

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

February 6, 2020

Kelvin Droegemeier
Director
White House Office of Science and Technology Policy
1650 Pennsylvania Avenue, NW
Washington, D.C. 20504

Dear Dr. Droegemeier:

Thank you for your letter regarding the current outbreak of a new respiratory virus, the 2019 Novel Coronavirus, or 2019-nCoV, which was first detected in Wuhan, China, and has now been reported in a growing number of locations worldwide, including the United States.¹ The request from OSTP is timely given the declaration of a public health emergency and potential for misinformation to confound the response.

In response to your request, we consulted leading experts² in the fields of virology, infectious disease genomics, genome sciences, epidemiology, microbiology, immunobiology, coronaviruses, emerging infections, biosecurity, and global health. We wanted their views about the data needs that could help elucidate the origin and evolution of 2019-nCoV.

Research studies to better understand the origin of 2019-nCoV and how it relates to viruses found in bats and other species are already underway.³ The closest known relative of 2019-nCoV appears to be a coronavirus identified from bat-derived samples collected in China.⁴ The experts informed us that additional genomic sequence data from geographically- and temporally-diverse viral samples are needed to determine the origin and evolution of the virus. Samples collected as early as possible in the outbreak in Wuhan and samples from wildlife would be particularly valuable. Understanding the driving forces behind viral evolution would help facilitate the development of more effective strategies for managing the 2019-nCoV outbreak and for preventing future outbreaks. In this regard, we understand from Chunli Bai, President, Chinese Academy of Sciences, and the Alliance of International Science Organizations (ANSO), that the Wuhan National Biosafety Laboratory of the Chinese Academy of Sciences is willing to share isolates of the 2019-nCoV with the international community and is working with the University of Texas Medical Branch and other international research institutions on the specifics for the sharing and distribution of the isolates. International collaboration of this kind is more important than ever to overcome these types of global challenges.

¹ “2019 Novel Coronavirus (2019-nCoV) Situation Summary.” *Centers for Disease Control and Prevention*, 3 Feb. 2020. https://www.cdc.gov/coronavirus/2019-nCoV/summary.html#anchor_1580079137454. Accessed 3 Feb. 2020.

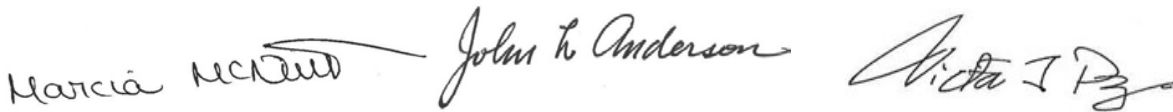
² Experts consulted: Kristian G. Andersen (Scripps Research Institute), Ralph Baric (UNC School of Public Health), Trevor Bedford (Fred Hutchinson Cancer Institute), Aravinda Chakravarti (New York University School of Medicine), Peter Daszak (EcoHealth Alliance), Gigi K. Gronvall (Johns Hopkins Bloomberg School of Public Health), Tom Inglesby (Johns Hopkins Center for Health Security), and Stanley Perlman (University of Iowa).

³ Latinne *et al.* “Origin and cross-species transmission of bat coronaviruses in China.” *Nature Communications*, in review.

⁴ Zhou *et al.* “A pneumonia outbreak associated with a new coronavirus of probable bat origin.” *Nature*, 2020. <https://doi.org/10.1038/s41586-020-2012-7> (2020).

The National Academies stand ready to assemble a committee of experts to examine these issues in more detail and provide evidence-based advice to you in an expedited manner if requested. We appreciate your trust in the National Academies and our efforts to advise the nation and inform public policy decisions.

Sincerely,

The image shows three handwritten signatures in black ink. From left to right: Marcia McNutt, John L. Anderson, and Victor J. Dzau. Each signature is written in a cursive, flowing style.

Marcia McNutt, President
National Academy of Sciences

John L. Anderson., President
National Academy of Engineering

Victor J. Dzau, President
National Academy of Medicine

cc: Secretary Alex M. Azar, Department of Health and Human Services