



COVID - 19
Research and Advisory Team:
#4 Report and Recommendations
April 5, 2020

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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 (March 30), along with our current recommendations for actions for SFV to consider taking. Sources include CDC, WHO, medical researchers, clinical journals, reports from epidemiologists and public health professionals.

Current State of Covid 19

Global

Total confirmed cases: 1,252,265

Total deaths: 68,147

Total recovered: 238,675

Fatality Rate:

Globally, the case fatality rate for those under age 60 was 1.4 percent. For those over age 60, the fatality rate jumps to 4.5 percent. The older the population, the higher the fatality rate grows. For those 80 and over, Covid-19 appears to have a 13.4 percent fatality rate.

On average, the duration from symptoms to death is 17.8 days (and that recovery can take nearly 25 days). It can take a week for the disease to progress from the start of symptoms to a person needing hospitalization.

New Findings

1) Asymptomatic and Presymptomatic Transmission:

Evidence has been accumulating that presymptomatic and asymptomatic transmission is a major route by which the coronavirus spreads.

One of the reasons Covid19 so challenging to contain is asymptomatic and presymptomatic transmission: If you're infected, you can get someone else sick before you know you have the disease. There are no firm estimates on this, but it seems that somewhere between 25%-50% of people infected with the virus show no symptoms. Some percentage of those asymptomatic cases can spread the virus to others. In addition, people shed the virus both before and just as they start to show symptoms

These transmissions might occur through generation of respiratory droplets or possibly through indirect transmission. Speech and other vocal activities such as singing have been shown to generate air particles, with the rate of emission corresponding to voice loudness. Objects might be contaminated directly by droplets or through contact with an infected person's contaminated hands.

Authorities can't control the Covid 19 outbreak just by quarantining sick people. These findings underscore the importance of social distancing in the public health response to the COVID-19 pandemic, including the avoidance of congregate settings.

2) Physical distancing: Why 6 feet may not be enough.

Summary:

Under the right conditions, Covid 19 droplets from sneezes, coughs, talking, singing, and just exhaling can travel 23-27 feet and linger in the air for minutes. It is important, therefore, to understand that masks (that the general public would use) are not necessarily protective for the wearer in terms of preventing inhalation of the residual droplets in the air, but they can provide a way to reduce the range of contamination from the droplets-laden cloud. This makes wearing a mask even more imperative.

In Detail:

The current understanding of the routes of host-to-host transmission in respiratory infectious diseases are predicated on a model of disease transmission developed in the 1930s that, by modern standards, seems overly simplified. Implementing public health recommendations based on these older models may limit the effectiveness of the proposed interventions.

Recent work has demonstrated that exhalations, sneezes, and coughs are primarily made of a turbulent gas (a puff) cloud that captures ambient air and traps and carries within it clusters of droplets with a continuum of droplet sizes. The droplets evade evaporation for much longer than occurs with isolated droplets.

Given various combinations of an individual patient's physiology and environmental conditions, such as humidity and temperature, the gas cloud and its payload of pathogen-bearing droplets of all sizes can travel 23 to 27 feet.

Droplets that settle along the trajectory can contaminate surfaces, while the rest remain trapped and clustered in the moving cloud. Eventually the droplet cloud lose momentum and coherence, and the remaining droplets within the cloud evaporate, producing residues or droplet nuclei that may stay suspended in the air for hours,

The degree and rate of evaporation depend strongly on ambient temperature and humidity conditions, but also on the inner dynamics of the turbulent puff cloud coupled with the composition of the liquid exhaled by the patient.

Given the turbulent puff cloud dynamic model, recommendations for separations of 6 feet may underestimate the distance, timescale, and persistence of the droplet cloud and the exposure range. This makes wearing a mask even more imperative.

US

- Total cases: 304,826
- Total deaths: 7,616

An increase in infection and deaths is expected. Under the best-case scenario for mitigation of the Covid-19 pandemic there may be between 100,000 and 200,000 deaths in the United States. The number of deaths are expected to peak in mid April through early August, with accompanying shortages of hospital beds overall and of ICU beds.

New Findings:

1) Young People Can Get Covid 19 Too

Summary:

The CDC reports that 29% of reported cases were people who are 20-44; and 20% of hospitalizations were among those ages 20 to 44.

