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Review Article

Public Health and National Security: Reframing Global Health Governance in an Era of Geopolitical Competition

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Abstract

Public health and national security have merged and redefined health governance in the 21st century. Public health has emerged as a strategic issue of national and international security as a result of the current threats, such as emerging biotechnological risks, climate related health emergencies, antimicrobial resistance and pandemic. This study looks at the securitization of public health and its impact on global health governance in the context of growing geopolitical competition. The study utilizes a qualitative research design that entails a structured review of secondary literature, policy documents and comparison of a selection of institutional responses, and investigates the concept of health security, the concept of vaccine diplomacy, supply-chain resilience, technological competition and multilateral governance. The analysis indicates that health securitization has contributed to greater political will and the mobilization of resources, but it has also fostered greater institutional fragmentation, institutional competition, and unequal access to health resources. The study proposes that global health governance institutions need to be flexibly adapted to account for the importance of national security, but also include elements of multilateral cooperation, equity, transparency, and evidence-based public health policymaking.

Keywords

Public Health, National Security, Global Health Governance, COVID-19 Pandemic, Vaccine Diplomacy, Health Supply-Chain Resilience, Geopolitical Competition.

1. Introduction

The notion of "national security" has changed dramatically since the end of the Cold War. Security has traditionally been linked to military threat, territorial defence and interstate conflict and is now interpreted as a multidimensional concept that is able to cover a broad spectrum of non-traditional threats. The concept of security has been extended to the cyber-security, energy-security, food-security, climate-security, and, more recently, public health-security fields through globalization, technological progress, environmental shifts and growing transnational interdependence. One of these new dimensions is public health, which has become a strategic priority due to its direct consequences for human security, economic resilience, political stability and international order (Shen et al., 2026).

COVID-19 has fundamentally changed the perception of the public health-national security nexus. In addition to the unparalleled human toll, the pandemic caused huge disruptions to global supply chains, slowed economic growth, increased geopolitical tensions and revealed the critical gaps in countries' preparedness systems and the functioning of international health governance. In response to the outbreak, governments responded with emergency measures such

as border closures, nationwide lockdowns, military assistance to civilian authorities and extraordinary fiscal measures, thus proving that infectious disease outbreaks can have strategic repercussions similar to conventional security crises (Stavropoulou, 2026). The events underscored the importance of embedding preparedness for health concerns within the context of national security and foreign policy.

Public health is more than just COVID-19: the strategic importance. States and international institutions are facing new health threats today, such as the emergence of antimicrobial resistance (AMR), the spread of zoonotic diseases, the impact of climate change on health, the acceleration of urbanization and the development of biotechnology. Antimicrobial resistance is one of the greatest potential long-term threats to global health, and climate change is also exacerbating health and security risks, such as transmission of disease, food insecurity, water scarcity, and population displacement (Su, 2026). At the same time, innovative advances in synthetic biology, gene editing, artificial intelligence, and biotechnology have spurred medical innovation and raised new biosecurity concerns regarding dual-use research and the potential misuse of new technologies (Xu et al., 2026).

The developments have aided the "securitization of public health" as health has become more and more a question of national and international security. This change has affected both policies and foreign affairs, making vaccine diplomacy, vaccine manufacturing, technological innovation, and resilient medical supply chains more strategic. In the era of COVID-19, the distribution of vaccines, offering medical assistance and cooperation in health matters were also used by the great powers as tools of diplomacy and influence (Kaur, 2026). Meanwhile, strategic competition had an impact on the cooperation among scientists, sharing of information and multilateral coordination, stressing the strong connection between health governance and international politics (Matos & Garrido, 2026).

These have highlighted significant gaps in current global health governance. Regional disease control centres, the Vaccine Alliance (comprising the Global Alliance for Vaccines, Immunization and Neglected Diseases), the Coalition for Epidemic Preparedness Innovations (CEPI), the World Health Organization (WHO) and the World Bank (WB) are also key stakeholders in global health, but coordination problems, overlapping institutional mandates, disparities in funding, and fragmented decision-making remain an obstacle to effective responses to transnational challenges in health (Warin, 2026). These governance issues represent a challenge to whether the governance structures established for a more cooperative international setting are still appropriate in today's increasingly strategic-competitive world.

While the literature on health security and global governance has grown, there has been scant focus on the impact of the securitization of public health on global health governance in an era of growing geopolitical competition. The study of pandemics, health diplomacy, institutional governance and national preparedness has been explored in distinct fields and fewer studies offer a holistic analysis of the linkages between them within the current international security landscape. This is significant in comprehending the influence of geopolitics on the success of multilateral health governance and collective health responses to transnational health threats.

This research will answer the following research question: How has the public health securitization transformed global health governance in the context of a growing global competition of states and what are the consequences for the effectiveness of the current global health institutions?

The study uses a qualitative research design that includes a structured review of academic literature, policy documents and a comparative analysis of selected institutional responses to answer this question. It builds an analytical frame to take into account the dynamic relationship of health security, geopolitical rivalry, vaccine diplomacy, technological innovation, supply-chain resilience and multilateral governance. The study brings together the best of health security and global governance scholarship to help inform ongoing debates about the ability of international health institutions to evolve in today's complex and contested geopolitical climate.

