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*Council Special Report No. 97*  
*September 2023*

# Negotiating Global Health Security

*Priorities for U.S. and Global Governance  
of Disease*

Yanzhong Huang and Rebecca Katz

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# FOREWORD

Since its emergence in late 2019, the COVID-19 pandemic has caused nearly seven million deaths worldwide along with global economic disruptions on a scale not seen since the Great Depression. In the United States alone, more than a million lives have been lost, and following extended lockdowns, travel restrictions, school and business closures, and more, an estimated \$14 trillion-worth of damage will have been dealt to the domestic economy by the end of this year.

On one hand, by historical standards, the response to COVID-19 was quick and effective. The development and approval of new vaccines, diagnostics, and therapeutics occurred at an unprecedented pace. On the other hand, the failure to anticipate and prepare for the pandemic, together with serious challenges around the equitable distribution of medical countermeasures, underscored significant gaps in the global health architecture.

This was despite the fact that for years, prominent voices had warned of the likelihood of an imminent pandemic, especially after coronavirus outbreaks had struck China and the Middle East earlier this century. Yet, in the face of geopolitical tensions, misinformation, and the mounting human and economic toll, countries not only were caught flat-footed regarding their capacities to detect, contain, and neutralize the virus, but they also began to pursue disparate policies that made it more difficult to respond with maximum effect.

It is not particularly surprising that countries favored what they viewed as short-term national interests at the expense of international cooperation, but it does underscore the need to strengthen global health governance at a time when a series of interrelated threats poses serious risk to human life and well-being, as well as the functioning of the global economy.

Yanzhong Huang, senior fellow for global health at the Council on Foreign Relations, and Rebecca Katz, a professor and director of the Center for Global Health Science and Security at Georgetown University, have laid the groundwork for addressing that dilemma in global health governance. Their report is a crucial primer on the central risks to health security around the world, ranging from climate change to biotechnological innovation; the gaps in governance mechanisms revealed by the pandemic, including in disease surveillance and vaccine development and delivery; and the status of current diplomatic and financing efforts to address those gaps, which remain inadequate.

What is more, the authors supplement those observations with a host of thoughtful policy proposals to enhance the synergy of global efforts despite an uncertain geopolitical landscape. Global capabilities, they emphasize, should be improved by strengthening foundational country-level capacity, undertaking new investments and modes of collaboration in producing medical countermeasures, and properly resourcing regional public health centers. Moreover, they call for a harmonized framework that prioritizes controlling zoonotic spillovers, combats misinformation, and emphasizes biosecurity risks alongside innovation. Lastly, they advocate for investing in diplomatic efforts toward a global health *détente*, fostering inclusion through multilateral platforms, and encouraging cooperation from diverse partners—including from civil society and academia—to mitigate geopolitical tensions.

Of course, many complex questions lie still ahead, including on whether governance regimes can be reimagined to better mobilize private firms and philanthropies, which are becoming increasingly formidable public health actors in their own right. But this report provides an essential first step in clarifying and targeting the most immediate concerns in global health security today. As world leaders gather for this month's High-Level Meeting on Pandemic Preparedness and Response at the United Nations, they would be wise to listen.

**Michael Froman**

*President*

Council on Foreign Relations

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**Yanzhong Huang and Rebecca Katz**

# *LIST OF ACRONYMS*

AI	artificial intelligence
AMR	antimicrobial resistance
BARDA	Biomedical Advanced Research and Development Authority
BWC	Biological and Toxin Weapons Convention
CBD	Convention on Biological Diversity
CEPI	Coalition for Epidemic Preparedness Innovation
COVAX	COVID-19 Vaccine Global Access
DSI	digital sequence information
G7	Group of Seven
G20	Group of Twenty
GDP	gross domestic product
GLEWS	Global Early Warning System
GSD	genetic sequence data
IHR	International Health Regulations
IHR MEF	IHR Monitoring and Evaluation Framework
IHRMT	IHR Monitoring Tool
IPR	intellectual property rights
JEE	Joint External Evaluation
NTI	Nuclear Threat Initiative
PIP	Pandemic Influenza Preparedness
PPE	personal protective equipment
SARS	Severe Acute Respiratory Syndrome
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UNSGM	UN Secretary-General's Mechanism for Investigation of Alleged Use of Chemical and Biological Weapons
WHA	World Health Assembly
WHO	World Health Organization
WTO	World Trade Organization





# INTRODUCTION

In 2002, a new coronavirus emerged in China, eventually named Severe Acute Respiratory Syndrome (SARS). Within months, it spread around the world, infecting more than eight thousand individuals, highlighting the challenges associated with the global governance of disease, and leading to calls for strengthened regulatory frameworks for global health security. At the end of the SARS outbreak, the World Health Organization (WHO) wrote that it had good reason to believe that if SARS or a similar coronavirus reemerged, the global harms would be milder. Public health communities would know how to identify and mitigate outbreaks, research would rapidly yield better control tools, the WHO and global governance regimes would be appropriately strengthened, and countries would have learned that concealing cases is unwise.<sup>1</sup>

Unfortunately, many of these predictions did not come true. As in previous public health emergencies, attention waned after the outbreak ended. When SARS-CoV-2 emerged in late 2019, again in China, the world was unable to contain it, leading to the largest pandemic in a century. At the time of writing, more than 770 million people have been infected and approximately 7 million have died from the virus.<sup>2</sup>

In May 2023, the WHO and the U.S. government both proclaimed the end of COVID-19 as a global health emergency, signaling a shift from the three-plus-year emergency footing to treating the virus as an endemic disease. At the end of previous public health emergencies, decision-makers, the general public, and even the public health and scientific communities were fast to put the outbreaks behind them, move on to other problems, and neglect the challenges identified during the event. It appears that the more significant the event, the more pronounced this phenomenon; just a few years after the 1918 influenza

subsided, almost all mentions of the generation-defining pandemic disappeared from popular culture.

As the world moves on from the acute phase of the COVID-19 pandemic, humanity is at a critical juncture. The challenges to global health are numerous, and multiple factors make the emergence and spread of another virulent pathogen not only possible but also probable. Yet the ability to effectively prevent, detect, respond to, and govern such an event remains tenuous, hampered by a complicated geopolitical context. In the face of heightened vulnerability to emerging threats to global health security, the window of opportunity for enhancing pandemic preparedness is rapidly diminishing.

On September 20, 2023, a High-Level Meeting on Pandemic Prevention, Preparedness and Response will be held at the United Nations designed to further mobilize political momentum for reforming global health security. This event provides an opportunity to review the global health challenges, ongoing discussions, and programmatic efforts under way to tackle these challenges and present a series of recommendations for the future of global health security. Understanding the current efforts to strengthen the global health security architecture, the context of the High-Level Meeting in September, and the most-pressing priorities for the United States and its global partners is central for effective strategizing. This UN meeting has the potential to articulate political principles that can guide states as they negotiate changes to the international instruments that govern public health emergencies.

In the face of unprecedented global challenges, three crucial tasks emerge as paramount: promoting public health capabilities, bridging the gaps in global health governance, and effectively mitigating the harmful effects of geopolitical tensions. Those are not insurmountable objectives, but achieving them will be far from easy. Strengthening public health capabilities requires a significant financial investment, strong organizational capacity, and enduring commitment from governmental and nongovernmental actors. In light of the fragmented, state-centric international system and crowded governance space, bridging gaps in global health governance is a multifaceted endeavor that demands unprecedented international collaboration and determination. Building trust and fostering genuine cooperation among countries will be particularly challenging when political interests and geopolitical rivalries come into play. The dynamic and rapidly evolving nature of global challenges further amplifies the difficulty of those tasks.

The stakes are high. When the next pathogen threatens humanity, robust, well-financed public health infrastructure, seamlessly integrated

with strong animal health protection and zoonotic disease surveillance, will be essential to reducing death and suffering. Additionally, success in mitigating the pathogen will hinge on decision-makers implementing stronger measures to combat environmental degradation and address climate change. It will also require clearly defined national, regional, and global governance structures, as well as a research agenda dedicated to facilitating the rapid production of medical countermeasures equitably distributed to populations in need. On the other hand, weaknesses in any of these areas could mean that the world would face a disease far more virulent than COVID-19 with more devastating consequences in lives, livelihoods, and global stability. Against the backdrop of a shifting geopolitical landscape, it becomes imperative for the U.S. government, its allies, partners, and even its competitors, to undertake coordinated endeavors to promote targeted public health interventions, bridge substantial gaps in global health governance, and reduce the detrimental effects of geopolitical rivalries. By addressing these pressing issues head-on at the High-Level Meeting and then throughout parallel negotiations and associated efforts, the way can be paved for a healthier and more secure world.

