

Update: March 31, 2020

COVID-19 DIGEST

From the Cross-Campus Infectious Diseases COVID-19 Task Force

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EPIDEMIOLOGY

LOCAL

As of today, there are over **7,500 confirmed COVID-19 cases and 150 deaths** in California. In San Francisco, there are **397 confirmed COVID-19 cases and 6 deaths**. Across the UCSF/ZSFG/VA system, 33 patients with COVID-19 are hospitalized (16 in ICU). Testing capability is now available at all three hospitals' Microbiology labs with shorter turn-around times and expanded testing. *Data from [NY Times](#), and [SF DPH](#)

NATIONAL

Cases in the US continue to climb, **now exceeding 185,000**, although we know these numbers are underestimates because diagnostic testing capability has not yet been ramped up to meet the needs. In the last 24 hours, there were over 21,482 new cases [reported](#). New York State and NYC continue to face a difficult burden: New York State reported >7,000 new cases of COVID-19 yesterday, bringing the **total to over 67,000 with half of these cases in New York City**. Governor Cuomo of New York reported that "case doubling" time in New York is starting to slow (from every 2 days to every 6 days now) and a Navy Ship hospital is starting to offload local hospitals. **We spotlight the situation in Louisiana today: They are reporting 5,237 cases (1,834 cases in New Orleans) and 239 deaths**. Compare these numbers to those in California, where we have over 7,500 cases reported but our population is nearly 10 times the size. New Orleans has repurposed their Convention Center, where many of us have attended medical/scientific meetings, to a 1000-bed hospital.

GLOBAL

Globally, **over 857,000 cases and 42,000 deaths due to COVID-19 have been reported**. The US leads the world in number of cases. Spain and Germany join the US, Italy and China in reporting >70,000 cases. Spain reported over 9,000 new cases and 900 deaths in a single day and are now reporting 95,923 cases and 8,464 deaths.

*From Johns Hopkins CSSE on 3/31 3:03 PM PDT

PUBLIC HEALTH ACTION

Major **public health actions** continue worldwide. President Trump declared that social distancing orders for the entire country will be extended until April 30. Here in San Francisco, as of this morning, many hospital systems are requiring their health care workers to wear isolation masks for clinical care in both outpatient and inpatient settings. Extending these recommendations to universal masking for the public is an active debate in many jurisdictions. Courageous and makeshift medical responses around the country and world are springing up. To list a few: Central Park erecting a tent field hospital in New York City for [coronavirus](#); the [Detroit Auto Show being canceled](#) amid plans to repurpose its venue as temporary coronavirus field hospital; [sports stadiums](#) being used as testing centers in Florida and elsewhere; and hotels in Spain being converted to medical [bunkhouses](#). Diagnosed cases in Africa are still low, but there are concerning signals, with South Africa now reporting 1,353 cases. Countries in Africa have implemented anticipatory public health actions, with a 21-day [lockdown order declared in South Africa](#) on Monday March 27. Uganda (now reporting 44 cases) instituted a 14-day lockdown and Monday and further restricted movement yesterday, [banning all private cars on the road](#) after voluntary measures to restrict vehicles were not followed. Many metrics are demonstrating how social distancing is happening, including incredible reductions in air pollution and NO2 emissions in large cities with less use of cars, transport vehicles, and manufacturing. In the US, [jigsaw puzzle sales are at an all-time high](#) for home entertainment.

UP TO THE MINUTE DISPATCHES

Passive antibody treatment for COVID-19: An old approach to a new disease may be promising

A [case series](#) of 5 mechanically ventilated patients in Wuhan with persistently positive COVID-19 PCR were treated with large volume infusions of convalescent sera (passive antibody therapy) reported clinical improvement. The donor plasma had IgG and IgM antibodies to the COVID-19 spike protein and neutralized the virus in the cell culture infection model. The treated patients demonstrated significant clinical improvement after 1 week, which included an increase in neutralizing antibody titers, and PCR became negative 1-12 days after transfusion. Possible benefit of convalescent plasma was confounded by concurrent use of antivirals and steroids. An additional [study](#) reports treatment of 19 patients with COVID-19 with convalescent serum and subsequent clinical improvement. Optimal dosage, timing of administration and whether hyperimmune or convalescent sera may be more effective remains to be determined. Based on this preliminary data and past use of convalescent sera for other viral epidemics, the FDA [approved](#) emergent use of this therapy on 3/25/20. The [National COVID-19 Convalescent Plasma Project](#) is planning trials across the country.