2. Literature Review

2.1. Public Health as a National Security Issue: Theoretical Foundations

In the three decades, there have been a lot of changes in the conceptual approach towards the interconnection between public health and national security. In the past, health was considered a humanitarian and development issue focused on prevention of disease, provision of health services and population health. The advent of transnational health threats, the growing interdependence of the world and the strategic implications of pandemics have however constellated security its dimensions so that it extends beyond traditional military security issues. Over the past few years, there has been a growing understanding that infectious diseases, biological threats, and public health emergencies have the potential to disrupt state resilience, economic stability, social cohesion and international order, demonstrating that health is a part of national and international security (McInnes & Lee, 2012; Shen et al., 2026).

This transformation is theoretically explained on the background of "Securitization Theory," of the Copenhagen School (Buzan et al.,1998), according to which an issue becomes a security matter, if it is socially and politically interpreted as an existential threat and needs extraordinary policy measures to confront. In contrast to a military-based view of security, securitization brings other aspects of security into the analysis, such as political, economics, societies and the environment. In this light, public health is viewed as a problem not solely of the medical world, but also a strategic problem that has capability to influence governance, economic performance, diplomacy and national resilience. As a result, health emergencies, more than anything else, are strategic issues of policy-making that demand unusual institutional coordination, emergency resource mobilization and international cooperation (Buzan et al., 1998; Rushton, 2011).

Contrary to the concept of securitization, global health scholars contend that increasingly infectious diseases act as a type of security issue, due to their power to challenge societies not just in the health field. Both McInnes and Lee (2012) and Fidler (2004) show how progressively, health has become a part of foreign policy and national security agendas, and that the governance of infectious diseases, in particular, has shifted fundamentally from being an issue of purely public health to an issue of international security. Securitization has also brought increased attention and financial investments in health preparedness at the political level, and raised key debates about how security demands and goals interact with and alter other public health goals, as Rushton (2011) posits. The combination of these viewpoints captures the public health–national security nexus as both an approach for analyzing growing global challenges and an approach to respond to the threats faced by public health and national security policies that are escalating in complexity (Fidler, 2004; McInnes & Lee, 2012; Rushton, 2011).

2.2. Globalization, Geopolitical Competition, and Transnational Health Risks

The nature of threats to health has changed significantly with globalization, which has speed up, scaled and complicated transmission of the risks of diseases across borders. International mobility, growing international trade networks, urbanization, technological integration and environmental changes have brought new opportunities for the development of the economy, but have also made us more vulnerable to transnational biological risks. This means that infectious diseases no longer can only be viewed as a public health issue but one with multiple layers of dimensions that have economic, political, and security consequences (Fernández & Dijkstra, 2026).

Recent research shows that pandemics reveal the interconnectedness of various elements in the international system. However, the COVID-19 pandemic has challenged the ability of the government to respond in a multi-sectoral and coordinated way, caused disruption in the global supply chains, decreased economic productivity and increased geopolitical competition. As seen before with SARS, H1N1, MERS and the Ebola outbreak, delays, disjointed decision-making and lack of preparedness can amplify health and security concerns multiplied by a factor of 10. The experiences have reinforced the academic discussion that pandemic preparedness needs coordinated governance, meaning that it is necessary to involve other sectors in addition to health care, such as the economy, emergency management, and national security planning (Fernández & Dijkstra, 2026; Uma et al., 2026).

The general geopolitical situation has further complicated governance of global health. As strategic rivalry between key powers intensifies, a new dynamics of strategic competition is affecting cooperation arrangements, technological innovation, supply-chain security and institution building. Contemporary geopolitical and geo-economics changes have been influencing the course of international institutions and international cooperation and collaboration, and great power rivalry has explicitly come up with its strategic dimensions in international governance and security, as pointed out by Estrin and Hancké (2026) and Howlader (2026). In the same way, Matos and Garrido (2026) note that the new security

challenges, such as those concerning public health, are increasingly affecting international answers in the face of current geopolitical changes. All these point to the uncodisatability of health governance and its potential interconnections with the geopolitical dynamics affecting the international system (Estrin & Hancké, 2026; Howlader, 2026; Matos & Garrido, 2026).

2.3. Global Health Governance: Institutional Evolution and Contemporary Challenges

The perceived 'securitization' of public health over time has heighted the scholarly interest in the effectiveness of institutions of global health governance. While the World Health Organization (WHO) continues to be the main forum for health cooperation between countries, current models for governance go beyond that of a single entity. The efforts to improve pandemic preparedness, emergency support, control measures, research on vaccines and policy responses are shared among international organizations, regional agencies, development banks, philanthropic foundations, public-private partnerships and national governments. This evolving complex institutional context is evidence of the fact that the role of multiple governance levels is essential for effective health governance, as there is no single international entity that can take on the role (Zaidi et al., 2026).