# THREATS TO GLOBAL HEALTH SECURITY

Myriad factors threaten global health, many of which existed before the pandemic. At a minimum, those threats have persisted, and in some cases have intensified due to increasing poverty, a rapidly changing climate, economic downturns, and diminished political will to govern transnational threats. Additionally, emerging technologies will almost certainly impact global health security, but researchers are scrambling to better understand exactly how.

## *CLIMATE CHANGE*

The notion that climate change will directly affect global health, similar to the links between animal and human health, is becoming well understood within the scientific community.<sup>3</sup> Climate change, ecological degradation, and human-altered environments are both indisputably intertwined with global health security and a very real and present danger—not a future threat.<sup>4</sup> Rising temperatures increase the total burden of infectious disease, the risk of spillover events, and directly cause millions of heat-related deaths.<sup>5</sup> Over the last one hundred years, rising temperatures have pushed malaria-carrying mosquitoes into new regions of the world, exposing previously naive populations to the disease.<sup>6</sup> Additionally, changing rainfall patterns, extreme weather events, higher sea levels, and thawing permafrost are changing the nature of interactions between animals and humans, the habitats of animals and insects, and human resilience. Those threats compound as global temperatures rise, increasing the emergence of new pathogens and the severity of existing ones. Destabilizing the climate also harms health indirectly by eroding the capacity of health systems and undermining the social determinants of health.<sup>7</sup>

## ZOONOTIC DISEASE SPILLOVER

Zoonotic diseases, which jump—or “spill over”—from animals to humans, continue to be the most significant contributor to emerging infectious diseases. Approximately 60 percent of all infectious diseases and at least 75 percent of emerging ones are zoonotic.<sup>8</sup> Research teams around the world are racing to map conditions for viral spillovers, including by identifying transmitting hosts, viruses capable of jumping between species (more than three hundred thousand by some estimates), behavior changes that bring animals and humans together, and monitoring pathogens of particular concern.<sup>9</sup>

## FOOD INSECURITY

Food insecurity—defined as the inability to access enough, safe, and nutritious food—can lead to malnutrition and hunger, which are associated with a range of health issues, including stunted growth, weakened immune systems, and increased susceptibility to infectious diseases. It also drives population displacement and violent conflict, which facilitate the spread of infectious diseases, especially in overcrowded conditions with limited access to clean water, hygiene, and sanitation. According to the UN World Food Program, more than 345 million people are facing starvation—more than double the number before the COVID-19 pandemic. Even more people around the world struggle with both undernutrition and overnutrition.<sup>10</sup>

## ANTIMICROBIAL RESISTANCE

Microorganisms are constantly evolving, and certain conditions—including the overuse and misuse of antimicrobials—enable these organisms to become resistant to antimicrobial drugs. This resistance can lead to limited treatment options, longer hospital stays, higher health-care costs, and increased mortality rates. In 2019, bacterial antimicrobial resistance (AMR) was directly responsible for 1.27 million deaths, and it was linked to twice as many additional deaths.<sup>11</sup> Moreover, AMR matters to the world economy. According to a World Bank study, if no action is taken, AMR could reduce global gross domestic product (GDP) by 1.1 to 3.8 percent by 2050.<sup>12</sup> Yet only limited market incentives support the suppression of drug use or the development of new lines of antibiotics, and the creation of monitoring mechanisms, particularly in water systems, to fully understand the extent of the problem.

## *PATHOGENS IN AN ERA OF BIOEVOLUTION*

Biotechnology is undergoing a revolution characterized by daily innovation and developments in artificial intelligence (AI), biological sciences, and data. Ryan Morhard, the director of policy and partnerships at Ginkgo Bioworks, describes the current field: “biological sciences have the potential to render epidemics no longer a threat to humanity, while at the same time presenting new biological risks to global health security governance.”<sup>13</sup> Even though advances in bioscience research and technology, such as gain-of-function research and the increased ability to synthesize new DNA code, offer vital opportunities to counter the threats of major disease outbreaks and other global health problems, they also “present opportunities for accidental release or deliberate abuse of biological agents that could cause as much or more harm than COVID-19.”<sup>14</sup> The biorevolution thereby highlights the urgency of developing workable governance mechanisms to reduce the incidence of accidental or deliberate misuse.

## *ADDRESSING INTERRELATED THREATS*

These threats are all interrelated. Climate change can make zoonotic spillover more likely by altering ecosystems and increasing the likelihood of contact between disease-carrying animals and humans. The advancement of biotechnology is also related to the risk of zoonotic diseases given that it could involve the mishandling or abusing of animal samples and other biological materials. AMR is linked to the overuse of antibiotics, which can lead to the development of drug-resistant bacteria and complicate efforts to treat disease. Disruption in food production, which can be driven by climate change, can also make fighting zoonotic diseases a daunting task because it can lead to malnutrition and weakened immune systems.

Finally, all of those threats should be approached with attention to equity and transparency in global health. The COVID-19 pandemic highlighted the inherent inequality and lack of transparency and accountability that have plagued the global health landscape for at least the last one hundred years. Countries are demanding representation in global negotiations, equity in access to resources and knowledge to protect population health, commitments to human rights, and a change in decision-making authority. Global health governance negotiations are beginning to explore concepts that have evolved in other areas of

international law, such as creating separate obligations for countries based on indicators of development and financial resources (known as common but differentiated responsibilities), but how such agreements will be operationalized in a global health security context is unclear. How stated commitments to equity will translate into the most highly resourced countries' ceding power, authority, knowledge, or other resources in the name of a more inclusive approach to health security also remains unclear.

Addressing these threats demands an integrated approach that bridges the gap between biosecurity and global health security. Theoretically, a global health security strategy that focuses on strong and resilient public health systems to prevent, detect, and respond to infectious disease threats should lead to increased biosecurity, and improved biosafety and biosecurity measures should make the world safer from dangerous pathogens—be they naturally occurring or deliberately introduced. There are inherent tensions between the two, though. A global health security strategy emphasizes the need for a coordinated, collaborative response across borders and sectors to address global health threats, whereas a biosecurity strategy tends to focus on reducing risks of accidental release or deliberate creation and use of biological agents. Not only are the biosecurity risks not widely shared across countries, but strict regulations and restrictions on the use and transfer of biological materials can also make it difficult for information sharing and international collaboration, which are essential to addressing global health security threats. Additionally, national governments argue that they need to store and study pathogens relevant to their populations even though the proliferation of facilities holding pathogens increases the risk of those pathogens spilling over into the population. Failure to reconcile the conflicting conceptual frameworks could undermine trust between countries, open doors for the politicization of pandemic preparedness and response, and endanger effective international cooperation in addressing a high-consequence biological event. In short, the moment is now to review a range of factors:

- elements missing from the governance regimes
- overlap in regimes that could lead to “strategically created treaty conflict”
- the organizational capacity of the global health community required to adequately address evolving needs



- the shared values between these organizations
- the political will to make substantial and sustained changes
- the effect of evolving geopolitical challenges <sup>15</sup>

# *THE COVID-19 PANDEMIC AND GOVERNANCE GAPS*

Since the beginning of the COVID-19 pandemic, a variety of international initiatives and processes have been launched with the aim of generating a more robust, coordinated, and equitable response to ongoing and future global health emergencies. The most prominent example is the ACT-Accelerator, which brought together governments, nonprofits, and the private sector to fast-track the development and equitable distribution of COVID-19 diagnostics, therapeutics, and vaccines. One of its four pillars of action was COVID-19 Vaccine Global Access (COVAX). Launched by the WHO, the nonprofit organization Gavi, and the Coalition for Epidemic Preparedness Innovation (CEPI), COVAX operated by pooling resources from wealthier countries to help finance vaccines for lower-income countries. By December 2022, COVAX had delivered more than 1.7 billion vaccine doses to people in the developing world.<sup>16</sup>

Even though the global health community scrambled to use available resources and tools to manage the pandemic, COVID-19 nevertheless exposed significant deficiencies in the global health governance regime.

