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# RECONSTRUCTING LEGAL OBLIGATIONS FOR VIRUS SHARING UNDER THE INTERNATIONAL HEALTH REGULATIONS: A FRAMEWORK FOR GLOBAL HEALTH SECURITY

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## ABSTRACT

Explore the critical need for reconstructing legal obligations for virus sharing under the International Health Regulations (IHR) to enhance global health security. Establishing the context of increasing global pandemics and defining virus sharing as the transmission of genetic sequences, isolates, and pertinent information. The current IHR framework, particularly Article 6, is inadequate due to ambiguities and tensions between state sovereignty and global health imperatives. Through an analysis of past pandemics like H1N1 and COVID-19, identify key impediments to timely and equitable virus sharing, including legal ambiguities and political motivations. propose concrete reforms aimed at clarifying legal obligations, establishing mandatory commitments, and promoting equitable access to vaccines and therapeutics. Ultimately, Present a vision for a more effective global health security regime where virus sharing is recognized as a collective responsibility essential for pandemic preparedness.

**Keywords:** Virus Sharing, International Health Regulations, Global Health Security, Pandemic Preparedness, Legal Reforms.

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**Introduction: The Imperative of Virus Sharing in a Pandemic Era**

The 21st century has witnessed an alarming increase in the frequency, severity, and global impact of pandemics, highlighting the interconnectedness and vulnerability of the modern world. From the outbreak of H1N1 in 2009 to the COVID-19 pandemic, these health crises have underscored the devastating consequences of infectious diseases on health systems, economies, and social stability. Globalization, urbanization, climate change, and increased human-wildlife interactions have collectively amplified the risk of zoonotic spillovers, where diseases jump from animals to humans. These factors have created an urgent need for effective international cooperation to address pandemics promptly and equitably.

Central to the global response to pandemics is the timely sharing of viruses and related data. Rapid virus sharing facilitates the development of diagnostics, vaccines, and therapeutics, enabling countries to mount effective responses to emerging threats. For instance, during the early stages of COVID-19, the sequencing and sharing of the SARS-CoV-2 genome by Chinese scientists allowed researchers worldwide to begin developing vaccines and treatments in record time (Halabi, 2019). However, the challenges surrounding virus sharing, including geopolitical tensions, economic disparities, and legal ambiguities, have hindered the global community's ability to respond swiftly and equitably to pandemics.

The International Health Regulations (IHR) (2005), a legally binding framework adopted by the World Health Organization (WHO), aims to enhance global health security by fostering international collaboration during public health emergencies. Yet, the IHR's provisions on virus sharing have proven insufficient, as evidenced by delays and disputes during past outbreaks. This inadequacy underscores the need to reevaluate and reconstruct the legal obligations

governing virus sharing to ensure a more robust and equitable global health security framework.

Virus sharing, in the context of international law and global health security, refers to the process of exchanging viral samples, genetic sequences, and other related information among countries and institutions. This exchange is crucial for understanding the nature of emerging pathogens, assessing their potential impact, and developing effective countermeasures. Virus sharing encompasses the transfer of live viruses, genetic material, and epidemiological data, which are essential for advancing scientific research and public health interventions.

Under the WHO's Global Influenza Surveillance and Response System (GISRS), member states are encouraged to share influenza viruses to facilitate vaccine development and pandemic preparedness (Halabi, 2019). While this system has achieved some success in promoting collaboration, it has also revealed significant gaps and challenges. For instance, during the H5N1 avian influenza outbreak, Indonesia's refusal to share viral samples due to concerns over inequitable access to resulting vaccines highlighted the tensions between national interests and global health security (Moodie, Gerami, & D'Alessandra, 2021). Such incidents underscore the need for a more transparent, equitable, and enforceable framework for virus sharing.

The current legal framework for virus sharing under the IHR (2005) is inadequate to address the complexities and challenges of modern pandemics. While the IHR emphasizes the importance of cooperation and information sharing, it lacks clear, enforceable obligations for states to share viruses and related data in a timely manner (Doctor, 2024). The ambiguous language of the IHR, particularly regarding terms like "undue delay," has allowed states to prioritize their national interests over collective global health security, resulting in delays and inequities in pandemic responses (Heymann et al., 2015).

Moreover, the IHR does not adequately address the economic and political factors that influence states' decisions to share viral samples. For example, concerns over intellectual property rights, benefit-sharing mechanisms, and access to vaccines and therapeutics have discouraged some countries from participating fully in virus sharing initiatives (Forman, 2022). These shortcomings highlight the urgent need to reconstruct the legal obligations for virus sharing under the IHR to ensure timely and equitable access to pathogens during pandemics.