The literature does recognize continuing governance problems that hamper the power of the existing global health arrangements, even as the institutions are considered to be huge. This lack of coordination in responding to transnational health emergencies persists due to the existence of soloed institutional mandates; overlapping responsibilities; inequitable financing frameworks; regulatory variability and political conflicts. To achieve this coherence between global health security and universal health coverage, much governance reform is required along with greater efforts in diplomacy and institutional integration, Lal (2026) argues. Along similar lines, Li (2026) shows an example of how geopolitical conflicts, regulatory divergence and institutional obstacles increasingly affect international cooperation when it comes to regulating high risk technologies, pointing at other governance challenges beyond health. These result measurements point towards the need for institutional effectiveness beyond technical know-how, as it also requires political will, policy coordination, and international confidence (Lal, 2026; Li, 2026).

New research also argues that global governance will need to become more responsive to a strategic-competitive, technologically transforming global era and evolving statecraft – understood as 'managing and shaping the interactions among different levels of government'. Scholars of governance say that the combination of digital sovereignty, technological dependence, research security, and geo-economics competition are driving a restructuring of cooperation between institutions in various policy areas, including health governance. Digital transformations are key to governance capacity, as shown by Chung (2026), so too is the increasingly interconnectedness between governance and statecraft in the digital era, as outlined by Parepa (2026). Similarly, Rüffin et al. (2026) demonstrate the growing geopolitical dimension in scientific cooperation and international scientific governance. These together indicate a need for new institutional designs for global health governance to be able to handle the three simultaneous crises: health emergencies, technological shifts, and geopolitical competition (Chung, 2026; Parepa, 2026; Rüffin et al., 2026).

2.4. Vaccine Diplomacy, Geopolitical Competition, and Health Security

Vaccine diplomacy, or the use of vaccines as an instrument of international engagement, has been gaining in significance alongside other normal instruments of statecraft like diplomatic, economic and strategic engagement particularly in the context of the COVID-19 pandemic. Vaccine research, production facilities and vaccine distribution networks had become a focal point of countries as they tried to safeguard their own citizens and expand their foreign policies through vaccines. This new, practical application of vaccines therefore transformed the medicine's role from a medical one to a strategic asset to boost bilateral partnerships, regional influence and geopolitical positioning in an increasingly competitive international environment (Crawshaw & Gray, 2026).

Vaccine development, medical assistance, and pharmacist cooperation emerged as a key element of major powers' efforts to improve their partnership and be seen as global leaders in the context of the pandemic. Eventually, these efforts helped enhance vaccines' reach to communities in a range of areas, but they also illustrated wider trends of geopolitical competition using health as a tool of influence. It is proposed today that vaccine diplomacy was a diplomacy that reinforced geopolitical rivalry and, at the same time, humanitarian cooperation opened up through new patterns of de-

pendence and strategic partnerships, and through new levers of political pressure. The developments reflect how international mass health concerns have moved beyond the realm of healthcare and policy matters into a public health diplomacy, and how now public health is also part of national security (Crawshaw & Gray, 2026; Kaur, 2026).

The strategic relevance of health diplomacy goes beyond just vaccine sharing. Today, competition extends beyond product innovation and manufacturing to include technological innovations, pharmaceutical manufacturing and biomedical research or resilient supply chains. Geopolitical competition has grown to the fields of science and technology, and governments see science and technology development capabilities at home as key sectors in terms of economic resilience and national security. As a result, issues of public health governance today blend with larger discussions around technological sovereignty and strategic autonomy, and international cooperation more generally, thereby connecting public health governance with an increasing incorporation of health policy into national security agendas (Estrin & Hancké, 2026; Chung, 2026).

2.5. Health System Resilience and Emerging Health Security Challenges

Resilience in the health system has become essential to today's health security field, as it means more than just being prepared in times of emergency; it is the ability of institutions to anticipate, absorb, adapt and recover from complex public health challenges. But resilience goes beyond just building health infrastructure; it also involves capacity building in governance, workforce readiness, health digital technologies, genomic surveillance, emergency supply chain, local manufacturing, inter-agency collaboration, and adaptive policy-making. The interconnections between these dimensions enhance national preparedness, as well as the capacity of governments to effectively handle multi-dimensional crises (MacGregor et al., 2026).

The case studies on the impact of Covid-19 in various countries provide ample evidence that countries with diversified supply chains, integrated emergencies preparedness, robust institutional coordination and adaptive governance had a higher ability to minimize health, economic and social disruption. In contrast, fragmented governance systems, a lack of domestic production and weak institutional coordination exacerbated vulnerabilities and inhibited effective responses. These findings underscore that building resilience requires structural and governance frameworks beyond healthcare resources, along with institutional learning and better cross-gov and cross-country collaboration in building resilience (Uma et al., 2026; MacGregor et al., 2026).

In addition to pandemics, other areas mentioned in the literature that are growing in significance to health security include antimicrobial resistance, environmental degradation, rapid urbanization, and emerging biotechnologies. The escalating problem of antimicrobial resistance has the potential to undo the 40 years of medical advances, and climate change brings with it increases in vector-borne diseases, food insecurity, water shortages, and mass migration. At the same time, major developments like artificial intelligence, synthetic biology, genetic engineering, and biotechnology promise scientific breakthroughs and open up new avenues of biosecurity and dual-use research as well as morality and ethics for governance. Such developments need integrated governance model that can provide a balance between innovation and good governance and international cooperation (Su, 2026; Xu et al., 2026; Johnson et al., 2026).

