

# Advancing Global Health Security and Preparedness

Non-paper for collaborative engagement, January 2021

## Introduction

COVID-19 has exposed the fragility of the global health and economic systems. Yet when viewed in light of the multiple epidemics that have emerged over the past 20 years, COVID-19 appears less likely to be a once-in-a-century event than the new normal. While it is critical that global leaders continue to focus on ending the current pandemic, there are also clear opportunities emerging that—pursued now and with sufficient investment and urgency—can ensure more effective future preparedness and response.

Our forward-looking values and ambition should be based on what has and hasn't worked during what amounts to a real-time stress-test of the tools, systems and policies we rely on to deliver against all global health priorities. As the world internalizes lessons, there is an extraordinary opportunity to seize the moment, create complementary agendas, and prioritize global health going forward. By collaborating in collective efforts across countries, multilateral institutions, philanthropies, industry, academia, and civil society—we can design an action plan to be executed in the next three to five years. While also helping to end the current crisis, this plan can help forestall future disease outbreaks and contribute to broader global health and equity.

This memo outlines an initial set of recommendations that lay the groundwork for future preparedness and response. While not intended as an all-encompassing strategy, each recommendation is a core need, and serves as an actionable and concrete step that should be initiated. We take an end-to-end view across many pillars of preparedness and response, including governance and accountability, preventing zoonosis, containment, surveillance, R&D, manufacturing, service delivery, and financing—with a particular focus on ensuring a multisectoral approach, enhancing current systems, and minimizing need for creating new ones.

## Strengthening Global Health Security

COVID-19 has wreaked havoc on global health and the global economy, potentially undoing more than 20 years of progress in sustainable development, disease prevention, and poverty alleviation. However, COVID-19 has also spurred previously unimaginable scientific and technological innovation, encouraged public and private collaboration, and precipitated social action and behavioral change. As examples:

- Novel private-sector partnerships and vaccine platforms like mRNA and adenovirus vectors have led to development of new tools in record time.
- Global initiatives like the [Access to COVID-19 Tools \(ACT\) Accelerator](#), the vaccine partnership [COVAX](#), and the collective service for [Risk Communication and Community Engagement](#) (RCCE) have provided roadmaps for global cooperation and equity.
- Regionally-led solutions like the [Africa Medical Supply Platform](#) (AMSP), the Africa Infodemic Response Alliance (AIRA), and regional Centers for Disease Control (CDCs) have played strong leadership roles.
- Existing surveillance and disease control efforts like the [Global Polio Eradication Initiative](#) redirected essential personnel and capacity to address urgent needs.

Furthermore, by highlighting that pandemics drive simultaneous health and socio-economic crises, COVID-19 has definitively demonstrated the need to work across the health, humanitarian, social, and economic divide in order to prepare and respond to future outbreaks. Preparedness as a discipline cannot exist in a vacuum: not only is the ongoing pandemic far from over, countries are also facing a host of challenges that may themselves pose greater immediate threats to lives and livelihood. By accelerating innovation and collaboration, COVID-19 has showcased the value of investments among existing health programs and across sectors. Finally, by exposing the painful trade-offs countries have to make when they lack strong and resilient health systems

(redirecting healthcare workers, economies devastated by lockdowns to “bend the curve”), COVID-19 has reset the baseline for what effective health service delivery should look like going forward.

It is now up to the global community to define what is possible in a post-pandemic future—both in terms of preventing the next COVID-19, and in ensuring that COVID-related advances become building blocks of the broader global health ecosystem that emerges. This ecosystem can and should contribute both to reducing the risk of outbreaks and addressing pressing health needs between pandemic threats. As COVID-19 exposed stark power inequities in global response, efforts to develop this enhanced system must keep addressing these inequities front of mind. To ensure an effective and equitable future system, every core preparedness initiative should be implemented with five key principles in mind:

