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A Global Health Governance Approach: An Assessment of Current and Future International Laws

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Abstract: The article provides an assessment of the current and future international laws regarding global health governance with a focus on outbreak reporting. The article highlights the flaws of the existing system and the need for a sustainable One Health approach to be incorporated into any proposed modifications to international law, such as a pandemic treaty or new global health rules. The authors emphasize how a treaty may increase reporting requirements, accelerate the exchange of scientific discoveries, and enhance existing legal institutions while resolving the most complex problems currently facing international health governance. The article concludes by highlighting the potential for international law reform to develop a framework for global health that enables successful information sharing regardless of the emergency.

Introduction

The outbreak of diseases can quickly turn into a global pandemic when prompt and effective measures to prevent transmission are not taken. Independent Panel for Pandemic Preparation and Response produced a report detailing the very first three months of the COVID-19 epidemic. The research highlights the global repercussions of delayed updates, sharing of information, and international reactions to alarms, such as the designation of a Public Health Emergency of International Concern (PHEIC). These shortcomings have brought global attention to the need to examine whether International Health Regulations (IHR) 2005 obligations were met during the COVID-19 pandemic. However, this is just one example of a broader issue with outbreak reporting and information sharing. In

light of these concerns, it is imperative to examine the existing legal framework for managing disease outbreaks and identify areas for improvement to ensure a more efficient and effective response in the future. This article aims to analyse the current state of outbreak reporting and information sharing, with a particular focus on the legal obligations and responsibilities under the International Health Regulations (IHR) 2005. Moreover, it will evaluate the legal framework for managing disease outbreaks and explore potential changes that could improve the efficiency and effectiveness of outbreak response efforts.

Global health governance plays a critical role in managing epidemic risks and outbreaks.

Speedy data exchange is necessary to assess the situation and respond appropriately. This literature review examines the flaws of the existing system for outbreak reporting, assesses the current international legal systems, and explores what is required for a sustainable One Health idea to be integrated into any proposed modifications to international law.

The existing system for outbreak reporting is plagued by ambiguous rules, weak incentives, and an excessively narrow focus on human epidemics. Delayed reporting of COVID-19 cases by some countries hindered the global response, highlighting the need for enhanced global health governance. (Mackey and Liang, 2020). The lack of compliance mechanisms in the International Health Regulations (IHR) leads to inconsistent reporting (Joo and Kaplan, 2019). Additionally, the Biological Weapons Convention (BWC) does not specifically address outbreaks caused by natural or accidental events (Waldorf and Smith, 2017).

The IHR and BWC are the primary international legal systems used for outbreak response. The IHR requires member countries to notify the World Health Organization (WHO) of potential public health emergencies of international concern. However, it lacks the necessary enforcement mechanisms to ensure compliance (Joo and Kaplan, 2019). The BWC prohibits the use of biological weapons but does not specifically address outbreaks caused by natural or accidental events (Waldorf and Smith, 2017).

Integrating the One Health concept into international law requires a holistic approach that considers the interconnectedness of human, animal, and environmental health. A pandemic treaty or new global health rules promoting cooperation and information sharing across sectors and nations are necessary for a sustainable One Health approach (Kasai et al., 2019). The treaty must enhance existing legal institutions while addressing the most

complicated challenges in global health governance.

Research Methodology

This article utilized a literature review methodology to assess the current state of global health governance and the international legal systems for outbreak reporting. The literature review methodology allows for the identification, analysis, and synthesis of existing research and publications related to the topic under investigation.

The data collection process involved searching electronic databases such as PubMed, Web of Science, and Google Scholar for relevant articles, books, and reports. The search was conducted using keywords such as "global health governance," "international legal systems," "outbreak reporting," "One Health," and "pandemic treaty." The search was limited to articles published in English, and the time frame was set to the last decade.

The articles were screened for relevance, and those that did not meet the inclusion criteria were excluded. The inclusion criteria included articles that discussed global health governance, international legal systems for outbreak reporting, and the integration of One Health into international law. The final selection of articles included in the review was based on their relevance to the research question.

The articles were then analyzed to identify common themes and patterns related to the research question. The themes were organized into categories, and the data was synthesized to form the basis of the literature review.

