POLICY FORUM

OVERLINE

A treaty to break the pandemic cycle

An evidence-based treaty must balance prevention, preparedness, response, and repair

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World Health Organization (WHO) member states have tasked an Intergovernmental Negotiating Body with developing an initial draft of a "pandemic treaty" by August 2022, with the goal of adoption of an agreement by May 2024. There are multiple proposals for the specific aims that such an international legal instrument for pandemic preparedness and response should incorporate. One unsatisfying solution would be to relegate the pandemic treaty solely to matters of human health as much as possible. International law, including the International Health Regulations (IHR), has typically operated in these types of fragmented, thematic silos. This untenable approach ignores key lessons from the past 2 years, and well before. A better option is a treaty that (pro) actively brings cohesion to international law and the haphazard governance that left the world vulnerable to both the risks and impacts of COVID-19.

Considerable scientific evidence suggests that the world is trapped in a positive-feedback loop: Disease spillovers from animals to humans become outbreaks that then become pandemics, creating many catastrophic impacts that can reduce resiliency and increase the socioecological drivers of spillovers. Pandemics connect to every aspect of society, both driven by and spilling over into politics, the environment, economics, and systematic inequalities and injustices. This imposes a substantial burden on the negotiation process, as stakeholders lobby for the treaty to be all things for all interests. Left unchecked, this might result in a treaty that fails at its primary purpose: preventing, preparing for, and responding to pandemics.

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Closing the "pandemic gap" requires evidence-based solutions that break every step of the cycle, including reducing spillover risk, reducing pandemic risk, reducing pandemic impacts, and ensuring recovery and resilience. We identify 12 elements for a cohesive, transformative, and evidence-based treaty (see the box). We describe how these elements could be translated into provisions under the treaty, with a focus on principles of good governance, distributive justice, and human rights and coherence within international law. A treaty that balances these aims will move global health governance beyond the limited scope of the IHR and provide clarity and complementarity to other relevant international legal regimes.

SPILLOVER PREVENTION

Pandemics start in nature. Stopping some at the source could be cost effective, and many proposed solutions would incidentally benefit conservation and other environmental causes.

Planetary health solutions

Anthropogenic environmental change drives poorer baseline human and animal health and is increasing the rate of viral spillover. To date, land use has been the biggest upstream driver, linked to 18% of emerging disease outbreaks since 1940 (*1*). Within the next decade, it will be overtaken by climate change, even if greenhouse gas emissions are reduced (*2*). Global environmental issues must be embedded throughout the treaty. This includes preambular language that expressly recognizes the roles that climate change, biodiversity loss, land degradation, and wildlife trade play in pandemic risk. Other elements of the treaty may also support environmental aims: for example, obligations to build sustainable primary health care systems may help reduce deforestation and meet greenhouse gas emissions targets (*3*). To formalize cobenefits, a treaty can expressly interface with existing obligations under other international laws, such as the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species (CITES), and the United Nations Framework Convention on Climate Change (UNFCCC).

One Health solutions

Outbreaks are multicausal: A recent analysis of 41 socioecological risk factors (such as mining, hunting, and travel) showed that in the 100 largest zoonotic disease outbreaks since 1975, no one driver could be linked to more than 13% of events (*4*). Singular solutions that only target one aspect of the wildlife-livestock-human interface are therefore unlikely to succeed at scale. Taking lessons from multilateral environmental agreements, and in coherence with states' existing obligations in relation to the World Organisation for Animal Health (WOAH, formerly OIE) and the Food and Agricultural Organization (FAO), the treaty should provide flexibility for locally tailored risk assessments and intervention strategies while instilling obligations to conduct animal disease surveillance and fund a stable, well-trained One Health workforce (integrating human, animal, and environmental health). Historically, these investments have been focused in tropical countries and around high-risk interfaces like wildlife markets and agriculture; a forward-looking pandemic treaty must expand this approach, cognizant of scientific evidence that, particularly in a changing climate, zoonotic emergence is a global risk (*2*).

Zoonotic risk assessment

After facing five influenza pandemics in less than a century, global strategies have been established to sound the alarm when new threats emerge. COVID-19 underscores the need to broaden this approach: Although flu is the most persistent pandemic threat, there are hundreds of coronaviruses, paramyxoviruses, poxviruses, flaviviruses, and others that will cross the species divide in the coming century. Only a small fraction of spillovers are likely to become pandemics; the task of risk assessment therefore relies on both surveillance (including viral discovery in animals, syndromic surveillance in humans, and monitoring at the interface between them) and science (including both experimental characterization and com-

putational prediction). Establishing notification and data-sharing obligations for animal disease outbreaks and One Health discoveries of public interest, coupled with both risk assessment and benefit sharing provisions, would support global efforts to identify potential zoonoses, develop countermeasures like universal vaccines, and monitor for spillover.