1. **End the current pandemic while also establishing a foundation for the future:** While the availability of vaccines gives hope that the end of the COVID-19 pandemic is possible, the challenges of delivering these innovations and the emergence of new variants that could evolve beyond protection by the current vaccines, suggest the threat of COVID-19 will continue to loom for years to come. Urgent needs remain the priority. Yet efforts to address COVID-19 can prioritize investments and reforms that have the greatest potential for durable and sustainable impact to lay the foundation for future global health security.
2. **Prepare with equity as a central goal:** While the COVID-19 pandemic has highlighted a range of inequities among countries, it has also highlighted gender, socio-economic, and racial inequities within countries and across populations. An evidence-based approach is crucial to ensure that the most affected groups are prioritized for interventions. And vulnerable populations, particularly those within regions suffering from multiple complex conflicts and disasters, need dedicated attention. All future preparedness efforts should recognize these inequities and their underlying causes—in low, middle, and high income countries alike. All initiatives should consider geography, gender, race, age, political, and socio-economic dimensions in order to ensure truly equitable health access for entire populations, including in low resource settings, based on health need—which will ultimately benefit everyone in a crisis. For example, the emergence of new variants in South Africa shows the global benefit and importance of surveillance in LMICs
3. **Promote a central role for LMIC voices and underrepresented communities, in global health security planning and development:** The early months of the COVID-19 pandemic were marred by nationalistic supply strategies that left many communities without critical basic needs. Yet many poorer countries were exemplars in containing the disease’s spread through localized action and uptake of preventative behaviors. Meanwhile, communities everywhere have struggled with mistrust, fear, and uncertainty, fueled by mis- and disinformation that undermines collective action and control strategies. While donors and global health institutions have a unique role, it is essential that more effective country and community engagement systems are in place for future outbreaks—as is engagement of critical stakeholders, like civil society. Preparedness has global implications, planning should be globally representative.
4. **Ensure preparedness efforts both harness and strengthen broader health systems and partnerships:** Preparedness investments should focus on existing platforms and systems—from global/regional institutions to Emergency Operations Centers—used by other disease control and elimination efforts like polio eradication that can be adopted and scaled to advance outbreak, epidemic, and pandemic strategies. Ultimately, preparedness and response should be core functions of a fully developed health system/sector, and efforts to strengthen preparedness should complement—rather than be siloed from or cannibalize—existing functions. Even targeted capacities such as outbreak surveillance, modular Vx manufacturing, and community engagement can benefit other priorities like malaria control and TB contact-tracing, with sustainable “day-to-day” systems designed to surge in crises.
5. **Enable private sector actors to bring unique capabilities and expertise to bear in global preparedness and response.** The new global health security architecture should continue harnessing strong private-sector networks while leveraging them to expand approaches to access, fill market gaps, and enable more

distributed global innovation and manufacturing. Private sector actors play a critical role in innovation but must also continue to evolve on equity.

## Recommendations for Action

With those cross-cutting principles in mind, initial recommendations for action are below—linked to more detailed summaries in the companion document.

### **A. Improving Relevant Governance and Accountability Structures**

Among other revelations, COVID-19 has highlighted major gaps in global health leadership, governance, and accountability. By its very nature, a pandemic requires a transparent and collaborative global response. COVID-19 also exposed the limitations of a “health-only” view of pandemic preparedness, which siloes decision-making, diverts responsibilities, and creates false dichotomies between saving lives and saving economies. To address these challenges, near-term efforts should emphasize an expanded view of needs, prioritize evidence-based reforms; strengthen core global health governance bodies and their role vis-à-vis countries at all income levels; and ensure independent and globally representative platforms for accountability. *Recommendations:*

1. Take an objective, people-centered “whole of society” view of global health security, ensuring governance, preparedness, and response planning reflect the needs and expertise of sectors beyond health
2. Support the work of the IPPR and other efforts to evaluate the world’s response to the COVID-19 pandemic and, once complete, work to implement all reasonable recommendations
3. Relevant critical health preparedness and response elements and complementary leadership for non-health sectors is established and fit for purpose
4. Build on the GPMB example by ensuring an independent, multi-year, multi-sector monitoring body for global preparedness that tracks and supports progress going forward