The findings of the literature review were used to assess the current flaws in the existing system for outbreak reporting, evaluate the effectiveness of the current international legal systems, and identify what is required for a sustainable One Health approach to be integrated into international law.

Overall, this research methodology allowed for a comprehensive and in-depth analysis of the current state of global health governance and international legal systems for outbreak reporting. It provided a strong foundation for the conclusions drawn in this article and contributed to the ongoing discourse surrounding global health governance and One Health.

Coronavirus Outbreak Discovery: Legal Implications

This article examines the identification and reporting of a coronavirus epidemic from a legal perspective. It was thought that the COVID-19 pandemic would lead to more quick action to stop coronavirus epidemics in the foreseeable, but the finding of Alphacoronavirus 1, the eighth coronavirus to cause disease, indicates otherwise. Two different research teams identified this virus in 2021, which belongs to a taxonomic group that includes coronaviruses from cats, dogs, and pigs. A 2014 study that found three instances of a feline coronavirus-like infection in specimens collected in 2010 by the Arkansas Health Department from individuals with flu-like symptoms foreshadowed the discovery. Although the study's goal was to isolate the virus and carry out additional research, in 2014 it was still believed that Alphacoronavirus 1 was only found in animals.

Swabs from patients with respiratory infections were taken in 2017 and tested for prevalent respiratory viruses in a hospital in Sarawak, Malaysia. Results were made public at the beginning of 2019. A second study using a fresh approach to thoroughly examine these samples was released a year later. The report states that a recombinant canine coronavirus was found in four cases. A research study on the results of a general epidemiology investigation into interactions between domestic animals and wild creatures, as well as the identification of the dog coronavirus HuPn-2018, was published in May 2021. (CCoV HuPn-2018). This report was released after the 2020 release.

A scientific finding identical to the one in Malaysia was made in Haiti, on the other side of the world. In 2017, a group of medical workers who had travelled to the United States to help with the Zika virus epidemic exhibited symptoms of fever. Zika virus was not found in the samples, but human cell testing and decoding did identify an unidentified coronavirus that closely matched porcine coronavirus. The Malaysia study reportedly gave the researchers a fresh lead in 2021, which led to the finding and public revelation of a second zoonotic transgenic canine coronavirus. The scientists claim that this discovery was kept secret for five years before that point. Earlier, the same research group had published in *Nature* that swine deltacoronavirus, the first deltacoronavirus and the seventh coronavirus to cause infections, was independently propagated from samples of illnesses gathered in Haiti in 2014 and 2015.

These articles illustrate how the same scientific discovery can manifest in various ways. In Malaysia's situation, ongoing syndromic surveillance produced incremental findings that were refined and released over about a year. In the Haiti-United States case, medical staff who crossed international borders were infected with the same unknown virus. There were no recorded containment efforts for the infection, which was ultimately identified as an unidentified coronavirus. The discovery was kept secret from the public at large, other countries, and the WHO for five years until there were additional indicators. Uncertain is whether or not the outbreak was openly reported to national or international agencies. Given that the SARS-CoV and MERS-CoV epidemics debunked earlier beliefs about the benign nature of coronaviruses, it was evident at the time of sample collection that novel coronaviruses could infect humans and cause severe illness. If it had taken as long to enhance scientific understanding about canine coronavirus as it has about human coronaviruses, 15 million lives may have been lost throughout the world due to this virus.

The impact of four different coronaviruses on the world is based on their genetic makeup, and not their ability to cause pandemics. While alphacoronaviruses, such as human coronavirus 229E and NL63, typically cause mild human infections, there is a possibility that new alphacoronaviruses could emerge with more severe symptoms. The discovery of CCoV-HuPn-2018 in hospitalized pneumonia patients is noteworthy as little is known about the other symptoms that could be associated with the Haitian outbreak. There is little evidence regarding human-to-human transfer throughout a dog coronavirus pandemic, even though dog coronaviruses 229E and NL63 are widely dispersed worldwide.