## *LIMITED SURVEILLANCE AND EARLY-RESPONSE CAPACITY*

Many countries were slow to identify the spread of COVID-19 in their populations, making it difficult to implement effective control measures early on, and many continued to struggle with testing and surveillance capacity. Surveillance and early response were hampered by shortages of diagnostics, delayed reporting systems, and difficulties in surging capacities, particularly related to contact tracing. Information, even when available, was not always shared with partners because of

strained information- and pathogen-sharing regimes. In the meantime, the pervasive spread of misinformation hampered the dissemination of accurate public health guidance and undermined confidence in scientific expertise and public health authorities. The struggle with testing and surveillance capacity persisted, even in countries with sophisticated genomic-surveillance capabilities and the ability to track and analyze real-time data and big data sources. Without accurate information on the number of cases and transmissibility of the virus, the WHO was unable to take earlier, more aggressive action against the outbreak. In addition, governments in some countries, for political considerations, chose to downplay the severity of the virus despite its rapid spread.

The sudden and rapid spread of the virus strained health-care systems in many countries. Hospitals and clinics were overwhelmed with patients, and medical equipment, supplies, and trained health-care professionals were in short supply. The shortage of health workforce was a particularly grave concern. Health-care workers were in short supply globally even before the COVID-19 pandemic, which only aggravated the problem. Demand for doctors, nurses, respiratory therapists, and other health-care professionals to provide clinical care for COVID-19 surged exponentially. Yet the workforce capacity was diminished by preexisting issues related to burnout, mental health, and workplace violence, all of which worsened throughout the pandemic.<sup>17</sup> More than 60 percent of all costs estimated to be required for sufficient national capacity to prevent, detect, and respond to public health emergencies are tied to workforce needs.<sup>18</sup>

### *INADEQUATE GLOBAL COORDINATION*

The pandemic highlighted the lack of global coordination among countries and international organizations in responding to it. False narratives, conspiracy theories, and misleading information fueled confusion and mistrust between countries, hindering collaborative efforts. Whether in instituting travel restrictions or the provision of badly needed PPE and pharmaceutical products, many countries undertook a state-centric approach that placed national interests over global collective action. Pursuing bilateral health diplomacy as a geopolitical tool in a strategically hostile and heavily securitized context encouraged competitive dynamics that exacerbated global inequity in the distribution of public health resources. The WHO faced criticism for its slow response and lack of consistency and authority to enforce its recommendations on member states, even as it was constrained

by the authorities and resources granted to the organization by the member states themselves. The coordination problem was made worse by the issue of *regime complex*, in which global health is not governed by a single, WHO-centered regime but instead “a collective of partially overlapping and nonhierarchical regimes.”<sup>19</sup> The secretary-general of the United Nations and the UN Security Council largely declined to govern the complex global event.

### *UNEQUAL ACCESS TO VACCINES AND MEDICAL SUPPLIES*

The pandemic exposed the inequities in the global distribution of vaccines and medical supplies, with wealthy countries hoarding supplies and poorer countries struggling to access them. Plagued initially by vaccine nationalism and later by unstable supply flows and inefficient delivery systems, the COVAX initiative failed to achieve its objective of ensuring equitable access to vaccines globally. India and South Africa led a call for a Trade-Related Aspects of Intellectual Property Rights (TRIPS) waiver from the World Trade Organization (WTO) in the fall of 2020, seeking to waive Intellectual Property Rights (IPR) protections in relation to medical countermeasures for COVID-19. Yet the notion that a TRIPS waiver would have quickly expanded access to vaccines and therapeutics in lower-income countries overlooks the complexity of the issue at hand. The TRIPS waiver did not address the critical expertise required to develop and distribute COVID-19 vaccines, and the decision of the WTO would have come too late in the pandemic to be impactful.<sup>20</sup> Indeed, as vaccines became widely available, the primary challenge became the adoption rate, not availability or cost. In addition, vaccine nationalism was not exclusive to wealthy nations. When facing a devastating second wave of COVID-19 infections, the Indian government suspended vaccine exports from the Serum Institute, which the WHO and COVAX were relying on to vaccinate Africa. A different form of vaccine nationalism occurred in China, which consistently declined to import mRNA vaccines even though its inactivated vaccines proved ineffective against the Delta and Omicron variants. Consequently, 1.4 billion people did not have access to the most effective vaccines.

### *THE LIMITED CAPACITY TO MANAGE MULTIFACETED HEALTH CHALLENGES*

The COVID-19 pandemic exacerbated a plethora of preexisting challenges to global health security, including food insecurity and

supply-chain instability. The pandemic-induced economic recession led to widespread job losses and diminished incomes, affecting the purchasing power of numerous households worldwide. Movement restrictions, lockdowns, and border closures disrupted the food supply chain, resulting in a surge in food prices.<sup>21</sup> According to the 2021 Global Report on Food Crises, 155 million people in 55 countries and territories experienced acute food insecurity in 2020, an increase of 20 million from the previous year.<sup>22</sup> In the meantime, the production of critically needed vaccines, medicines, and PPE were concentrated in a few countries and regions, which were also grappling with the pandemic. This led to pharmaceutical supply-chain disruptions, resulting in shortages, delays, and price hikes in pharmaceuticals. Geopolitical tensions have further strained the global supply chain. The tensions between the United States and China and the ongoing war in Ukraine disrupted trade flows, increased costs, and even raised concerns that some countries could weaponize medical supplies, such as active pharmaceutical ingredients, and critical commodities, such as natural gas, in geopolitical competition.

### *THE INHERENT TENSIONS BETWEEN GLOBAL HEALTH SECURITY AND BIOSECURITY FRAMEWORKS*

The pandemic underscores the tensions between global health security and biosecurity frameworks, necessitating a more integrated governance approach. An independent and thorough investigation into the origins of the COVID-19 pandemic would enable us to develop more targeted and effective strategies and early warning systems in pandemic prevention, preparedness, and response. However, from the outset, investigating the pandemic's origins was entangled in a debate over whether the virus emerged from an accidental lab escape or emanated from natural exposure to an infected animal. The debate became highly politicized in both the United States and China: the WHO was caught between China's efforts to preserve its pandemic narrative, which promotes the superiority of its political system and absolves it of any mishandling of the initial outbreak, and the Donald Trump administration's attempts to find a scapegoat for its own mismanagement of the crisis. The political tug-of-war not only led to the stalling of the WHO's crucial second phase of COVID-origins investigation, but also cast doubt on its credibility and authority in global disease governance. Moreover, against the backdrop of

U.S.-China geopolitical competition, the spread of misinformation, disinformation, and conspiracy theories on both sides fueled distrust between the two nations, further undermining political and public support for U.S.-China cooperation on health security. Indeed, there has been little collaboration between the two governments regarding pandemic control and post-COVID reopening.

### *LACK OF ROBUST INTERNATIONAL HEALTH REGULATIONS GOVERNANCE MECHANISMS*

The pandemic highlighted the limits of the existing global health rules and norms, such as the International Health Regulations (IHR), to address the complexities of a pandemic. Under Article 43 of the IHR, countries taking additional health measures to respond to public health emergencies are asked to ensure that those measures are proportionate to the level of risk, in line with human rights principles, and supported by scientific evidence. Article 44 of the IHR legally requires states parties to collaborate and assist each other in preparing for and responding to a public health event. In responding to the COVID-19 pandemic, however, most countries took actions counter to WHO advice and moved forward with “additional health measures,” such as travel bans, and were at times reticent to assist other countries.<sup>23</sup> As a result, many IHR obligations were ignored, and mechanisms for enforcing compliance were limited and inadequate. Furthermore, none of the indices or assessment tools developed in the pre-pandemic era were predictive or even highly correlated with COVID-19 outcomes, in part because some countries were unable to adequately scale their capacities or initiate response efforts without external assistance.<sup>24</sup> Additionally, many of the capacities required in the pandemic response were not included in major indices.

### *INADEQUATE INVESTMENT IN PUBLIC HEALTH CAPACITY AND GLOBAL HEALTH SECURITY*

Before the pandemic, the World Bank established the Pandemic Emergency Financing Facility but had limited success in supporting capacity-building efforts or in disbursing funds to respond to emerging-disease events.<sup>25</sup> At the national level, countries continued to under-resource public health infrastructure. Analyses conducted in 2021 found that more than \$124 billion would be required to enable every

country of the world to fully implement the IHRs and build sustainable capacity to prevent, detect, and respond to public health emergencies.<sup>26</sup> More recent estimates almost double this number.<sup>27</sup> In general, more resources are required both in direct foreign investment and national-level investment.

