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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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EPI UPDATES China's National Health Commission [reports](#) 2,048 new confirmed cases, 1,563 suspected cases, and 105 deaths (including 100 in Hubei province). There have been 70,548 confirmed cases, and 1,770 deaths across 31 provincial regions in mainland China. A total of 150,539 individuals are now under medical observation. China's daily new confirmed cases outside of Hubei province [have dropped](#) for the 12th consecutive day. A [press release](#) from the Health Commission also reported that 500 medical professionals will be transferred to Wuhan Youfu Hospital to work as the number of available beds will increase from 100 to 900.

[WHO reports](#) a total of 683 confirmed cases outside of China across 25 countries and 3 deaths. France has reported its [first death](#) in an 80-year Chinese tourist, becoming the first fatality in Europe from COVID-19. [Japan reports](#) that 454 individuals have tested positive on the Diamond Princess cruise ship, including 189 asymptomatic cases. Japan also reported an additional 38 cases in the country. Singapore has also [confirmed](#) a total of 77 cases, with 103 cases pending test results. Among the new cases reported in the country today, one came from Wuhan and one was linked to a previous case.

GUIDANCE AND RESPONSE EFFORTS IN JAPAN AND SINGAPORE [Japan Times](#) reports that the Ministry of Health, Labour and Welfare issued guidelines advising people to stay home if they exhibit COVID-19 symptoms, in order to minimize unnecessary burden on the healthcare system. If individuals develop a fever for at least 4 days, experience difficulty breathing or feel severe drowsiness, they should call special consultation centers set up by the government. The [Singapore Ministry of Manpower](#) announced it would implement a mandatory 14-day stay

home notice to all work pass holders entering or returning to Singapore with travel history to mainland China within the past 14 days. Additionally, the country is extending the [Leave of Absence Support program](#) to provide financial support to businesses affected by people under Stay-Home Notices.

EPIDEMIOLOGICAL CHARACTERISTICS China Centers for Disease Control [published](#) a report of over 44,000 cases of COVID-19, finding most cases range from 30-79 in age, were confirmed in Hubei province specifically with the majority having exposure related to Wuhan, and had mild symptoms. Of these 44,872 cases there were 1,023 deaths resulting in an estimated case fatality ratio of 2.3%. Over the course of 30 days the virus spread from Hubei Province to 31 provinces in China. Among healthcare workers there have been 1,716 infections and 5 deaths.

US STATEMENT ON REPATRIATION OF DIAMOND PRINCESS PASSENGERS The [US State Department](#) undertook voluntary repatriation of over 300 US citizens and immediate family members from the Diamond Princess cruise ship. During the evacuation, US officials were notified that 14 passengers had tested positive for the virus. These individuals, who were asymptomatic, were isolated on the aircraft. The flight will land at Travis Air Force Base or Joint Base San Antonio and individuals will remain under quarantine for 14 days.

INFECTION AMONG CLOSE CONTACTS AND COINFECTIONS A [preprint](#) published on medRxiv found that 5.8% of cases infected with COVID-19 were co-infected with other pathogens including, influenza, respiratory syncytial virus, rhinovirus, metapneumovirus, parainfluenza, chlamydia, boca virus, mycoplasma pneumoniae, and other species of coronaviruses. Co-infection can influence treatment outcomes, and COVID-19 should not be ruled out due to the diagnosis of another respiratory pathogen.

POSSIBILITY OF TRANSMISSION IN SUMMER MONTHS A [study](#) from researchers at Harvard University suggests that changes in temperature and humidity may not reduce transmission of COVID-19. Previous studies not specific to COVID-19 have suggested that warmer and more humid temperatures may reduce transmission of viruses, like influenza in comparison to cooler drier environments. However, this evidence does not yet exist for COVID-19 and implementation of public health control measures may be needed to reduce transmission of the virus.

COMPLEX SUPPLY CHAINS [Supply chain disruptions](#) and access to critical commodities such as personal protective equipment continues to be a primary concern during the ongoing COVID-19 outbreak. The challenge rests not only in the manufacturing of final product goods, but in the access to raw materials needed for manufacturing. For the United States, even if a commodity is manufactured domestically, it is likely that at least some component comes from a foreign supplier. So while economic projections may be estimating the impact epidemic in one way, understanding of supply chain complexities suggests that the indirect impacts may be far greater. Currently Chinese

manufacturers of masks are operating at [76% capacity](#) , producing approximately 15.2 million masks daily. However, projections of mask demand are estimated to be 50-60 million resulting in global runs on face masks and the implementation of rationing procedures by the Chinese government.

POTENTIAL ORIGINS OF SARS-CoV-2 A [preprint](#) considering the origins of SARS-CoV-2, including the possibility of a non-natural origin, found evidence that the virus likely originated in bats, but years ago and evolved in an intermediate host in the more recent times. Given the viruses well-adapted ability to infect humans, the study suggests two possibilities. One hypothesis is that the virus evolved in a non-human animal with genetic similarities to humans enable selection of features to efficiently transmit in humans. A second hypothesis is the virus initially spilled over into humans where over time it adapted to transmit more efficiently. Importantly the findings suggest strongly that the virus has natural origins, and did not originate from laboratory alterations to SARS-CoV.

WHO RESPONSE TEAM ON THE GROUND IN CHINA The multidisciplinary international [team of experts](#) responding on behalf of the World Health Organization arrived in China and is beginning meetings with Chinese officials to discuss response strategies. The team is currently in Beijing and scheduled to visit Guangdong and Sichuan. The question remains on whether the team will visit Hubei province, the epicenter of the epidemic. Without visiting the epicenter of the outbreak it is unclear how well the team will be able to fully understand the current situation on the ground.

PILOTING HOME TESTING A [home testing](#) pilot program for COVID-19 has been launched in London. The program, which tests suspected cases in their homes, aims to reduce use of medical resources such as ambulance trips and the burden facing hospital systems. The need for an alternative testing program was determined after 25 ambulances were out of commission for decontamination after transporting suspected cases. By enabling patients to stay at home the healthcare teams are able to increase testing efficiency and increase availability of healthcare resources for critically ill patients. So far 130 patients have been tested in the two weeks since the program began.

EMERGING CRITICISM OF RESPONSE IN CHINA Some news media have been [critical](#) of China's home quarantine policy in Wuhan, citing the deaths of four family members while self-quarantining in their home. [Another article](#) in the South China Morning Post has called into question the application of quarantine measures and "coronavirus checks" against political activists and those critical of the Chinese government's response.



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