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A global public health convention for the 21st century

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As shown by COVID-19, infectious diseases with a pandemic potential present a grave threat to health and wellbeing. Although the International Health Regulations provide a framework of binding legal obligations for pandemic prevention, preparedness, and response, many countries do not comply with these regulations. There is a need for a renewed framework for global collective action that ensures conformity with international regulations and promotes effective prevention and response to pandemic infectious diseases. This Health Policy identifies the necessary characteristics for a new global public health security convention designed to optimise prevention, preparedness, and response to pandemic infectious diseases. We propose ten recommendations to strengthen global public health governance and promote compliance with global health security regulations. Recommendations for a new global public health security convention include greater authority for a global governing body, an improved ability to respond to pandemics, an objective evaluation system for national core public health capacities, more effective enforcement mechanisms, independent and sustainable funding, representativeness, and investment from multiple sectors, among others. The next steps to achieve these recommendations include assembling an invested alliance, specifying the operational structures of a global public health security system, and overcoming barriers such as insufficient political will, scarcity of resources, and individual national interests.

Introduction

Pandemics, which by definition span international borders, present a threat to the health and wellbeing of societies. The COVID-19 pandemic has made collective action to achieve optimal prevention, preparedness, and response to these events a global imperative.

The International Health Regulations (IHR)[1] constitute an international legal framework designed "to prevent, protect against, control and provide a public health response to the international spread of disease".[1] The IHR set out the minimum core capacities that States Parties must implement at the local, regional, and national levels to detect morbidity and mortality, report essential information, and respond effectively to contain health security threats.[2] These regulations are legally binding on all 196 signatory States Parties.[3–5] Oversight for the IHR is assigned to WHO—the primary global body for public health-related activities.[6] Responsibility for maintaining these core capacities lies with individual states, with WHO providing technical assistance.[7]

Despite clear legal obligations outlined in the IHR, most States Parties do not comply with all requirements.[8] Although countries might not adhere to the IHR for various reasons, a primary barrier to global achievement of IHR goals lies in its unenforceability.[7,9] Despite all WHO member states being legally obliged to follow the IHR unless they opt out of the agreement, there is no penalty for non-compliance.[10–12] The IHR do not provide WHO with adequate power to impose sanctions, intervene, or hold States Parties accountable for breaches or non-compliance, meaning that WHO does not possess the necessary authority to effectively execute this agreement. Moreover, under the IHR, WHO does not have sufficient resources, political self-determination, or capacity to prevent nations from disregarding its technical guidance.[13–16]

The absence of explicit WHO authority to meaningfully monitor and enforce the IHR results in a world that is inadequately prepared to strategically manage infectious disease outbreaks at global, national, or subnational levels. The global health governance system might be more aptly described as a group of "transnational and national actors pursuing their own interests"[17] than a coordinated network of collaborating stakeholders working to achieve pandemic prevention and control. Rather than delegate some responsibility for decision making to a global body, most countries cooperate when their leadership chooses to, such as when collaborating is in an individual country's national interests.[18–22]

The COVID-19 pandemic has highlighted these inadequacies in ways that signal an urgent need for reform. In January, 2021, the Director-General of WHO, Tedros Adhanom Ghebreyesus, noted that the pandemic has shown that the current tools of pandemic prevention and response are insufficient.[23] He introduced the idea of a new convention, stating "I think a treaty is the best thing that we can do that can bring the political commitment of member states".[24] This call to action is not new. Multiple voices in the global public health community have previously called for a more robust strategy for IHR adherence and enforcement.[2]

Health is a human right, and the foundation of effective global public health security relies on shared responsibility. Given the clear and present danger posed by COVID-19 and future pandemic diseases, there is a need for the international community to establish a more effective system to ensure observance of international pandemic regulations such as the IHR.[25,26] Global infectious disease prevention, preparedness, and response efforts require coordination by an international organisation (or multiple bodies) in collaboration with national and subnational organisations.

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The inexistence of an adequate system to ensure coordination, collaboration, and compliance with international public health security agreements (such as the IHR bolsters) the need to create a new convention that addresses these shortcomings. This Health Policy presents the necessary characteristics for a functional global convention that can assure an effective pandemic infectious disease prevention, preparedness, and response system. The process used to identify these characteristics is presented in the appendix. We propose ten recommendations to improve the current system of global public health security.

Improving the current system of global public health security

Authority

The governance structure for a global public health system should grant necessary authority to one or more agencies, such as WHO, to coordinate pandemic prevention, preparedness, and response globally, including across regions, countries, and subnational jurisdictions. This authority could include an agreed-on power to lead countries and other relevant agents to act and collaborate.

