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COVID-19

Daily updates on the emerging novel coronavirus from the Johns Hopkins Center for Health Security.

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February 20, 2020

EPI UPDATES China's [National Health Commission](#) reported 394 new confirmed cases across the country and 114 new deaths. The NHC has reported a total of 74,576 confirmed cases and 2,118 deaths nationwide. A total of 16,155 cases have been discharged, and 4,922 suspect cases remain. Notably, this is the second consecutive day that the NHC has reported a decrease in the number of active cases (ie, cases that have not been ruled out, discharged, or died). There are currently 56,303 active cases, down from 57,805 [yesterday](#) and 58,016 on [February 18](#). This decline could be impacted as clinically diagnosed cases in Hubei Province who receive negative SARS-CoV-2 tests are removed (as discussed below), but the recent trend warrants further monitoring in the coming days and weeks.

Today's NHC update indicates that Hubei Province recorded 349 new cases, but 279 patients in the province that were previously reported as Clinical Diagnosis have been removed after receiving negative test results. The NHC also reported a total of 65 cases in Hong Kong (2 deaths, 5 discharged), 10 cases in Macau (6 discharged), and 24 cases in Taiwan (1 death, 2 discharged).

The WHO [Situation Report for February 19](#) reports 120 new confirmed COVID-19 cases outside China. In total 924 confirmed cases have been reported across 25 countries, including 3 deaths. No new deaths or new countries were added. The Situation Report indicates that the WHO is collaborating with "an international network of statisticians and mathematical modelers" to better characterize key parameters of the epidemic. The report includes and estimate of the infection fatality ratio—ie, the proportion of all infections, including asymptomatic infections, that ultimately die—which modelers found to be approximately 0.3-1.0%. These

estimates will evolve as additional data becomes available and models are updated. Several of these efforts are publishing [updated results](#) and [new studies](#) online.

UPDATED CHINA NHC EPIDEMIOLOGY & CLINICAL

GUIDANCE China's NHC published an updated [COVID-19/SARS-CoV-2 Diagnosis and Treatment Plan](#). The route of transmission was clarified from "respiratory droplets and contact" to "respiratory droplets and close contact" and added the possibility of aerosol/airborne transmission in enclosed environments. The new guidance eliminates the difference in diagnostic criteria between Hubei Province and the rest of China. COVID-19 diagnosis for all of China will now be classified as either confirmed or suspected cases. Additionally, suspected cases will be divided into 2 categories: (1) individuals with an epidemiological link to a known case and two relevant symptoms of COVID-19 and (2) individuals without an epidemiological link to a known case and three relevant symptoms of COVID-19. Confirmed cases are limited to individuals with positive SARS-CoV-2 tests. Additionally, the guidance delineates the requirements for patients to be removed from isolation and discharged. Patients must be: (1) free of fever for 3 days, (2) improved respiratory symptoms, (3) lung imaging showing improvement, and (4) negative SARS-CoV-2 tests on two consecutive days.

IRAN Multiple [media outlets are reporting](#) that the Iran Ministry of Health and Welfare has confirmed the deaths of 2 COVID-19 cases in Qom. Reportedly, both victims were elderly patients who had unspecified pre-existing health conditions that may have contributed to their severe disease. According to one report, the Iranian state news agency announced that neither of these individuals had recent travel to China or even outside the Qom province, suggesting that they may have been infected locally. The report also indicates that 25 additional individuals at the same hospital are under quarantine to monitor for COVID-19 symptoms. [Iran reported 3 new COVID-19 cases](#) , bringing the total to 5. Schools and universities in Qom are reportedly closed over concerns about a local outbreak. We are unable to identify official Iranian government sources, and we are relying on media reports to monitor this situation.

SOUTH KOREA The [South Korean Ministry of Health and Welfare](#) reported a total of 104 confirmed cases of COVID-19 and 1 death, more than double the [51 cases reported yesterday](#) . Of the newly reported cases, 28 are linked to churches associated with known confirmed cases (5 at one church and [23 at another](#)) and 14 are linked to hospitals (1 at one hospital and 13 at another). In a [briefing earlier today](#) , South Korean MOH officials announced that they expect to identify additional cases linked to the churches.

In the briefing, [South Korean MOH](#) officials reported the completion of site visits to 1,435 nursing homes nationwide to evaluate whether workers with relevant travel history, including to China, had been excused from work and whether the facilities had implemented visitor restrictions to mitigate the risk of transmission to patients, who appear to be at elevated risk for severe disease

due to age and pre-existing health conditions. Additionally, the South Korea MOH announced that the country's [national health screening period for infants will be extended](#) to accommodate those who were not able to make the necessary visit to the hospital due to the country's ongoing COVID-19 outbreak. The screening period will be extended from the end of February to the end of March, but the announcement indicates that it could extend further if necessary. The mayor of the Korean city of Daegu, site of the church COVID-19 cluster, instructed [all residents to stay indoors](#) and shut down all kindergartens. The [US Army installation in Daegu](#) has closed schools, limited access to the installation, and discouraged travel into the city.

