

Examining Biosecurity at the Intersection of AI and Biology

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Summary

We will almost certainly experience additional pandemics in our lifetime, particularly as artificial intelligence and other new technologies lower the barriers to creating or modifying pathogens with pandemic potential. Many aspects of pandemic preparedness are the same whether a novel pathogen originated in a laboratory or a zoonotic source. Regardless of how and where the next pandemic starts, America must be ready to respond.

Despite extensive experience with COVID-19, I believe the United States is now less capable of responding to emerging pathogens—regardless of their origin—than it was at the outset of the pandemic in 2020.

This testimony highlights three principal areas in which this administration has weakened pandemic preparedness:

1. Staffing and funding cuts to federal, state, and local public health infrastructure
2. Departure from evidence-based vaccine policy, undermining confidence in vaccines and federal guidance
3. Reductions in scientific research funding, stifling innovation critical to responding to novel pathogens

Statement

Background

My name is Fiona Havers, and I am a physician who served for 13 years as a medical officer at the Centers for Disease Control and Prevention before resigning in June 2025. At CDC, my work focused primarily on the epidemiology, prevention, and treatment of respiratory pathogens, including novel influenza viruses and, more recently, SARS-CoV-2.

I have worked on multiple emergency outbreak responses, including deployments to China during the avian influenza A(H7N9) outbreak and to Liberia in 2014 during the Ebola epidemic. Beginning in early 2020, I joined the CDC COVID-19 Emergency Response, initially leading CDC's large-scale seroprevalence studies designed to estimate the extent of mild or asymptomatic infections in the U.S. population in the early months of the pandemic.¹

From January 2021 until my resignation in June 2025, I was the COVID-19 and RSV lead for the Respiratory Virus Hospitalization Surveillance Network,² a large disease tracking system that is a partnership between CDC and 14 state and local health departments. This system played—and continues to play—a critical role as a source of timely data for the public, public health professionals, and clinicians on severe respiratory illnesses, informing clinical guidance, targeted interventions, and vaccine policy decisions.

I am also a practicing physician, board certified in internal medicine and infectious diseases, and I served as a frontline healthcare worker during the 2009 influenza A(H1N1)pdm09 and COVID-19 pandemics.

No matter if the next pandemic is lab-engineered or zoonotic in origin, America must be equipped to act swiftly. To do this, it needs a robust public health infrastructure, evidence-based policies grounded in science, strong scientific leadership and support for developing innovative tools to protect American lives. I am here as a physician, scientist, and public health professional to speak in my personal capacity about my concerns that recent changes made by this administration have undercut biosecurity and pandemic preparedness in the United States.

Loss of Expertise, Leadership, and Credibility at the Centers for Disease Control and Prevention

A robust federal response to a pandemic will rely on existing public health systems to detect, assess, and respond to emerging threats. Since this administration began, thousands of CDC experts have been fired, forced out, or have resigned or retired early, including many senior CDC leaders with experience managing past public health emergencies.

Not only have subject matter experts in specific diseases left the agency and critical programs been cut or weakened, but those with functions not directly tied to infectious disease response have also been affected in ways that make us less prepared for future crises. For example, many communication staff—critical to shaping accurate public messaging during emergencies—have been fired from CDC, and multiple branches have been abolished at the National Institute for Occupational Safety and Health (NIOSH), which plays key roles in overseeing personal protective equipment for frontline workers during a pandemic. Funding and staffing cuts to seemingly unrelated parts of the agency—for example, divisions focusing on chronic diseases—mean that CDC is less able to mobilize staff and resources to pivot during a largescale emergency response.

Weakening of State and Local Public Health

The administration has also weakened state and local public health departments. It attempted to claw back billions in funding from state and local health departments that was intended to build public health capacity, including improving surveillance, modernizing data systems, and strengthening targeted community interventions.³ Weakening state and local public health infrastructure that has depended heavily on funds, coordination and technical support from CDC reduces visibility into emerging threats and diminishes our ability to contain outbreaks or implement life-saving countermeasures once a pandemic begins.

Withdrawal from the International Community and Cuts to Global Health

The next pandemic could emerge from anywhere. Withdrawal from the World Health Organization and the broader global scientific community, along with cuts to USAID and global health initiatives, have reduced our ability to detect and monitor novel pathogens abroad. CDC has already experienced decreased capacity to monitor global changes in circulating SARS-CoV-2 and influenza viruses.

Reduced international cooperation could delay identification of emerging threats until they are too widespread to contain or delay mitigation efforts such as vaccine development for novel viruses.

Undermining of Evidence-Based Federal Vaccine Policy

Vaccines will be a critical tool in responding to the next pandemic. Operation Warp Speed—the federally-led mobilization of academia, industry, and government to develop COVID-19 vaccines— was a triumph of the first Trump administration that saved millions of lives by enabling vaccine development, testing, and deployment within a year of identifying a novel virus.