# *EFFORTS TO ADDRESS GOVERNANCE GAPS*

The governance gaps that were highlighted during the COVID-19 pandemic have spurred efforts to improve global pandemic preparedness and response and to strengthen global health governance. Some of the efforts are driven by a vague political need to do something; others are advanced by international experts, such as the actions called for by the Independent Panel for Pandemic Preparedness and Response.<sup>28</sup> These efforts include but are not limited to the following.

## *PANDEMIC TREATY*

In the midst of the pandemic, a select group of twenty-six countries began to call for a new treaty as a potential method to strengthen global governance.<sup>29</sup> This proposal, strongly endorsed by the WHO, was seen as a gateway to better information sharing, coordination between governments, and equity. Member states agreed to move forward with negotiations for a new agreement, now underway through the Intergovernmental Negotiating Body. The draft text includes a myriad of pandemic governance issues and a range of approaches to equity and information sharing. It has yet to be fully coordinated with the rest of the global governance regimes, however, including concurrent efforts to amend the IHR.

The draft includes language on supply chains and logistics, access to technology (intellectual property rights) and benefit sharing (information sharing), regulatory strengthening, research and development, capacity-building for health systems and workforces, monitoring and evaluation, and strengthening coordination for pandemic preparedness and response at the national and global level. Additional language addresses financing, governance within the WHO, and the need



for taking approaches consistent with One Health, advancing equity, and protecting human rights.

The contents of the final agreement remain to be seen: how much authority it will grant to the WHO, how it will interact with existing international agreements, how intellectual property rights and information sharing will be addressed, and even the extent to which the agreement will be legally binding. This new agreement could usher in a major change in the global governance of disease. It could also end up being little more than a political statement with few new binding obligations. Early indications are that the latter will be the case.

### *AMENDMENTS TO THE INTERNATIONAL HEALTH REGULATIONS*

The International Health Regulations, first adopted by the World Health Assembly (WHA) in 1969 and last revised in 2005, are a legally binding framework that aims to promote global health security by preventing, detecting, and responding to public health emergencies of international concern. The regulations provide guidelines for disease surveillance, reporting, and response, as well as measures to prevent the international spread of diseases (see appendix).

In recognition of the weakness in the agreement that limited its utility throughout the pandemic, WHA member states are considering a series of amendments to strengthen the IHR. The proposed amendments include improving information sharing (including sharing genetic sequence data), broadening the scope of the IHR to be more inclusive of zoonotic diseases and the One Health approach, changing authorities to allow for rapid investigation by international actors, and ensuring a more equitable response. Whether member states afford the WHO more authority around travel and trade or the authority to supersede national sovereignty for investigations will likely derive from the perceived strength, competency, and neutrality of the organization. The member states are also considering adding a regular meeting of parties that could allow for continuous changes or understandings of the agreement.

While the IHR amendments are being negotiated, the WHO Secretariat has taken efforts to improve the IHR monitoring framework, including updating the Joint External Evaluation (JEE) tool and self-assessment tools as part of the IHR Monitoring and Evaluation Framework (IHR MEF). However, those tools are not more inclusive of critical issues such as the health-care workforce, subnational capacity, and infection prevention and control. The Secretariat has also continued to

refine guidance for the National Action Plans for Health Security and launch new initiatives such as Preparedness and Resilience for Emerging Threats and the International Pathogen Surveillance Network.<sup>30</sup>

### *PANDEMIC FUND*

In 2021, the Group of Twenty (G20) High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response called for a new fund to be established to support pandemic preparedness capacity-building and “swift, scaled-up access to funds in response to a pandemic.”<sup>31</sup> Based on this recommendation, the World Bank formally established what is now known as the Pandemic Fund in September 2022. As of March 2023, fifteen countries, three philanthropies, and one nonprofit organization have committed to contribute \$1.6 billion, of which \$1.5 billion has been publicly announced.<sup>32</sup> Requests for proposals went out to countries in early 2023, and the first round of proposals was submitted for consideration in May 2023. The Pandemic Fund board selected thirty-seven countries to receive over \$330 million in this first round of awards, operating through designated implementing entities. Policymakers and health experts hope the pandemic fund will fill critical gaps in financing preparedness and response at the country level.

### *THE WHO HUB FOR PANDEMIC AND EPIDEMIC INTELLIGENCE*

In September 2021, the WHO inaugurated the Hub for Pandemic and Epidemic Intelligence in Berlin with the support of the German government. The WHO hub is dedicated to serving countries by fostering connections, promoting innovation, and enhancing capabilities to produce better data, analytics, and decisions. Operating under the concept of collaborative surveillance, it is committed to a more comprehensive and coordinated approach to preventing, detecting, and responding to pandemics and epidemics worldwide. The hub encourages collaboration among a diverse array of global experts, both within and beyond the health sector, to strengthen public health intelligence and improve evidence-based decision-making.

### *BIOLOGICAL WEAPONS CONVENTION*

In late 2022, the Biological and Toxin Weapons Convention (BWC) held its ninth review conference. Geopolitical considerations made

substantive progress difficult—and even prevented a mention of learning from the pandemic—but the member states did agree to establish a new working group on strengthening the treaty, particularly around addressing advances in science and technology, international cooperation, and preparedness and response. Organizational capacity and funding to fully operationalize Article VII, which in practice means coming to each other’s assistance in the case of a deliberate biological event, continue to be limited, leaving gaps in how a deliberate biological event could be managed.

## *UNIVERSAL HEALTH COVERAGE*

In May 2023, Japan hosted the Group of Seven (G7) meeting in Hiroshima. The health ministers meeting highlighted the importance of universal health coverage as a central component of global health security and pandemic preparedness and response. Japan tabled an approach that included strengthening capacity to address all infectious disease threats, noncommunicable disease, and health care adapted to changing demographics.<sup>33</sup> Access to care as a core component of health security ties directly to health-care workforce needs. Addressing those needs, however, will take a level of commitment and long-term financing that few countries—particularly low-income ones—have yet to embrace.

## *MORE DRUGS, FASTER*

At the Global Pandemic Preparedness Summit, hosted by CEPI and the UK government, policymakers, scientists, and representatives from various sectors including industry, philanthropy, and civil society adopted what became known as the 100 Days Mission. This mission is an effort to put processes and systems in place so that when the next emerging infectious disease happens, the global community will be able to move from identification of the virus to making a safe, effective vaccine within a hundred days.<sup>34</sup> Meeting this goal will require innovation, research and development, sustained resources, rapid sharing of sequences, and improved and coordinated clinical trials.<sup>35</sup> To guarantee equitable access to medical countermeasures, though, a more proactive approach will be required to enhance access to vaccines and therapeutics, increase global manufacturing capacity, strengthen supply chains, and ensure last-mile delivery of products to communities.

Efforts are ongoing to create more robust research and development and manufacturing capacity around the world, including a new facility in South Africa. These facilities, however, are still struggling to address how they will operate outside an emergency when market forces will not necessarily prioritize them.

## *LINKING CLIMATE AND HEALTH*

Almost all global health actors and organizations have by now acknowledged the effect of climate change on health. Funding organizations have pivoted to acknowledge the challenge, among them the Rockefeller Foundation, Wellcome Trust, and the U.S. National Institutes of Health. Vector-borne disease efforts, such as those focused on malaria, have begun to adapt their programs. Those efforts, though, are still nascent, and climate adaptation efforts are not yet fully under way. In a groundbreaking development, the upcoming UN Climate Conference of Parties (COP28), set to take place from November 30 to December 12 in Dubai in the United Arab Emirates, will include a day focused on the intersection of health and climate change. Additionally, the conference will feature the inaugural climate and health ministerial gathering, emphasizing the importance of addressing the relationship between climate change and public health at the highest levels of government.

# *BARRIERS TO SUCCESS*

All this work is under way at a time when the global community is arguably less cooperative than before the COVID-19 pandemic began. Global collaboration to fight infectious disease has, at times, risen above politics. During and after the Cold War, international health cooperation was largely insulated from the dynamics of great-power geopolitical competition. For example, the United States cooperated with the former Soviet Union over oral polio vaccine development during the height of the Cold War and worked closely with China on disease prevention and control for almost four decades between 1979 and 2018. The COVID-19 pandemic, however, saw little cooperation between geopolitical rivals. Geopolitical conflict and the vulnerabilities of the global supply chain to pandemic-induced disruptions stretched the limits of global health cooperation and shuttered previously open lines of communication.