An effective global health convention requires a global vision and should provide an agency (or agencies) the necessary authority to monitor, share data, and coordinate activities across countries. This agreement should provide a specified agency (or agencies) with the capacity to coordinate the collection and distribution of resources and information globally. Such a convention should, when necessary (eg, during a pandemic) supersede other authorities and bypass existing regulatory structures, including national jurisdictional authorities. An effective convention requires countries to share some degree of authority so that the governing agency can effectively coordinate activities whenever and wherever they are needed. Such an agreement must also emphasise prevention, including the primary prevention of infectious disease outbreaks, which can involve broadening the existing global health security purview.

Responsiveness

The global public health system (and its governing agency or agencies) should possess the capability to flexibly and rapidly respond to, instil protections for, formulate interventions against, and mobilise and deploy resources for, a range of possible public health security threats and scenarios such as infectious disease outbreaks and pandemics.

A challenging but essential task for a governing agency is to possess the flexibility to prevent, prepare for, and respond to various scenarios in a timely manner at various jurisdictional levels. This flexibility includes the capacity to meet the diverse needs of countries at any given stage of an infectious disease outbreak or pandemic.

Expertise

In a global public health system, one body should exist as the singular authoritative source for information, data, and technical assistance. This agency should possess appropriate technical expertise and must be able to communicate a clear and compelling message to the world.

An effective global public health security system requires a singular body with technical expertise in pandemic prevention, preparedness, response, and recovery. This agency should represent the authoritative source for information, expertise, and technical proficiency. The agency should be the single authoritative guide in case of emerging and re-emerging infectious disease outbreaks—the role that WHO is currently authorised to serve. This central body should also be empowered to create and communicate the standards for the world without undue political interference. The communication must be compelling, evidence-based, authoritative, consistent, and include clear expectations for countries regarding public health security policies, benchmarks, and activities.

Evaluation

The capacity of objectively evaluating countries on their progress in achieving requirements and of providing or coordinating remediation for identified deficiencies should be built into a governing framework for a global public health system.

The global public health security convention and its executing body (or bodies) should provide specified agents the authority to do objective, external evaluations of countries on their compliance, and to help to remediate any deficiencies in meeting international standards. An effective framework must emphasise external monitoring of each country's progress in meeting some public health requirements. This process should not rely extensively on countries' self-evaluation (such as how the Joint External Evaluation system operates currently). Additionally, to ensure transparency and promote compliance, the external evaluations should be made publicly available.

The prerogative of a governance framework should include the authority not only to evaluate but also to require remediation, and the capability to assist countries in achieving compliance. Although evaluation could be used to incentivise countries to participate, it might be most effective when framed as a tool to guide and support countries toward desired outcomes rather than as a mechanism for punitive measures.

Enforcement

Reform must equip a governing body (or bodies) with appropriate enforcement mechanisms, which can include substantial incentives for countries to cooperate, sanctions for non-compliance, or both.

An effective global public health security convention requires a governing body (or bodies) to enforce the framework. Currently, a legally binding agreement such

as the IHR has no power because it does not have adequate enforcement mechanisms, rendering compliance with the IHR voluntary.

Enforcement mechanisms can include incentives for participation, penalties for non-compliance, or both. Benefits for countries could include tangible resources, such as financial aid or technical assistance in establishing core capacities for pandemic prevention and preparedness, support with pandemic responses, access to data and information, recommendations and guidance, or other services provided by a governing body. These benefits are designed to promote compliance and can differ depending on the country. The incentives must be robust enough to be effective.

Penalties for non-complying countries could include public reprimands, economic sanctions, or denial of benefits, such as those related to travel, trade, and tourism. Moreover, public disclosures of compliance might act either as an incentive or penalty. Incentives and sanctions are a challenging balance. Incentives are more desirable than sanctions, but compliance might not be adequately achieved without some type of penalty. Additionally, enforcement mechanisms must be adapted to each country's specific and unique circumstances, especially regarding the diversity in access to resources and varying abilities to mobilise those resources.

Autonomy

The governing body (or bodies) should be autonomous, having freedom of self-governance and decision making processes resistant to undue political pressures.

The convention's governing body (or bodies) should possess independent decision making powers and be insulated from undue political interference. The body should have the ability to make decisions in the best interest of global health, rather than in the interests of individual stakeholders. Autonomy prevents undue political pressures from interfering with effective execution of the health convention, but does not mean the governing body operates in a vacuum; interdependence with other agents is necessary to effectively execute a global public health convention. Autonomy simply allows for independent, evidence-based decision making, free from conflicts of interest or from the pressure of the individual agendas of participating entities.

