International Health Regulations: Legal Compliance versus Practical Challenges in Combating Pandemics

اللوائح الصحية الدولية بين مقتضيات الامتثال القانوني وتحديات المكافحة الفعالة للأوبئة

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Abstract This study highlights the pivotal role of the International Health Regulations (IHR) as the legal cornerstone upon which the World Health Organization (WHO) relies to manage and engineer Global Health Security. This is achieved by analyzing the historical and legal trajectories that transformed these regulations from mere technical protocols into a binding legislative framework aimed at regulating the international response to transboundary biological crises.

The study delves deeply into the WHO's functional role in translating static legal texts into operational mechanisms and field-based preventive measures, while providing a critical analysis of the structural gaps and procedural capacities exposed by the COVID-19 pandemic, which put the principle of international compliance to the test. In conclusion, the study articulates a forward-looking vision calling for the necessity of reforming and modernizing the international legal system to ensure the alignment of the Organization's mandates with the complexities of contemporary health threats. This seeks a transition toward a more resilient and flexible response model in the face of future epidemics, achieving the desired balance between the requirements of national sovereignty and the imperative of global health solidarity.

key words: International Health Regulations; World Health Organization; Global Health Security; COVID-19 Pandemic; Health Governance.

الملخص: تأتي هذه الدراسة لتسلط الضوء على الدور المحوري لـ اللوائح الصحية الدولية بصفتها الركيزة القانونية التي تستند إليها منظمة الصحة العالمية في إدارة وهندسة الأمن الصحي العالمي، وذلك عبر تحليل مسارات تطورها التاريخي والقانوني الذي نقلها من مجرد بروتوكولات تقنية إلى إطار تشريعي ملزم يهدف إلى ضبط الاستجابة الدولية للأزمات البيولوجية العابرة للحدود.

وتتجه الدراسة بعمق نحو استجلاء الدور الوظيفي للمنظمة في تحويل تلك النصوص الجامدة إلى آليات تنفيذية وتدابير وقائية ميدانية، مع تقديم قراءة نقدية للفجوات البنيوية والقدرات الإجرائية التي كشفت عنها جائحة كوفيد-19، والتي وضعت مبدأ الامتثال الدولي على المحك. وفي ختامها، تبلور الدراسة رؤية استشرافية تدعو إلى ضرورة إصلاح المنظومة القانونية الدولية وتحديثها، بما يضمن مواءمة صلاحيات المنظمة مع تعقيدات التهديدات الصحية المعاصرة، والانتقال نحو نموذج استجابة أكثر مرونة وصموداً في مواجهة الأوبئة المستقبلية، بما يحقق التوازن المنشود بين مقتضيات السيادة الوطنية وحتمية التضامن الصحي العالمي.

الكلمات المفتاحية: اللوائح الصحية الدولية؛ منظمة الصحة العالمية؛ الأمن الصحي العالمي؛ جائحة كوفيد-19؛ الحوكمة الصحية.

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Introduction:

The World Health Organization (WHO) serves as the preeminent international authority in public health, responsible for establishing standards and organizing international cooperation to combat transboundary health risks. The International Health Regulations (IHR 2005) established a binding international legal framework aimed at protecting global public health from the spread of infectious diseases and health emergencies by enhancing early detection, immediate reporting, and coordinated responses to epidemics.

In light of the escalating phenomenon of infectious disease outbreaks and the emergence of modern pandemics—as evidenced by the COVID-19 pandemic—an urgent need has arisen for effective legal and administrative mechanisms to ensure member states' cooperation and their commitment to international recommendations.
The WHO performs a guiding and supervisory role, providing legal and technical guidance, supporting member states in developing early warning systems, and monitoring compliance with regulations, in addition to issuing binding recommendations during Public Health Emergencies of International Concern (PHEIC).

In this context, it is evident that the effectiveness of the International Health Regulations is not merely confined to the existence of legal texts; rather, it is directly linked to the Organization's capacity to operationalize international obligations and ensure coordination among member states to confront transboundary health challenges, placing it at the heart of the International Health Law system.