PANDEMIC PREVENTION

Even with upstream mitigation, spillover remains a persistent problem. The primary aim of a pandemic treaty must be to prevent outbreaks from becoming pandemics.

Surveillance and assessment

Infectious disease surveillance is severely limited by funding, workforce, and technological capacity. Genomic epidemiology is vital both to identify outbreaks and to assess the risk of human-to-human spread (*5*). Under the IHR, there is no express obligation to share pathogen samples or genomic sequence data (GSD), even after notification of a potential public health emergency of international concern. The pandemic treaty must consider the balance of obligations to share data, obligations on high-income countries to provide capacity building and technology transfer, and obligations to equitably share the benefits from the use of GSD, including not only risk assessments but also diagnostics, vaccines, and treatments. A treaty may also support innovation in disease detection (including wastewater surveillance for both new and ongoing outbreaks) and real-time digital sharing of epidemiological data.

Biomedical R&D and production

Under one estimate, $24 billion would be sufficient to develop prototype vaccines for every family of viruses that can infect humans (*6*). With biomedical investments like these, and international initiatives like the Coalition for Epidemic Preparedness Innovations, scientific advances could lead to game-changing vaccine platforms and technologies, potentially including universal vaccines. For production and deployment to keep pace with these technological advances, the pandemic treaty must address the substantial legal and political impediments to technology transfer and capacity building. This includes taking lessons from other regimes, including international climate law, for financing and technology mechanisms to build capacities and facilitate hard and soft technology transfer. A treaty can set priorities and establish an end-to-end research and development (R&D) platform, predictable financing, and regional platforms and engage industry and states in prenegotiated contracts and agreements from R&D to production (*7*).

Health systems strengthening

Even before vaccination began, health care disparities made COVID-19 twice as deadly in low- and middle-income countries (*8*). The goal of achieving both universal health coverage (UHC) and global health security must form the foundation of a pandemic treaty if it aims to prevent outbreaks from becoming pandemics. The treaty must explicitly acknowledge the importance of health systems strengthening (HSS) in achieving both UHC and global health security and use a "right to health" approach to ensure that health systems are accessible, available, acceptable, and of sufficient quality to all. This should include express commitments to HSS and UHC, including financial commitments: Countries' investment choices will account for an 870-million-person margin of uncertainty in projected health coverage by 2030(*9*). To achieve the best outcomes possible, a treaty must include a funding mechanism with a target of meeting the WHO's existing goal of 1 billion more people covered by UHC. This would not only be fundamental to prevent spillovers from becoming pandemics but would bring a suite of health cobenefits, like reducing maternal and child mortality and the burden of neglected diseases, as well as reducing pandemic impacts.

Twelve elements of a pandemic treaty

A successful treaty must balance several aims between prevention (reducing both spillover and pandemic risk) and response (reducing pandemic impacts and improving recovery and resilience).

Reduce spillover risk
- Planetary health solutions (global)
- One Health solutions (local)
- Zoonotic risk assessment

Reduce pandemic risk
- Surveillance and assessment
- Biomedical R&D and production
- Health systems strengthening

Reduce pandemic impacts
- Equitable access to global goods
- Emergency legal preparedness
- Least restrictive measures

Recovery and resilience
- Adaptive governance
- Accountability and transparency
- Reduce inequities and injustice

PANDEMIC RESPONSE

As of now, there is no international law that sufficiently governs a pandemic response, leading to the kinds of dysfunction witnessed during COVID-19.

Equitable access to global goods

The treaty must address the global injustice of the inequitable sharing of benefits from the use of pathogen samples and GSD, including vaccines, diagnostics, and therapeutics seen in current and previous pandemics. The treaty is the most critical opportunity that we have to establish a multilateral mechanism to facilitate this in line with global health and equity and consistent with other areas of international law, like the Nagoya Protocol to the CBD. In addition, the treaty should limit legal barriers to global equitable access, such as export controls, and set the terms of use for advance purchase agreements, including the use of prenegotiated standard terms and establishment of a multilateral distribution mechanism (*7*). The treaty is an opportunity to dismantle intellectual property law barriers to equitable access in a forum that is more democratically representative of the Global South than the World Trade Organization, potentially better enabling the prioritization of global health and equity.

Emergency legal preparedness

Law has long been undervalued as a critical component of emergency preparedness and response. However, legislative and judicial actions throughout the pandemic have left many countries' public health laws in tatters (*10*). Governments are substantially less empowered to protect health now and during the next pandemic. Although the IHR require States Parties to have enabling legislation as part of their core public health capacities, the contents of these obligations are poorly defined across implementation initiatives. It was only this year that the Global Health Security Agenda, aimed at strengthening global health security by building core public health capacities worldwide, added a program sufficiently dedicated to legal preparedness. Translating the IHR's technical approaches into domestic law has been a major challenge, partly because domestic laws depend on political will for action. Here, a pandemic treaty that is not designed exclusively as a technical instrument but also carries normative weight may be better equipped to facilitate the political momentum necessary for domestic law reform.