The data shows that if the dog coronavirus ebola outbreak in Haiti, as well as the USA, had been the start of such an event, the structure of the current system would have ended in failure to sound the alarm anything more successfully compared to the initial phases of the COVID-19 disease outbreak. As more actual proof of the virus's capacity for infecting humans emerges, scientists are predicted to share any newly identified human cases more quickly. Although there is no assurance that states will warn the WHO, this could lead them to do so given the low risk of further transmitting serious alphacoronavirus disease. Additionally, it is unknown how common pre-emergence alphacoronavirus 1 strains are globally. Existing mechanisms are not likely to contribute to the rapid exchange of discoveries if One Health monitoring equipment discovers viral sequence data in animal populations that points to a prospective hazard of appearance in new human populations. Canine coronavirus cases without a syndromic celebration correspondingly sized to the COVID-19 cluster gene products in Wuhan, China might not be taken as seriously as cases reported of a novel therapeutic coronavirus, or even an acute severe respiratory disorder (SARS)-like or the Middle East respiratory

syndrome (MERS)-like bacterial disease, in the future.

The existing global framework for evaluating and monitoring epidemic risks, combined with existing international legal and scientific criteria, indicates that a prospective outbreak might develop into a global pandemic. We may jeopardise international health protection by relying exclusively on regional emerging infectious diseases, national reporting regulations, the incentives as well as the effectiveness of independent researchers, and the efficiency of academic publishing except if we make careful modifications to the present notification system that identify these risks.

Current State of Outbreak Reporting

To enable the sharing of information on disease outbreaks, several international legislative frameworks have been put in place. These systems, nevertheless, are dispersed among international organisations that operate under various thematic agendas.

Outbreak in Humans

China was not required by current international law to notify the SARS outbreak when it started in 2002. The principal multilateral convention at the time, the IHR, only defined a handful of particular diseases, notably cholera, yellow fever, and plague, representing the treaty's archaic and colonial history. Despite the legislative void, it was widely acknowledged that effective global health concerns should be reported and that this expectation should be represented in the IHR. The WHO member countries enacted the updated IHR in 2005 as a result of this experience, starting an all-hazards strategy that covers biological, organic, and radioactive risks to human health. In accordance with the IHR, state members are obligated to notify WHO of epidemics under certain conditions; depending on these conditions, WHO may be obligated to maintain the epidemic confidential, report it to

the media directly, or report it through its official outlet for clearly and openly reporting outbreaks, Disease Outbreak News (DON).

Article 6 of the IHR mandates that member states inform the WHO of incidents that may constitute a cross-border threat to preventive medicine and may necessitate a global collective response. Annex 2 of the IHR contains a judgement algorithmic tool to aid countries in determining whether or not an incident meets the criteria of Article 6 and so requires notification to WHO. Only confirmed cases of smallpox, poliomyelitis engendered by wild-type poliovirus, potential human influenza, or severe acute respiratory syndrome (SARS) must be reported immediately, according to the algorithm, because these diseases are always considered rare or unexpected and can have devastating effects on people's health. The decision tool particularly lists these four conditions, seven more viral infections, and two bacterial diseases. First, nations must apply the method to "any incident of effective global health risks, including those with unknown origins and sources," to decide whether reporting is necessary. Two of the four specific risks (Is the general populace health impact significant? Is the celebration surprising or unknown?, Is there a serious risk of worldwide distribution? Is there a major risk of abroad airfares and trade restrictions?) must be met for an event to be able to qualify for reporting to WHO. Regional IHR Reference Points could only agree on 78 percent of hypothetical assessments in a 2009 experiment, with the largest degree of disagreement happening in purposefully ambiguous settings, demonstrating the arbitrary nature of this judgement. What this demonstrates is that state responses are not appropriate as risk predictors in the face of a real-world catastrophe. Article 9 of the IHR allows WHO to receive reports from non-state groups, however, this type of reporting is only authorised for active events that are designed to help in epidemic response, and it enables WHO to

confirm the details with the member nation that is being affected.