Countries seeking to avoid overdependence on geopolitical rivals in critical sectors are busy sourcing or relocating production within national borders (onshoring) or diversifying supply chains toward like-minded countries (friend-shoring). Some countries are performing introspection exercises, assessing how the global community supported—or failed to support—their populations during the pandemic and the lack of influence that low- and middle-income countries had in global decision-making around the response. Countries that suffered from vaccine inequity or lacked a voice in decision-making are weighing how much they can rely on global systems for the safety and security of their populations, and whether the development of health-related infrastructure should now be prioritized as a national security issue. Other countries are looking

to neighbors and considering strengthening regional cooperation agreements either in addition to, or in some cases as a substitution for, global cooperation.

Against this background, operationalizing a coordinated effort to address the global health security threats in the post-COVID era remains a persistent challenge. For example, much work is left to be done in order to implement an integrated approach to handling the threat of zoonotic diseases despite a growing understanding of the linkages between animal and human health; the increasing use of the One Health terminology to underscore the interconnectedness of animals, environment, and humans; and the scientific advances to identify spillover risks.<sup>36</sup> The lack of coordination between the Global Fund's COVID-19 Response Mechanism and the Pandemic Fund's funding applications could lead to inefficient implementation of parallel projects in overlapping areas.<sup>37</sup>

Also, despite the push for capacity-building and resource sharing, concerns remain that not enough has been done to assist low- and middle-income countries, which are often the most susceptible to health emergencies. Whether the Pandemic Fund will begin to meet this need is unclear and could depend on the amount of resources donor countries, philanthropies, and private sector entities are willing to provide. Critics saw the latest draft of the pandemic treaty as a step backward for equity, given that the new draft removed ensuring access conditions on publicly funded research and development.<sup>38</sup> The issue of misinformation and disinformation also remains largely unaddressed. This problem not only leads to a widespread loss of confidence in vaccines, treatments, and protective measures, but also undercuts trust between countries, making desperately needed international cooperation less likely in coping with a global health crisis.

The challenge of addressing IPR within the WTO has led some countries to push for IPR language in the new pandemic treaty or within the IHR amendments. Intellectual property is one of the most contentious areas of global health security and has major implications for the future effectiveness of WTO and TRIPS agreements as well as equitable structures for global research and development, manufacturing, and distribution of medical countermeasures.

Similarly, on the biosecurity front, the states parties have still not devised a way to operationalize BWC Article VII. Separately, each country has developed its own governance mechanisms for balancing supportive environments for innovation with protection against

dangerous research, and no global mechanisms exist yet to harmonize these efforts.<sup>39</sup>

All those efforts are happening at the same time the United States is experiencing a major shift in domestic preparedness. Even though a majority of Americans believe that pandemic preparedness is important and needs support, the experience of COVID-19 divided the U.S. population—maybe more so than in any other country.<sup>40</sup> More than thirty states have passed laws since 2020 to curtail public health authority, limiting executive authority and taking on issues associated with both nonpharmaceutical interventions (quarantines, school closures, and masking) and pharmaceutical interventions (imposing vaccine or treatment mandates).<sup>41</sup> These actions are tying the hands of public health officials and stripping their ability to mitigate future disease events. At the same time, the health-care and public health workforce is facing a wave of retirements and departures from the profession after the strain and working conditions of the past few years.<sup>42</sup> The next public health emergency in the United States will be exponentially more difficult to respond to, even with technological advances in medical countermeasures, diagnostics, modeling, and surveillance.

# RECOMMENDATIONS

Global health security and pandemic preparedness and response are at a critical juncture. As the world emerges from the acute phase of the COVID-19 pandemic, multiple opportunities are available to address the vulnerabilities exposed during the past three years and to build stronger, more equitable, and sustainable public health systems capable of effectively managing future crises. However, achieving those objectives necessitates systematic and synergistic endeavors by the global community to bridge the gaps in global health governance within an evolving geopolitical landscape.

Thus, countries should take three steps to strengthen global health security: promote public health capabilities, close the gaps in global health governance, and mitigate the harmful effects of geopolitical tensions. These priorities should be underscored in forthcoming political declarations and supported in newly negotiated international agreements and endeavors.

## *PROMOTE PUBLIC HEALTH CAPABILITIES*

Promoting the capabilities of public health efforts is essential to preparing for the next pandemic. By doing so, public health authorities can optimize the use of limited resources, enabling swift responses to emerging threats and, if required, minimizing the harms of future public health emergencies. Drawing from the lessons learned during the COVID-19 pandemic, three major public health measures emerge as critical: building foundational country-level capacity, investing in medical countermeasures, and supporting regional centers for public health.



**Build foundational country-level capacity.** Strengthening global health security requires every country to build and sustain national-level public health and health-care infrastructure. This includes developing robust disease surveillance and response systems, investing in health workforce development, building public trust, and ensuring all populations have access to health care.

Identifying the resources to strengthen country-level capacity-building should continue to be a priority for all countries. However, many low-income countries lack the resources to bolster their capacity. Consequently, these countries rely on external sources to import the necessary capacities. In this regard, the United States and other donor countries should adopt a multifaceted approach encompassing direct assistance to partner countries, debt relief and forgiveness, technology transfer, and an expanded network of health security partners. By leveraging the strengths and resources of various parties, including the International Monetary Fund, the WTO, and the Gates Foundation, this collaborative effort can effectively enhance capacity-building.

Furthermore, to tackle the issue of inadequate workforces, countries should devise and execute strategies to attract and retain workers by fostering a supportive work environment, encouraging work-life balance, and offering competitive salaries and benefits. Donors should use health-related development assistance to support and pay health workers. This approach can be integral to achieving universal health coverage. Traditionally, donors have been reluctant to allocate funds for salaries because they perceive salaries to be a national responsibility. However, by revisiting this notion and allocating funds for health worker compensation, donors can significantly contribute to addressing the workforce shortage and supporting universal health coverage goals, while working with partner countries to develop sustainability plans.

Helping partner countries plan for and identify domestic resources to strengthen their health capacities will be critical, as capacity cannot be sustained solely by foreign investments. The United States and other major donors need to use their influence and diplomatic channels to advocate for increased funding and resources for health-system capacity-building in these countries. Foreign investments, though, need to be both increased and better coordinated. Vertical disease programs, such as those committed to fighting the epidemics of AIDS, tuberculosis, and malaria, need to be better coordinated to—where appropriate—build overall stronger health systems while still addressing disease-specific equities. This could manifest in a commitment to using common platforms for concerns and processes such as disease

surveillance, laboratory systems, and supply chains. While significant change could take time, even small advances can make a difference. For instance, establishing joint planning and coordination mechanisms between disease-specific programs and health-system authorities can promote better alignment. Integrating training and capacity-building efforts can enhance the skills of health-care workers to address multiple health issues.

Even with better coordination with global health programs, more national-level spending, and current bilateral programs, not enough funds are available to adequately address global health security and ensure that all countries have the capacity to prevent, detect, and respond to future pandemics. Innovative financing is required to raise the overall size of the pot and ensure funds are available and sustainable through the Pandemic Fund, other funds such as global health solidarity levy and global health insurance, bilateral assistance and debt-conversion programs, and national-level budgets, to complement a hopefully sustained interest on the part of philanthropies and innovative public-private partnerships.

**Invest in medical countermeasures.** Robust research and development, manufacturing, and distribution of medical countermeasures—vaccines, therapeutics, and diagnostics—remain central to any effective response to an emerging infectious disease event. Sustained commitment to platforms and processes that enable rapid sequencing and identification of new pathogens; development and deployment of point-of-care diagnostics and medical countermeasures; manufacturing and fill-and-finish capacity sustained by robust supply chains; and distribution networks capable of maintaining cold chain is critical to the future of global health security. In recognition of the costs and limited resources, more support should be given to the development and use of platform technologies such as mRNA and viral vectors. This support entails simplifying and expediting regulatory processes for the development and approval of medical countermeasures. It also involves diversifying and reinforcing supply chains for medical countermeasures to mitigate vulnerabilities during crises.