## Reconstructing Legal Obligations: Proposals for Reform

### Strengthening the Binding Nature of Virus Sharing Commitments

The sharing of viruses, particularly during public health emergencies, is a cornerstone of global health security. Rapid access to viral samples and related genetic data enables the global scientific and health communities to develop diagnostics, therapeutics, and vaccines that are critical in mitigating the spread of infectious diseases. However, the current system for virus sharing under the International Health Regulations (IHR) remains inadequate due to its largely voluntary nature and lack of enforceable legal commitments. This section explores the need for strengthening the binding nature of virus-sharing commitments, focusing on three key aspects: transitioning from voluntary to mandatory obligations, establishing a dispute resolution mechanism, and implementing compliance measures.

One of the primary shortcomings of the existing framework for virus sharing is its reliance on voluntary guidelines rather than mandatory obligations. While the IHR, revised in 2005, represents a legally binding agreement among 196 states, its provisions regarding virus sharing lack the specificity and enforceability necessary to ensure compliance. Article 6 of the IHR requires states to notify the World Health Organization (WHO) of public health emergencies of international

concern (PHEIC) and share relevant information. However, the language used in these provisions is ambiguous and leaves room for interpretation, leading to inconsistent implementation by member states (Carlson & Phelan, 2022).

The voluntary nature of virus-sharing commitments often results in delays or outright refusals to share critical viral samples. For instance, during the H5N1 avian influenza outbreak, Indonesia withheld viral samples, citing concerns over inequitable access to vaccines developed from those samples. This incident highlighted the need for a more equitable and mandatory framework that balances state sovereignty with global health security (Kwan, 2018). By transforming voluntary guidelines into binding obligations, the international community can ensure that states prioritize collective health outcomes over national interests.

Mandatory virus-sharing obligations should include clear legal consequences for non-compliance. These could range from financial penalties to restrictions on access to international funding or technical assistance. Such measures would incentivize states to fulfill their commitments and deter actions that undermine global health security. Moreover, binding obligations would provide a legal basis for holding states accountable, thereby fostering greater trust and cooperation among member states.

Disagreements among states regarding virus sharing are not uncommon and often stem from competing national interests, mistrust, or differing interpretations of international obligations. The absence of a robust dispute resolution mechanism within the IHR framework exacerbates these conflicts, leaving states without a clear pathway to resolve disagreements. Establishing a formal dispute resolution mechanism is therefore essential to address these challenges and ensure the smooth functioning of virus-sharing arrangements.

A dispute resolution mechanism could be integrated into the existing WHO framework or established as a separate body under the auspices of the United Nations. This mechanism would serve as a neutral platform for resolving conflicts related to virus-sharing obligations, such as disputes over access to viral samples, benefit-sharing arrangements, or allegations of non-compliance. The mechanism could employ a range of approaches, including mediation, arbitration, and adjudication, depending on the nature and complexity of the dispute (Doctor, 2024).

For instance, during the COVID-19 pandemic, several countries imposed export restrictions on critical medical supplies and vaccines, leading to accusations of "vaccine nationalism." A dispute resolution mechanism could have provided a forum for addressing these issues and facilitating equitable access to essential resources. By promoting transparency and accountability, such a mechanism would help build trust among states and strengthen the overall virus-sharing framework.

In addition to mandatory obligations and dispute resolution, effective compliance measures are crucial for ensuring that states adhere to their virus-sharing commitments. The IHR currently lacks a robust mechanism for monitoring and enforcing compliance, which undermines its effectiveness as a global health security instrument (Gostin, Habibi, & Meier, 2020). Implementing compliance measures such as monitoring, reporting, and peer review can address this gap and enhance the accountability of member states.

Monitoring mechanisms could involve regular assessments of states' adherence to virus-sharing obligations, including the timeliness and completeness of information shared with the WHO. These assessments could be conducted by an independent body or a dedicated unit within the WHO, with findings reported to member states and the public. Such transparency would

create a strong incentive for states to comply with their obligations and deter non-compliance (Burci & Negri, 2020).

Reporting requirements could be strengthened to ensure that states provide comprehensive and accurate information about viral outbreaks and related public health measures. This could include mandatory submission of genetic sequence data, detailed epidemiological reports, and updates on vaccine development efforts. By standardizing reporting formats and timelines, the WHO can facilitate the timely exchange of critical information and reduce the risk of delays (Halabi, 2019).

Peer review mechanisms, similar to those used in other international agreements, could also be implemented to promote compliance. Under this approach, states would periodically review each other's performance in fulfilling virus-sharing obligations, providing constructive feedback and identifying areas for improvement. Such peer reviews could foster a culture of mutual accountability and encourage states to uphold their commitments (Radogno, 2022).

