



# 2019-nCoV

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

The Center for Health Security will be analyzing and providing updates on the emerging novel coronavirus. If you would like to receive these daily updates, please [sign up here](#) and select "2019-nCoV." Additional resources are now available on our [website](#).

## January 27, 2020 - Afternoon Update

**EPI UPDATES** [Unofficial](#) sources [report](#) that the confirmed case count in China nears 3,000. An official report is expected this evening.

Canada [confirmed](#) that their second case, announced this morning, is also recently returned from Wuhan and is a close contact of the first confirmed case. The number of cases [confirmed](#) in the United States remains at 5 as of this writing.

**US RESPONSE** The US State Department [issued](#) a level 3 travel advisory ("reconsider travel") for all of China. Hubei Province remains at level 4 ("do not travel"). At a press conference today, CDC officials [announced](#) that they are considering expanding the criteria for evaluating patients under investigation to include anyone with a recent travel history to China. Current guidance recommends a travel history to Wuhan City specifically. Visit the [CDC Clinical Criteria](#) page for the latest information.

**WHO SITUATION REPORT** WHO's sixth situation [report](#) (published Jan 26) contains the footnote: "Note: Error in situation reports published on 23,24 and 25 January as originally published, which incorrectly summarized the risk for global level to be moderate." A seventh situation report has been published but is not currently available for download. For the latest information, visit the WHO's [nCoV situation report page](#). In other news, WHO Director General Tedros Adhanom Ghebreyesus [announced](#) that he is traveling to Beijing to support the response. Dr. Tedros has made "on the ground" support a feature of his leadership.

**PRELIMINARY DATA FROM CHINA** In an [interview](#) with Chinese state media, several preliminary statements were made about the current dynamics of the outbreak. Excerpts include (machine translated): 1) the incubation period is thought to be 10 days on average with a range of 2-14; 2) one interviewee stated that “the severity of pneumonia caused by the new coronavirus is not at all lower than that of SARS” but later on another interviewee stated otherwise; and 3) “Many experts have confirmed that the new coronavirus is contagious during the incubation period without any typical symptoms.” Editor’s note: This information is not entirely consistent with other reports; epidemiological data is urgently needed to better understand the disease dynamics and assess risk.

**HETEROGENEITY IN SECONDARY TRANSMISSION** An analysis published in [ProMED](#) summarizes the importance of understanding not just the basic reproduction number, but the distribution of secondary cases. The analysis notes: “While average estimates of  $R_0$  are helpful, it is also important to note that other betacoronaviruses of public health importance (SARS, MERS) have been notable for the “overdispersion” of their reproductive numbers. Without getting too technical, this means that the average  $R_0$  is quite different from the variability in the  $R_0$ ...While superspreader events are unwelcome, their occurrence may, in fact, be a salutary sign for the control of this outbreak...[in] a more homogeneous outbreak, where each and every case has the potential to create a downstream cascade of cases in the absence of recognition, may be much more difficult to control.”

**OUTBREAK ORIGIN RECONSIDERED** Although it was hypothesized early in the outbreak that the first cases of 2019-nCoV originated from a seafood market in Wuhan, 13 of the 41 original cases were determined to have [no epidemiological](#) link to the market. However, [several](#) phylogenetic [analyses](#) conclude that the presumed spillover event occurred around early December.

**MCM DEVELOPMENT AND PHARMACEUTICAL PRODUCTION** [Efforts](#) are underway to develop a vaccine in record time. CEPI has granted more than \$12 million USD each to three companies currently investigating vaccine candidates. Moderna, based in Massachusetts, has partnered with the NIAID Vaccine Research Center to develop an mRNA platform vaccine. Inovio, based in Pennsylvania, is working on a DNA vaccine; both companies anticipate having enough vaccine ready to begin animal testing in one month. The third grantee, the University of Queensland in Australia, is using more traditional methods of producing viral protein from cell culture. If animal testing of these investigational vaccines demonstrate positive results, the companies will need to seek approval to begin phase 1 clinical trials. In the case of the Moderna candidate, clinical trials could potentially begin in as little as 3 months if they are able to leverage an existing NIAID vaccine trial network.

**SUPPLY CHAIN WORRIES** The spread of 2019-nCoV also threatens the global [pharmaceutical supply chain](#) . About 13% of facilities that manufacture pharmaceutical ingredients are located in China and about 80% of active ingredients used by commercial

entities to produce medicines come from the country. While many of these facilities are located far from Wuhan, if cities that produce pharmaceutical products are placed under cordon sanitaire, production and supply of these necessary ingredients could become constrained.

**HUBEI HEALTH SYSTEM STRESSED** The provincial government [reports](#) that 11,000 beds are available across 112 hospitals, and that suspected patients will be admitted for isolation unconditionally. However, reports of crowding and capacity issues in Hubei hospitals continue to appear. [SCMP](#) reports that suspected cases are being refused admission and are asked to self-isolate at home; [Hubei](#) is [coordinating](#) donations of medical supplies to help manage shortages. One [source](#) reports that a Chinese telemedicine service relying on more than 1,500 respiratory and infectious disease service has been inundated, with requests for consultations reaching 50 to 60 per minute. In other news, CGTN has [shared](#) a video (in English) of life in Wuhan under the cordon sanitaire.

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