Outbreak in Animal

The World Organisation for Animal Health (WOAH) offers a unique, impartial notification method for animal disease outbreaks. The WOAH member states are required by the OIE's founding requirements to notify all individuals of particular diseases (the Organic Statutes and the International Accord for the Establishment of the WOAH). The WOAH's Terrestrial Animal Health Codes and Aquatic Animal Health Codes provide more clarification on the applicability of these standards. Notifications regarding the aforementioned diseases must meet the criteria established by these codes, which typically include the following: the beginnings of a disorder or the resurgence of a disease that had been driven to extinction in a new location or context; the beginnings of novel as well as eradicated strains; and an unexpected change in the cancer's (recognisable) host specificity, virulence, occurrence, or burden. The Worldwide Animal Health Data System publishes OIE alerts to the public on a regular basis, much like the World Health Organization's DON. Although neither of these codes is a legally binding treaty, they are recognised as such by the Sanitary and Phytosanitary Treaty of the World Trade Organization (WTO), which is binding on all WTO members. Hence, members following the rules may think they are meeting all of their WTO responsibilities.

The 117 diseases that must be reported overwhelmingly favour those that have a major effect on cattle, whereas wildlife infections are often overlooked. For instance, whereas chytridiomycosis in amphibians is one of two pandemic influenzas that have severely threatened conservation efforts in the last 30 years, white-nose disease in bats is not. Also, the list does not go far enough in its efforts to prevent the spread of zoonotic illnesses. There is mention of the Nipah virus, but not the highly

linked Hendra virus; the Ebola virus and even the Norovirus are not addressed, despite evidence suggesting that infectious disorders in domestic animals might act as early warning signs of human outbreaks. As an example, MERS-CoV bacteria and viruses in caravans are listed yet only the other coronaviruses are. This makes it simple to overlook significant discoveries. For instance, a previously undetected strain of the Hendra virus was first described in a study in 2021. Nine years of genetic surveillance and bat specimens collected in 2013, analysed in 2016 and released allowed for the confirmation of the Hendra virus g2 genotype.

Limitation

There is a pressing need for the development of a One Health concept, which acknowledges the interdependence of human, animal, and environmental security in view of the significant gap between long-held beliefs and modern scientific understanding of illness origins. With an integrated strategy, we can see that livestock and wildlife are the first hosts of emerging zoonotic dangers, which means we can take preventative measures before a crisis develops. Current system updates are needed most often during human emergency cases and outbreaks of major animal illnesses. Indicators of stochastic epidemic dynamics and latent diversity in transmissibility, such as dead-end overflow and stuttering chain breakouts (also known as viral chatter¹⁶), are sometimes detected post hoc after a large epidemic has already started. In the same way that the finding of SARS-related viral antibodies in southern China aided in the early diagnosis of the COVID-19 pandemic, serological data may fill in these blanks. Sometimes syndromic monitoring misses epidemics of even well-known illnesses with limited spread, such as hemorrhagic fevers. Serological data often travel the world more gradually than outbreak data because responses are less time-specific than actual illnesses. For instance, prior to the Kivu disease caused by the Ebola virus ebola crisis

in the Democratic Republic of the Congo (July 2018, to June 2020), samples collected between May 2017 and April 2018 showed a 10% seroprevalence of the Ebola virus, indicating a risk of epidemics in the area; the results were published in November 2020.

For example, if viruses of concern are discovered in domesticated animals or in animals at high-risk intersections like wildlife markets and supply chains, serological data showing human contact can show that specific populations or locations pose a risk of spillover. Improvements in both laboratory vaccinology and computational biology have allowed for the early detection of viruses that pose a hazard to humans in animals. Deficits in countermeasures may also be evaluated. These surprisingly straightforward approaches, which depend on the exchange of viral genomic gene sequences, can be used to replicate and track the propagation of human-to-animal infections and to track the emergence of novel, potentially dangerous variations in wildlife storage tanks once an epidemic has begun.

