



MEMORANDUM

January 30, 2023

To: Members and Staff, Subcommittee on Oversight and Investigations

From: Majority Committee Staff

Re: Hearing on “Challenges and Opportunities to Investigating the Origins of Pandemics and Other Biological Events”

On Wednesday, February 1, 2023, at 2:00 p.m. (ET) in 2123 Rayburn House Office Building, the Subcommittee on Oversight and Investigations will hold a hearing entitled “Challenges and Opportunities to Investigating the Origins of Pandemics and Other Biological Events.”

I. WITNESSES

- Karen L. Howard, PhD, Acting Chief Scientist, Director of Science and Technology Assessment Science, Technology Assessment, and Analytics (STAA), U.S. Government Accountability Office (GAO);
- Tom Inglesby, MD, Director, Center for Health Security, Johns Hopkins Bloomberg School of Public Health;
- Asha M. George, DrPH, Executive Director, Bipartisan Commission on Biodefense;
- Gerald Parker, DVM, PhD, Associate Dean, College of Veterinary Medicine & Biomedical Services, Texas A&M University; and,
- Michael Imperiale, PhD, Arther F. Thurnau Professor, University of Michigan Medical School.

II. OVERVIEW

To date, the COVID-19 pandemic has potentially killed more than one million Americans and is estimated to have cost the U.S economy more than \$15 trillion dollars.¹ Moreover, government imposed lockdowns and school closures implemented as a result of the pandemic have negatively impacted people’s mental health and caused severe learning loss in children.² Americans will be living with the aftereffects of COVID-19 and the government response to COVID-19 for decades. Despite the immense damage caused by the pandemic, dispositive

¹ *COVID Data Tracker*, CDC, <https://covid.cdc.gov/covid-data-tracker/#datatracker-home> (last visited Jan. 26, 2023); see also David M. Cutler & Lawrence H. Summers, *The COVID-19 Pandemic and the \$16 Trillion Virus*, 324 (15) JAMA, 1495-96 (2020), doi:10.1001/jama.2020.19759.

² Cutler & Summers, *supra* note 1.

evidence as to the origins of SARS-CoV-2, the virus that causes COVID-19, remain elusive. Experts have put forward two dominant theories on the origins of the virus.³ The first theory is that SARS-CoV-2 is the result of a natural zoonotic spillover.⁴ The second theory is that the virus infected humans because of a research-related incident.⁵

It is increasingly urgent we avoid the difficulties encountered so far with investigating the origins of COVID-19 for future origin investigations because the risks of catastrophic biological incidents are rising. Pandemics and infectious disease outbreaks caused by the spillover of viruses from animals to humans are not a new phenomenon. Recent large-scale outbreaks include the emergence of Severe Acute Respiratory Syndrome (SARS) in China in 2002; the Middle East Respiratory Syndrome (MERS) in the Middle East in 2012; the recurring Ebola outbreaks in West Africa in 2014 and 2018; and the Zika outbreak in Latin America in 2015.⁶

Human infections from laboratory accidents with pandemic pathogens are also not a new phenomenon. Marburg virus was first discovered in 1967 after laboratory and vaccine workers in Germany and Yugoslavia fell ill with an unknown disease, subsequently linked to a shipment of infected green monkeys from Uganda. The 1977 influenza pandemic is now believed to be the result of either a laboratory or vaccine trial accident. SARS has escaped laboratory containment at least six times since it emerged in 2002. In November 2019, in Lanzhou China more than 6,000 people were infected with brucellosis when a vaccine manufacturer failed to use sufficiently strong disinfectant before discharging waste gas. Notably, there have been at least two reported laboratory-acquired infections of SARS-CoV-2, one in Taiwan and a second in Beijing.

What has changed is the speed at which what was once a localized outbreak or escape can become a major biological incident and even a global pandemic.⁷

III. BACKGROUND

In June 2021, the Republican members of this Committee requested that the GAO conduct a technical assessment to help Congress understand what technologies and capacities United States needs to be better prepared to investigate quickly disease outbreaks and biological incidents as part of a larger pandemic preparedness and response strategy.

In response to the Committee's request, GAO reviewed the effectiveness of pandemic preparedness technologies, particularly in determining a pandemic's likely origin. To this end, GAO conducted a scientific literature search and reviewed selected scholarly documents, including reports from the Centers for Disease Control and Prevention, Office of Director of

³ WHO Scientific Advisory Group for the Origins of Novel Pathogens (SAGO): preliminary report, 9 June 2022. Geneva: World Health Organization; 2022, <https://cdn.who.int/media/docs/default-source/scientific-advisory-group-on-the-origins-of-novel-pathogens/sago-report-09062022.pdf>

⁴ *Id.*

⁵ *Id.*

⁶ *Major Epidemics of the Modern Era*, Council on Foreign Relations, available at <https://www.cfr.org/timeline/major-epidemics-modern-era>.

⁷ Rachel E. Baker et al., *Infectious Disease in an Era of Global Change*, 20 *Nature Reviews Microbiology*, 193, 193 (2020), available at <https://www.nature.com/articles/s41579-021-00639-z>.

National Intelligence, Johns Hopkins Center for Health Security, World Health Organization, and select national laboratories; interviewed government, industry, and academic representatives; and convened a meeting of twenty-seven experts in March 2022 with assistance from the National Academies of Science, Engineering and Medicine.⁸

IV. DISCUSSION

GAO found that in addition to specific technology limitations, researchers encountered three primary challenges at various stages in the pandemic origin investigation process.⁹ Specifically, GAO found a:

- Lack of sufficient access to samples and genetic sequence data,
- Lack of standardized processes for submitting, accessing, and using genetic sequence data stored in databases around the world, and,
- Lack of a sufficient skilled, interdisciplinary workforce.

GAO identified five policy options for Congress, federal agencies, state and local governments, academic and research institutions, industry, and international organizations.¹⁰

- Improve access to samples and genetic sequence data, including establishing comprehensive multilateral and global agreements for accessing and sharing genetic sequence samples and data in advance of future outbreaks.
- Establish a working group that would develop standard processes for database use to support pandemic origin investigations.
- Policymakers could encourage the improvement of current, or development of new, genetic sequence database tools.
- Build a sufficient, skilled, interdisciplinary workforce with the critical skills needed to conduct or support the work of characterizing the likely origin of a pandemic.
- Create a national strategy that specifically addresses pandemic origin investigations.

V. ISSUES

The following issues may be examined at the hearing:

- What are the areas of expertise needed in pandemic origin investigations?

⁸ U.S. Gov't Accountability Office, *Pandemic Origins: Technologies and Challenges for Biological Investigations*, GAO-23-105406 (Jan. 2023).

⁹ *Id.*

¹⁰ *Id.*

- How will developing standard processes for genetic sequence database use help support pandemic origin investigations?
- What would a national strategy on pandemic origin investigations look like?
- How can we create a workforce to improve pandemic preparedness given the fluctuating nature of pandemics?
- What measures can be enforced to protect researchers, academics, and other professionals who offer controversial findings and conclusions on origin investigations from workplace criticism and retaliation?

VI. STAFF CONTACTS

If you have any questions regarding the hearing, please contact Alan Slobodin or John Strom at (202) 225-3641.