DIAMOND PRINCESS [Princess Cruises](#) announced yesterday that the onboard quarantine period has ended for the Diamond Princess cruise ship in Yokohama, Japan. The passengers and crew will begin disembarking the ship, but the process is expected to take several days. According to the update, all passengers and crew members will be tested for SARS-CoV-2, and the Japanese Ministry of Health will provide all individuals who receive negative tests with a certificate of their results, which is required before disembarking. Canada, Australia, and Hong Kong are arranging chartered flights for their respective citizens. Depending on the destination country, passengers and crew may be subject to additional quarantine upon their return home. The [Japanese MOH](#) reported that a total of 634 individuals onboard tested positive for SARS-CoV-2 infection, including 328 asymptomatic infections), out of a total of 3,063 total passengers and crew (20.7%). A [subsequent report by Japan's MOH](#) indicated 621 confirmed infections, including 322 asymptomatic infections. Japan's MOH also [confirmed the death of 2 passengers](#), a male in his 80s who was a resident of Kanagawa Prefecture and a female in her 80s who was a resident of Tokyo.

The Japanese MOH published a [briefing on the outbreak onboard the Diamond Princess](#), including findings from their analysis of the disease and outbreak epidemiology. Japanese health officials concluded that there was "substantial [SARS-CoV-2] transmission" onboard prior to implementing the quarantine on February 5, based on data on the date of symptom onset. They also concluded that the quarantine was "effective in reducing transmission among passengers." Further, they note that transmission "appears to have occurred mostly among crew or within passenger cabins" toward the end of the quarantine period, noting that it was not possible to quarantine passengers or crew individually. "Systematic testing" of asymptomatic individuals, which began on February 14, enabled health officials to identify and remove individuals with asymptomatic infection from the ship. Because these individuals had no symptom onset date, it was not possible to estimate when they were infected (and the briefing asserts that it could have been prior to the quarantine). At the time of the study, 531 total cases had been confirmed onboard the Diamond Princess—276 symptomatic (52%) and 255 asymptomatic (48%). It remains to be seen how many cases that were asymptomatic at diagnosis ultimately develop symptoms.

Japan continues to cancel or scale back [sporting events](#) in an attempt to mitigate the risk of community transmission.

SARS-CoV-2 VIRAL LOAD IN UPPER RESPIRATORY

SPECIMENS In a Letter to the Editor published in [The New England Journal of Medicine](#), researchers from the Guangdong Provincial CDC, Zhuhai CDC (Guangdong, China), Sun Yat-Sen Hospital, and the University of Hong Kong reported [results from a study of 18 patients](#) in Guangdong, China, with confirmed SARS-CoV-2 infections (including 1 asymptomatic infection). The study aimed to characterize the viral load present in the upper respiratory tract over the course of infection. The results suggest “that the viral...shedding pattern of patients infected with SARS-CoV-2” more closely resembles influenza than SARS-CoV, with high viral loads detected early after symptom onset. Additionally, the viral load detected in the asymptomatic patient was similar to that found in the symptomatic patients. The findings support the idea that “transmission may occur early in the course of infection,” which could influence screening practices. Additional work is needed to better characterize transmission dynamics for SARS-CoV-2.

SARS-CoV-2 ISOLATION IN FECAL SPECIMEN Researchers from China’s NHC Key Laboratory for Medical Virology, Heilongjiang CDC, and China CDC reported the results of a study in which they [successfully isolated SARS-CoV-2 from a confirmed patient’s fecal specimen](#). The research was conducted in a BSL-3 laboratory at the National Institute for Viral Disease Control and Prevention. The report does not indicate whether the isolated virus was viable or infectious, but the researchers were able to sequence a full genome for the SARS-CoV-2 virus from the specimen. This indicates that the virus can be present in fecal material, which could potentially serve as an additional route of transmission for the virus.

CORDON SANITAIRE AFFECTING MEDICATION &

HEALTHCARE [The Wall Street Journal](#) published a report today on the impact that city-wide quarantine/ *cordon sanitaire* is having on affected individuals’ ability to access critical health care. The article describes a myriad of situations in which residents of cities under lockdown are unable to obtain routine or emergency medical care due to hospitals being overwhelmed with coronavirus patients. Additionally, some residents, or visitors who are unable to return home due to the movement restrictions, have been unable to receive treatment or medications from facilities outside their quarantine area, and local hospitals are unable to provide the same level of care or are focused on coronavirus patients. There are reports of volunteer groups that have organized to help transport patients and deliver medications in the absence of public transit and restrictions on the use of private cars, and several local hospitals in Wuhan have been designated for treating non-coronavirus patients in an attempt to mitigate barriers to accessing care for affected populations.

TRAVEL RESTRICTIONS According to [research published on the Think Global Health](#) website, at least 80 countries have implemented some form of travel restrictions for China or parts of China, Chinese nationals, or travelers originating in or transiting

through China. These restrictions range from suspended flights by state-owned airlines to border closures. As of February 7, the WHO had identified 72 countries that had imposed some form of travel restrictions, but only 23 (32%) had submitted official reports to the WHO, which are [required under the International Health Regulations \(Article 43, Paragraph 3\)](#) . The article provides details on the types of restrictions imposed by the identified countries.

TRAVEL ENCOURAGEMENT Chinese authorities in manufacturing provinces are taking active measures, including cash rewards and chartered buses, and an attempt to help migrant workers [return to work](#) . The Philippines' tourism secretary is [encouraging tourists](#) to come to the country, and its airlines are reducing fares. The Thai government has [asked Israel to reconsider](#) its travel ban on Thai citizens.

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