2.6. Critical Perspectives on Health Securitization

The topic of the securitization of public health has been actively debated in the scholarly world and has bolstered political support, funding and readiness to tackle it. Framing health as a national security issue puts it on the political agenda, drives a faster sense of crisis and encourages inter-sectoral coordination in the midst of a serious health crisis. In this regard, securitization is a strategy that can help governments mobilize financial resources, prepare for a public health emergency, and enhance coordination between public health institutions, security agencies and international organizations to respond to transnational biological threats (Buzan et al., 1998; McInnes & Lee, 2012).

But critical scholarship warns that the securitization cannot be viewed as an inherently good policy framework. A heavy emphasis on security narratives, some scholars say, can lead to favoring of emergency response over long-term investment in public health, militarizing health governance approaches, less transparency and fewer equity-based and rights-based approaches. Others argue that focusing too heavily on health in the national security prism can drive a ge-

opolitical competition and strategic rivalry, and hinder multilateral cooperation, which is just when it is most important. These have become important issues as geopolitical dynamics shape vaccine availability, scientific collaboration, and, collective global health decision-making (Rushton, 2011; Crawshaw & Gray, 2026).

However, recent literature has sought to view the securitization of this process neither as purely good nor as inherently bad, and thus calls for a balance, inspired by public health principles, between national security and the governance of securitization processes, and by multilateralism, transparency and equity for access to health resources. It acknowledges that robust health systems across the world, as well as being prepared and effectively coordinated, must also be seen as legitimate, trusted by the international community, and attract ongoing investments. This means it is important that policies recognize that security is needed to enhance, not detract from, wider public health goals (Johnson et al., 2026; Lal, 2026; Crawshaw & Gray, 2026).

2.7. Synthesis of the Literature

The literature clearly shows that the importance of public health is ever growing and is a significant part of the national security, global governance and international cooperation. Current studies have significantly contributed to the knowledge on pandemic preparedness, resilience of institutions, vaccine diplomacy, health governance, and emerging biological threat. Meanwhile, recent research underscores the growing importance of geopolitical rivalry, technological innovation, and jumbled governance in undermining the performance of multilateral health organizations. Although these themes have been explored separately, there is still a need for greater integration of themes into a single analytical piece which can explain and interpret the impact of public health, national security, and geopolitical competition on reshaping global health governance (Zaidi et al., 2026; Warin, 2026; Howlader, 2026).

In this regard, this study contributes to a significant gap: it combines the theories of securitization with the current debates on governance, in global health, geopolitical competition, and strategic policy adaptation in times of uncertainty. The study does not analyze health security, governance or geopolitics separately, but puts forward an analytical framework to have an understanding of the interaction between these three aspects of the health sector in an intensifying competitive international arena. In doing so, it helps towards a greater, overall view of how global health governance can stay true to the principles of multilateral cooperation, institutional effectiveness and equitable public health policy, even in the face of new security challenges (Buzan et al., 1998; Lal, 2026; Li, 2026).

3. Methodology

The design of this study is a qualitative one, in which a structured assessment of secondary literature and comparative policy analysis were used to explore the changing nature of public health, national security and global health governance in a geopolitical context. A qualitative approach is suitable as it is not intended to use statistical analysis to establish causal relationships, but to analyses institutional response, governance arrangements, policy developments, and strategic trends. The study, therefore, is dedicated to the interpretation of the evolution of policy, institutional behaviour and governance processes in various international contexts.

Secondary sources were only used with data collection. Literature examined comprises peer-reviewed journal articles, academic books, policy reports, official publications from international organizations, government documents and reports from recognized research institutions. Special focus was placed on publications on health security, securitization, global health governance, pandemic preparedness, geopolitical competition, vaccine diplomacy, institutional resilience and new emerging bio risks. Contemporary developments were given weight when selecting for recent scholarship, whereas foundational literature on securitization theory and global health governance was selected to lay the foundation for a conceptual framework for the study.

The literature was searched in the major academic databases such as Scopus, Web of Science, PubMed, Google Scholar, Springer Link, Taylor & Francis Online, Science Direct, Wiley Online Library, and official institutional repositories. Various search terms were used, including public health, national security, global health governance, health securitization, pandemic preparedness, vaccine diplomacy, geopolitical competition, health system resilience, biosecurity, and global health security. English-language publications that were found to be relevant to the study's goals were given preference.

Predefined inclusion/exclusion criteria were used in the process of source selection to improve methodological rigor. Sources that touched on public health issues within a national security or global governance context, or discussed institutional or policy responses to transnational health threats as well as theoretical debates on health security and securitization, were included. No media articles, opinion pieces without analysis, duplicate studies or articles that were not relevant to the research questions were included in the analysis.

Content analysis, thematic analysis was used to analyses the collected literature. Systematic review and coding of relevant documents were done based on the recurring analytical themes identified including: -

- Health Securitization,
- Global Health Governance,
- Geopolitical Competition,
- Vaccine Diplomacy,
- Health System Resilience,
- Emerging Health Threats and
- Institutional Adaptation.