Vaccine inequity during the pandemic spurred many countries to consider strengthening domestic research and development, manufacturing, and supply-chain processes as a matter of national security even if it makes limited economic sense. The global medical countermeasure enterprise needs to devise new mechanisms for collaboration, including sharing best practices, coordinating research and development

efforts, and supporting technology transfer initiatives that balance innovation with accessibility. The United States could consider sharing its experience in establishing the Biomedical Advanced Research and Development Authority (BARDA), a collaborative entity that works closely with the U.S. Food and Drug Administration and other regulatory bodies. BARDA provides vital funding, technical expertise, and guidance to expedite the development, evaluation, and regulatory review of medical countermeasures. To enable emerging and developing countries to quickly access the most effective vaccines and therapeutics, the United States and other Organization for Economic Cooperation and Development countries should support the proposal of vaccine makers to allocate 10 percent of their vaccine production to developing countries during major disease outbreaks. They should also support the strengthening of compulsory licensing provisions at the WTO to facilitate easier access to drugs for emerging and developing countries during public health emergencies. This step entails offering technical assistance and capacity-building support to enable them to effectively leverage the flexibilities of the TRIPS Agreement, streamlining and accelerating the procedures necessary for issuing a compulsory license, and permitting countries with manufacturing capabilities to produce vaccines and medicines for both domestic consumption and export to countries in need. In addition, the Pandemic and Influenza Preparedness (PIP) framework could be retrofitted for future pandemic preparedness and response. Discussions are already underway to embed such a framework for accessing medical countermeasures into both the new pandemic treaty and the amended IHRs. Any new framework should operate coherently with the Nagoya Protocol, which aims to balance access to genetic resources with the fair and equitable sharing of benefits that derive from their use to the Convention on Biological Diversity (CBD).

**Support regional centers for public health.** The United States and its global partners should continue to support existing regional centers for disease control (such as the African Centers for Disease Control or the Caribbean Public Health Agency) and assist under-resourced regions in building disease control coalitions and collaborations. The United States and other donor countries should also support newly proposed specialized agencies (such as the African Medicines Agency) intended to improve regional medical capacity. In the future, such regional centers could be utilized to enhance stockpiling and distribution systems to ensure equitable access to essential products in the

region, or to support regional manufacturing hubs capable of scaling up production of medical countermeasures. Compared with global institutions such as the WHO, regional public health centers understand the local cultures, customs, and infrastructure, which allows them to respond effectively to disease threats. Regional public health centers can also serve as a bridge between national and global levels of disease control: they can work closely with national institutions to provide technical support and resources while collaborating with global institutions to share information and respond to disease outbreaks. However, just as coordination difficulties plague all the other initiatives, a mechanism is needed to ensure cooperation and data sharing. Such a mechanism could be established through formal agreements, protocols, or networks that involve all critical actors. It could also include regular meetings, joint trainings, and standardized reporting systems to enhance coordination and promote effective response to disease threats at all levels.

### *CLOSE THE GAPS IN GLOBAL HEALTH GOVERNANCE*

Strengthening global health governance structures and systems to improve coordination and communication and to ensure that health security is integrated into broader global policy agendas is desperately needed. Clear leadership for managing One Health, countering misinformation and disinformation, and responding to deliberate biological events and complex health emergencies needs to be established. Countries should also ensure that emerging regional agreements around health security are integrated into the global political landscape. Ideally, the hand-off will be seamless between agreements, complementing each other and acting as specialized instruments. If these concurrent treaty negotiations, amendments, and understandings are not deconflicted, the global community could end up with agreements that conflict with each other and only further complicate a complex governance space. U.S. government and civil society experts should map all of the concurrent efforts in global health governance and both track how specific issues are addressed among them and negotiate with the understanding that all of the efforts are interrelated.

**Prevent spillovers and operationalize One Health.** Preventing spillovers should be a fundamental pillar of the global health security approach. This necessitates the adoption of an operational One Health framework that encompasses various measures to stabilize

the ecological determinants of health, including regulating markets and trade of birds and mammals, reducing the degradation of forests, improving veterinary care, prioritizing climate adaptation, and enhancing economic security.

To that end, the amended IHR (or the new pandemic treaty) should obligate signatory states to prioritize the management of zoonotic spillovers. Those obligations should include strengthening wildlife trade regulations, promoting the protection of natural habitats and biodiversity conservation, improving zoonotic disease surveillance, and fostering multisectoral collaboration among human health, animal health, and environmental health experts. Where relevant, the new treaty and the IHR should directly link to obligations and strategies owned by the World Organization for Animal Health, the UN Food and Agriculture Organization, the UN Environmental Program, the CBD, the Paris Climate Accord, and relevant agreements under the WTO.

The United States and other countries should actively support the development and promotion of international norms, standards, and guidelines aimed at preventing and controlling zoonotic diseases. Those efforts will require commitments to understand the ecology and epidemiology of zoonotic diseases as well as capacity-building and training programs for health workers, veterinarians, and other One Health professionals. Standards and competencies for workforce development should be promoted and shared among relevant educational associations.

Preventing spillovers necessitates the development of robust early-warning systems. When outbreaks do emerge, timely reporting and sharing of outbreak-related information is vital. However, some countries could be reluctant to report outbreaks within their territories due to fears of economic repercussions, stigma, or political fallout. To encourage timely reporting, the amended IHR or the pandemic treaty should include clear benefits for countries that comply with reporting obligations. The WHO and its members should contemplate instituting a system that rewards countries for prompt reporting and response efforts while minimizing the adverse effects associated with outbreak reporting, such as travel or trade restrictions.

**Fight misinformation and disinformation.** Combating misinformation and disinformation involves government, cybersecurity experts, health organizations, the media, and the public. The first step is actively engaging the public and building trust with transparent communication, clear and concise messaging that emphasizes consistent,

evidence-based recommendations, and development of technology tools (such as fact-checking algorithms) that can help identify and combat false information. Health authorities should also work with social media companies, community leaders, and local media outlets to improve public media literacy so that people learn to recognize and avoid false information. While achieving such change could be challenging in nondemocratic regimes and polarized societies, the consequences of maintaining the status quo are too significant to overlook. Internationally, the United States, its transatlantic allies, and other like-minded countries should collaborate to establish new norms that prioritize the dissemination of accurate and reliable information regarding health threats and effective response strategies. They should, for example, support the inclusion of specific articles to fight misinformation and disinformation in the pandemic treaty under negotiation. Efforts to counter disinformation could be more effective if WHO member states were asked to allocate resources toward initiatives aimed at improving public literacy, detecting fake news and threat actors, and mitigating potential harm. Those efforts, though, will only be successful if there are concurrent efforts by cybersecurity and intelligence communities to identify and counter state-sponsored disinformation campaigns that are designed to destabilize.

**Prioritize biosecurity.** Efforts to build the bioeconomy and strengthen global health security should concurrently prioritize biosecurity. In April 2023, as conflict erupted in Sudan, the WHO warned of a “high risk of biological hazard.” Fighters took control of the National Public Health Laboratory, which housed samples of endemic diseases such as malaria as well as samples of polio and other biomedical material. This concern focuses on a public health lab, not a high-containment facility, where the biosecurity risk would be much more concerning. This situation only highlights the ever-present biosecurity threat and should serve as a reminder of why coordinated governance of biosecurity is critical at the local, national, regional, and global level.

Prioritizing biosecurity should start with broad educational efforts to reach all relevant sectors of society, map the spectrum of threats and relevant countermeasures (with variables including educational requirements for scientists, physical infrastructure improvements, and cybersecurity enhancements to protect pathogen sequence data), and align global actors to take tangible steps to improve biosecurity and biosafety. The United States and its partners should leverage some of the Pandemic Fund dollars to prioritize biosecurity. They could also work

with other donor countries to support allocating a portion of health-related development assistance for biosecurity awareness campaigns and educational programs, as well as support for comprehensive risk assessments at the national level, ensuring a thorough understanding of potential biosecurity threats. Based on these assessments, robust risk management strategies could be developed to mitigate risks and enhance preparedness. These actions should be aligned as much as possible with the BWC, the UN Secretary-General's Common Agenda, and the guidance of global civil-society experts.

### *MITIGATE THE HARMFUL EFFECTS OF GEOPOLITICAL RIVALRIES*

Global collective action against health threats hinges on the cooperation among all major powers, even those with geopolitical rivalries. To mitigate the harmful effects of geopolitical tensions, major actors in global health, including the United States and China, should introduce new mechanisms, norms, and policies.