The transition from voluntary to mandatory virus-sharing obligations raises important questions about the balance between state sovereignty and collective responsibility. While states have the right to govern their own resources and public health policies, they also have a shared responsibility to protect global health. Reconciling these competing interests requires a framework that respects state sovereignty while promoting equitable access to essential resources during public health emergencies.

One potential solution is the adoption of conditional sharing agreements, where states agree to share viral samples in exchange for specific benefits, such as access to vaccines, financial support, or technical assistance. These agreements could be negotiated on a bilateral or multilateral basis and overseen

by the WHO to ensure fairness and transparency (Von Bogdandy & Villarreal, 2020). Such arrangements would provide states with tangible incentives to participate in virus-sharing initiatives while addressing concerns about inequitable access.

Another approach is the establishment of a global fund for pandemic preparedness and response, financed by contributions from member states and other stakeholders. This fund could be used to support the development and distribution of vaccines, therapeutics, and diagnostics, ensuring that all countries, regardless of their economic status, have access to critical resources. By pooling resources and sharing benefits, the international community can create a more equitable and sustainable system for pandemic response (World Health Organization, 2022).

As the leading global health authority, the WHO plays a central role in coordinating international efforts to strengthen virus-sharing commitments. The organization is uniquely positioned to facilitate negotiations, provide technical support, and monitor compliance with virus-sharing obligations. However, the WHO's capacity to fulfill these functions depends on adequate funding, political support, and institutional reforms.

One area where the WHO can make a significant impact is in standardizing virus-sharing protocols and procedures. By developing clear guidelines and best practices for the collection, storage, and transfer of viral samples, the WHO can reduce variability and improve the efficiency of virus-sharing processes. Additionally, the organization can provide technical assistance to member states to strengthen their laboratory and surveillance capacities, enabling them to meet their virus-sharing obligations more effectively (Lee, 2016).

The WHO can also serve as a neutral intermediary in disputes related to virus sharing, leveraging its credibility and expertise to facilitate dialogue and build

consensus among member states. By fostering trust and collaboration, the organization can help bridge the gap between national and global interests, ensuring that virus-sharing commitments are upheld even in challenging circumstances.

Strengthening the binding nature of virus-sharing commitments is essential for enhancing global health security and ensuring timely and equitable access to critical resources during public health emergencies. Transitioning from voluntary guidelines to mandatory obligations, establishing a dispute resolution mechanism, and implementing robust compliance measures are key steps in achieving this goal. While these reforms may face resistance from some states, they are necessary to address the shortcomings of the current framework and build a more effective and equitable system for virus sharing.

The international community must recognize that virus sharing is not merely a legal or technical issue but a moral imperative that transcends national boundaries. By adopting a collaborative and inclusive approach, states can overcome the challenges of sovereignty and foster a culture of shared responsibility. Ultimately, the success of these efforts will depend on the collective commitment of all stakeholders to prioritize global health over narrow self-interests. As the world continues to face the threat of emerging infectious diseases, the need for a robust and binding virus-sharing framework has never been more urgent.

**Establishing a Clearer Definition of "Public Health Emergency of International Concern"**

The term "Public Health Emergency of International Concern" (PHEIC), as defined under the International Health Regulations (IHR), serves as a cornerstone for mobilizing international responses to emerging health threats. However, its ambiguity has led to inconsistent interpretations and applications, often affecting

the timeliness and effectiveness of global health interventions. According to Kwan (2018), the lack of clarity surrounding the definition of a PHEIC has resulted in delays in virus sharing, as countries struggle to determine when and how their obligations under the IHR should be activated. The inherent vagueness in defining what constitutes a PHEIC has significant implications for global health security, particularly in terms of ensuring rapid and equitable virus sharing during pandemics.

The IHR (2005) outlines a PHEIC as "an extraordinary event which is determined to constitute a public health risk to other States through the international spread of disease and to potentially require a coordinated international response." While this definition provides a general framework, it fails to specify the criteria for determining what qualifies as "extraordinary" or "potentially requiring a coordinated international response." Carlson and Phelan (2022) argue that this lack of specificity creates room for subjective interpretations, which can hinder the timely declaration of a PHEIC and delay critical measures such as virus sharing and resource allocation.

Moreover, the ambiguity surrounding a PHEIC declaration has led to instances where countries have hesitated to share viral samples due to concerns over economic and political repercussions. Doctor (2024) highlights how this uncertainty has been exploited by some states to prioritize national interests over global health security. For example, during the H1N1 pandemic, delays in sharing viral samples were partly attributed to disagreements over whether the outbreak met the criteria for a PHEIC. This underscores the need for a more precise and universally accepted definition to eliminate ambiguity and ensure a more consistent and effective global response.