The coding process allowed for identification of patterns, points of convergence and divergence in the literature, and identified emerging governance issues affecting the public health national security nexus. A comparative policy analysis was conducted to add a comparative analytical component to the study. Instead of looking at country comparisons in general, several institutional and regional responses are presented (World Health Organization, European Union, regional public health mechanisms, national policy approaches), and common governance practices, institutional challenges, and policy innovations identified during and after the COVID-19 pandemic. Comparative analysis is conducted on four issues: institutional coordination, emergency preparedness, vaccine diplomacy, and governance effectiveness and health security policy. Using this methodological framework, the research will build an overall analytical picture of the embedding of public health in the national security policies and international governance arrangements. The systematic literature review, thematic content analysis, and comparative institutional analysis approach allows for a thorough analysis of the relationship between health security, governance, and geopolitical competition and offers methodological transparency and analytical consistency.

Table 1. Comparative Institutional Responses to Contemporary Health Security Challenges

Dimension	WHO	European Union (HERA)	Africa CDC	ASEAN	National Governments
Pandemic preparedness	Global coordination	Regional preparedness	Continental coordination	Regional surveillance	Domestic preparedness
Vaccine access	Technical guidance	Joint procurement	Regional partnerships	Collaborative purchasing	National vaccination
Supply-chain resilience	Limited	Strategic reserves	Regional logistics	Cooperative procurement	Domestic production
Health surveillance	Global reporting	Cross-border monitoring	Laboratory networks	Disease surveillance	National surveillance
Governance challenge	Limited authority	Political coordination	Resource constraints	Institutional diversity	National capacity
Strategic implication	Global legitimacy	Regional resilience	Capacity building	Collective preparedness	National security

3.1. Limitations of the Study

This study should be considered with a number of limitations. One, the research only utilizes secondary sources such as peer reviewed literature, policy literature, institutional reports and official publications. While they give thorough analysis of current claims and issues surrounding public health and country security, the study fails to integrate primary empirical data, via interviews, surveys, field observation. Findings thus are the result of a combination of theoretical analysis and synthesis of current research, not of first-hand empirical data.

Second, it is a qualitative and interpretive research. Although may be suitable for the analysis of complex governance dynamics and changing policy environments, the aim of this approach is not to make causal statements or statistically test the effectiveness of specific institutional interventions. These findings also could be complemented through future quantitative or mixed-methods studies that investigate the measurable effect of governance reforms, health security policies and preparedness strategies.

Thirdly, the comparative analysis tends to the institutional and policy responses rather than detailed country-level case studies. Use of this approach includes a broader cross-national analytical generalization, which may not necessarily capture all political, economic, and cultural social and cultural variables effecting health governance on a country level.

Last, but not least, geopolitical competition, technological innovation, and global health governance paradigms are constantly changing, and institutional set-ups and response policies are still evolving. It will continue to be a subject of future research to understand how present and future responsibilities and opportunities for public health, national security, and international cooperation react to new health emergencies, technological advances, and governance reforms.

4. Results

From the selected literature and institutional responses, six interrelated findings emerge around the changing nature of the relationship between public health and national security and global health governance. However, taken together, they illustrate how the current threats to health have evolved the strategic policy making and institutional governance in an era of rising competition amongst different geopolitical forces.

4.1. Public Health Has Become Institutionalized Within National Security Frameworks

The former discovery points towards public health transforming into more than just a humanitarian-development challenge, also to one where public health becomes an essential element of national security. National security policies are increasingly including contemporary health threats such as the potential for pandemic and antimicrobial resistance, climate-induced health emergencies, and emerging biological threats for their ability to undermine economic stability, government function, military readiness and social resilience. The analysis reflects that the governments are increasingly considering health preparedness not just a healthcare issue, it's an essential part of national resilience. This is an institutional change that is part of the broader securitization of public health as a biological threat is reframed as a strategic risk and thus a need for coordinated response between public health, defense, intelligence and emergency management institutions (Stavropoulou, 2026; Zaidi et al., 2026).

4.2. Geopolitical Competition Is Reshaping Global Health Governance

The second discovery indicates that a sense of geopolitical competition has been a growing part of the global health governance frameworks in modernity. Although multilateral bodies continue to be the backbone of cooperation on health matters between countries, strategic competition between great powers is having a growing influence on policy coordination, sharing of information, scientific cooperation and emergency response. Strategically, the analysis reveals how vaccine manufacturing, medical aid and drug development became tools of vaccine power diplomacy as a result of the COVID-19 pandemic; it also illuminates the disparities in access to certain health technologies. Geopolitical competition has thus elevated the political salience of health security, whilst also polarizing collective governance due to competing national interests, strategic rivalry (Lal, 2026; MacGregor et al., 2026; Howlader, 2026).

