



San Francisco Village

**COVID - 19**  
**Research and Advisory Team:**  
**Report and Recommendations #12**  
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# Recent Findings

## 1) How is the virus spread?

### Airborne transmission from asymptomatic people

There are two major respiratory virus transmission pathways: contact (direct or indirect between people and with contaminated surfaces) and airborne inhalation. Respiratory infections occur through the transmission of virus-containing droplets (larger particles) and aerosols (tiny particles) exhaled from infected individuals during breathing, speaking, coughing, and sneezing. Traditional respiratory disease control measures are designed to reduce transmission by droplets produced in the sneezes and coughs of infected individuals. However, a large proportion of the spread of coronavirus disease 2019 (COVID-19) appears to be occurring through airborne transmission of aerosols produced by asymptomatic individuals during breathing and speaking.

### Indoor Spread

The virus is more easily transmitted when you're in closed areas, where there's less ventilation or room for airflow. This is especially true for small spaces, like elevators. In such a tightly enclosed space without vigorous air movement for a short period of time, the risk of exposure is higher. Tiny virus particles in respiratory droplets could also be circulated on air currents from an air conditioning system, a window-mounted AC unit, a forced heating system, or a fan.

The World Health Organization (WHO) recommendations for social distancing of 6 ft and hand washing to reduce the spread of SARS-CoV-2 are based on studies of respiratory droplets carried out in the 1930s. However, when these studies were conducted, the technology did not exist for detecting submicron aerosols. As a comparison, calculations predict that in still air, a 100- $\mu\text{m}$  droplet will settle to the ground from 8 ft in 4.6 seconds whereas a 1- $\mu\text{m}$  aerosol particle will take 12.4 hours. Measurements now show that intense coughs and sneezes that propel larger droplets more than 20 ft can also create thousands of aerosols that can travel even further. In an enclosed room with asymptomatic individuals, infectious aerosol concentrations can increase over time. Increasing evidence for SARS-CoV-2 suggests the 6 feet recommendation is likely not enough under many indoor conditions where aerosols can remain

airborne for hours, accumulate over time, and follow airflows over distances further than 6 feet. Owing to their smaller size, aerosols may lead to higher severity of COVID-19 because virus-containing aerosols penetrate more deeply into the lungs.

### Outdoor spread

In outdoor environments, numerous factors will determine the concentrations and distance traveled, and whether respiratory viruses remain infectious in aerosols. Breezes and winds often occur and can transport infectious droplets and aerosols long distances. Asymptomatic individuals who are speaking while exercising can release infectious aerosols that can be picked up by air streams. Viral concentrations will be more rapidly diluted outdoors, but few studies have been carried out on outdoor transmission of SARS-CoV-2.

### Fomite transmission from a contaminated surface

Fomite transmission remains a potential risk for catching Covid-19. According to the CDC, it may be possible that a person can get Covid-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose or possibly their eyes. However, while fomite transmission is a risk, this isn't thought to be the main way the virus spreads.

Fomite transmission occurs when an infected person coughs or sneezes on their hands. Some of the droplets may splash onto a nearby surface, or the person spreads the germs by touching a faucet or countertop before washing his hands. Studies show that coronavirus can last up to three days on plastic and steel, but once it lands on a surface, the amount of viable virus begins to disintegrate in a matter of hours.

## **2) Antibody testing**

Antibody tests used to determine if people have been infected in the past with Covid-19 might be wrong up to half the time, the US Centers for Disease Control and Prevention said in new guidance posted on its website. Antibody tests, often called serologic tests, look for evidence of an immune response to infection.

Across populations, tests give more accurate results if the disease being tested for is common in the population. If an infection has only affected a small percentage of people being tested, even a very small margin of error in a test

will be magnified. If just 5% of the population being tested has the virus, a test with more than 90% accuracy can still miss half the cases. A false positive will lead someone to believe they have been infected when in fact they have not been. There's little evidence now about whether having been infected gives people immunity to later infection, but doctors worry that people will behave as if they are immune if they get a positive antibody test. Serologic testing should not be used to determine immune status in individuals until the presence, durability, and duration of immunity is established

## **UNITED STATES**

Total Positive Cases: 1,761,503

Total Deaths: 103,700

The Pacific Rim democracies have taken 12 actions that together have proved highly effective:

1. Fast and decisive actions, clearly and consistently communicated
2. Border restrictions: restricting or monitoring individuals entering from affected areas
3. Masks in all work and public environments
4. Temperature checks and thermal imaging at entrances to stores and offices
5. Cell phone data and apps: Contact tracing and symptom monitoring
6. Traditional contact tracing (manual)
7. Individual quarantines (separate from families)
8. Testing
9. Stay-at-home orders and home quarantines with family members
10. Curfews and restrictions on large gatherings
11. "Social distancing" and no handshaking
12. Hygiene and Hand washing

The Western democracies have largely focused on the last 4 or 5 items. The consequences of ignoring the first 7 or 8 have been catastrophic. On a per capita basis US and much of Western Europe's death rates have averaged over 50 times higher – over 250 deaths per million in the West vs. only 6 deaths, or less, per million in Asia. Even in California deaths are 15x per capita—and rising— compared to Asian democracies.

## Depression

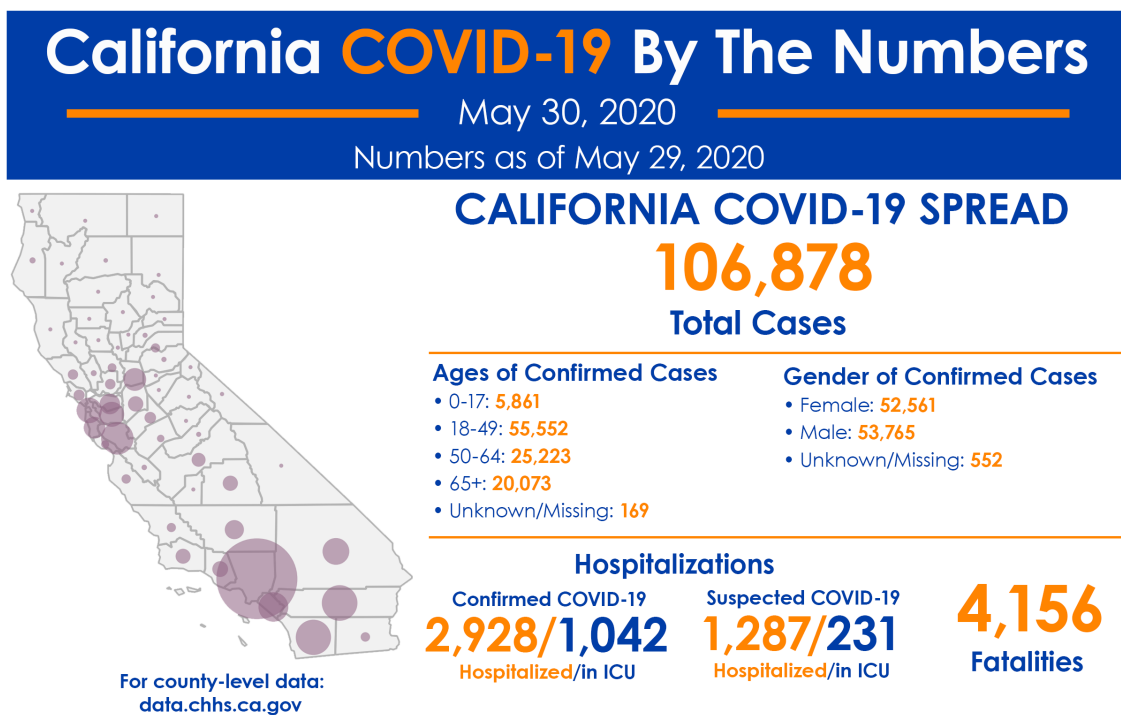
For every 100 American adults:

- 34 show symptoms of anxiety, depression or both
- 20 show symptoms of both anxiety and depression
- 10 show symptoms of anxiety alone
- 4 show symptoms of depression alone

A third of Americans are showing signs of clinical anxiety or depression, Census Bureau data shows, the most definitive and alarming sign yet of the psychological toll exacted by the coronavirus pandemic.

When asked questions normally used to screen patients for mental health problems, 24 percent showed clinically significant symptoms of major depressive disorder and 30 percent showed symptoms of generalized anxiety disorder. The findings suggest a huge jump from before the pandemic.

## CALIFORNIA



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### CA reopening status

Gov. Gavin Newsom announced further modifications to the state's current shelter order Tuesday with barbershops and hair salons being allowed to reopen under specific guidelines for the first time in over two months. The announcement on Tuesday marks the state's first move into expanded Stage 3 reopening involving higher-risk workplaces beginning with limited personal care and recreational venues. The return of events such as professional sports and major concerts involving larger numbers of people would still not come until a later date. Gov. Newsom emphasized that the State determines the guidelines for reopening and each County, upon submission of an attestation of readiness, will determine their own timing for reopening.