The lack of clarity also extends to the operationalization of the PHEIC declaration process. Negri and Eccleston-Turner (2022) emphasize that the

absence of clear guidelines on the types of viruses and conditions that warrant a PHEIC declaration has led to inconsistent decision-making by the World Health Organization (WHO) and member states. This inconsistency not only undermines trust in the global health system but also hampers efforts to establish a cohesive and coordinated response to emerging health threats.

To address these issues, it is imperative to establish a more precise and objective definition of a PHEIC. The proposed definition should incorporate scientific criteria, epidemiological indicators, and risk assessments to provide a clear and actionable framework for determining when a PHEIC should be declared. Gostin, Habibi, and Meier (2020) suggest that the definition should be grounded in evidence-based thresholds, such as the rate of disease transmission, the severity of clinical outcomes, and the potential for international spread. By including these measurable parameters, the definition can reduce subjectivity and enhance the predictability of PHEIC declarations.

One of the key elements of the proposed definition is the inclusion of specific epidemiological indicators, such as the basic reproduction number (R0), case fatality rate (CFR), and the rate of healthcare resource utilization. Rourke (2020) argues that these indicators can serve as objective benchmarks for assessing the severity and potential impact of an outbreak. For instance, a disease with an R0 exceeding a certain threshold or a CFR above a predefined level could automatically trigger a PHEIC declaration. This approach not only ensures consistency but also facilitates timely decision-making by providing clear and quantifiable criteria.

Another important aspect of the proposed definition is the consideration of social and economic factors that may exacerbate the impact of an outbreak. Radogno (2022) highlights the need to account for the vulnerability of affected populations, the capacity of healthcare systems, and the potential for societal

disruption when determining whether an event constitutes a PHEIC. By incorporating these contextual factors, the definition can better reflect the real-world implications of an outbreak and guide more targeted and effective responses.

In addition to scientific and contextual criteria, the proposed definition should also include provisions for periodic review and revision based on new evidence and emerging threats. Madhav et al. (2017) argue that the dynamic nature of infectious diseases necessitates a flexible and adaptive framework that can accommodate changing circumstances. By incorporating mechanisms for regular updates and stakeholder consultations, the definition can remain relevant and responsive to evolving global health challenges.

A transparent, accountable, and inclusive decision-making process is essential for the effective implementation of the proposed PHEIC definition. Singh et al. (2021) emphasize that the current process for declaring a PHEIC lacks transparency and often excludes key stakeholders, leading to mistrust and resistance among member states. To address these shortcomings, the decision-making process should be restructured to ensure greater participation, accountability, and clarity.

One of the key reforms proposed by Von Bogdandy and Villarreal (2020) is the establishment of a multi-stakeholder advisory panel to support the WHO Director-General in making PHEIC declarations. This panel could include representatives from member states, scientific experts, and civil society organizations to provide a diverse range of perspectives and expertise. By involving a broader set of stakeholders, the decision-making process can become more inclusive and better aligned with the needs and priorities of the global health community.

Another important reform is the implementation of clear and standardized procedures for assessing and declaring a PHEIC. Kwan (2018) suggests that these procedures should include predefined timelines for decision-making, detailed criteria for evaluating outbreaks, and mechanisms for resolving disputes among member states. For example, a two-stage process could be established, where an initial assessment by the advisory panel is followed by a formal declaration by the Director-General. This approach not only ensures a more systematic and transparent process but also provides opportunities for member states to raise concerns and seek clarifications before a PHEIC is declared.

To enhance accountability, the decision-making process should also include provisions for monitoring and evaluation. Carlson and Phelan (2022) propose the use of independent audits and peer reviews to assess the effectiveness and fairness of PHEIC declarations. These evaluations could be conducted periodically and made publicly available to promote transparency and build trust in the global health system.

Finally, the decision-making process should prioritize communication and information sharing to ensure that all stakeholders are adequately informed and prepared to respond to a PHEIC. Doctor (2024) highlights the importance of timely and accurate communication in mitigating the impact of outbreaks and preventing misinformation. To this end, the WHO should develop standardized communication protocols and leverage digital platforms to disseminate information quickly and effectively. By fostering a culture of openness and collaboration, the decision-making process can strengthen global solidarity and enhance the overall effectiveness of PHEIC responses.

In conclusion, the ambiguity surrounding the definition of a PHEIC and the associated decision-making process poses significant challenges to global health security. By establishing a clearer and more objective definition,

incorporating scientific and contextual criteria, and reforming the decision-making process, the international community can address these challenges and ensure a more effective and equitable response to emerging health threats. As Negri and Eccleston-Turner (2022) aptly note, the success of these reforms will ultimately depend on the willingness of member states to prioritize collective interests over national self-interest and to work together to build a more resilient and inclusive global health system.