4.3. Health Security Increasingly Depends on Strategic Resilience Rather Than Emergency Response Alone

The third one is that part of being healthy secure is not only the emergency response ability but also long-term strategic resilience. The analysis highlights the importance of diversified medical supply chains, domestic manufacturing capacity, digital infrastructure, genomic surveillance, workforce readiness and institutional coordination for resilient health systems. Countries were more adaptable during the COVID-19 pandemic who had more robust governance capacity and their preparedness was more interlinked, and those who relied on concentrated global production networks were more vulnerable to supply disruption. This implies that resilience could have emerged as a strategic national capability with considerable ties to economic security and effectiveness of governance (Chung, 2026; Uma et al., 2026).

4.4. Emerging Technologies Present Both Strategic Opportunities and Governance Risks

The fourth finding is that technological innovation is a "two-way publicity scalpel" as it is received in the health security of today. For instance, the development of AI models, synthetic biology, genomics, and digital surveillance platforms has significantly empowered the identification of diseases, vaccine manufacturing, and public health initiatives. At the same time, these technologies pose novel governance risks for biosecurity, cybersecurity, dualuse research, ethics and regulation. This analysis, therefore, recommends that technological innovation must go hand in hand with governance capacity through comprehensive and intricate regulatory system to balance scientific advancement with sound regulation and International cooperation (Rüffin et al., 2026; Parepa, 2026; Su, 2026).

4.5. Institutional Fragmentation Continues to Limit the Effectiveness of Global Health Governance

The fifth finding highlights that, despite the remarkable institutional growth, global health governance and decision-making are still limited because of a diffusion of power, differentiated resource availability, the multiplicity of mandates, and the lack of realization of international commitments. However, efforts across the global and regional public health institutions and World Health Organization (WHO), Global Alliance for Vaccines and Immunization (GAVI), and the World Bank (WB) to support pandemic preparedness remain in coordinated as a whole. Overall, the analysis shows that institutional effectiveness is becoming more and more dependent on institutional mandates, but also on continuous political buy-in, financial security and clean collaboration. During the time of big public health crises, which demand swift multilateral cooperation, these governance restrictions are exacerbated (Li, 2026; Lal, 2026; Warin, 2026).

4.6. Regional Institutions Have Emerged as Critical Actors in Contemporary Health Security

The last finding points to the increasing role of regional governance in global health security strengthening. A comparative analysis reveals that regional institutions are enhancing the global governance; there is a growing trend among the regional institutions to complement the global governance through more effective coordination through regional institutions, policy response in local context, common mechanism for procurement, laboratory collaboration, disease surveillance and emergency preparedness. That intermediate institutional governance mechanisms enhance responsiveness and bolster multilateral cooperation is seen in regional-level programmes for example those of the European Union, the Africa CDC and others. Regional governance also works to increase institutional resilience by fostering a connection between national capacities and international coordination, and does not soothe the deficits in global governance (Albert, 2026; Uma et al., 2026).

These together provide evidence for the fact that Public Health has rightfully gained a stronghold in national security and global governance structures. Analysis also reveals that the securitization of public health has advanced capacities for preparedness, raised political awareness, but has also led to a growing institutional disconnect, more geopolitical conflict, and new governance dynamics with emerging technologies and inequalities in health resources. The results serve as the basis for the discussion that follows, which forms a theoretical explanation of their policy implications for the future of global health governance.

5. Discussion

5.1. Rethinking National Security Beyond Traditional Military Paradigms

These findings led to an understanding that the current threats of security are not just military in nature but the scope of security is widened to understand and incorporate new threats as Public health as one such area of strategic policy. The COVID-19 pandemic demonstrated that a biological threat can have an impact to socio-economic stability, governance, international relations, and economic productivity that can be just as disruptive as armed conflict. As a result, the definition of national security is shifting from a state-centric military definition to what is commonly referred as a multi-dimensional security — which is about resilience, preparedness, and institutional capacity, and the way by which these contribute to national security. This transformation further strengthens the case for investing in population health to be a strategic national necessity with coordinated action across sectors (Buzan et al., 1998; Stavropoulou, 2026; Albert, 2026).

5.2. Geopolitical Competition and the Reconfiguration of Global Health Governance

The results show that global and regional health governance is now fundamentally altered by geopolitical aspects. However, global health is not simply a cooperative humanitarian field, but increasingly a field in which dynamics of conflict and political maneuvering between larger powers play out. The bidding for vaccine production, pharmaceutical production, new technology, and supply chains highlight how health now plays a dual role in geo-economics and geo-politics. Strategic competition has produced a range of innovations and enhanced countries' national preparedness, but has also reduced multilateral collaboration with the rise of institutional fragmentation, political mistrust and competing governance agendas. This interplay implies that future successful global health governance is contingent on sustaining the synergist relationship among institutions within the context of a rising crisis in geopolitical relationships.

5.3. Health Securitization: Balancing Security and Public Health Objectives

The study contributes to the case that securitization has consolidated the position of public health in national political agendas on the particular bases of: increasing political commitment, improving institutional readiness, and mobilizing resources for emergency situations. But the results also point to the fact that securitization should not be considered a goal for itself. Security narratives can make it easy to focus on responses, at the expense of long-term investments in health system strengthening, and can lead to increased inequity in access to health benefits and services as well as promote strategic competition over multilateral cooperation. The results thus facilitate some recent arguments for a more balanced governance strategy that also integrates in the context of security concerns principles of equity, transparency, and evidence-based public health policy making. To achieve good health governance, it is important to consider other parts of the protection agenda, and to include security goals within a wider agenda on international cooperation and sustainable development of health systems (Rushton, 2011; Johnson et al., 2026; Crawshaw & Gray, 2026).

