

As number of cases soars, researchers announce potential coronavirus vaccine

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The Dow Jones continued posting gains on Wednesday, climbing 483.22 points (1.68 percent) to 29,290.85, erasing most of the losses last week that stemmed from fears of a significant global economic slowdown due to the coronavirus epidemic.

The markets appeared to rally in part on news that a potential vaccine for 2019-nCoV has been developed in the United Kingdom. Scientist Robin Shattock of Imperial College announced that they had made a breakthrough, claiming that it would “usually take at least two to three years before you even get to the clinic and we’ve gone from that sequence to generating a candidate in the laboratory in 14 days.”

The European Central Bank also predicted that the economic impact of the epidemic may be limited. The ECB stated that the interventions by both the US Federal Reserve and People’s Bank of China, to shore up the economic losses caused by an interruption in manufacturing, had provided the markets “belief that fiscal, monetary policy will blunt the impact of the virus outbreak.”

Drug companies responded to the market rise by cautioning that vaccine manufacturing is a slow, methodical process. Investments in vaccine developments are extremely costly, and, even if the process is accelerated, it can take upwards of 12 to 18 months to get approval.

Animal trials will only begin next week and human testing would not start until mid-year, providing animal studies prove effective and clinics can procure the necessary funding. As the researchers explained, the benefit to the vaccine is limited to the immediate epidemic. It could, however, prove to be tremendously beneficial if 2019-nCoV evolves into an influenza-like pandemic. Australian, American and Japanese clinics are also working on a vaccine to combat the new

coronavirus.

Researchers at Hong Kong University have confirmed that they have a vaccine ready for testing based on isolating the virus from the first imported case from Wuhan in China’s Hubei province, the city which is the epicenter of the outbreak. Professor Yuen Kwok-yung told a press conference: “We have already produced the vaccine, but it will take a long time to test on animals.” Without giving a specific timetable, he estimated human clinical trials would start in several months and it would be next year at least before it was safe to administer to patients.

Thailand, with 25 confirmed cases, has the largest number of infected patients outside of mainland China. Doctor Sirithavorn, the director-general of the Department of Disease Control, told reporters that they had recently discharged the sixth patient they had successfully treated with a combination of the anti-flu medication oseltamivir and the HIV anti-retroviral medications, Lopinavir and Ritonavir. At present, it is unclear how effective this unorthodox approach is, but, according to Dr. Kriangsak Atipornwanich who works at Rajavithi Hospital, a 70-year-old Chinese woman from Wuhan who was hospitalized for 10 days tested negative for the virus just 48 hours after being given treatment.

Since January 24, China has been conducting a randomized control clinical trial using this combination of flu and HIV medications. Hong Kong is also planning to test this drug regimen on their patients. The origin of this drug combination goes back to 2003 when preliminary studies had shown them to be effective, but testing was discontinued when the SARS outbreak subsided.

A second trial is being conducted using the experimental antiviral drug Remdesivir. The

medication was given to the 35-year-old Washington man who was the first confirmed case in the US. One day after taking the drug, his condition noticeably improved and by the fourth day, his fever had abated.

The drug, created by US-based pharmaceutical company Gilead, was developed as a treatment for the Ebola virus but did not prove efficacious. But in cell models, it can block SARS and MERS, as well as other coronaviruses found in animals. Testing in mice showed it was effective in fighting SARS and MERS infections. The drug is classified as a broad-spectrum antiviral drug that blocks the activity of proteins that assist in virus duplication.

Gilead is launching a larger clinical trial at Beijing's China-Japan Friendship Hospital, involving a group of 270 patients. Though it has not been approved by any regulatory agency, it has been permitted because of the safety testing it underwent in 2014 and 2015 with the Ebola virus.

Chinese president Xi Jinping made a rare public appearance on Wednesday to welcome visiting Cambodian Prime Minister Hun Sen. He told reporters, "China is confident and capable of containing the outbreaks." But he added, "Currently we are at the critical moment of controlling the epidemic. Offenses jeopardizing disease control, including resistance to control measures, violence toward medical staff, counterfeiting medical materials and the spreading of rumors must be severely curtailed."

As the world's largest exporter of intermediate manufactured products, China is in a race to resume production, as its earnings and growth have been drastically impacted by the outbreak and work stoppage. Of the 25 provinces in China, 21 have delayed work resumption until February 10 or later depending on the spread of the virus. In Hubei province, where the epidemic has been most severe, businesses are not expected to open until after February 14. Questions remain on how transportation will be arranged and what the implication of the resumption of work will have on controlling the epidemic.

Presently there have been 28,261 confirmed cases, of which 28,018 are in mainland China. Of the 565 fatalities, only two have taken place outside of the mainland. Though the fatality index for the epidemic is 2 percent, it is estimated to be above 3 percent in Hubei province. The difference most likely stems from the

way the epidemic has overwhelmed the health system and left medical professionals unable to provide adequate response and treatment to those in need.



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