**Developing a Multilateral Framework for Equitable Access to Vaccines and Therapeutics**

Equitable access to vaccines and therapeutics is a cornerstone of global health security. This principle acknowledges that pandemics know no borders, disproportionately affecting vulnerable populations in low- and middle-income countries (LMICs) that often lack the resources to independently secure medical countermeasures. The COVID-19 pandemic starkly illustrated the consequences of inequity, where vaccine nationalism and pre-existing structural inequalities exacerbated disparities in global health outcomes (J Doctor, 2024). High-income countries (HICs) were able to leverage their financial and political power to secure the majority of vaccine supplies, leaving LMICs to rely on donations or delayed shipments.

The principle of equity is not only a moral imperative but also a practical necessity. Ensuring that vaccines and therapeutics are distributed based on need rather than economic capacity reduces the risk of prolonged outbreaks and secondary waves of infections. Rapid immunization in all regions, including those with limited resources, can curb the spread of infectious diseases globally. Furthermore, equitable access helps to foster trust and solidarity among nations, which is critical for addressing future global health challenges (AL Phelan et al., 2020). However, achieving equity requires a robust framework that overcomes the

barriers posed by intellectual property rights, supply chain constraints, and political inertia.

To address these challenges, a multilateral framework for equitable access to vaccines and therapeutics should be developed. This framework must be rooted in principles of fairness, transparency, and global collaboration. The following sections outline the key components of such a framework, including mechanisms for technology transfer, pooled procurement, and distribution based on need.

Central to the framework is the facilitation of technology transfer and collaborative research. During the COVID-19 pandemic, initiatives like the WHO's COVID-19 Technology Access Pool (C-TAP) were established to encourage the voluntary sharing of intellectual property, know-how, and data. However, these efforts were met with limited participation, as many pharmaceutical companies and HICs prioritized bilateral agreements over multilateral cooperation (LO Gostin et al., 2020). To overcome these limitations, the proposed framework should include legally binding commitments for technology transfer during public health emergencies. For example, countries could agree to waive certain intellectual property rights under the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement during pandemics, thereby enabling the production of generic vaccines and therapeutics in LMICs.

In addition, the framework should promote public-private partnerships to accelerate the development and distribution of medical countermeasures. Governments, international organizations, and private sector stakeholders should collaborate to fund research and development (R&D) initiatives that prioritize global health needs over commercial interests. This approach not only diversifies the pool of available resources but also ensures that R&D efforts are aligned with public health priorities.

Another critical element of the framework is the establishment of pooled procurement mechanisms. By consolidating demand across multiple countries, pooled procurement can reduce costs, increase bargaining power, and ensure a more equitable allocation of vaccines and therapeutics. The COVAX initiative, co-led by Gavi, the WHO, and the Coalition for Epidemic Preparedness Innovations (CEPI), serves as a model for this approach. Despite its challenges, COVAX demonstrated the potential of pooled procurement to deliver vaccines to LMICs that would otherwise be excluded from bilateral agreements (S Halabi et al., 2024).

To enhance the effectiveness of pooled procurement, the framework should incorporate innovative financing mechanisms. For instance, a global pandemic fund could be established to subsidize the cost of vaccines and therapeutics for LMICs. Contributions to this fund could be based on a country's gross domestic product (GDP) or other indicators of economic capacity, ensuring that wealthier nations shoulder a greater share of the financial burden. Additionally, the fund could incentivize pharmaceutical companies to participate in pooled procurement by offering advanced purchase agreements or guaranteed market commitments.

Equity in distribution is perhaps the most contentious aspect of the proposed framework. During the COVID-19 pandemic, HICs often prioritized their populations over global needs, leading to vaccine stockpiling and delayed access for LMICs (F Humphries et al., 2021). To prevent such scenarios, the framework should establish clear criteria for needs-based distribution. These criteria could include epidemiological indicators such as infection rates, mortality rates, and healthcare capacity, as well as socio-economic factors that influence a country's ability to respond to public health emergencies.

To operationalize needs-based distribution, the framework could adopt a tiered allocation system. In the initial phase of a pandemic, vaccines and therapeutics would be distributed to frontline healthcare workers and high-risk populations in all countries, regardless of their economic status. Subsequent phases would prioritize regions with the highest disease burden, ensuring that resources are directed where they are needed most.

The World Health Organization (WHO) is uniquely positioned to coordinate and oversee the implementation of this multilateral framework. As the leading international health authority, the WHO has the mandate, expertise, and convening power to facilitate global cooperation and ensure compliance with agreed-upon commitments (GL Burci, 2024).

