

Update: March 27, 2020

COVID-19 DIGEST

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

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EPIDEMIOLOGY

LOCAL

As of today, there are **4,205 confirmed COVID-19 cases and 85 deaths** in California. In San Francisco, there are **279 confirmed COVID-19 cases and 3 deaths**. Across the UCSF/ZSFG/VA system, 26 patients with COVID-19 are hospitalized (12 in ICU). Testing capability has ramped up at all three hospitals, with local capacity in the three associated clinical labs.

NATIONAL

The US, which is the third most populous nation on the planet, now has the highest number of cases of COVID-19 in the world, exceeding those in China and Italy as of Thursday, March 26. Latest US estimates are over **100,000 cases and 1,500 deaths**. The surge in cases in the US has been most dramatic in New York State, which accounts for just under half of the nation's infections. New York State as of today had **44,635 confirmed cases, 5,327 hospitalizations, and 519 deaths**. The majority of the cases and deaths were in New York City, with **25,573 cases and 365 deaths**. Over 100 deaths were reported in NY on March 26 and hospital systems were overwhelmed, including emergency rooms, inpatient wards, and intensive care units. Governor Andrew Cuomo of New York had ordered a lock-down of the state with all non-essential services to be closed and people sheltering in place on March 20. New York is not the only city or region facing case surges. [Cook County \(Chicago\)](#), [Wayne County \(Detroit\)](#), and [Atlanta](#) are others to name a few.

GLOBAL

There are over **590,000 cases** of COVID-19 and **26,943 deaths globally**.* Europe was the epicenter of the pandemic until the US surpassed Italy in number of cases yesterday. Italy's number of new cases of coronavirus has been slowing with lower numbers of new cases occurring daily for the 6th consecutive day as of today. However, the case fatality rate in Italy still remains the highest in the world with 8,215 deaths and 80,059 cases (10.1%)—see below for recent publication on Italy's high mortality rate. *From Johns Hopkins CSSE on 3/27 3:03 PM PDT

PUBLIC HEALTH ACTION

Major **public health actions** continue worldwide, with [Prime Minister Narendra Modi of India announcing a national lockdown](#) on the country on Tuesday, March 24 for 21 days, impacting 1.3 billion people. Countries across Africa and many in Latin America are on lockdown although [Brazil and Mexico were initial "hold outs" for such public health measures](#). The government of Mexico mandated stay at home orders on Tuesday March 24 and many cities across Brazil (despite President Jair Bolsonaro's reluctance) has imposed shelter in place mandates. The global number of people under some form of lockdown is now around **2.6 billion** – one-third of the human population, more humans than were even alive during World War II.

DAILY UPDATES

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

UP TO THE MINUTE DISPATCHES

Can pregnant women transmit COVID-19 to their infants?

We previously reported there was no evidence to date for congenital COVID-19. In multiple small case series (n<20 in each), newborns to women with COVID-19 were either asymptomatic or had mild disease consistent with post-natal acquisition. However, two articles published in JAMA on March 27, 2020 suggest vertical transmission might occur [[Dong et al](#), [Zeng et al](#)]. A total of three infants born to women with mild COVID-19 disease were found to have elevated SARS-CoV-2 IgM levels at birth. Because IgM molecules are generally too large to cross the placenta (in contrast to IgG and cytokines), these results provide serologic evidence of *in utero* transmission. These infants remained asymptomatic and had negative RT-PCR virologic testing. Limitations of these reports include their small number and the potential false positivity of IgM. So, as of today, we can say the answer to this question is “Maybe.” UCSF has launched a nationwide registry for pregnant women with suspected or confirmed COVID-19 and their infants called [PRIORITY](#).

