Protecting Americans Against Biological Threats

Modernizing Surveillance

KEY TAKEAWAYS

1. Americans today face greater risks from biological threats than at any time this century. Since 1996, multiple strategies have recommended changes to federal and state biological risk mitigation measures; few have been implemented. The resulting sustained vulnerability has been compounded in 2025 by severe cuts in budgets, staff, and programs.
2. In order to protect the American people, the U.S. economy, and the nation, the United States needs early detection and real-time situational awareness of emerging biothreats to rapidly mobilize production and distribution of diagnostics, therapeutics, protective equipment, vaccines, and other measures.
3. This will not happen unless Congress authorizes and funds a National Integrated BioThreat Surveillance System—a modernized domestic and global surveillance system. This system would integrate relevant data from federal departments and agencies, state and local authorities, industry, and international partners, leveraging new technology and enhanced data interoperability.

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This is the first in a series of four briefs about making the United States safer against rising biological threats.

BACKGROUND AND CONTEXT

President Trump's 2018 National Biodefense Strategy identified multiple vulnerabilities and recommended actions to manage the risk of biological incidents and bolster U.S. national security. The April 2025 State Department assessment of compliance with the Biological Weapons Convention (BWC) noted that Russia and North Korea unquestionably have such programs, and "The United States does not have sufficient information to determine whether China has fulfilled its BWC obligation to eliminate its assessed historical biological warfare program." Since then, the risk of deliberate biological threats has grown, fueled by AI and the rapid evolution of computational capacity and biotechnological tools. The risk of accidental biological threats has grown due to the proliferation of domestic and global labs conducting research on highly contagious pathogens. Meanwhile, the frequency and severity of naturally occurring biological threats is increasing.

In 2025, the United States cut multiple civilian and military biodefense programs, reducing its core capabilities amid increasing biothreats. Surveillance, the first goal in every biodefense strategy, has been chronically deficient and has dangerously declined. Comprehensive risk awareness requires capabilities that capture the full spectrum of biological threats to humans, animals, and plants. The U.S. Centers for Disease Control and Prevention (CDC) and U.S. Department of Agriculture (USDA) play essential roles in monitoring civilian health security threats, including through support of and funding to state, local, tribal, and territorial (SLTT) jurisdictions. The CDC Data Modernization Initiative has made significant strides to enable real-time data sharing from hospitals and care centers across the country, lowering the cost and reporting burdens borne by health care providers. The Department of Defense plays a critical role in surveilling for threats to men and women in uniform. Without these surveillance systems, the United States risks being too slow to detect and contain the next inevitable biological threat.

LEGISLATIVE OR POLICY IMPLICATIONS

There is a path forward to protect Americans—with bipartisan congressional action, the Trump administration could be the first administration to successfully deliver comprehensive biodefense to ensure we have a healthy population who will sustain a robust economy, which in turn funds our national security. Congress can enhance U.S. preparedness for and resilience against future biological threats by authorizing and appropriating funds for departments and agencies with jurisdiction over biosurveillance through the National Defense Authorization Act (NDAA), the Pandemic and All-Hazards Preparedness Act (PAHPA),

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the Department of State Policy Provisions Act, and several bills derived from the National Security Commission on Emerging Biotechnology recommendations.

The president's new National Security Strategy and the recently published America First Global Health Strategy and America's AI Action Plan are relevant; President Trump stated that his administration will "Protect the country, its people . . . its economy . . . from any . . . threats to our nation. . . . We want a resilient national infrastructure that can prevent or mitigate any events that might harm the American people or disrupt the American economy." The president has not yet directed updates to the National Biodefense Strategy.

CHALLENGES AND RISKS

Bioweapons and other biological events are a real and present risk to U.S. national security, the economy, and the health of the American public.

Chronic Fragmentation: Surveillance and forecasting efforts are stove-piped across the Centers for Disease Control and Prevention (CDC); the former bio unit at the Office of the Director for National Intelligence (ODNI); animal and plant centers within the USDA; Biowatch, a legacy system deployed after the anthrax attacks in 2001 and last updated in 2011; military surveillance and intelligence capabilities, which rightfully prioritize warfighting requirements; and surveillance data from the Veterans Health Administration. Data from commercial partners is rarely utilized. Existing data is poorly integrated, and recent actions have further reduced surveillance capacity and capabilities.

Outdated Capabilities: The U.S. government still relies on faxes to share some public health data and has insufficiently leveraged emerging technologies and industry capabilities. AI will augment existing surveillance systems. Data from the health care industry, personal wearable devices, and social media can provide early signals of an emerging outbreak. The same is true of expanded wastewater sampling at overseas embassies, military installations, airports, and other U.S. locations; advanced molecular detection; and new computational, AI, and open-source intelligence tools.

Increased Blindness to the Global Picture: The U.S. withdrawal from the World Health Organization (WHO) significantly decreases access to essential global surveillance data, including a 60 percent reduction in international samples. The WHO has implemented almost all of President Trump's reforms, opening the door to negotiation of a new U.S.-WHO partnership. The 2025 America First Global Health Security Strategy relies on rapidly concluding new, bilateral agreements with key partners, including to enhance access to biosurveillance data.

RECOMMENDATIONS

Congress and the executive branch should ensure the following:

1. The National Security Council should include a senior directorate for biological preparedness and response with budget approval authority similar to the ODNI, which will synchronize interagency biosurveillance activities and assessments.
2. The ODNI should reinstitute an office that analyzes and disseminates biological threat intelligence and expedites annual assessments of evolving risks related to rapidly advancing biotechnological, AI, and computational enhancements.
3. All federal departments and agencies that collect and analyze biosurveillance data should institute measures that enhance data protection to enable rapid sharing, including with the CDC, which will serve as the lead agency to integrate this data to inform decisionmakers and verified users at the national and SLTT levels.
4. Biowatch should be decommissioned. The CDC should establish a National Integrated Biothreat Surveillance System that augments existing legacy systems, including the Bio-Threat Radar, the national wastewater surveillance system, metagenomic next-generation sequencing, and traveler-based genomic surveillance. That integrated system will develop, deploy, and sustain emerging biotechnologies that enhance biosurveillance.
5. The Department of State should be required and resourced to negotiate strategic technical cooperation as well as data and sample sharing between U.S. and international partners, including the WHO. It should maintain and resource CDC country and regional offices and put in place mechanisms to surge support during outbreaks.

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