Least restrictive measures

Public health and human rights demand that governments use the least restrictive measures necessary to achieve proportionate public health outcomes. The pandemic treaty must provide the governance necessary to guide evidence-based public health measures and respect for human rights. It must also establish mechanisms to monitor restrictive public health measures used during pandemics and ensure accountability of states under global health law (*11*). This includes addressing the use of travel restrictions. Scientific evidence indicates that international travel restrictions may delay the spread of pandemic pathogens (*12*), but they have been applied inconsistently and discriminatorily and some have been more restrictive than necessary. The use of travel restrictions has serious implications for the next pandemic, potentially disincentivizing rapid notifications of new outbreaks. In coherence with the IHR and any reforms, the pandemic treaty is an opportunity to reconsider the types of incentives available for rapid reporting, including funding and compliance mechanisms, as well as for normative commitments to least restrictive measures at the highest levels of government.

RECOVERY AND RESILIENCE

A pandemic treaty offers the best, and possibly last, chance to rebuild global trust and show that multilateralism has the political and practical ability to build a safer and fairer world.

Adaptive governance

Responding to the changing landscape of global health will require a treaty to establish a regular conference of parties (COP). These meetings will facilitate norm-building, interpretation consensus, compliance assessment, and the negotiation of protocols if a framework convention model is adopted. Learning from the relationship between the UNFCCC and Intergovernmental Panel on Climate Change (IPCC) [and, similarly modeled on it, the CBD and the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES)], the treaty should also establish an intergovernmental science-policy platform for pandemic prevention, preparedness, and response, which will inform decision-making at COPs. This platform must have a primary mandate of evidence synthesis across all four quadrants of the pandemic cycle, explicitly not in support of any agenda beyond consolidation and evaluation of scientific literature, with an independent public process for government and civil society review. Building on this, and taking the lessons from the Biological Weapons Convention, the treaty should build in express opportunities for regular review conferences, ensuring that the treaty itself survives and adapts to changing science, technologies, and epidemiology.

Accountability and transparency

The COVID-19 pandemic has decreased public trust in both scientists and government officials. Treaty elements that promote accountability and transparency will be essential to its success and good governance, establishing the rule of law for state conduct. Similar to mechanisms under international climate law, the treaty should include an independent compliance body tasked with facilitating implementation and assistance, conducting verification, and promoting compliance through transparent and regular reporting (*13*). A range of other compliance mechanisms have been proposed, from empowering WHO or the United Nations Secretary-General to conduct investigations to sanctions for delayed notifications. However, punitive measures risk undermining the trust and transparency necessary for public health, even at the global scale. Instead, the treaty should establish transparency and accountability through positive incentives. Civil society will also be a critical component of holding states accountable for their obligations under the treaty, including in any shadow reporting processes, and protecting the rights of health care workers, scientists, and lawyers who serve as whistleblowers (*14*). In recent years, many governments have actively limited the space for civil society to operate, share information, and conduct advocacy in public health; to remedy this, the treaty must enshrine recognition of civil society organizations and factor in appropriate protections and participation in compliance processes.

Reduce inequities and injustice

Throughout all of the elements, there must be an express commitment by States Parties to reduce the inequities and injustices that make pandemics disproportionately affect vulnerable populations, both within and among countries. Although this recognition should include preambular language that sets the tone for the treaty, it must go further. The treaty must contain a clear, binding obligation of nondiscrimination in the implementation of pandemic prevention, preparedness, and response measures. The negotiation process, the science-policy platform, and the treaty's governance arrangements must all have express requirements for equitable geographical representation and diversity of gender, country income levels, and disciplinarity. Finally, the treaty must not be given the opportunity to recapitulate the colonial histories of global health and international law. Deliberations about how a pandemic treaty enshrines and advances the decolonization of global health should be central to its conception and led by countries and communities that have historically been excluded from both global governance and scientific scholarship.

BREAKING THE CYCLE

Breaking the pandemic cycle and dismantling injustice are daunting tasks for a treaty, particularly one designed within a system that has perpetuated and institutionalized both. Even this early in negotiations, many already anticipate that on the current trajectory, a treaty will fall short of these ambitions (*15*). Negotiators must take these concerns as a clarion call or risk far-reaching repercussions for the legitimacy of global health and multilateralism beyond the treaty itself. Every remaining moment is a once-in-a-generation opportunity to negotiate an ambitious and equitable treaty and fight for provisions that materially improve the health of humans, animals, and ecosystems. ■

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