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Opinion

Novel coronavirus is putting the whole world on alert

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The year of 2020 began with deep concern associated with the onset of a novel coronavirus outbreak in Wuhan, China. Coronaviruses have become associated with deadly respiratory infections in humans following the emergence of severe acute respiratory syndrome coronavirus (SARS-CoV) in Guangdong, China, during 2002, which affected 8098 people in 37 countries [1]. There then followed the Middle East respiratory syndrome coronavirus outbreak (MERS-CoV) [2]. While the world was still dealing with the MERS-CoV, another highly pathogenic coronavirus, currently named 2019-novel coronavirus (2019n-CoV), emerged in Wuhan, China. Similar to the transmission of SARS-

CoV and MERS-CoV, 2019n-CoV has also been reported to be transmitted to humans from wild animals, in this case in a wet market. However, whereas likely animal sources of SARS-CoV and MERS-CoV have been identified, the likely animal source of 2019n-CoV has yet to be confirmed [3]. Early in the 2019n-CoV outbreak it has become clear that the virus can be transmitted from human to human.

Due to the high rate of mortality and potential to cause further epidemics, it is necessary to develop therapeutic and preventive strategies. A group of Chinese scientists at the National Engineering Research Center for the Emergency Drug, Beijing Institute of Pharmacology and Toxicology, 100850, Beijing, China has started work on designing an effective drug against 2019n-CoV. Also, Rolf Hilgenfeld (University of Lübeck, Germany) has plans to test two compounds for their efficacy against 2019n-CoV. Furthermore, a research team in Shenzhen and Shanghai has already isolated the 2019n-CoV and developed the first candidate vaccine. The vaccine is said to be ready for trials next month.

A study reported that 2019n-CoV infection in most of the patients is associated with the onset of pneumonia and the development of complications including acute respiratory distress syndrome [4]. During the first 20 days of its outbreak, 2019n-CoV has caused the death of 106 individuals and has affected 4515 individuals. However, the number of affected people is rising by the hour. The infection has spread throughout China and has reached several other countries, thus creating global concern. To prevent the further spread of infection, the Chinese government has imposed a partial or full lockdown on approximately 60 million people including the inter-provincial bus services in Beijing and Shanghai. Other control measures have included cancellation of public events, including the new year festival, restrictions on human contact with wild animals, screening at airports, deployment

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of army medical units, and the construction of two emergency hospitals in Wuhan [5,6]. The hope is that the early implementation of these measures will be effective in preventing large-scale spread of the virus. According to the mayor Zhou Xianwang, at a press conference on January 26th, 2020, approximately five million residents left Wuhan for other provinces within China and thousands of people left Wuhan for other countries before the lockdown. Wuhan is home to a large number of immigrants, and thousands of international students in its 89 universities and colleges were also heading home for the holidays [7]. Therefore, we can expect this large-scale movement of people to lead to the outbreak spreading within China to other provinces, as well as to other countries. A large-scale programme to identify and screen exposed persons should help control the virus. However, this is a very challenging and time-consuming task; the Governments of China and other susceptible countries need to be on red alert and to design strategies for this and for future outbreaks of infection with novel viruses. In China and other countries this may necessitate more regulation around the retail market in wild animals.

The control of 2019n-CoV will remain challenging as travel restrictions are lifted and potentially infectious people begin to move around more. Screening at airports is one key control measure, but already one lady has managed to mask her symptoms and signs, evading coronavirus health checks at the airport [8]. It is not yet clear whether 2019n-CoV has the potential to cause a global pandemic. However, in the mean time, as well as the obvious concerns about the lack of specific treatment or a vaccine, the psychological and economic stresses resulting from control measures such as mass quarantining should not be underestimated. 2019n-CoV is perhaps the first novel infection with pandemic potential to emerge in the era of large-scale social media use. Authorities need to be mindful of both the potentially negative and positive impacts of social media in managing outbreaks of infection in the community.

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