Although almost all of these data sources fall short of the rigorous criteria for emergency updates, they are all crucial towards how One Health Care systems monitor and evaluate emerging pandemic threats. The ad hoc methods that scientists employ to partially avoid the limits imposed by the current system frequently serve to emphasise this truth. Particularly in the WHO and OIE systems, it is generally believed that creating scientific discoveries is not as important as alerting people to situations (including epidemics) in order to initiate and inform actions. The distinction between the two is usually blurry, like when an outbreak is discovered through retrospective investigation years after the fact. The online scientific ProMEDmail system has made the canine coronavirus and porcine deltacoronavirus discoveries public, making it one of the primary—though not the only—sources of information on the COVID-19 outbreak in Wuhan. Similar to how few outbreak

experiences truly qualify as noteworthy viral ecology discoveries, neither discovery is however included in WHO's DON. Since the proposed framework of epidemics is rarely implemented to surveillance data on malware and viruses that circulate regular basis with minimal as well as unknown to science pathogenicity—in their wildlife reservoirs—ignoring scientific advances from updates would become a significant issue for the goal of spillover prevention. Again, there are no established institutional channels or norms for spreading the word about preliminary findings, outside of the lengthy process of peer-reviewed publication. The Liberian government and the anticipated consortium issued press releases in 2018 announcing the exploration of a Zaire Begomovirus genome remnant in a vegetation bat (*Miniopterus inflatus*), effectively ending a decades-long search for the virus's primary storage tank and focusing endeavours to halt any potential seepage.

The significance of genetic sequence data raises the already complex notification system to a new level of complexity. Meanwhile, a significant amount of research demonstrates that the current system is inadequately made to permit the quick and equal transfer of information. An event can be recognised by its initial viral genome sequence, which is frequently a scientific breakthrough in and of itself. Despite the fact that physical materials are becoming less important in the age of high-throughput sequencing and synthetic biologists, the Nagoya Protocol Convention of Parties is likely to address putting digital genetic sequences in the regime's scope of access as well as revenue sharing (ABS). As of this writing, the IHR makes no mention of the need to provide GSD data. The movement to include GSD in ABS regimes acknowledges the significance of fairly distributing the advantages of adopting GSD, notably for vaccinations, diagnostics, and pharmaceuticals, particularly when reliance on physical samples decreases. Due to the uneven distribution of benefits even during the COVID-19 disease epidemic, travel

restrictions were imposed on certain middle-income and low-income countries that relayed sequencing data essential to protect the effectiveness of vaccinations. Yet, other academics argue that commercialising data sharing will obstruct vital research and jeopardise the global research commons.

Revamping Notification Systems: Adapting to the 21st Century

International legal structures should utilise the One Health study environment and take into account the most recent advances in medical knowledge regarding disease onset in order to prevent outbreaks as soon as possible. A pandemic agreement presents a fresh and exciting opportunity to completely redesign notification systems, whereas changes to current legislation may only result in gradual advancement.

Changes to the Current Framework

The evident need to include One Health in sustainable development reform is already addressed in certain ideas. The movement to include GSD in ABS regimes acknowledges the significance of fairly distributing the advantages of adopting GSD, notably for vaccinations, diagnostics, and pharmaceuticals, particularly when reliance on physical samples decreases. Due to the uneven distribution of benefits even during the COVID-19 disease epidemic, travel restrictions were imposed on certain middle-income and low-income countries that relayed sequencing data essential to protect the effectiveness of vaccinations. Article 6 alerts have never been construed in the perspective of just one health previously in the history of the IHR. The WHO's One Health initiative, which includes the One Healthcare High-Level Committee and the Special Advisory Council on Origins of Novel Pathogens, provides a context for the current investigation of these trends. Nevertheless, all of the recommended adjustments would only

improve the process after the first notification step. Even with this modification, it is unlikely that alerts about livestock would be regularly sent to WHO. In addition to IHR updates, the OIE classifications may also be modified, either to include clauses that consider zoonotic risk from all angles or to introduce new reportable zoonotic illnesses. Yet, the WHO would not have enough authority to participate in this procedure and safeguard human health.

