

Preventing the Next Global Biological Catastrophe

The United States should support and fund new global platforms and capabilities to improve pandemic preparedness, reduce biotechnology risks, and decrease the likelihood of a globally catastrophic biological event.

There is little doubt that on Inauguration Day in January 2021, the United States and the world still will be struggling to contain the catastrophic human and economic effects of the COVID-19 pandemic. Even as work continues to develop and distribute a safe and effective vaccine and to rebuild economies, U.S. and global leaders also must focus on strengthening capabilities to prevent, prepare for, and respond to the next high-consequence biological event. It likely will not be anywhere near 100 years in coming. Our interconnected world means events on the scale of—or even worse than—COVID-19 could develop any time, and they could come from a naturally emerging pathogen, laboratory accident, or deliberate misuse by state or non-state actors. Indeed, in the latter cases, COVID-19 may have shown the way.

Strengthening International Preparedness for Biological Events

The COVID-19 pandemic has illustrated just how poorly prepared the world was to handle a pandemic at a time when biological threats are increasing. Now and for the future, the security of the United States depends substantially on other countries being prepared and on strong global institutions. The World Health Organization (WHO) must be strengthened to combat the ongoing global COVID-19 pandemic and to get ahead of the next pandemic—or worse, a global catastrophic biological event of even greater proportions.

Terminating the U.S. relationship with the WHO will significantly impair the international response to the COVID-19 pandemic, cause needless deaths globally, threaten American and global health, and undermine international security.

To complement WHO leadership, the world urgently needs a robust, dedicated global health security funding mechanism to catalyze and accelerate investments needed to help prevent the next pandemic. Despite slow, incremental progress made during crises—such as the 2001 anthrax attacks, 2009 H1N1 flu pandemic, and 2014 West African Ebola epidemic—most countries are still unprepared for a major biological event, and no mechanism has been created to finance identified gaps. Leading by example, the United States must work to secure sustained support from heads of state so that countries prioritize biological threat preparedness as an international security imperative and work together to build a United Nations system that is in a stronger position to help coordinate a global response.

Recommendations

- **Rescind U.S. withdrawal from the WHO:** Terminating the U.S. relationship with the WHO will significantly impair the international response to the COVID-19 pandemic, cause needless deaths globally, threaten American and global health, and undermine international security. The WHO provides needed testing and protective gear to safeguard citizens and health workers around the world, promotes research and development toward vaccines for the world's deadliest diseases, and enables external assessment of country capacity for biosecurity, disease detection, and emergency response. Instead of walking away from the WHO, it
- is in the United States' interest to strengthen the WHO's ability to reduce biological risks, detect threats early, and respond rapidly and effectively.
- **Call for and support a 2021 heads-of-state summit on biological threats:** Given the enormous global gaps in preparedness for high-consequence biological threats, a heads-of-state-level summit, chaired by the United Nations (UN) Secretary-General in coordination with the WHO and other relevant UN entities, would create political will for sustainable health security financing and international emergency response capabilities. U.S. support for and participation in this summit is critical to advance global health security priorities worldwide, force high-level attention on this issue, and work to rebuild the international system for future threats.
- **Promote the establishment of a Global Health Security (GHS) Challenge Fund and work with Congress to provide a significant U.S. investment:** A new dedicated, catalytic financing mechanism would prioritize and help close the massive global gaps in pandemic preparedness, disburse loans and grants that are managed within a country's national budget, and be administered over an agreed period of time to increase country accountability and create a sustainable way to shift accounting lines away from donor balance sheets to national budgets. This fund would complement the WHO and other development banks and institutions, leveraging and building on

efforts to evaluate country preparedness by providing a financial and political incentive to governments to address their preparedness gaps. U.S. leadership and significant financing will catalyze multi-sectoral global investment and prioritization.

Reducing Biotechnology Risks

Scientific advances in the life sciences, like DNA synthesis and gene editing, are outpacing the ability of governments to provide effective oversight. As a result, there is an uneven patchwork of security and safety practices across researchers, facilities, countries, and regions. Laboratories around the world already are capable of creating and modifying dangerous viruses, and widespread use of bench-top DNA synthesis technology is just around the corner. A key barrier to developing globally scalable solutions that reduce these urgent biological risks is a lack of incentives and coordination among funders, companies, research institutions, and publishers to promote adequate biosecurity measures.

Recommendation

- **Support the launch of a Dedicated Global Entity Focused on Reducing the Risk of Biotechnology Catastrophe:** Although biotechnology promises to transform American health and society, no global governance approaches exist to identify and reduce biotechnology risks arising from quickly

expanding international biotechnology capabilities. A new, dedicated organization would create a platform to extend American biosecurity practices to a global audience while facilitating the development of novel multi-sectoral approaches and incentives that catalyze companies, researchers, funders, investors, publishers, insurers, and other stakeholders to urgently reduce biotechnology risks.

Mitigating Global Catastrophic Biological Threats

COVID-19 has demonstrated the need for strong international institutions to rapidly detect, identify, and respond to disease outbreaks wherever they arise. In the absence of such mechanisms, fear, mistrust, disinformation campaigns, and confusion inevitably follow, with major potentially negative impacts on human health and global security. The United States and international community lack a robust system for maintaining transparency and building confidence around bioscience research and development. Ongoing transparency efforts are critical for reducing the risk of dangerous misperceptions and suspicions about country capabilities and government intentions, which could inadvertently foster bioweapon arms race dynamics among nations.

Measures to reduce these risks should include the development of an internationally credible, transparent, and science-based mechanism to rapidly investigate the source of an outbreak

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of unknown origin during a crisis. Partners in academia, industry, and the international community will be critical in developing and piloting enhanced transparency measures to build trust and increase clarity about national bioscience and biotechnology research and development enterprises in the United States and around the world.

Recommendations

- **Advocate for the establishment of a permanent UN facilitator and unit within the Office of the UN Secretary-General dedicated to responding to high-consequence biological events:** The Office of the UN Secretary-General, working in concert with the WHO, the UN Office for the Coordination of Humanitarian Affairs, and the UN Office for Disarmament Affairs, should designate

a permanent facilitator and unit to address high-consequence biological events with the potential to overwhelm the capacities of the current international epidemic response architecture and result in mass casualties.

- **Strengthen international capabilities to rapidly investigate biological events of unknown origin:** The United States must work with the UN Secretary-General to strengthen UN mechanisms for determining the source of a biological event regardless of origin. These capabilities will need to rely on a robust international laboratory network and effective integration into public health or law enforcement responses upon outbreak attribution.



This is one of two papers prepared by the Nuclear Threat Initiative for the next U.S. administration. Find the papers on nuclear policy and biosecurity at www.nti.org/priorities



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