5.4. Institutional Adaptation and Governance Reform

The other major takeaway from the results relates to the future of global health governance institutes. The current governance frameworks were oriented to a more collaborative global context and struggle to adapt to complex and transnational health crises in the context of the geopolitical rivalry and the technological revolution. The analysis indicates that, in addition to the technical ability of institutions, governance flexibility, sustainable financing, regulatory coordination, and political legitimacy are key factors to the effectiveness of institutions. The international institutions should then work on enhancing the interoperability of both global, e.g., regional, and national governance mechanisms and also work towards increasing transparency, accountability, and emergency preparedness. Notably, institutional adaptation, not institutional replacement, is the most realistic path towards better health governance in today's geopolitical times (Li, 2026; Lal, 2026; Dalheimer et al., 2026).

5.5. Technological Innovation and Emerging Governance Challenges

The results demonstrate that technological innovation not only improves health security but also generates new health governance roles. Advanced diagnostic technologies have a tremendous impact on enhancing preparedness, detection, and emergency response with the aid of artificial intelligence, genomic sequencing, and digital surveillance. However, these technologies also raise complex ethical, legal and privacy, biosecurity, dualuse, regulatory and international data governance issues. A framework for governance that fosters scientific innovation and with a responsibility towards the development of technology and implementation of effective international cooperation is needed if these challenges are to be managed. In the future, technological governance therefore should be embedded in broader security policies of the countries all over the world and in the national strategies (Chung, 2026; Su, 2026; Parepa, 2026; Rüffin et al., 2026).

5.6. Theoretical and Policy Implications

Theoretically, this study contributes to the securitization theory by revealing that public health has become a continuous strategic aspect of national and global security. But health securitization does not just happen in the face of pandemics, it is now making its mark in diplomacy, technological policy, economic resilience and institutional reform. This expansive view adds to the literature on non-traditional security because it shows how the geopolitical competition influences the management of transnational health risks. The results highlight from a policy perspective that improving health security is more complex than simply scaling up the healthcare system. Governments need to: put health pre-

paredness in national security frameworks; diversify supply chains for critical medicines; increase regional cooperation; promote responsible stewardship of new medical technologies; and facilitate effective, transparent, and economically viable reform of international health institutions. These would enhance national resilience and global collective readiness as well as decrease susceptibility to future health emergencies (Zaidi et al., 2026; Lal, 2026; Warin, 2026).

Analysis of the discussion showed that this 'securitization of public health' is an opportunity and a governance challenge. It has put health on the national and international policy agendas, but geopolitical competition and institutional fragmentation still hinder collective action. Thus, much of the suggested recommendations in the study concerns the balance between national security considerations and the cooperation of multilateral organizations as well as innovations in technology, institutional development, and fair and equitable public health policies in order to promote effective global health governance. On the basis of this interpretation, the policy implications of the study and the conclusions of the study have been drawn.

5.7. Policy Implications

The results of this study hold significant implications for policy makers, international organizations and public health institutions interested in enhancing health security in a rapidly evolving geopolitical landscape. Public health help reduce threats to national resilience, to economic stability and to strategic governance, yet governments still see it as solely a health service issue. Thus, health security should be comprehensive in character, encompassing policy development and national security, institutional coordination, and cooperation with international partners all the while remaining founded in public health preparedness.

5.8. Integrating Public Health into National Security Planning

Public health must be formalized as a component of national security strategies – pandemic preparedness, biological risk assessment, emergency medical logistics and health system's resilience must be considered as part of general security planning. The implication is that interagency coordination, between ministries of health, defense, emergency management agencies, intelligence organizations and scientific institutions should be a standing feature of preparedness in countries, as opposed to an emergency response. Performing regularly simulation exercises, joint planning of such events, and conducting integrated risk assessment, would elevate the level of preparedness for potential biological emergencies and build up national resilience (Stavropoulou, 2026; Xu et al., 2026).

5.9. Reforming Global Health Governance

For global health governance to be effective, the institutions involved need to step up and become more coordinated, sustain financing, and be held more accountable. International organizations such as the World Health Organization should be also supported via greater regular and reliable funding avenues that minimize reliance on earmarking voluntary funding and allow for greater institutional flexibility during public health emergencies. Collaborations between international organizations and regional institutions, development partners and national governments, as well as coordination between the various organizations, would enhance collective preparedness and minimize the duplication of responsibilities in times of global crises. (Lal, 2026; Li, 2026).

5.10. Building Resilient Health Systems and Supply Chains

The results show that investments to build resilient health systems must go beyond health care infrastructure. Governments should spread the production base of medicines and other pharmaceuticals, improve domestic production capacity, keep strategic stockpiles of medical products and services, advance digital health systems and supply chains, and enhance emergency logistics. Public–private partnerships enable resilient value chains over an over-dependency of concentrated production chains with a geographical focus. This investment would help to further reinforce health security and overall economic resilience to future disruptions (Chung, 2026; Uma et al., 2026).