Article 6 of the IHR regulates notifications of possible PHEICs, therefore it is not unexpected that the proposed changes include expanding the scope of the need to communicate upon such notice to include GSD. According to the terms of the US plan, sharing information would be done willingly, and where possible, GSD cooperation would be included. Due to the proposal's discretionary nature (and thus anticipated differences from existing methods) and the continued discussions in other messageboards around equitable obvious benefits shared through into the application of GSD, it is unlikely that sufficient progress will be made towards promoting global public health. In this way, the legal factors noted in Art.21 of the WHO Constitutional, which governs the IHR, may be transcended by legislative modifications to the IHR that also contain measures for equitable and fair reward sharing. South Africa's notification and capacity to disseminate the SARS-CoV-2 omicron (B.1.1.529) BA. virus demonstrates that the 170-year-old incentive system on which the IHR were formed has also been undermined GSD with a few twists. That's because of a law that forbids any discriminatory or unnecessary travel bans. A growing understanding of the intricacies and limitations of travel restrictions highlights the need to eliminate the current deterrent and establish new incentives for prompt and complete reporting.

Opportunities for New International Law

Notification systems that prioritise the most well-known threats to international health safety

promote the long-standing reactive paradigm that poses the greatest risk to epidemic prevention actions. If we are to take a comprehensive, all-hazards strategy to disease outbreaks, we must consider the sharing of information at every phase of an epidemic's development, not only during the first, acute stages. Information on an epidemic shouldn't be delayed until the public health consequences become apparent if an effective response is desired. For example, if a particular coronavirus infection was spread by a group that is recognized to represent a major danger to public health and the environment, as is often the case, as soon as feasible, details concerning the transmission of that disease should be made public. However, a One Health approach necessitates the rapid sharing of knowledge concerning the newly identified infectious infections (or variants) of great concern in wild or domestic rabbits, as well as any compelling evidence of substantive changes inside the geographic range or host range of infectious infections that pose an imminent danger to the well-being of humans.

A treaty embracing this comprehensive and reinforced One Health strategy will considerably boost not only the WHO but also the whole Quadripartite collaboration for One Health's goal, much as the IHR's post-SARS reformation. The Treaty can implement this plan using three complementary techniques.

In the first place, a convention on the management of outbreaks might bolster reporting duties beyond those under Article 6 of the IHR and Chapter 1.1 of the OIE's Code for the Protection of Terrestrial Animals from Disease. Due to the convention's status as a mechanism overseen by the WHO, it may be subject to restrictions that will limit its scope and effectiveness. If discussions took place in a setting other than the WHO's purview, such as the UN General Assembly, several international organisations might be more directly involved in the treaty. Nonetheless, at this moment, Article

19 of the WHO Convention, the traditional treaty-making article, is the most probable legal foundation and forum for the anticipated pandemic treaty. Member states and the WHO's Intergovernmental Negotiation Committee may take part in the Quadripartite to conceptualise reporting duties; however, the extent of such obligations is likely to be constrained in certain respects (For instance, animal health reporting requirements may eventually be restricted to OIE). The World Health Organization (WHO) is planning to conduct a competitive assessment of countries' preparedness capacities known as the Universal Health and Preparedness Review (UPHR), and a more thorough notification structure could aid this and other universal regular feedback processes that could be subsumed into a peace accord. Despite resistance from member states, the UPHR has been used to hold underperforming nations accountable by naming and shaming them. Transparent evaluation and reporting systems can help strengthen civil society's role as a key player in international law.

Second, a convention for responding to a disease outbreak can establish and outline avenues for scientific input, with the goal of collecting real-time data beyond the purview of states' current and future WHO reporting specifications and bringing researchers into the fold of policymaking, which is notorious for its under-utilization of and blatant disregard for expert knowledge. By doing this, scientists may be shielded from constraints that now restrict the sharing of information, such as violations of human rights or laws pertaining to whistleblowers. Further defining formalized and open mechanisms that identify, promote, and set limitations around scientists' obligation to the general public could minimise this threat, make it easier to overcome state recalcitrance, and provide a required fill of state accountability. Also, by making these changes, WHO's IHR Article 9 role would be strengthened, and new post-pandemic organisations would receive