The WHO's primary role would be to provide strategic leadership and coordination. This includes setting global priorities, developing technical guidelines, and monitoring the implementation of the framework. For example, the WHO could establish a global dashboard to track the production, distribution, and administration of vaccines and therapeutics, ensuring transparency and accountability. The dashboard could also serve as a platform for sharing best practices and lessons learned, fostering a culture of continuous improvement.

Another critical function of the WHO is to provide regulatory support. Many LMICs lack the regulatory capacity to assess the safety and efficacy of new vaccines and therapeutics, which can delay their approval and deployment. To address this gap, the WHO could expand its prequalification program, which certifies medical products for use in resource-limited settings. By streamlining regulatory processes and harmonizing standards, the WHO can accelerate the availability of life-saving interventions.

Finally, the WHO should play an active role in advocacy and capacity building. This includes mobilizing political will, securing financial resources, and

strengthening health systems in LMICs. For instance, the WHO could advocate for the inclusion of pandemic preparedness and response in national development plans, ensuring that health security remains a priority even in non-crisis periods. Additionally, the WHO could provide technical assistance and training to enhance the capacity of LMICs to produce, distribute, and administer vaccines and therapeutics.

While the proposed framework offers a comprehensive approach to achieving equitable access, its implementation is not without challenges. One major obstacle is the tension between national interests and global health security. As noted by CJ Carlson and AL Phelan (2022), states often prioritize their sovereignty and economic interests over collective action, particularly during crises. Overcoming this tension requires a shift in mindset, where countries recognize that their own health security is inextricably linked to the health security of others.

Another challenge is the need for sustained political and financial commitment. The COVID-19 pandemic underscored the importance of early and adequate funding for pandemic preparedness and response. However, securing long-term investments in global health security remains a persistent challenge, particularly in the face of competing priorities such as climate change and economic recovery (P Andanda & L Mlotshwa, 2024).

Finally, the success of the framework depends on the active participation of diverse stakeholders, including governments, international organizations, civil society, and the private sector. Building trust and fostering collaboration among these actors is essential for ensuring the framework's legitimacy and effectiveness.

In conclusion, developing a multilateral framework for equitable access to vaccines and therapeutics is an urgent and necessary step toward strengthening

global health security. By addressing the barriers to technology transfer, pooled procurement, and needs-based distribution, the proposed framework can ensure that life-saving interventions are accessible to all, regardless of economic status. The WHO has a critical role to play in coordinating and overseeing the implementation of this framework, leveraging its expertise and mandate to facilitate global cooperation. While challenges remain, the potential benefits of equitable access far outweigh the obstacles, offering a path toward a more resilient and inclusive global health system.

## Conclusion: Towards a More Effective and Equitable Global Health Security Regime

**Summarize Key Arguments: Briefly reiterate the main arguments of the paper, emphasizing the need for reconstructing legal obligations for virus sharing under the IHR.**

As we draw to a close on this comprehensive analysis of virus sharing under the International Health Regulations (IHR) (2005), it is essential to revisit the primary arguments that have been presented throughout this paper. The frequency and severity of pandemics have significantly increased in recent years, underscoring the urgent need for a robust framework that facilitates rapid and equitable virus sharing among nations. The existing legal landscape, as established by the IHR, is fraught with ambiguities and inadequacies that hinder timely responses to public health crises.

The central argument of this paper is that the current legal obligations for virus sharing, as articulated in the IHR, are insufficient for addressing the complexities of modern pandemics. This inadequacy stems from a combination of legal ambiguities, state sovereignty concerns, and competing national interests that often prioritize self-interest over global health security. Throughout the paper, we have dissected the various dimensions of these issues, including

the specific provisions of Article 6, the interpretation of "undue delay," and the inherent tensions between state obligations and rights.

Moreover, we have examined the historical context of virus sharing, drawing on case studies from the H1N1 and COVID-19 pandemics to illustrate the practical challenges that arise from the current framework. These case studies reveal not only the delays in sharing vital genetic sequences and isolates but also the broader implications of vaccine nationalism and unequal access to medical countermeasures. The need for reform is not merely a theoretical proposition; it is an urgent call to action for the global community.

In essence, the paper has made a compelling case for the reconstruction of legal obligations surrounding virus sharing under the IHR. By clarifying the legal framework, strengthening binding commitments, and promoting equitable access, we can enhance our collective preparedness for future pandemics. The insights gleaned from this analysis lay the groundwork for a more effective global health security regime, one that recognizes virus sharing as an essential element of pandemic response.

**Highlight the significance of the proposals: Underscore the significance of the proposed reforms for strengthening global health security and promoting equitable access to essential medical countermeasures.**

The significance of the proposed reforms cannot be overstated. By restructuring the legal obligations for virus sharing, we can fundamentally alter the dynamics of global health security. The proposals outlined in this paper aim to address the deficiencies identified in the current framework, fostering an environment where timely and equitable access to pathogens is not just an ideal but a practical reality.