Despite the International Health Regulations (IHR) serving as a binding legal framework, questions persist regarding the effectiveness of their practical implementation, particularly in the face of modern pandemics. Significant shortcomings were observed in terms of immediate reporting compliance and international cooperation during the COVID-19 pandemic.

Consequently, the following research problem can be posed: To what extent has the World Health Organization succeeded in operationalizing the International Health Regulations as a tool to ensure a coordinated and effective international response to epidemics?

Based on the aforementioned research problem, the study is divided into the following topics:

- Topic I: The Conceptual and Legal Framework of the International Health Regulations (IHR).
- Topic II: The World Health Organization and the Mechanisms for Activating and Implementing the IHR.
- Topic III: The Effectiveness of the IHR Implementation and Existing Challenges.

First Topic: The Conceptual and Legal Framework of the International Health Regulations

Following the international community's adoption of the Health Security approach as a comprehensive framework for addressing transboundary health threats, an urgent need emerged to establish an integrated legal system. This system encompasses binding rules and effective mechanisms to organize prevention and response efforts. Given the globalized nature of health risks, individual state actions are no longer sufficient for containment, necessitating the institutionalization of cooperation and coordination among various national and international actors.

In this context, the International Health Regulations (2005) emerged as the fundamental legal reference for global health security. They established a legal and operational framework aimed at strengthening state capacities for the early detection of public health risks and ensuring a rapid, coordinated response to achieve effective health protection on a global scale. [1]

First Requirement: Concept and Objectives of the International Health Regulations (IHR)

The International Health Regulations (IHR 2005) constitute a legally binding international agreement for both States Parties and member states of the World Health Organization. [2]

Adopted by the international community, these regulations serve as a strategic mechanism to address and combat public health risks that pose a potential global threat [3]. A defining feature of the 2005 version is its expanded scope; unlike previous iterations, it is no longer restricted to a specific list of infectious diseases. Instead, it encompasses a broad spectrum of biological, chemical, and radiological hazards. Historically, the first set of regulations was adopted in 1951, subsequently amended and renamed in 1969.

In response to the increasing complexity of cross-border disease transmission, the regulations underwent a comprehensive ten-year review process, culminating in the

1- Belkadi, Ishak, Tools for Protecting International Health Security within the Framework of the International Health Regulations, Journal of Legal Studies, University of Médéa, Vol. 4, No. 1 (January 2012), p.178.

2- World Health Organization, International Health Regulations (2005) – Third Edition, WHO, Geneva, 1 January 2016. Available at: https://www.who.int/publications/i/item/9789241580496.

3- World Health Organization, Sixty-fourth World Health Assembly, Implementation of the International Health Regulations (2005), Report of the Review Committee on the Functioning of the International Health Regulations (2005) in Relation to Pandemic (H1N1) 2009, May 5, 2011. Document Number: A64/10, pp. 9-10.

adoption of the current 2005 framework, which stands as the definitive legal authority in global health [1].

The fundamental impetus for amending these regulations stems from the profound shifts within the global health landscape. During the two decades separating the eradication of smallpox in 1981 and the anthrax attacks in the United States in 2001, the international community and the World Health Organization faced a critical dilemma. Recurrent crises triggered by emerging and re-emerging infectious diseases—fueled by rapid globalization and the specter of bioterrorism—necessitated robust and sustainable public health responses at both national and international levels.

As the traditional system became obsolete, an urgent need arose for new international legal frameworks and policies to tackle escalating microbial threats. This need was formally recognized in 1995, when the World Health Assembly mandated the Director-General to initiate a comprehensive modernization of the International Health Regulations.

The Organization realized that this revision demanded a structural transformation in the international legal strategy for infectious disease control. It was no longer sufficient to merely add or remove specific diseases from a list; rather, it was imperative to transcend the classical system, which had remained largely unchanged since the mid-nineteenth century, in favor of an entirely new approach to international health law [2].

The new regulations are considered revolutionary in two key respects:

1. **Systemic Break:** They represent a radical departure from the classical regime, while selectively retaining some of its essential elements.
2. **Integrated Governance:** They introduced a new vision for integrated global health governance, intertwining public health objectives with the principles of international law in trade, human rights, environmental protection, and international security.