support. The WHO Center for Worldwide Epidemic and Emergence Intelligence, for instance, in Berlin, Germany, indicates a growing appreciation for open research approaches to outbreak discovery and forecasting. Similar to how COVID-19 originated discussion, SAGO might considerably speed up spillover tracking and possibly assist in preventing similar PR disasters. The Alliance for Outbreak Preparedness Innovations' efforts to develop universal vaccines in advance, which could be distributed earlier from geographic stockpiles, may even be aided by wider GSD information exchange from wildlife disease surveillance. This would help prevent outbreaks from turning into epidemics or pandemics. A One Health strategy for the exchange of scientific breakthroughs in real-time would be advantageous for all of these important institutions. This strategy, in turn, might be a component of a multidimensional approach to sharing benefits and facilitating access, that advances the cause of scientific inequality globally without artificially compromising equity and open research. It may be more difficult to fulfil responsibilities under the agreement and other regulatory frameworks without scientists' express engagement in institutional procedures, therefore improved avenues for sharing scientific knowledge could potentially aid in doing so.

Third, an epidemic treaty might enhance the performance of current tools by enhancing capacity and leveraging the advantages of a more comprehensive One Health strategy. Increased requirements to share data and sequential data should be combined with financial, knowledge transfer, and capacity-building commitments to better promote fairness and self-sufficiency, particularly for middle-income and low-income countries. This is the case whether a more all-encompassing One Health communications structure is implemented through the protocol or via a reorganisation of IHR.

The establishment and upkeep of a One Health care workforce would be expressly

mentioned in these investments in One Health, which would encourage the types of scientific advancements we discuss in this paper. Also, this workforce would lessen the negative consequences of financing instability on the openness and timeliness of scientific publication. Committing to these measures, in addition to the first two we discussed, will have a multiplier effect that boosts the IHR and aids in the early identification of epidemics. WHO's capacity to hold states accountable for not sharing information is now severely constrained due to the difficulty of constructing disclosure requirements in a subjective hazard assessment system, particularly when the chronology of major occurrences and findings is uncertain. If the world community is alerted before an epidemic spirals out of control, a higher initial baseline may assist in putting commitments in perspective if and when an outbreak becomes a crisis, necessitating prompt state action.

The condition of the global legal environment would also be impacted by a further, more subtle, movement towards larger notification responsibilities. As a result of the possibility of travel restrictions and financial losses, the IHR only requires notifications in cases of potential crises. The international agreement against travel bans was intended to balance this trade-off, but the COVID-19 epidemic has produced so many breaches of it and vaccine fairness has been so appallingly poor that it has neutralized any benefit of early reporting leading to the availability of countermeasures. This kind of covenant is therefore no longer suitable. Establishing alerts as a regular and universal practice is the only way to stop illogical travel restrictions from being enforced in a rush without thoroughly analysing the relevant scientific knowledge. It is more probable that infections will not initially develop as epidemics or pandemics if a notification system incorporates upstream research findings and frequently forces outbreak notifications before they turn into possible emergencies. By doing so,

these adjustments may help to address the global incentive structures for cooperation, which may determine whether a pandemic treaty is successful and begin the process of regaining international trust.

Conclusion

The current state of global health governance and the international legal systems for outbreak reporting is plagued by ambiguous rules, weak incentives, and an excessively narrow focus on human epidemics. However, there is political momentum to address these inefficiencies and data governance shortcomings through the creation of new international treaties and the revision of existing international health regulations.

The International Negotiating Committee for the Epidemic Agreement will meet in June 2022 to debate the creation of treaty drafts, and the Working Group on IHR Modifications is investigating prospective IHR revisions concurrently. This topic was also covered during the 75th World Health Assembly, which took place in May 2022.

A sustainable One Health approach must be incorporated into any proposed modifications to international law to enhance existing legal institutions while resolving the most complex problems currently facing international health governance. The potential for international law reform to produce an updated, cogent One Health strategy that could stop the next outbreak from spreading to become a pandemic is significant.

By doing so, it would also begin to develop a framework for global health that would enable information sharing successfully regardless of the emergency. This article has provided a comprehensive analysis of the current state of global health governance and international legal systems for outbreak reporting and highlights the need for reform to prevent future pandemics.

It is essential to act now to address the deficiencies in the current system and implement effective measures to ensure the world is better prepared for future health crises. The momentum and attention to global health governance must continue to move forward to achieve a more sustainable, effective, and equitable approach to global health.

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