In Detail:

From a March 16 CDC report – (note: the numbers have increased since then, but the percentages remain steady)

Reported Cases

A total of 4,226 COVID-19 cases had been reported in the United States, with reports increasing to 500 or more cases per day beginning March 14. Among 2,449 patients with known age, 6% were aged ≥ 85 , 25% were aged 65–84 years, 18% each were aged 55–64 years and 45–54 years, and 29% were aged 20–44 years. Only 5% of cases occurred in persons aged 0–19 years.

Hospitalizations:

Among 508 (12%) patients known to have been hospitalized, 9% were aged ≥ 85 years, 36% were aged 65–84 years, 17% were aged 55–64 years, 18% were 45–54 years, and 20% were aged 20–44 years. Less than 1% of hospitalizations were among persons aged ≤ 19 years.

ICU Admissions:

Among 121 patients known to have been admitted to an ICU, 7% of cases were reported among adults ≥ 85 years, 46% among adults aged 65–84 years, 36% among adults aged 45–64 years, and 12% among adults aged 20–44 years. No ICU admissions were reported among persons aged ≤ 19 years.

Deaths:

Among 44 cases with known outcome, 15 (34%) deaths were reported among adults aged ≥ 85 years, 20 (46%) among adults aged 65–84 years, and nine (20%) among adults aged 20–64 years.

2) Use of Masks

In light of new evidence that shows Covid 19 can be spread by asymptomatic and presymptomatic transmissions, people need to assume that anyone they come into contact with could be infected.

CDC is advising the use of simple cloth face coverings to slow the spread of the virus and help people who may have the virus and do not know it from transmitting it to others. The CDC recommends wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies) especially in areas of significant community-based transmission. Cloth face coverings fashioned from household items or made at home from common materials at low cost can be used as a public health measure.

San Francisco

Total Positive Cases: 568

Deaths: 8

1) Some Good News:

It has been 3 weeks since counties in the San Francisco Bay area told some 6 million residents to stay at home (since March 16), and 16 days (since March 20) since the order extended to all of California.

San Francisco and California and Washington were the first to report community cases of Covid-19 and also among the first in the nation to mandate residents stay at home and close businesses and schools to keep people physically apart. Analyses from academics and federal and local officials indicate those moves bought those communities precious time — and also may have “flattened the curve” of infections for the long haul.

The goal was to slow the spread to keep it from overwhelming health-care resources so fewer people would require hospital beds and ventilators at the same time. Doctors at area hospitals are now reporting fewer cases than they expected to see at this point, and officials credit the lockdown with stemming the tide of patients they feared would flood into emergency rooms.

As of Tuesday, the number of confirmed infections per capita in densely populated New York City was 15 times that of the Bay Area. Compared with the Boston area, which has a more-similar population density, California’s Bay Area has about a third of the of the cases, per capita. The state of Massachusetts ordered people to stay home 8 days ago.

2) San Francisco police have begun issuing citations to violators of the shelter-in-place order requiring non-essential businesses to close and residents to stay home except for the most crucial reasons.

3) Muni to close majority of its bus lines this week. The SFMTA will shut down all but 17 of its 68 Muni bus lines this week, with an estimated 40 percent of its operators expected to stay home due to the Covid 19 outbreak. The cuts come a week after San Francisco's fleet of Muni light rail trains were replaced by buses.

Recommendations

- 1) Maintain momentum on outreach and data gathering activities.
- 2) Maintain momentum on group activities – classes and circle meetings
- 3) Assuming that issues of social isolation - lack of contact, lack of listeners to hear one's stories, experiences, and challenges, feeling invisible, feeling increasingly depressed and anxious - are predominant issues for SFV members, here are some ideas for addressing these issues:
 - a. Convene a Zoom "focus group" of all those who have been making outreach calls to members (when calls are nearly completed). Callers can share with each other and with Kate and Jill, in more detail than is possible in a form, what they are hearing from members. Hearing the stories "live" will provide important context and emphasis.
 - b. Convene a Zoom "focus group" of members to discuss the ways in which social isolation is affecting them, their own efforts to increase connection and communication, and how they see SFV is helping them with issues of social isolation and how else they would like SFV to help. Not only could this elicit useful information, it could be an avenue for members to connect with each other, have a meaningful conversation, and potentially remain connected. If it proves effective, the method of convening "focus groups" could continue with other members.
 - c. Ask Circle leaders to raise the topic of social isolation at upcoming meetings. If there is sufficient interest, leaders can suggest that members form buddy dyads or triads who could call each other once or more a week, in between Circle meetings.