5.11. Strengthening Regional and International Cooperation

There is a need to further strengthen regional institutions to support global health governance via a coordinated surveillance mechanism, laboratory cooperation, joint procurement, preparedness stockpiles, and information-sharing

platforms. Building up regional cooperation would allow for quick and context-specific responses as well as strengthening of the multilateral governance. On a global level, still more work is needed for better collective preparedness in the face of transnational health threats, including increased political will to promote transparency and timely exchange of information, as well as implementation of international health regulations (Fernández & Dijkstra, 2026; Albert, 2026).

5.12. Governing Emerging Technologies Responsibly

The pace of development in the fields of artificial intelligence (AI), genomic sequencing, synthetic biology and biotechnology are accelerating and need governance structures that balance scientific exploration and innovation with ethical considerations and biosecurity. The national governments & international organizations must enhance regulation, ensure responsible research, advance international standards for dual use technologies & ensure due governance of data. Yet, this is not an excuse for international scientific collaboration to be affected by geopolitical tensions, as technological advancement must not compromise global public health and security risks must be minimized (Su, 2026; Rüffin et al., 2026; Parepa, 2026).

5.13. Promoting Equity and Trust in Global Health Governance

COVID-19 taught us that unequal access to vaccines, diagnostics and critical medical technologies is a barrier to global health and international security. Sustainable financing mechanisms, equitable access and technology transfer and capacity building, and strengthening health systems in LMICs, should be key considerations in future governance reform. Public trust must also be maintained via transparent decision making, evidence-based communication and with meaningful civil society engagement. During crises, trust is a crucial factor to consider in compliance, institutional legitimacy, and the effectiveness of public health intervention (Crawshaw & Gray, 2026; Johnson et al., 2026).

The results indicate that promoting global health security needs attention at a cross-sectoral level and through coordinated action in national, regional, and international governance. Health security needs to be incorporated into national security strategies, and international bodies need to be strengthened with greater coordination and accountability across agencies; building resilient health systems and supply chains are also needed, along with developing governance mechanisms to better respond to new technological and geopolitical risks. Together these actions will strengthen institutional resilience, and foster a more equitable, effective international health governance for the future, better able to respond to transnational health emergencies as they arise.

6. Conclusion

The connection between public health and national security has dramatically changed in the 21st century as contemporary global risks have become more complex. On the basis of this study, it is clear that Public Health is no longer just in the health care system but it has become a crucial element of national resilience, international stability and global governance system. COVID-19 and new threats like antimicrobial resistance, health crises due to climate change and the advances of biotechnology have further underscored the strategic relevance of adding health preparedness into national security agendas and international policy agendas.

It shows securitization has brought a new focus on public health in the political agenda, reinforced institutional capacities and increased funding for health security. Meanwhile, it finds, stronger geopolitical competition has made multilateral cooperation more difficult, as it has ushered in more institutional fragmentation, strategic rivalry and unequal resource availability to critical elements of health. The developments reflect how health governance requires a combination of scientific and technological advances as well as institutional co-ordination, political will, open governance and fostering international support.

Moreover, this research contributes to the literature on securitization by showing how public health has progressed from a 'hairy emergency' to an ongoing part of national security and global governance. The study draws on securitization theory and comparative analysis of institutional responses to give the consideration of geopolitical competition a broader analytical perspective in terms of health governance, policy coordination and international cooperation. It is an interdisciplinary effort to meet the increasing demand for such approaches that explore intersections between public health, security studies and global governance.

The study emphasizes the need for greater building of international institutions, better regional cooperation, health systems that adapt and thrive, alternate supply chains, and institutionalized governance that could oversee the responsible use of new technologies. Future health security strategies must integrate national security needs in synergised efforts with multilateral collaboration, fairness, transparency, knowledge and evidence and more comprehensive scenarios to deal with growing threat scenarios of transnational nature.

Last but not least, the study acknowledges the fact that global health governance will be an evolving landscape, following geopolitical developments, new technologies and emerging biological threats. The same can also be done with impact on governance reforms, geographical differentials of health security, the role of the new technologies of AI and Biotechnology on the governance of Health, as well as geopolitical competition and multilateral collaboration. The progress on this research agenda will help to build more resilient, inclusive and adaptive governance that can protect public health and international security in an increasingly connected world.

There are a variety of interesting areas for future research related to the changing boundaries among public health and national security. Comparative empirical studies on national and regional health security strategies would lead to a better understanding of the effectiveness of various forms of governance. Further the impact of Artificial Intelligence, Digital health technologies, genomic surveillance and biotechnology on health governance and the ethical, legal and security issues of the technologies should also be explored by future research activity. More focus should also be paid to the implications geopolitical competition may have on global health collaboration, vaccine equity and institutional reforms within global health governance. Lastly, mixed-methods and longitudinal studies with firsthand information from decision makers, health workforce and international organizations would facilitate gaining in-depth knowledge on the impact of governance reforms on preparedness, resilience, and collective response to future transnational health events.

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Conflict of Interest

The author declares no conflict of interest related to this research work.

Competing Interest

The authors declare no competing interests.

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