Area confirmed cases: 33,749 — up from 33,447, or 0.9% so far today

Bay Area currently hospitalized: 584 — as of 7/10 (up by 1.6%)

Bay Area deaths: 639 — up by 0 so far today

### 1) California has scaled down projections for Bay Area coronavirus spread

The state calculates the current base reproduction number — often referred to as R "naught,"  $R_0$ , or R-effective — in each county.  $R_0$  represents the expected number of additional cases generated by one known case in a population where all individuals are susceptible to infection. If  $R_0$  is significantly over 1, a county will see "exponential spread" of the virus. The report of Bay Area  $R_0$  is better than was predicted:

Alameda:  $R_0 = 1.06$  "Spread of COVID-19 is likely stable." Was 1.0 on June 25.

Contra Costa:  $R_0 = 1.18$  "Spread of COVID-19 likely increasing." Was 1.29 on June 25.

Marin:  $R_0 = 0.89$  "Spread of COVID-19 is likely decreasing." Was 1.42 on June 25.

Napa:  $R_0 = 1.01$  "Spread of COVID-19 is likely stable." Was 1.18 on June 25.

San Francisco:  $R_0 = 0.95$  "Spread of COVID-19 is likely stable." Was 1.06 on June 25.

San Mateo:  $R_0 = 1.02$  "Spread of COVID-19 is likely stable." Was 1.13 on June 25.

Santa Clara:  $R_0 = 0.99$  "Spread of COVID-19 is likely stable." Was 1.0 on June 25.

Solano:  $R_0 = 1.11$  "Spread of COVID-19 likely increasing." Was 1.14 on June 25.

Sonoma:  $R_0 = 0.93$  "Spread of COVID-19 likely stable." Was 1.16 on June 25.

## **CALIFORNIA**

California cases to date: 312,403 — up from 307,499, or 1.6% from 7/9

California currently hospitalized: 6,171 (as of 7/9) — up from 6,126 or 0.7%

California deaths: 6,952 — up by 59, or 0.9% from 7/9

### 1) Increasing cases, hospitalizations, and deaths

Slowly over time we've seen the numbers of cases start to increase, the hospitalizations increase, and now we're seeing a reflection in the number of deaths. California this week hit another troubling milestone Wednesday, recording the highest single-day COVID-19 death toll so far in the pandemic, with 149 fatalities reported, according to The Times' California coronavirus tracker. An additional 137 deaths were reported Thursday, which would be the second-highest daily death toll in the pandemic. Experts say deaths are a lagging indicator of coronavirus spread and probably reflect exposures to the virus that occurred four or five weeks earlier.

While hospitalizations of confirmed coronavirus patients have risen by 35% in L.A. County — and 28% in San Diego County — since Memorial Day, they've more than doubled in the suburban counties of Orange, Riverside and Ventura, and more than tripled in San Bernardino County.

## Positive Cases

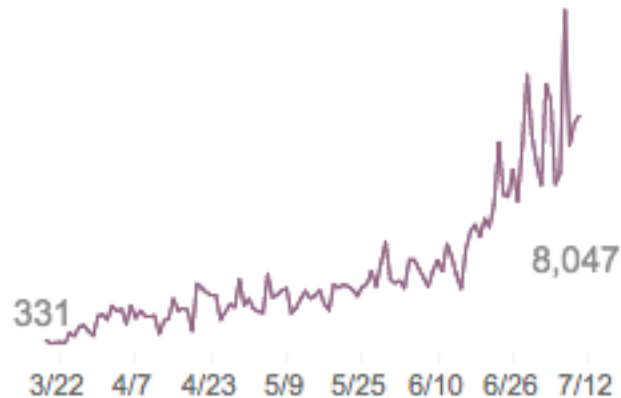
312,344

1 Day  $\Delta$   
+8,047  
+2.6%

14 Day  $\Delta$   
+105,295  
+50.9%

## Day-Over-Day New Cases

US Total Cases: 3,106,931



## Daily deaths, seven-day average



## 2) California Governor To Release 8,000 People From Prisons Amid Coronavirus Outbreaks

Gov. Gavin Newsom (D) is set to announce the release of some 8,000 people from prisons across the state as several prisons face deadly coronavirus outbreaks. As of Friday, 1,335 of about 4,000 people incarcerated at San Quentin had active coronavirus cases, and seven had died. There have been 205 cases among staff. There are about 112,000 people in prisons across California. So far, the state has counted more than 2,300 confirmed coronavirus cases in its prisons. Five facilities have over 100 cases.



## **UNITED STATES**

Total Cases: 3,173,212 (66,281 new cases since the day before)

Total Deaths: 133,666 (811 new deaths since the day before)

### 1) Impact of Masking

According to the Institute for Health Metrics and Evaluation (IHME), the US has had over 130,000 deaths so far. By October 1, 2020, cumulative COVID-19 deaths could reach 179,106 deaths (with an estimated range of 159,497 to 213,715). In terms of the mean projection, this represents approximately 60,000 additional cumulative COVID-19 deaths between today and October 1, 2020. That number drops to 146,047 (with a range of 140,849 to 153,438) if at least 95% of people wear masks in public. In other words, if 95% of the US population always wore masks in public, more than half the deaths that are predicted between now and October 1 would be avoided.

### 2) In another Covid-19 disparity, Black and Hispanic Americans are dying at younger ages than white Americans

The CDC reported that more than a third of deaths among Hispanic Americans (34.9%) and almost a third of deaths among non-white Americans (29.5%) were in people younger than 65. That compares to 13.2% among white people under that age.

Non-white Americans (median age 31) are younger as a whole than white Americans (median age 44), but Covid-19 deaths among those under age 65 exceeded their proportion of the population. The researchers found that 33.9% of people under 65 who died were Hispanic, yet they account for just 20% of the under-65 population in the U.S. Similarly, Black, Asian, and other non-white people accounted for 40.2% of deaths under 65, though they make up just 23% of those under 65 nationally. Black people accounted for 30% of deaths under age 65; Asian people and multiracial people accounted for 6.1% and 4.1%, respectively.

## RECOMMENDATIONS

- 1) The first Covid Coffee Chat (7/7) had 12 participants and was very well received. We suggest that the upcoming Chats (7/21 and 7/28) be as publicized as possible.
- 2) Those who have read these Research & Advisory Reports have found them to be very useful – an excellent way to be kept apprised of the state of the pandemic without having to wade through an onslaught of scientific, medical, and media information. Most members are not aware that these reports exist and can be found on the SFV website. We suggest that you use multiple avenues for informing members – monthly newsletter of events, Kate’s Column in the newsletter, Jill’s volunteer emails (Jill has already begun doing this). It would also be beneficial to spread the availability of these reports throughout the CA Village Coalition network – at meetings and in newsletters. Potential funders may also be interested in this member initiated and maintained community service.