[Case-fatality rate and characteristics of patients dying in relation to COVID-19 in Italy](#)

SARS-CoV-2 case fatality rate in Italy is 10.1%, substantially higher than that observed in China (2.3%) and South Korea (1.0%). Authors attributes this discrepancy to three possibilities: 1) **Population age**. The case fatality rate (CFR) within age strata from 0-69 years is similar between Italy and China. However, older people in Italy make up a greater proportion of those diagnosed. The overall older age distribution in Italy might in part explain the higher overall CFR. However, even when the sample is stratified by age, the mortality rate of older Italians is substantially higher (20.2% vs 14.8% for those over 80). 2) **Case definition**. Clear criteria for the definition of COVID-19-related deaths are not available. In Italy, death was attributed to COVID-19 in any patient with positive SARS-CoV-2 PCR, regardless of pre-existing diseases or indication for admission. 99% of COVID-19 deaths in Italy involved at least one medical comorbidity; 3) **Testing strategies**. The Italian government prioritized testing for patients with more severe clinical symptoms--nearly 20% of all tests were positive. This is in contrast to other countries like South Korea, which instituted widespread testing (larger denominator) and thus far has calculated a case fatality rate of around 1.0%. These are reasonable points, but we still have much to learn to explain these wide ranging mortality rates.

FAQ

1. What proportion of cases of COVID-19 in the US are among health care workers?

We do not yet know the answer for the US. We do have some data from other countries.. Among 72, 314 cases in mainland China (through 2/11/20), 3.8% were in health care personnel [[Guan et al](#)]. 75% of these cases were diagnosed in Hubei Province. In a separate study of a selected group of 1099 patients from mainland China with laboratory-confirmed COVID-19 the percentage of healthcare workers among the cases was 3.5% [[ICN](#)]. In Italy, which continues to experience widespread community transmission, 9% of COVID-19 cases are in healthcare workers. Currently the California Department of Health is reporting 42/3006 (1.3%) in their latest stats that include HCW. It is likely that depending on local outbreaks this number will vary. We can say HCW transmission is lower than seed with SARS. In the SARS outbreak in Canada in 2002-2003, 43% of the cases were in healthcare workers.

2. Can SARS-CoV-2 cause cardiac injury?

Perhaps. This is an evolving story. We know patients with underlying cardiovascular disease are at higher risk for severe COVID-19. However, COVID-19 itself may be associated with cardiac injury. Studies of patients hospitalized with COVID-19 in China reported cardiac injury in [17-20%](#) of cases. One [study](#) found that patients with cardiac injury were older, had more comorbidities, and a higher risk of death when compared to those without cardiac injury. Another [study](#) reported that 7% of 68 COVID-19 related deaths were due to myocardial damage/heart failure. Whether COVID-19 associated cardiac injury is due to direct viral injury or other mechanisms requires further [research](#). Awareness of this potential complication, particularly when considering medications with potential cardiac toxicities is to be noted while researchers study potential mechanisms.

3. Should patients without symptoms undergoing transplantation or intensified immunosuppression be tested for COVID-19 in settings with widespread community circulation?

Yes, if the logistics allow for it. Physicians may decide to alter management for a patients with a positive PCR for COVID-19 undergoing these procedures. We have described in prior digests that patients can have high viral loads detected on PCR prior to symptoms. It is important to note that the current tests are only 70% -80% sensitive—so using current assays, one is reducing but not eliminating the possibility the patient has COVID-19 underlying disease. In other words, a positive test confirms disease, but a negative test does not completely rule it out.

4. Are loss of smell and loss of taste symptoms of COVID-19 infection?

Yes, this is likely true. [Physicians in several countries](#) have reported anosmia/hyposmia (loss of/decreased smell) and ageusia/dysgeusia (loss of/dysfunction of taste) as symptoms associated with COVID-19 infection. A [cross-sectional survey](#) of 59 hospitalized COVID-19 patients in Italy demonstrated that 34% had at least 1 taste or olfactory disorder symptom; 19% had both. Onset of symptoms occurred prior to hospitalization in 20% (including 91% of taste disorders); the remaining 14% occurred during the hospital stay. Symptoms were more common in women (53%) vs. men (25%) and in younger individuals (affected median age 56 vs. non-affected median age 66). Anecdotal reports have described anosmia in [30% of a COVID-19 cohort in South Korea](#) and in [>66% of 100 non-hospitalized COVID-19 patients in Germany](#). The [American Academy of Otolaryngology-Head and Neck Surgery](#) (AAO-HNS) proposed that anosmia and dysgeusia is included in clinical screening algorithms for when alternative explanations are absent (i.e. allergic rhinitis, rhinosinusitis).

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/>