Unfortunately, HHS leadership has taken steps that severely hinder our ability to rapidly develop, evaluate, and deploy vaccines in future pandemics. One of the most obvious ways it has done this is by dismantling the federal government’s capacity to make evidence-based vaccine recommendations.

On June 9, 2025, Secretary Kennedy fired all members of the Advisory Committee on Immunization Practices (ACIP), the independent expert body whose recommendations, after approval by the CDC Director, become official U.S. vaccine policy. This action led directly to my decision to resign from my position at CDC, which I did one week later. My team and I had spent countless hours preparing data for ACIP meetings to inform votes on COVID-19 and RSV vaccines, and I was scheduled to present publicly to this committee on COVID-19 hospitalizations at an upcoming public meeting. When ACIP committee members were fired, I no longer had confidence that the data would be evaluated objectively or with appropriate scientific rigor. I was unwilling to lend the appearance of scientific credibility to a committee that I knew was likely to promote unscientific, dangerous, and false information about vaccines.

Unfortunately, my concerns about the damage to federal vaccine policy were justified by what has happened to ACIP and CDC since June. Secretary Kennedy appointed multiple individuals to ACIP who have publicly espoused anti-vaccine and conspiracy theories. Transparency has decreased as liaison organizations such as the American Academy of Pediatrics and American Medical Association are no longer permitted to attend ACIP Work Group meetings,⁴ career CDC subject matter experts have been sidelined, and the committee has abandoned its long-standing

evidence-based review processes. The committee held public meetings marked by presentation of false or misleading information and cherry-picked data, and those meetings were used to stoke unfounded fears about vaccine safety.

ACIP has now issued potentially harmful recommendations, including confusing COVID-19 vaccine recommendations and a recent vote to no longer recommend that all infants routinely receive a dose of the hepatitis B vaccine at birth.⁵ This change is opposed by the American Academy of Pediatrics⁶ as well as other major medical and professional societies. If hepatitis B is acquired during infancy or childhood, it has a high likelihood of becoming a chronic, lifelong infection that can lead to liver failure, liver cancer, and premature death. This policy change will likely result in the preventable loss of life among children and young adults in the decades to come.

Federal Vaccine Policy No Longer Trusted

Pediatricians and other primary care clinicians had previously relied on the CDC immunization schedule, confident that it reflected a rigorous, evidence-based process with input from and endorsement by major professional societies such as the American Academy of Pediatrics. That confidence has been eroded as this administration has hijacked CDC resources to spread misleading information about vaccines and vaccine safety that were not approved or cleared by career CDC scientists.⁷ As a result, CDC's scientific credibility has been damaged, leading to a broader loss of trust among clinicians, the medical and scientific community, and the public.

Clinicians are forced to turn to other sources for reliable information and must then explain to an already confused and mistrustful public why they are recommending vaccines that differ from CDC guidance. This fragmentation of guidance further undermines public confidence and complicates clinical decision-making. In the event of a future pandemic, the loss of confidence in CDC guidance will prevent Americans from acting on the best available information and may cost lives.

The erosion of trust in CDC vaccine policy has consequences beyond clinical practice. It undermines trust between state and local health departments and federal agencies, which may make state and local officials increasingly reluctant to follow CDC recommendations in other areas or share data with CDC when they do not trust that it will be used appropriately. This

reluctance will weaken disease surveillance and reduce overall visibility into future potential pandemic threats.

Scientific Decision-Making During Future Pandemics

During a pandemic, we need to act, often making decisions with incomplete information. The safety risks of a rapidly produced vaccine must be weighed against the risks posed by a novel pathogen. I witnessed many careful, evidence-based deliberations among experts on the ACIP COVID-19 Work Group and within CDC as they weighed the risks of new vaccines against the benefits of protecting the American public from a virus that, at the height of the pandemic, was killing thousands of Americans each day.⁸ Those experts have now been sidelined, and the move away from evidence-based recommendations means that even if a safe and effective vaccine were developed, lives would likely be needlessly lost because of low vaccine uptake.

Many of the tools we would use to mitigate the next pandemic are the same tools we use to combat infectious diseases we currently contend with. More than 1,900 cases of measles have been reported in 2025.⁹ Decades of anti-vaccine activism contributed to declining vaccination rates, allowing measles—a disease officially eliminated in the United States in 2000¹⁰—to resurge, despite the availability of safe and highly effective vaccines since the 1960s. If this administration is unable to control ongoing measles outbreaks, it is an indication that we are unprepared to confront a novel pathogen in a future pandemic.

Undermining Scientific Innovation Critical to Pandemic Preparedness

This administration has also cut scientific research investments critical to pandemic preparedness. mRNA vaccines remain one of the most powerful tools for rapidly developing vaccines against novel pathogens; however, this administration has pursued an unwarranted campaign against mRNA technology. It cut \$500 million in funding for mRNA research,¹¹ including funding for an mRNA avian influenza A(H5N1) vaccine,¹² directly undermining U.S. preparedness for a virus with known pandemic potential.