### **B. Preventing the Next Pandemic**

While effective governance and accountability are critical across all aspects of preparedness, the best time to prevent the next pandemic is to stop it before it emerges—starting by expanding our scientific focus on emerging zoonotic threats (diseases which can be transmitted to humans from animals). Coordination and investment in research and innovation can reduce the risk that another COVID-19 emerges. *Recommendations:*

1. Promote global leadership by implementing the One Health High-Level Expert Council
2. Develop Zoonotic Disease R&D Hubs according to different locations’ comparative advantages

### **C. Strengthening the Core – Integrated Global Disease Surveillance**

The SARS-CoV-2 jump from animals to humans was not prevented. Nor was its emergence reported rapidly enough to contain global spread. Fortunately, as the threat was realized information about it was communicated relatively quickly (unlike H1N1, where the world was slow to detect early cases). Yet the clinical and public health communities did not establish SARS-CoV-2 testing and integrate that testing into surveillance systems completely and quickly enough to mitigate global spread. This necessitates a close look at how to strengthen and integrate health data systems for future preparedness. Most pressingly, the pandemic revealed the need to strengthen global disease surveillance infrastructure and data-sharing requirements by significantly reimagining the scale and reach of integrated surveillance systems. *Recommendations:*

1. Design and implement an effective global pandemic early warning system
2. Define and develop a minimum ongoing surveillance capacity needed in all countries, that can serve important routine, regional public health needs during interpandemic periods and that can be leveraged to rapidly meet emerging needs during a pandemic
3. Foster a sustainable ecosystem for next generation pathogen sequencing, broadly available in LMICs, with effective open-source bioinformatics and workflows for local interpretation

#### **D. Standing at the Ready – Active Preparedness**

COVID-19 clearly demonstrated that countries who had recent experience with novel pathogen outbreaks had designed policies, trained personnel and invested in systems that enabled them to mobilize and respond more efficiently and effectively. Taiwan stands out as a strong exemplar of this. That lived experience is now true for nearly every country, but as memory fades it will be critical to renew vigilance with regular ‘germ games’ that test protocols, systems and leaders across sectors. Equally important is having command-and-control structures that can be activated instantly to exercise authority in coordinating a response; as well as mobilizing the human and technical capacity necessary both within and across countries. *Recommendations:*

1. Conduct regular simulation exercises at global, regional, national and sub-national levels to practice, analyze and improve outbreak response
2. Ensure capacity in every country to manage outbreaks through networked Public Health Emergency Preparedness and Response Systems, with centralized command & control Emergency Operation Centers
3. Strengthen cadres of infectious disease first responders and establish networks for rapid regional or global mobilization
4. Ensure sufficient stockpiles for responding to health crises, including both pandemic-focused tools and critical commodities for basic care like essential medicines and oxygen

#### **E. Accelerating Innovations before they’re needed**

Product research and development has been a true bright spot in COVID-19 response—though there are still critical lessons for future needs. In particular, the most promising platforms for supporting long-term product innovation need to be funded and strengthened. Building up an armory of potentially effective therapeutics and vaccines, as well as tools and techniques to extend their reach. *Recommendations:*

1. Build just-in-time discovery capacity for Pathogen X via an international coalition, including the development of the following platform tools
  - a. An open-source library of phase 2-ready drugs with broad cross-reactivity across major virus groups of pandemic concern, utilizing novel AI approaches to drug discovery and optimization
  - b. A pipeline of just-in-case vaccines and monoclonal antibodies that target WHO priority pathogens and/or demonstrate pre-pandemic strain coverage
  - c. Novel technology to improve supply and deliverability of vaccines and therapeutics, such as novel adjuvant discovery, lowering the cost of monoclonal antibody production and improving mRNA formulation to help ensure equitable access
2. Strengthen CEPI as a platform for preparedness innovations