#### **Pursue a global health détente with geopolitical competitors.**

To facilitate global collective action, institutional reform should prioritize reducing the effect of geopolitical tensions on international health cooperation. Decisions on addressing global health challenges ought to be based on independent, expert-driven advice rather than influenced by geopolitical considerations. The new Bureau of Global Health Security and Diplomacy at the Department of State, for instance, should play a bigger role in coordinating the U.S. response to major global health crises with international organizations and public health experts, such as those at the Centers for Disease Control and Prevention and humanitarian response experts at the U.S. Agency for International Development. Centering coordination at the Department of State will help align diplomatic and foreign policy objectives and allow for more robust participation from U.S. government technical experts.

At the global level, geopolitical competitors should be encouraged to participate in diplomatic efforts to build trust and mutual respect through institutionalized information sharing, cultural exchanges, and collaborative research projects. Rather than ostracizing China and Russia in addressing emerging global health threats, the United States, its allies, and partners should take concrete steps to support the implementation of the roadmap for the WHO's new Global Health and Peace Initiative. This would involve pursuing a global health détente

by setting up or renewing government-to-government dialogues with China, Russia, and other governments over global health security. This could be achieved through a combination of track 1, 1.5, and 2 meetings to initiate discussions and identify common areas for collaboration or cooperation. The proposed track 1.5 dialogue between the United States and China over health security, for example, holds the promise of rebuilding a foundation of communication and possibly trust. It aims to bring senior-level officials from both sides to generate concrete ideas for cooperation that can be sustained in critical areas including surveillance, health workforce, financing, and research and development.<sup>43</sup>

**Embed health diplomacy in multilateralist frameworks.** In a strategically hostile and heavily securitized context, the bilateral or minilateral approach, as demonstrated by the vaccine diplomacy efforts of China or the efforts of the Quad (the informal quadrilateral security dialogue among the United States, Australia, India, and Japan) to counter China's vaccine diplomacy, encourages competitive dynamics that not only exacerbate global inequity in public health resources distribution but also erode mutual trust for effective international health cooperation. Multilateralism, although currently strained, still offers the most comprehensive and inclusive alternative by involving the participation of multiple countries, international organizations, and others. This is particularly important for low- and middle-income countries, which want to have a meaningful voice in the decision-making processes related to the development assistance for health or the negotiation of global health rules. Perhaps most important, a multilateral approach can connect geopolitical competitors as providers of global public goods in a nonthreatening manner. The UN General Assembly and G20 should continue as major multilateral forums for cooperation over global health. Nested in the G20, for example, the U.S.-China competition over global health leadership could also become more manageable. Establishing multilateralism in the absence of trust requires a deliberate approach. Countries, especially geopolitical rivals, should be encouraged to place more emphasis on shared global challenges such as public health emergencies and climate change to foster common ground and trust. They should also commit to the implementation of confidence-building measures, including scientific collaboration and humanitarian assistance efforts. In addition, they should seek to develop and uphold shared multilateral norms and principles, such as the promotion of equitable and inclusive decision-making processes in global governance, which would provide a solid framework for trust



and cooperation to thrive. Indeed, the future effectiveness of multilateralism could depend on whether low- and middle-income countries decide they trust the decision-making processes and if their voices are sufficiently heard and responded to. The United States could consider more targeted efforts to ensure smaller, less-involved countries are supported in multilateral forums, including contributing to travel bursaries and providing hands-on training in negotiations.

**Support a community of practice.** For global health security governance to succeed, it will need to be supported by the technical and diplomatic communities as well as a broad community of practice. Any future governance arrangement (the amended IHR, new international pandemic agreement) should include a Conference-of-Parties-type system to facilitate accountability and sustainability.

Additionally, in recognition of the need to build trust and momentum for future cooperation, opportunities should be created through partnerships between the U.S. government and civil society for track 1.5 and track 2 discussions with diverse international partners to bring together multidisciplinary experts in face-to-face, forward-looking, and results-oriented discussions. Considering the politically charged environment, the dialogue could move forward incrementally and start with less sensitive but important global health issues such as AMR, environmental health, and emerging threats such as AI and geoengineering. This could be a role for the new State Department Bureau of Global Health Security and Diplomacy, working in collaboration with nongovernmental organizations, advocacy groups, and academia.

# CONCLUSION

The world today faces a pivotal moment in global health security and pandemic preparedness and response. As countries emerge from the acute phase of the COVID-19 pandemic, multiple opportunities exist to address the challenges laid bare during the pandemic and to build stronger, more equitable, and sustainable systems. Experts are gathering to discuss technical approaches to pandemic preparedness, negotiate new governance mechanisms to improve global health security, and build financing mechanisms for global and domestic capacities. To best ensure strong outcomes in these processes, the U.S. government and other global health organizations should clearly assess and understand the challenges of the pandemic and identify and track health security threats. Nations should commit to building stronger, more effective governance mechanisms to better respond to the next emerging infectious disease event. Doing so will require systematic and synergistic efforts by the collective of countries and other global organizations such as the WHO. It will also require a coordinated, deliberate effort by the U.S. government at a time when both the United States and its global partners are pivoting their attention away from pandemics and onto the complex crises of the moment. Consultations and negotiations are occurring in an environment of dissipating political will, evolving geopolitical concerns, and shifts in power between the North and South.

In September 2023, world leaders will convene at the UN headquarters in New York to agree on a political declaration aimed at bolstering governmental and multilateral capacities for efficiently identifying and containing global health emergencies. This pivotal meeting could complement ongoing negotiations at the WHO and establish a mechanism that ensures enduring political support for strengthening global health security. It could also serve to realign the global community around

common principles and provide senior global leaders the momentum to get through the thorniest of negotiations.

The goal is not to find the perfect governance structure, but rather to establish robust implementation frameworks and secure the necessary financing to ensure effective functionality when faced with the next pandemic. Early signs indicate that incremental technical improvements to the global governance of disease regime are possible, but that major changes seem unlikely. State sovereignty claims, intellectual property rights, disagreements over what a public good is, and supporting and rewarding information sharing in disease surveillance have emerged as sticking points. Additionally, the current crisis of multilateralism could contribute to a watered-down new international agreement.

Strengthening country-level capacity to prevent, detect, and respond to disease threats requires not only commitments from political leaders around the world but also significant financial resources. While funds have been raised to support initiatives like the Pandemic Fund, the demand far outstrips available resources. To even start to make a dent in global capacity-building, the Pandemic Fund will need to dispense close to \$10 billion annually. All of those endeavors will require flexibility and adaptability given the unpredictable nature of disease emergence and the changing climate, both of which could lead to new types of public health challenges. Finally, innovative partnerships will be needed to counter mis- and disinformation campaigns, which threaten every effort to strengthen global health security.

Yet the stakes could not be higher. Although how effective any of the recommended efforts to strengthen global health security will be is unclear, unless the concurrent efforts are better coordinated and prioritized, the resulting web of governance tools will result in confusion and leave the world less safe. It is imperative to take swift actions to address the significant capacity and governance gaps in global health security before another major epidemic or pandemic arises.

# *APPENDIX: PRE-PANDEMIC GOVERNANCE REGIMES*

A complex web of governance regimes has worked to mitigate the harms of disease events since at least the International Sanitary Conference of 1851. Approximately seventy international agreements were utilized in response to the COVID-19 pandemic alone, joining a multitude of existing regional agreements, national policies and regulations, subnational policies and procedures, and local implementation guidelines related to disease.<sup>44</sup> Brief summaries of a few relevant global health agreements and regimes follow.

