

# Global Health Security: Complex Threats, Urgent Reforms

Chloe Bennett\*

*Department of Public Health, University of Melbourne, Melbourne, Australia*

## Introduction

This article examines the World Health Organization's crucial role in global health security, specifically its leadership, governance structures, operational capacities, and policy frameworks in responding to public health emergencies. It highlights areas where the WHO has demonstrated effectiveness and points to challenges that require reform to enhance its future preparedness and response capabilities for emerging global health threats[1].

This piece explores how the COVID-19 pandemic accelerated the securitization of global health, analyzing the implications of framing health crises as national and international security threats. It delves into how this approach influences policy responses, resource allocation, and the balance between security imperatives and broader health equity goals, suggesting a need for more comprehensive, less militarized strategies[2].

This article critically assesses the effectiveness of the International Health Regulations (IHR) in light of the COVID-19 pandemic, arguing that they remain inadequate for managing global health crises. It identifies systemic weaknesses in implementation, compliance, and enforcement, advocating for significant reforms to strengthen the IHR's capacity to prevent, detect, and respond to future outbreaks[3].

This article dissects the political economy underpinning global health security responses, using the COVID-19 pandemic as a prime example. It scrutinizes how economic interests, national sovereignty, and geopolitical power dynamics shaped decisions regarding vaccine access, supply chains, and international cooperation, highlighting the ethical implications of these forces on equitable global health outcomes[4].

This article advocates for the widespread adoption of a One Health approach to bolster global health security, particularly in Africa, by addressing emerging infectious diseases at the human-animal-environment interface. It argues that integrating veterinary, environmental, and human health sectors is critical for early detection, rapid response, and sustainable prevention of zoonotic spillover events that pose global threats[5].

This paper presents an analytical framework and reviews evidence on characteristics of high-performing health systems in low- and middle-income countries, which is foundational for global health security. It emphasizes components like governance, human resources, financing, and service delivery, highlighting how strong, resilient health systems are essential for both routine care and effective responses to public health emergencies, contributing directly to global security[6].

This commentary asserts that equitable global distribution of vaccines is not just a moral imperative but a fundamental component of global health security. It argues

that vaccine nationalism and hoarding undermine collective efforts to control pandemics, prolonging outbreaks and increasing economic and social burdens worldwide. Achieving true health security requires coordinated international strategies for fair vaccine access[7].

This review article outlines the multifaceted threats climate change poses to global health security, particularly concerning the increased risk of infectious disease outbreaks. It details how changing weather patterns, altered ecosystems, and human displacement create new vulnerabilities and facilitate pathogen transmission, emphasizing the urgent need for integrated climate and health policies to build resilience and adapt to these emerging challenges[8].

This article calls for a new global financing compact to adequately fund pandemic preparedness and response, recognizing it as a critical investment in global health security. It argues that current funding mechanisms are fragmented and insufficient, advocating for sustained, predictable, and equitable financial commitments to strengthen health systems, surveillance, and R&D capacities worldwide[9].

This commentary emphasizes the paramount importance of robust laboratory biosafety and biosecurity measures as foundational elements of global health security. It argues that lapses in managing highly pathogenic agents, whether accidental or intentional, pose significant risks for outbreaks and bioterrorism, urging for strengthened international norms, capacity building, and oversight to prevent such catastrophic events[10].

## Description

Global health security fundamentally relies on robust international frameworks and the leadership of key organizations, prominently the World Health Organization (WHO). This organization plays a crucial role in safeguarding global health security, particularly through its leadership, established governance structures, operational capabilities, and the policy frameworks it employs during public health emergencies [1]. However, recent assessments highlight areas where the WHO has demonstrated effectiveness, alongside significant challenges that necessitate reform. These reforms are essential to bolster its future preparedness and response capabilities against emerging global health threats. Concurrently, the effectiveness of the International Health Regulations (IHR) has been critically examined, especially in the wake of the COVID-19 pandemic. A prevailing argument suggests that the IHR remain largely inadequate for effectively managing global health crises [3]. This inadequacy stems from systemic weaknesses identified in their implementation, compliance, and enforcement across member states. Advocates call for significant reforms aimed at strengthening the IHR's overall capacity to prevent, detect, and respond more effectively to future outbreaks, ensuring a more coordinated and robust international response.