#### **F. Developing Countermeasures and Response during Crisis**

Among the most egregious failures witnessed during the current pandemic was the inability to rapidly scale diagnostic testing to sufficiently assess, target and manage the spread of COVID-19. Some countries navigated this immense challenge successfully and some new innovations proved promising, but by and large, the world failed to demonstrate its readiness to test. Advancing innovative diagnostics technologies and platforms can play a key role in not repeating this disappointment. Furthermore, the COVID-19 pandemic highlighted both the promise and limitations of global data-sharing and standardized policy implementation. Taking actions to address lessons learned, will be crucial to ensuring countermeasures for a future pandemic can be developed and deployed quickly, equitably, effectively, and at scale. *Recommendations:*

1. Develop diagnostics platforms that can rapidly scale to large populations and connected diagnostics that enable real-time reporting
2. Codify new data-sharing protocols and transparency commitments from countries and global health mechanisms
3. Optimize national and international regulatory systems to accelerate global response while ensuring safety

### G. Developing Manufacturing Capacity for Treatments and Vaccines

Significant investment is needed in scaling long-term global manufacturing capacity in appropriate settings and in partnership with the private sector, along with lowering costs of novel technologies. We are living proof of this challenge: now that several COVID-19 vaccine candidates have been shown effective, our ability to speed access will largely depend on our very practical ability to make them safely with speed and at scale. It will be critical to invest in expanded manufacturing capacity globally for treatments and vaccines that enable effective pandemic response while improving global health security in the interim. *Recommendations:*

1. Demonstrate proof-of-concept for multi-purpose manufacturing pods and facilities, utilizing novel technology to reduce costs and risks
2. Develop a network of ‘ever-warm’ vaccine and biologics production facilities in configurations that are flexible, mitigate geopolitical supply risks and are sustainable in non-pandemic times

### H. Enabling People-Centered, Fit-for-Purpose Pandemic Service Delivery

To ensure effective pandemic preparedness and response, all recommendations for action must be complemented by the ability to effectively deliver critical health services when and where they are needed most. At the same time, supporting more people-centered, fit-for-purpose pandemic service delivery provides a clear opportunity to leverage existing efforts to strengthen health systems, particularly in LMICs, and to strengthen systems in specific ways that benefit broader health and equity improvements. *Recommendations:*

1. Establish a Health Data Global Interchange that draws on the expertise and capability of the private sector to establish a global repository for country-specific health data.
2. Strengthen regional and country level institutions’ ability to develop/adapt public health guidance to local conditions, context, cultures, evidence, beliefs and knowledge, using measures that facilitate gender and social equity, and that build and sustain trust amongst communities, implementers and authorities.
3. Improve procurement mechanisms and supply chain systems through both investment and innovation to ensure critical commodities can reach those in need
4. Design systems and policies that enable rapid introduction of new tools and mobilization of surge capacity while preserving continuity of essential health services

### I. Mobilizing Sustainable and Sufficient Global Health Security Financing

All of the recommendations highlighted above will require significant financing at global and national levels. All countries will need to step up their domestic health investments, yet few LMICs will be able to mobilize anywhere close to sufficient resources, not least because of the enormous fiscal challenges created by COVID-19. Meanwhile, given the broad array of needs—but also the global benefit to rich and poor countries alike—official development assistance (ODA) alone is neither appropriate nor sufficient to finance investments focused on pandemic preparedness needs. This is especially true given that COVID-19 has significantly undermined delivery of other essential health and poverty alleviation programs that depend on ODA support. Many proposals exist to enhance global health security financing—and financing for specific preparedness needs; none of them are likely to be panaceas. The most effective near-term actions involve developing definitive views of costs, options, opportunities for collaboration, and trade-offs—with a goal of implementing at least one concrete new source of funding as soon as possible. *Recommendations:*

1. Develop a consolidated, definitive view of the timing and profile of global health security investments needed to ensure sustained global efforts, including in non-pandemic times
2. Identify potential financing instruments and sources to finance global health security priorities as part of a financial action plan by end of 2021
3. Improve coordination of global health security investments via pooled mechanisms that can leverage mobilized resources and channel them to areas of greatest need