More data about the challenges of COVID-19 in long-term care facilities

There are at least 400 long-term care facilities in the US dealing with COVID-19 outbreaks, including in our own city at Laguna Honda. Clients residing in these facilities are among the most vulnerable in society to succumb to COVID-19. A recent [study](#) described an outbreak of COVID-19 in a SNF of 82 residents in King County, Washington. The investigation was initiated after a symptomatic healthcare worker was diagnosed with COVID-19. Universal PCR testing via nasopharyngeal swab was performed on 76 (93%) residents. They identified that 23 (30%) of residents were positive for COVID-19. Amongst those who tested positive, 13 (57%) were asymptomatic at the time of initial testing. Ten (77%) of the asymptomatic patients developed symptoms of COVID-19 in the following week, while 3 remained asymptomatic. Quantitative assessment of viral burden by PCR was similar among those who were symptomatic, pre-symptomatic, or asymptomatic infection. This study tells us that “symptom-based screening” (which can be difficult in this population) may miss over half of patients in this setting. It also confirms that those with and without symptoms are contributing to spread.

FAQ

1. Was SARS-CoV-2 introduced to Northern California through a single event?

No, data suggest that there were several different introductions of the virus causing COVID-19 into California. An elegant and extremely interesting [study](#) done by UCSF investigators mapped the viral genomes from 29 patients diagnosed with COVID-19 infection from February 3rd through Mar 15th 2020 in Northern California. Through phylogenetic analyses they found 8 different SARS-CoV-2 lineages. These included viruses linked to the first known case in Seattle (WA-1), virus spread across counties, virus with interstate spread (New York), and international spread (Europe and China). The results suggest that multiple independent introductions of the virus into California occurred. Where transmission chains were originally introduced via both international and interstate travel, rather than widespread community transmission of a single predominant lineage.

2. Are GI symptoms common in patients with COVID-19 and can these patients present with GI symptoms alone?

GI symptoms in COVID-19 do occur, although not in the majority of patients. We know the virus causing COVID-19 can infect the gut, so it is not surprising that this would occur. A large [case series](#) reported 1-10% of patients with COVID-19 with diarrhea or nausea/vomiting on presentation. Other [studies](#) reported diarrhea in 14-27% of patients at the time of diagnosis. Emerging reports are now describing patients presenting with GI symptoms (i.e., diarrhea,

nausea, or vomiting) without respiratory symptoms in 3-10% of cases. We continue to learn about the clinical presentation of this disease and expect that we will learn more about GI presentations and disease over the coming months.

3. Should SARS-CoV2 PCR testing be done in asymptomatic patients before going to a skilled nursing facility?

Yes, this makes sense. Patients in a skilled nursing facility are often older and have multiple co-morbidities, therefore they are at high-risk for severe COVID-19. While symptomatic patients will likely be identified, preventing the introduction of infected patients who are asymptomatic or pre-symptomatic to these settings is also important to prevent spread of disease, which can become rampant (as noted in the Washington State experience described above). This approach is not failsafe; false negatives can occur. Therefore isolating patients for a period of time upon transfer to chronic care facilities is considered as an alternative or adjunctive strategy.

EDUCATION

The UCSF Task Force can provide updates by ID faculty on COVID-19 to your department, division or team in varying formats: a 15-minute talk, a Grand Rounds, a Q&A session or another format that might suit your group. *For more information or to schedule a session, please contact Chesa Cox at Chesa.Cox@ucsf.edu.*

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UCSF Hospital Epidemiology and Infection Prevention COVID-19 webpage:

<https://infectioncontrol.ucsfmedicalcenter.org/ucsf-health-covid-19-resources>

San Francisco DPH link: <https://www.sfc-dcp.org/infectious-diseases-a-to-z/coronavirus-2019-novel-coronavirus/>

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