First and foremost, transforming voluntary guidelines into mandatory obligations represents a pivotal shift in how states interact in matters of virus

sharing. Establishing clear legal consequences for non-compliance will create a more accountable system, where states are compelled to prioritize public health over national interests. This change is crucial in light of recent experiences with pandemics, where delays in sharing virus samples have led to catastrophic consequences. For instance, during the early stages of the COVID-19 pandemic, the lack of timely sharing of genetic information hampered the global response and contributed to the rapid spread of the virus. By instituting binding commitments, we can prevent similar situations in the future.

Furthermore, the establishment of a dispute resolution mechanism will provide a structured approach to addressing disagreements among states regarding virus sharing obligations. This mechanism can serve as a neutral platform for resolving conflicts, thereby reducing the likelihood of politicization and fostering a spirit of cooperation. The World Health Organization (WHO) or a similar international body can play a crucial role in facilitating these discussions, ensuring that all voices are heard and considered.

Equally important is the emphasis on compliance measures, such as monitoring, reporting, and peer review. These mechanisms will not only enhance transparency but also build trust among states. Trust is a critical component of effective virus sharing, as it encourages nations to collaborate rather than compete in times of crisis. By promoting a culture of accountability and openness, we can cultivate an environment where virus sharing is viewed as a collective responsibility, rather than a burden.

In addition to these legal reforms, the proposed multilateral framework for equitable access to vaccines and therapeutics is vital for addressing the disparities that have plagued global health responses. The COVID-19 pandemic starkly highlighted the inequities in access to medical countermeasures, with wealthier nations often securing supplies at the expense of lower-income

countries. By establishing mechanisms for technology transfer, pooled procurement, and distribution based on need rather than financial capacity, we can ensure that all countries have access to the tools necessary to combat pandemics. This approach not only promotes equity but also strengthens global health security as a whole, as it fosters a sense of shared responsibility among nations.

The significance of these proposals lies in their potential to reshape the landscape of global health security. By prioritizing virus sharing as a fundamental obligation of states, we can enhance our collective resilience against future pandemics. The time for action is now, as the lessons learned from recent outbreaks underscore the urgent need for a more effective and equitable approach to public health.

**Offer a vision for the future: Conclude with a vision for a more effective and equitable global health security regime, where virus sharing is recognized as a collective responsibility and a cornerstone of pandemic preparedness and response.**

Looking ahead, the vision for a more effective and equitable global health security regime is one that places virus sharing at its core. This vision is grounded in the understanding that pandemics are inherently global challenges that require collaborative solutions. In a world that is increasingly interconnected, the fate of one nation is inextricably linked to the fate of others. Therefore, fostering a culture of cooperation and solidarity is essential for building a resilient global health infrastructure.

At the heart of this vision is the recognition that virus sharing is not merely a legal obligation but a moral imperative. Countries must come together to establish a framework where sharing genetic sequences, isolates, and related information is seen as a collective responsibility. This shift in perspective will

require a concerted effort to change the narrative around virus sharing, moving away from a focus on state sovereignty and national interests toward a shared commitment to global health security.

In this envisioned future, multilateral institutions like the WHO will play a pivotal role in facilitating virus sharing and coordinating responses to public health emergencies. By enhancing their capacity to oversee compliance with virus sharing obligations, these institutions can help ensure that all countries adhere to their commitments. Additionally, the establishment of transparent communication channels among states will foster trust and collaboration, enabling timely information exchange during outbreaks.

Moreover, equitable access to vaccines and therapeutics will be a cornerstone of this global health security regime. The proposed multilateral framework for equitable access will serve as a guiding principle, ensuring that no country is left behind in the fight against pandemics. This framework will not only address issues of access but also promote innovation and research by incentivizing countries to share their viral samples and data in exchange for fair benefits.

In this future vision, we can also foresee the emergence of a global surveillance system that monitors pathogens and facilitates the rapid sharing of information. Such a system would enable early detection of outbreaks, allowing for swift responses that can prevent the spread of diseases before they become global crises. The integration of technology and data analytics will be essential in this endeavor, providing real-time insights into emerging threats and facilitating collaborative research efforts.

Ultimately, the vision for a more effective and equitable global health security regime hinges on the principles of solidarity, accountability, and shared responsibility. By recognizing virus sharing as a fundamental component of

pandemic preparedness and response, we can transform the way nations approach public health challenges. The lessons of the past serve as a reminder of the urgency to act, and the proposed reforms provide a roadmap for achieving a future where global health security is truly a collective endeavor.