Currently, WHO serves as a membership organisation at the behest of the World Health Assembly and its member states, especially those providing substantial financial contributions. The current financing system predominantly consists of voluntary financial contributions from select member states, making WHO particularly vulnerable to political influence and inhibiting WHO's ability to communicate honestly and command transparency from its member states. These limitations render WHO an advisory body, rather than an executive agency that is empowered to act and generate change. The world's leading public health agency must possess the necessary autonomy to decide and act in the best interest of global public health rather than favour its principal contributing members. The nature of an international representative body might be inherently political, but a greater degree of immunity from undue political influence will promote more independent decision making.

Financing

An effective global public health security framework requires a sustainable financing system that protects the governing body (or bodies) from political influence, possible retribution, or the threat of inconsistent funding.

Historically, global public health efforts have been inadequately funded. The main organisations promoting pandemic prevention, preparedness, and response efforts do not possess sufficient resources to maintain necessary core public health capacities.[27] Adequate funding is necessary for effective public health security. Additionally, for a lead global health agency to capably coordinate pandemic prevention, preparedness, and response efforts, it must have sovereign control of its financial resources, requiring a sustainable financing system and, probably, an independent monetary fund dedicated solely to global public health security. Sustainable financing means perennial investments in all stages of infectious disease containment—especially prevention-related activities, before outbreaks occur. Annual funding should be dedicated not only to building core capacities but also to contingencies for possible emergencies in the future, much as how insurance systems function.

There are many ways to achieve sustainable and independent financing. For instance, funds could be contributed primarily (or exclusively) by member states—the countries that will benefit from the governing body's efforts in health security. Countries could still provide some voluntary funding, whereas a certain amount of contribution could be compulsory (or both, as WHO's funding currently works). Compulsory contributions might provide members with a sense of being participants rather than donors. Another option might involve a tax on global private industry or international trade, such as a financial transactions tax, to provide greater sustainability, legitimacy, and autonomy. Alternatively, philanthropic foundations, the private sector, or countries themselves could provide a permanent endowment, allowing for greater autonomy and immunity from individual member states' political influence.

Representation

A governance structure for a global security system must be representative of all countries and other relevant non-state stakeholders. The governing framework must possess a high degree of transparency and accountability.

The governing structure must be adequately representative of all countries. It should also include other relevant stakeholders from civil society, the public health sector, the private sector, and academia, among others.

Representation creates greater legitimacy for a governing system and promotes receptivity from constituent countries. Representation can be reached in multiple ways. Collective governance by nearly 200 member states might be unwieldy, so the governing body need not include all member countries at all times. For example, governance could be achieved through regional or rotating representative members. For a global public health security system to succeed, current global economic powers, such as the USA and China, should be involved.

Whatever the structure, the governance system for a global public health convention must be transparent and accountable across every level of decision making and action, including, but not limited to, open data sharing thorough independent evaluations of countries' levels of preparedness, in statements about countries' assessed levels of compliance, and in accurately reporting infectious disease monitoring and outcomes.

Multisectorality

A formal pandemic prevention, preparedness, and response system (including governing bodies) must involve multiple sectors at all levels of governance and action. In addition to national governments, participating agents can include the private sector, local governments, and civil society.

Sectors beyond public health should participate in the global public health security system at all levels. The public health sector alone is not enough to effectively prepare the world for a pandemic, nor does it typically have enough influence within countries to gather adequate national support. Many sectors face the consequences of pandemic infectious diseases, and these groups should participate in prevention, preparedness, and response efforts. Public health activities must be reflected in the core functions of an entire national government, not solely the agencies responsible for health.

In addition to national governments, participating stakeholders must include the private sector, philanthropic organisations, global non-governmental organisations, local governments, academia, communities, or non-governmental organisations operating on the field level. Relevant parties on the national, provincial, and local levels must also be encouraged to participate in these activities. A challenge for a global public health security system involves engaging both the national governments responsible for determining participation in international agreements and the local public health sectors typically responsible for prevention, preparedness, and response-related activities.

Commitment

For a global health security convention to be effective, all relevant parties participating in the system must understand the threat posed by pandemic infectious diseases; accept the gravity of this threat; acknowledge their own responsibility in contributing to effective prevention, preparedness, and response; show a commitment to these efforts; agree to comply with a global convention; fulfil their individual responsibilities to the global contract among nations; collaborate with other parties; and cede some degree of authority to a global governing body, thus permitting that body to effectively coordinate and intervene to prevent, prepare, and respond to infectious disease outbreaks and pandemics.

Relevant stakeholders in a global public health security convention (especially individual countries) must assume some responsibilities for the system to work effectively. All stakeholders must accept the serious threats that pandemic infectious diseases pose to public health, economic security, and global cohesion. Acknowledging the severity of infectious disease outbreaks and the interconnectedness of countries and commiting to act is essential. Countries must, to some extent, acknowledge the collective action necessary for pandemic prevention, even for diseases that they do not yet recognise as a threat.