The COVID-19 pandemic brought to the forefront a rapid acceleration in the securitization of global health, wherein health crises are increasingly framed as national and international security threats. This approach carries profound implications for policy responses, resource allocation, and the delicate balance between immediate security imperatives and broader, long-term health equity goals [2]. Experts suggest that such securitization necessitates a shift towards more comprehensive, less militarized strategies to avoid unintended consequences. Underlying these dynamics is the intricate political economy of global health security, vividly illustrated by the COVID-19 pandemic. This perspective scrutinizes how entrenched economic interests, assertions of national sovereignty, and overarching geopolitical power dynamics have collectively shaped critical decisions, particularly concerning vaccine access, the resilience of supply chains, and the scope of international cooperation [4]. These influences reveal the significant ethical implications on achieving truly equitable global health outcomes. This points to the imperative that equitable global distribution of vaccines is not merely a moral obligation but a fundamental component of global health security itself. Practices like vaccine nationalism and hoarding directly undermine collective efforts to control pandemics, prolonging outbreaks and exacerbating economic and social burdens worldwide. True health security, therefore, mandates coordinated international strategies focused on fair and widespread vaccine access [7].

Establishing high-performing health systems, particularly within low- and middle-income countries, forms a foundational pillar for global health security. Research delineates an analytical framework that reviews evidence on the characteristics of such systems, emphasizing crucial components like effective governance, sufficient human resources, stable financing, and efficient service delivery [6]. Strong, resilient health systems are indispensable for both providing routine healthcare and mounting effective responses to public health emergencies, thereby directly contributing to global security. Complementing this, the widespread adoption of a 'One Health' approach is strongly advocated to bolster global health security, especially pertinent in Africa. This strategy focuses on addressing emerging infectious diseases at the critical human-animal-environment interface [5]. The integration of veterinary, environmental, and human health sectors is deemed essential for early detection, rapid and coordinated response, and the sustainable prevention of zoonotic spillover events that consistently pose significant global threats. This holistic perspective recognizes the interconnectedness of health across species and environments.

Beyond immediate pandemic responses, global health security faces profound, long-term threats, notably from climate change. This pervasive issue significantly increases the risk of infectious disease outbreaks, as detailed in comprehensive reviews [8]. Changing weather patterns, altered ecosystems, and human displacement collectively create new vulnerabilities and facilitate pathogen transmission. This necessitates urgent action through integrated climate and health policies designed to build resilience and adapt to these emerging challenges. Equally critical are robust laboratory biosafety and biosecurity measures, which are paramount as foundational elements of global health security [10]. Lapses in the careful management of highly pathogenic agents, whether resulting from accidental release or intentional misuse (bioterrorism), present significant risks for widespread outbreaks. Urgent calls are made for strengthened international norms, enhanced capacity building, and stringent oversight to prevent such catastrophic events, highlighting their vital role in securing global health.

Underpinning all these efforts is the critical need for a new global financing compact to adequately fund pandemic preparedness and response. This is recognized not just as an expenditure but as a vital investment in global health security [9]. Current funding mechanisms are often described as fragmented and demonstrably insufficient to meet the scale of anticipated threats. There is a strong advocacy for sustained, predictable, and equitable financial commitments designed to strengthen health systems, improve surveillance capabilities, and advance research and de-

velopment capacities across the globe. Without such dedicated and collaborative financing, the ability of nations and international bodies to effectively prevent, detect, and respond to future health crises remains severely compromised, leaving global populations vulnerable.

## Conclusion

The global health security landscape involves complex challenges from various angles. The World Health Organization (WHO) plays a crucial role in responding to public health emergencies, though its leadership and operational capacities face calls for reform to better address future threats. The COVID-19 pandemic highlighted how health crises are increasingly framed as national and international security issues, influencing policy and resource allocation, often at the expense of health equity. Existing frameworks like the International Health Regulations (IHR) have proven inadequate in managing global health crises, needing significant reforms for improved prevention, detection, and response capabilities. Economic interests, national sovereignty, and geopolitical dynamics significantly shape global health security responses, impacting vaccine access and international cooperation, raising ethical concerns about equitable outcomes. A 'One Health' approach, integrating human, animal, and environmental health sectors, is critical for detecting and preventing zoonotic diseases, particularly in regions like Africa. Strong, resilient health systems, especially in low- and middle-income countries, are fundamental for global health security, enabling both routine care and emergency responses. Equitable global vaccine distribution is a moral and security imperative, as nationalism and hoarding prolong outbreaks. Climate change presents multifaceted threats, increasing the risk of infectious disease outbreaks through altered ecosystems and human displacement, demanding integrated climate and health policies. Finally, robust financing mechanisms and stringent laboratory biosafety and biosecurity measures are essential investments for pandemic preparedness, preventing outbreaks, and mitigating bioterrorism risks worldwide.

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## Conflict of Interest

None.

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**\*Address for Correspondence:** Chloe, Bennett, Department of Public Health, University of Melbourne, Melbourne, Australia, E-mail: chloe@bennett.au

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