In conclusion, the reconstruction of legal obligations for virus sharing under the IHR is not just a matter of legal reform; it is a vital step toward safeguarding the health and well-being of populations around the world. As we continue to confront the realities of an interconnected world, the need for a robust, equitable, and collaborative approach to global health security has never been more pressing. By embracing the proposed reforms and fostering a culture of cooperation, we can build a future where virus sharing is an integral part of our collective response to pandemics, ensuring that we are better prepared for the challenges that lie ahead.

**References**

Andanda, P., & Mlotshwa, L. (2024). Streamlining the ethical-legal governance of cross-border health data sharing during global health emergencies. *Research Ethics*.

Bogdandy, A. V., & Villarreal, P. (2020). International law on pandemic response: a first stocktaking in light of the coronavirus crisis. *Public Law & International Law*.

Burci, G. (2024). The COVID-19 pandemic and the development of global health law: managing crises or achieving structural changes?. *Journal of Global Health Law*.

Burci, G., & Negri, S. (2020). Governing the global fight against pandemics: the WHO, the international health regulations, and the fragmentation of international law. NYUJ Int'l L. *& Pol*.

Carlson, C., & Phelan, A. (2022). International law reform for One Health notifications. *The Lancet*.

DOCTOR, J. (2024). *SHARING OF VIRAL SAMPLES TO BOLSTER VACCINE PRODUCTION AND TO FORESTALL PUBLIC HEALTH EMERGENCIES OF INTERNATIONAL* .

Forman, L. (2022). Global health Law: WHO, COVID-19, and human security. *Handbook on International Law and Human Security*.

Gostin, L. (2021). *Global health security: a blueprint for the future*.

Gostin, L., Habibi, R., & Meier, B. (2020). Has global health law risen to meet the COVID-19 challenge? Revisiting the International Health Regulations to prepare for future threats. *The Journal of Law*.

Halabi, S. (2019). The origins and future of global health law: regulation, security, and pluralism. Geo. *LJ*.

Halabi, S., & Gostin, L. (2024). Global health law for a safer and fairer world. *England Journal of*.

Heymann, D., Chen, L., & Takemi, K. (2015). Global health security: the wider lessons from the west African Ebola virus disease epidemic. *The Lancet*.

Humphries, F., & Rourke, M. (2021). COVID-19 Tests the Limits of Biodiversity *Laws in a Health Crisis*: Rethinking'Country of Origin'for Virus Access and Benefit-sharing. *Laws in a Health Crisis*.

Jr, F. B. (2015). Global health security demands a strong international health regulations treaty and leadership from a highly resourced World Health Organization. *Disaster medicine and public health preparedness*.

Kickbusch, I., & Liu, A. (2022). Global health diplomacy—reconstructing power and governance. *The Lancet*.

Kwan, M. (2018). The World Health Organization Framework for Virus Sharing: Law, Recent Challenges and its Compliance. *Public Health Law*, Forthcoming.

Lal, A., Abdalla, S., & Chattu, V. (2022). Pandemic preparedness and response: exploring the role of universal health coverage within the global health security architecture. *Lancet Global Health*.

Lee, T. (2016). Making international health regulations work: lessons from the 2014 Ebola outbreak. Vand. J. *Transnat'l L*.

Madhav, N., & Oppenheim, B. (2017). Pandemics: risks, impacts, and mitigation. *: improving health*.

Moodie, A., Gerami, N., & D'Alessandra, F. (2021). *Rethinking health security after COVID-19*.

Negri, S., & Eccleston-Turner, M. (2022). One Health and Pathogen Sharing: Filling the Gap in the International Health Regulations to Strengthen Global Pandemic Preparedness and Response. *International Organizations Law Review*.

Organization, W. H. (2022). *WHO consultation to adapt influenza sentinel surveillance systems to include COVID-19 virological surveillance: virtual meeting*, 6–8 October 2020.

Phelan, A., Eccleston-Turner, M., & Rourke, M. (2020). Legal agreements: barriers and enablers to global equitable COVID-19 vaccine access. *The Lancet*.

Radogno, C. (2022). Reconceptualizing the International Health Regulations in the Wake of COIVD-19: An Analysis of Formal Dispute Settlement Mechanisms and Global Health . Yale J. Health Pol'y L. *& Ethics*.

Rourke, M. (2020). Restricting access to pathogen samples and epidemiological data: a not-so-brief history of “viral sovereignty” and the mark it left on the world. *Infectious diseases in the new millennium: legal and*.

Singh, S., Mcnab, C., Olson, R., & Bristol, N. (2021). How an outbreak became a pandemic: a chronological analysis of crucial junctures and international obligations in the early months of the COVID-19 pandemic. *The Lancet*.