### Hot spots in California

After two-and-a-half months of lockdown restrictions to slow the spread of COVID-19, certain "hot spots" are emerging. Long-term care homes for the elderly, jails and prisons, food processing plants and social gatherings appear to be primary sites. As communities begin lifting restrictions on churches, schools and other large gatherings, the state's major outbreaks tend to indicate that health measures will be needed in those settings also.

A breakdown of sites that account for a significant share of the state's more than 100,000 cases:

- An outbreak of more than 1,100 infections among inmates and staff at a federal prison complex in Santa Barbara County is among the biggest concentrations of cases in the country.
- The nearly 17,000 residents and workers infected in California's skilled-nursing and residential care facilities for the elderly make up more than 16% of the state's total COVID-19 cases.
- The more than 2,000 who have died at those facilities make up more than half the state's coronavirus deaths.
- 693 infected at a state prison in Chino
- 355 at a Los Angeles jail
- 188 at a Visalia nursing home
- 180 infected at Central Valley Meat Co. in Hanford
- 103 aboard a cruise ship that anchored in Oakland
- 71 at a Sacramento church
- 106 at a San Francisco homeless shelter.

## **SAN FRANCISCO**

Total Tested: 66,988

Total Positive Cases: 2558 (26 new cases since May 8)

Total Deaths: 42 (1 new death since May 8)

### Reopening Guidelines and Rules

Starting June 1, in what the city is calling Phase 2A of reopening, childcare facilities, botanical gardens, outdoor museums will join the businesses that are already allowed to operate.

In Phase 2B starting June 15, restaurants will be able to open for outdoor dining and businesses will be able to resume in-store shopping, if current COVID-19 trends hold. Sporting events and entertainment venues with no spectators, summer camps, private household services (nanny services, housekeeping, etc.), religious gatherings, outdoor exercise classes, and non-emergency medical appointments will also be allowed to resume with modifications.

Phase 2C is tentatively slated for July 13. That includes the reopening of indoor restaurant dining, hair salons, barbershops, and real estate open houses by appointment.

Phase 3 is planned for mid-August, but with no specific date yet. Phase 3 will include the reopening of schools, bars, nail salons, gyms, tattoo parlors, massage parlors, playgrounds, swimming pools and indoor museums.

The fourth and final phase has no set timeline. It includes live sports and performances with audiences, concert venues, nightclubs, festivals and hotels for tourism.

Businesses have the right to refuse service to those not wearing face coverings

At the same time Mayor Breed announced the timeline for reopening, she also revealed the city's stay-at-home order would be extended indefinitely. It was originally set to expire on June 1.

### New Rule on Face Coverings: 30 Foot Rule

San Franciscans will be required to wear a face covering anytime they are outside their residence and within 30 feet of other people. This 30-foot rule

applies whether people are on the sidewalk, in a park, on a path or trail, or in any other outdoor area, and whether they are walking, running, biking, otherwise exercising, standing, or engaged in transportation such as using a motorcycle, skateboard, moped, or scooter. The 30 feet (10 yard) distance is used here to give people adequate time to put on a face covering before the distance closes and the people are within six feet of each other, which puts them at greater risk for transmission of the virus.

The order states:

- People must, unless an exception applies, wear a Face Covering when outside and when anyone else other than just members of their household or living unit is within 30 feet (10 yards).
- They must wear a Face Covering when in the workplace except when in a private space or area not regularly used by others.
- They must wear a Face Covering when preparing food or other items for sale or distribution to people who are not members of their household or living unit.
- They may remove their Face Covering when eating or drinking if they are alone or with only members of their household or living unit and nobody else is within six feet.
- A person who is alone or with only members of their household or living unit, is stationary in an outdoor area such as a park or patio, and is maintaining at least six feet of distance between them and the nearest people who do not live with them does not need to wear a Face Covering so long as they have one readily accessible.

This Order includes certain exceptions. For instance, this Order does not require that any child aged 12 years or younger wear a Face Covering and requires that any child aged two years or younger not wear one because of the risk of suffocation. This Order also does not apply to people who are in their own cars alone or with members of their own household or living unit except if they operate the vehicle to transport others. And anyone who has a written exemption from a healthcare provider based on a disability, medical condition, or other condition that prevents them from wearing a Face Covering does not need to wear one.

## **RECOMMENDATIONS**

We have no new recommendations at this time.