



TRENDS-in-MEDICINE

BULLETIN:

UPDATE ON CHINESE CORONAVIRUS – #2

January 26, 2020
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Based on the latest data available on January 26, 2020, this is what is known about the Chinese coronavirus (2019-nCoV) outbreak. The Centers for Disease Control and Prevention (CDC) plans to issue updates on Mondays, Wednesdays, and Fridays going forward.

- **Transmission.** The virus, which causes a pneumonia-like respiratory illness, is now spreading person-to-person. Experts disagree on whether it originated in snakes or bats, but there is agreement that the epidemic started in a seafood and live wild animal market in Wuhan, China. Chinese officials said transmission can occur in asymptomatic patients, *before* they become symptomatic, but the CDC has not confirmed that.
- **WHO.** The World Health Organization has decided *twice* against declaring this a public health emergency of international concern (PHEIC). WHO estimated that currently each infected person infects 1.5-2.5 people, and to stop any outbreak, that number has to be <1 .
- **U.S. airport screenings** were expanded to include 5 airports – Atlanta (ATL), Chicago O’Hare (ORD), Los Angeles (LAX), New York (JFK), and San Francisco (SFO). All travelers from Wuhan, China, were re-directed and re-ticketed to go through one of those 5 airports. The value of the screenings has been to raise awareness of the virus and the viral symptoms; the screenings have not identified any infected patients yet.
- **Diagnostics.** The **CDC’s diagnostic test** is still not available for state and local health departments to use. The CDC has asked the FDA for Emergency Use Authorization to give its test to states and localities, but a CDC official said it may still be a couple of weeks before the test is sufficiently vetted for wide distribution. So, for the time being, all confirmatory tests have to be done by the CDC in Atlanta.
- **Five U.S. cases** have been confirmed, all people who had traveled to Wuhan, China – the first in Seattle was a U.S. resident in his 30s, the second a 60-year-old woman in Chicago, and most recently two people in California (one in Orange County and one in Los Angeles) and a man in Arizona. All these patients self-reported early and are in isolation at local hospitals, and all patients are described as doing well. CDC officials declined to say what airports the newest cases used. CDC said it expects more cases in the U.S., and CDC has >100 “persons under investigation” (what they refer to as PUIs) across 26 states.
- **Internationally**, there have been at least 57 confirmed cases in 14 countries other than China:
 - 17 cases in total for Macau, Taiwan, and Hong Kong (which also has 122 more cases under surveillance)
 - 8 cases in Thailand
 - 5 cases each in Australia and the U.S.
 - 4 cases each in Japan, Malaysia, and Singapore
 - 3 cases each in France and South Korea
 - 2 cases in Vietnam
 - 1 case each in Nepal and Saudi Arabia.

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Hong Kong declared a virus emergency, canceled all official visits to mainland China, and is using infrared temperature screening at its entry ports/airports. North Korea banned foreign tourists entirely. (*Sorry, we know that ruins your vacation in Pyongyang.*) Four people are being tested for the virus in Scotland, and there is 1 presumptive case in Canada.

- **Chinese cases.** Confirmed **cases in China** now total 2,744, with at least 80 deaths (that's 3%, and it has been holding steady at that rate, which is lower than the 10% death rate with the SARS outbreak). About 20% of live patients have been reported to be in severe or critical condition, with ~10% cured and discharged from the hospital. The virus has also infected some medical personnel, with at least one medical worker death in Hubei province (where the city of Wuhan is located). China is building a temporary 1,000-bed hospital in Wuhan and expects to complete construction in just six days. Yes, six days. The CDC has staff in China, but so far they are not directly involved in helping the Chinese with this virus – at least not yet.
- **The containment effort in China.** Thirteen Chinese cities with a total of >35 million people have been quarantined. The Chinese cities of Wuhan, where the outbreak began, Huanggang, and Ezhou (all in the Hubei province) issued a complete travel ban, halting all air, bus, train, ferry, and the long-distance public transport out of the cities. While people could still drive out of the area, the government said citizens “should not leave.” Chinese authorities said the coronavirus has now spread across the country, with cases in Shanghai, Shenzhen, Beijing, and other cities. Major Chinese cities banned all large gatherings over the Lunar New Year festival.
- **Evacuation.** The U.S. is arranging a charter flight on January 28, with Chinese government approval, to evacuate 230 Americans – diplomats and other high-risk U.S. citizens and their families – from Wuhan.
- **Masks** don't work unless they are a specific, high-grade variety, which is not what people are using. This was explained at length during the Ebola outbreaks, so it is not clear why the big push for mask use.
- **Treatment.** There is no specific treatment for this virus. Patients get best supportive care.
- **Vaccines.** The flu vaccine does not protect against 2019-nCoV, but coronavirus vaccine efforts are underway, including:
 - ✓ **Gilead Sciences' remdesivir** – The company reportedly is considering repurposing this investigational nucleotide analog from Ebola virus to the Chinese coronavirus.
 - ✓ **Inovio Pharmaceuticals' INO-4800** is based on the company's DNA medicine platform, and the company hopes that this will enable rapid development of a vaccine. Inovio received funding from the Coalition for Epidemic Preparedness Innovations (CEPI).
 - ✓ **Moderna** is working with the National Institutes of Health on development of a vaccine against the new Chinese coronavirus, using its mRNA technology. Anthony Fauci, MD, director of the NIH's National Institute of Allergy and Infectious Diseases (NIAID), said the NIH vaccine candidate won't enter the clinic for at least a couple of months, and a usable vaccine is more than a year away. CEPI also is providing some funding.
 - ✓ **Novavax – Endpoints News** reported that Novavax “expects to develop a vaccine candidate from the genetic sequence of the Wuhan coronavirus.”
 - ✓ **Vir Biotechnology** has antibodies that bind to a coronavirus, but it isn't known yet if they bind to the 2019-nCoV virus.