Countries must also agree to comply with international agreements, cooperate with other parties, and transfer some degree of authority to a global governing body. Sharing sovereignty over some regulatory and enforcement processes and accepting interventions necessary to worldwide public health is essential to provide the designated governing body with the capability to coordinate pandemic prevention, preparedness, and response efforts. Furthermore, countries should be prepared for (and, in some cases, comply with) penalties imposed by such a governing body. Sharing sovereignty should be seen as contributing to a collective effort through a coordinating organisation than as ceding authority.

Finally, individual countries must show national commitments to attaining and maintaining core public health security capacities. Showing this commitment toward preparing for and responding to infectious disease outbreaks can include a range of tangible actions, including enacting legislation, allocating resources, training personnel, and employing preparedness and response strategies. National laws must institutionalise public health security practices to make them sustainable.

Discussion

These recommendations for a global public health security convention include principles of best practices, suggestions for improvements to the current system, and goals for a global agreement. In some aspects, they affirm current practices such as advocating for a single authoritative source for information (as WHO serves currently), with suggestions for associated improvements. In other instances, they advise pragmatic changes or present novel approaches or components to the existing system, such as a more sustainable and politically independent financing system. The aim of this Health Policy was not to identify the specific components of a global public health security system, nor the actions needed to achieve the proposed qualities of such a system. Rather, these recommendations represent the essential

qualities needed to build a more robust global system to increase the global ability to prevent, prepare, and respond effectively to infectious disease outbreaks, emergencies of international concern, and pandemics. The specific mechanics of a global public health security system should be determined collaboratively by a larger representative group of key agents and stakeholders.

Implementing many of these recommendations might involve reforming WHO to empower it with specified capacities, or require other (new or existing) agencies to carry out some or all of these duties. The focus of these recommendations is on the authority and duties themselves, not on determining whether WHO would be the appropriate governing agency to execute them. An important first step in actualising these recommendations involves assembling an invested alliance. Stakeholders working towards improving the global public health security system must clearly communicate the benefits of an effective public health framework to garner support. The absence of political will presents a substantial barrier to global investment in health. Creative messaging about the consequences of inaction and the cost savings provided by effective global public health security is necessary to reach these goals. In particular, a refocused global health security movement should engage powerful political and financial entities, known champions of global health, and other prominent voices of influence including religious and local leaders, celebrities, and the media.

Constructing a better global public health security framework does not require duplicating efforts that have already been made. Reform can build on the IHR and on existing multilateral systems that reflect some of the principles highlighted in the proposed recommendations. Although the limits of the IHR have been examined at length elsewhere,[2,12,28–33] the merits of this governance instrument are well established. The IHR provides a foundation with important attributes of an effective global health system, including public health capacity building, evaluation, and cooperation. A global public health convention should include robust compliance mechanisms, improved global public health security regulations, and the authority, autonomy, and resources to implement them.

This process of reforming the existing agreements to ensure compliance with international health security regulations will face a number of challenges, including different international, national, and subnational politics; jurisdictional authorities; scarcity of resources; and other factors related to the interests of individual countries. Despite the dire human and economic consequences of the COVID-19 pandemic, some countries' self-interest and cost-benefit analyses might preclude investment in prevention, preparedness, and response activities. International politics and the global political climate, including a growing nationalism movement in some regions of the world, can also present challenges to enacting a unified agreement on global health security. Anti-science, anti-democratic, and isolationist thinking are also threats to global cooperation. Engaging the major global powers might also prove challenging.

Conclusion

The COVID-19 pandemic clearly exposed how the existing global health infrastructure failed the world when it was needed most, with devastating human and economic consequences. However, with crisis comes opportunity. The lessons learned from the COVID-19 pandemic response efforts present a unique chance to reevaluate, refocus, and revise the current global public health security system. Identifying the target principles of a convention is only the first step. Ensuing steps must establish the specific policy systems and operational structures needed to actualise these principles. Subsequent actions must then determine the mechanisms to effect these changes, and then work to implement them. The pandemic has captured the world's attention and awakened political leaders to the threat of pandemic infectious disease. The current crisis could spark transformation in the way the world manages health security prevention, preparedness, and response efforts.

Contributors

JHD, JSz, JSa, AL, KM, and JNB (operational team) did the qualitative study that is the basis for these recommendations and were responsible for concept and writing. JHD, AL, KM, and JNB led the collection and organisation of experts' input for the recommendations. All other coauthors provided input on the recommendations through interviews with the operational team and a group roundtable discussion. The operational team prepared the current manuscript for publication. All authors reviewed the manuscript and provided feedback and edits. All authors approved the final manuscript and the decision to submit for publication.

Declaration of interests

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