More broadly, cuts to NIH funding have slowed scientific innovation, diminishing our ability to develop countermeasures against emerging threats. At the same time, the FDA regulatory process has been destabilized by unclear and shifting clinical trial requirements, making it harder for

manufacturers to understand expectations and likely slowing the development of vaccines and therapeutics needed to protect Americans in future pandemics.

Closing

In addition to my public health experience, in my role as a physician, in May 2020, I watched as patients died of COVID-19 in overcrowded ICUs, while I carried my N95 mask in a brown paper bag during PPE shortages and isolated from my husband and child to protect them from exposure to a virus we knew little about. I felt profound relief when I was vaccinated in early 2021.

The human toll of the COVID-19 pandemic is still being assessed, and the next pandemic—whether it originates in a laboratory or from a zoonotic source—could be far worse than COVID-19. The United States is now less able both to prevent emerging pathogens from spreading globally and, once a pandemic begins, to mitigate its impact. This administration has driven out experienced experts, cut funding for critical scientific and public health infrastructure, undermined confidence in vaccines and CDC recommendations, reduced investment in scientific innovation, pulled back from global partners, and eroded trust in federal institutions and processes.

Biosecurity and pandemic preparedness are bipartisan issues. I urge the members of this Committee to exercise their oversight authority to halt the ongoing dismantling of our scientific and public health institutions, restore true scientific leadership at CDC and other agencies overseen by HHS, and ensure that the United States is equipped to confront biosecurity threats and is prepared for the next pandemic.

¹ Havers FP, Reed C, Lim T, et al. Seroprevalence of antibodies to SARS-CoV-2 in 10 sites in the United States, March 23–May 12, 2020. *JAMA Intern Med.* 2020;180(12):1576–1586;

² Centers for Disease Control and Prevention. Respiratory Virus Hospitalization Surveillance Network (RESP-NET). <https://www.cdc.gov/resp-net/dashboard/index.html>. Accessed December 14, 2025.

³ CBS News. Trump administration to cut \$11.4 billion in COVID funding from local health departments. March 26, 2025. <https://www.cbsnews.com/news/trump-administration-covid-funding-local-health-departments/>. Accessed December 14, 2025.

⁴ American Medical Association. Statement from ACIP Medical Association Liaisons on ouster from vaccine review. August 1, 2025/ <https://www.ama-assn.org/press-center/ama-press-releases/statement-acip-medical-association-liaisons-ouster-vaccine-review>. Accessed December 14, 2025.

⁵ Centers for Disease Control and Prevention. ACIP recommends individual-based decision-making for hepatitis B vaccine for infants born to women who test negative for the virus.

<https://www.cdc.gov/media/releases/2025/2025-acip-recommends-individual-based-decision-making-for-hepatitis-b-vaccine-for-infants-born-to-women.html>. Accessed December 14, 2025.

⁶ American Academy of Pediatrics. Hepatitis B immunization is critical to protect all newborns.

<https://www.aap.org/en/news-room/news-releases/aap/2025/hepatitis-b-immunization-is-critical-to-protect-all-newborns/>. Accessed December 14, 2025.

⁷ Sheryl Gay Stolberg. Kennedy Says He Told C.D.C. to Change Website’s Language on Autism and Vaccines. *New York Times*. November 21, 2025. <https://www.nytimes.com/2025/11/21/us/politics/rfk-jr-cdc-vaccines-autism-website.html>. Accessed December 14, 2025.

⁸ The COVID Tracking Project. National Data: Deaths. <https://covidtracking.com/data/national/deaths>. Accessed December 14, 2025.

⁹ Centers for Disease Control and Prevention. Measles cases in 2025. https://www.cdc.gov/measles/data-research/index.html#cdc_data_surveillance_section_10-measles-cases-in-2025. Accessed December 14, 2025.

¹⁰ Centers for Disease Control and Prevention. History of measles cases. https://www.cdc.gov/measles/data-research/index.html#cdc_data_surveillance_section_6-history-of-measles-cases. Accessed December 14, 2025.

¹¹ U.S. Department of Health and Human Services. HHS winds down mRNA vaccine development under BARDA. August 5, 2025. <https://www.hhs.gov/press-room/hhs-winds-down-mrna-development-under-barda.html>. Accessed December 14, 2025.

¹² Wingrove, Patrick. “US Cancels More than \$700 million funding for Moderna for bird flu vaccine. *Reuters*. May 29, 2025. <https://www.reuters.com/business/healthcare-pharmaceuticals/us-cancels-more-700-million-funding-moderna-bird-flu-vaccine-2025-05-28/> Accessed December 14, 2025.