## *THE INTERNATIONAL HEALTH REGULATIONS*

In 1851, representatives of twelve countries gathered in Paris at the first International Sanitary Conference to discuss how to control the international spread of infectious diseases. The diseases (cholera, plague, and yellow fever) and approaches discussed at the subsequent International Sanitary Conferences became the backbone of first the International Sanitary Regulations and then the International Health Regulations. In 2005, the 194 member states of the World Health Assembly, the decision-making body of the WHO, adopted a revised IHR to expand the agreement to any potential public health emergency of international concern. This agreement obligates countries to develop enough national capacity to prevent, detect, and respond to potential public health emergencies, and provides an architecture for coordinated global response. Specifically, the IHR aims to obligate countries to develop and strengthen disease surveillance capacity. The 2005 agreement, however, had a series of gaps that widened over time as threats, technology, and global governance regimes evolved.<sup>45</sup>

## EARLY PANDEMIC WARNING GOVERNANCE

The potential for rapid spread of pathogens and the enormous socio-economic costs associated with it make early and sophisticated surveillance crucial for global health security. Before the COVID-19 pandemic, several mechanisms, initiatives, and institutions were already established. In 1952, the WHO established the Global Influenza Surveillance and Response System to monitor the evolution of influenza viruses and provide recommendations on virus strains for vaccine production. In the 1990s, two major internet-based global disease surveillance systems were created: the human-based Program for Monitoring Emerging Diseases, dedicated to the rapid global dissemination of information on infectious disease outbreaks; and the Global Public Health Intelligence Network, an early-warning system that collects preliminary reports of public health significance by monitoring media reports worldwide. In April 2000, the WHO established and coordinated the Global Outbreak Alert and Response Network, a network of institutions pooling human and technical resources for the rapid identification, confirmation, and response to outbreaks of international importance. Under the revised IHR (2005), states are obliged to share relevant information and collaborate with other countries and the WHO to prevent the international spread of diseases. Recognizing the need to effectively predict, prevent, and control zoonotic outbreaks, the Global Early Warning System (GLEWS) integrates and coordinates the alert mechanisms of the WHO, the Food and Agriculture Organization, and the World Organization for Animal Health into a single global early warning system for animal diseases, including zoonoses. The system was upgraded to GLEWS+ a decade later to provide more comprehensive and timely information and analysis on high-impact animal diseases. In addition to those international networks and mechanisms, many national and regional efforts, as well as private sector and academic initiatives, contribute to the global disease surveillance landscape. Despite efforts at the national, regional, and international levels, lack of political will and funding continued to hinder the development of effective disease surveillance capacity. Prior to the emergence of the COVID-19 pandemic, many countries still had limited capacity for disease surveillance.

## *METRICS FOR PANDEMIC PREPAREDNESS AND RESPONSE CAPACITY*

When the IHR entered into force, the WHO began to work on a monitoring and evaluation framework for assessing the capabilities of countries to detect, assess, report, and respond to potential public health emergencies, as obligated under the agreement. An IHR Monitoring Tool (IHRMT) was developed for country self-assessments and in late 2010 published a set of core capacities the WHO interpreted as being necessary to meet the IHR obligations. When the Global Health Security Agenda was created in 2014, the consortia introduced a new monitoring framework designed for external evaluations by third-party observers, encompassing many of the core capacities in the IHRMT with some additional areas of interest. This tool was eventually merged with the WHO's articulated core capacities to create a Joint External Evaluation tool, to become part of a suite of tools included in the IHR MEF. This framework, which now includes the JEE, after-action reports, and simulations, is regularly updated—often with minor incremental changes.

Over the past decade, multiple other entities have put forward metrics used to assess aspects of global health security. These include the PVS Pathways tool used by the World Organization for Animal Health as well as a series of civil society efforts such as the Nuclear Threat Initiative/Johns Hopkins University/Economist Global Health Security Index, the Rand Infectious Disease Vulnerability Index, and Metabiota's Epidemic Preparedness Index. A host of government and academic efforts also rank vulnerabilities to emerging infectious diseases.

## *PANDEMIC INFLUENZA PREPAREDNESS FRAMEWORK*

The Pandemic Influenza Preparedness Framework, which came into effect in 2012, brings together the WHO and its member states, industry, and philanthropic actors to ensure the fair and equitable distribution of vaccines, antiviral medications, and other medical supplies in the event of a pandemic due to influenza. Under this framework, WHO member states are required to share specimens of influenza viruses with pandemic potential to the WHO Collaborating Centers for Influenza, which are the primary source of virus samples for vaccine development. In exchange, member states receive negotiated access to vaccines and other medical supplies in the event of an

influenza pandemic and a voice in the decision-making process for the allocation of those resources.

### *CONVENTION ON BIOLOGICAL DIVERSITY AND NAGOYA PROTOCOL*

Governance for sharing genetic sequence data (GSD) and other public health information is being debated as part of both the IHR proposed amendments and the treaty negotiations. Additionally, the Convention on Biological Diversity and its associated Nagoya Protocol govern what is referred to as Digital Sequence Information (DSI), especially in relation to genetic resources. The CBD and Nagoya in particular are working through a new language around sharing DSI, access and benefit regimes, and global databases. Countries use multiple platforms for GSD/DSI to upload and share information, varying in their approaches to acknowledgments or other benefits associated with the entity that uploads the data. Debate continues regarding the best platforms for data generators and ensuring data security.

### *BIOLOGICAL AND TOXIN WEAPONS CONVENTION*

The Biological and Toxin Weapons Convention entered into force in 1975 and is the first agreement to ban an entire class of weapons. Although its focus is on the deliberate use of biological agents, Article VII and X focus on cooperation, assistance, preparedness, and response, with relevance to any biological event regardless of origin. Article VII in particular obligates states parties to come to the aid of another in the event of a violation of the treaty, meaning countries must work together when a deliberate biological event occurs. Given the challenges of differentiating between a deliberate and naturally occurring biological event—particularly at the start of an event—in practice this Article VII obligation can be interpreted as necessitating strong surveillance, detection, and response capacities for all public health emergencies.

*UN SECRETARY-GENERAL'S MECHANISMS FOR  
INVESTIGATION OF ALLEGED USE OF CHEMICAL OR  
BIOLOGICAL WEAPONS*

The UN Secretary-General's Mechanisms for Investigation of Alleged Use of Chemical or Biological Weapons (UNSGM) is the UN system for conducting fact-finding missions into possible deliberate biological use events. For chemical weapons allegations, the United Nations has a memorandum of understanding in place for cooperation with the Chemical Weapons Convention's Organization for the Prohibition of Chemical Weapons to conduct investigations. Because the BWC has no similar organization, investigations into biological weapons rely on a more ad hoc roster of experts from around the world. A small group of countries and experts have been working to strengthen the capacity to conduct biological investigations, including conducting a series of exercises and trainings, but this remains an underfunded and understaffed endeavor. The entity that would be in charge of response (including investigations and attributions) in the event of a deliberate biological use also remains unclear.

*WORLD TRADE ORGANIZATION AGREEMENT ON TRADE-  
RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS*

The WTO TRIPS agreement addresses all aspects of intellectual property rights. The Doha Declaration on the TRIPS agreement, signed in 2001, tried to address IPR in the context of public health events, allowing for flexibilities in order to protect population health, particularly in low- and middle-income countries. Those flexibilities included the right to grant compulsory licenses, which allow for the use of a patented invention (in particular, a medical countermeasure). In practice, however, TRIPS flexibilities have not ensured equitable access to medical countermeasures.



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# *MISSION STATEMENT OF THE GLOBAL HEALTH PROGRAM*

The Global Health program at the Council on Foreign Relations (CFR) provides independent, evidence-based analysis and recommendations to help policymakers, business leaders, journalists, civil society, and the general public meet the health challenges that arise in a globalizing world riven by deepening geopolitical tensions.

Population growth and increased trade and travel make it easier for infectious diseases to spread, as the COVID-19 pandemic shows. Diabetes, cancers, and other noncommunicable diseases are surging in low- and middle-income countries and threaten global economic development. Advances in science and technology improve our understanding of viruses, synthetic biology, and gene therapy, but raise biosecurity and biosafety risks and ethical questions. Climate change, urbanization, armed conflict, and still-nascent regulatory and health systems in lower-income countries have raised the priority of health challenges—from food insecurity, pollution, and humanitarian assistance to antibiotic resistance, substandard medicines, and tobacco use—on the agenda for policymakers, businesses, and local communities.

The world's changing health needs place new demands on global governance. The COVID-19 pandemic continues to enact a staggering toll, straining health systems and diverting resources away from other necessary care. International initiatives have made progress treating HIV/AIDS, preventing childhood illnesses, and reducing malaria in many parts of the world. Yet sustaining and expanding such achievements is not guaranteed. The stability of financing for global health institutions and initiatives is in doubt. New actors in global health—from philanthropic foundations to NGOs to multinational corporations—create not only opportunities for partnership but also policy coordination and coherence challenges. Prevention and treatment of

many of the health challenges now confronting low- and middle-income nations depend on local governments and civil society. The role of international initiatives in mobilizing and supporting that local response remains uncertain.

The Global Health program provides the evidence-based analysis that policymakers need to manage the scientific, economic, and political complexities of global health challenges in the twenty-first century. The program disseminates its findings through books, op-eds, articles, and a range of online interactives.

*Cover photo: People wearing face masks to curb the spread of COVID-19 walk in downtown Lisbon, Portugal, in November, 2021.*  
(Ana Brigida/AP Photo)

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