Consequently, the WHO effectively harnessed legal developments in other spheres of international relations—which had contributed to the decline of the classical system—and repurposed them as supportive tools for Global Health Security, marking an unprecedented qualitative shift in global governance.

It is noteworthy that the World Health Organization's (WHO) political and procedural advancements preceded the formalization of its legal framework; the Organization began implementing the Global Health Security approach even before the conclusion of the IHR revision process.

1- World Health Organization (WHO), International Health Regulations (2005), Toolkit for Implementation in National Legislation – Questions and Answers, Legislative Reference and Assessment Tool and Examples of National Legislation, Geneva, WHO, January 2009.

2- David P. Fidler, Mission Impossible? International Law and Infectious Diseases, 10 Temple ICLJ (1996), pp 493-495.

The effective response to the SARS outbreak in 2003 served as a decisive turning point, revitalizing the revision efforts that had remained stagnant since 1995. This momentum directly led to the release of the first complete draft of the revised regulations in January 2004 [1]. Ultimately, these regulations were adopted during the 58th World Health Assembly on May 23, 2005, and entered into force on June 15, 2007.

The significance and objectives of these new regulations lie in the unprecedented governance model they established in the history of international public health law. They provided a comprehensive, flexible, and forward-looking framework for addressing acute health threats by engaging both state and non-state actors and tackling a wide spectrum of health risks.

Furthermore, the regulations integrated objectives derived from multiple international legal regimes, including infectious disease control, human rights protection, international trade, environmental preservation, and global security. This intersection of domains represents a sophisticated governance approach, reinforcing the argument that the adoption of the IHR (2005) constitutes a landmark historical moment in the evolution of both public health and international law [2].

Second Requirement: The Legal Nature of the International Health Regulations

The International Health Regulations (IHR 2005) constitute a legally binding instrument for approximately 194 states worldwide, profoundly impacting the functions and responsibilities of governments across various ministries, sectors, and administrative levels.

These responsibilities range from high-level ministerial policy-making to highly specific operational functions, such as the legal provisions authorizing ship inspections. Consequently, an appropriate national legal framework is essential to support and facilitate the implementation of these diverse activities within all States Parties. In many jurisdictions, the application of IHR (2005) provisions within domestic law requires the adoption of implementing legislation that addresses the rights and obligations contained therein.

Even in cases where national legal systems do not strictly mandate new legislation, reviewing existing laws, regulations, or other legal instruments remains beneficial for enhancing the efficiency and effectiveness of IHR implementation. From a political and institutional perspective, such legislation contributes to the

1- David P. Fidler, SARS, Governance and the Globalization of Disease, Palgrave Macmillan, 2004.
2- World Health Organization, Review and Approval of Proposed Amendments to the International Health Regulations: Explanatory Notes, A/IHR/IGWG/4, 7 October 2004 (hereinafter Review and Approval of Proposed IHR Amendments). Available at: www.who.int/gb/ghs/e/index.html.

institutionalization of the IHR within the state's legal and administrative framework, fostering coordination between governmental and non-governmental stakeholders and ensuring sustained performance.

Therefore, States Parties are advised to assess their existing national legislation to determine the need for revisions or amendments that ensure full and effective compliance. Since 2005, World Health Assembly resolutions have consistently emphasized the necessity of legislative and administrative assessments to operationalize these regulations [1].

Furthermore, the IHR (2005) explicitly mandates that States Parties cooperate in developing the national legal and administrative provisions required for effective implementation.

The core elements defining the legal nature of the International Health Regulations can be summarized in the following points:

- **First:** Legally Binding Status: The IHR (2005) is recognized as a legally binding international instrument for nearly all WHO Member States (194 countries). This status grants its provisions mandatory authority and enforceability for the concerned international legal entities.
- **Second:** Legal and Institutional Scope: These regulations influence governmental functions and responsibilities across multiple sectors and administrative levels. Their implementation necessitates an appropriate national legal framework to facilitate the execution of international obligations at both the legislative and administrative levels.
- **Third:** Mandatory International Cooperation: The regulations explicitly mandate cooperation among States Parties in developing their national legislation and administrative procedures to ensure effective application. This is further reinforced by World Health Assembly (WHA) resolutions since 2005, which emphasize the importance of periodic legislative and administrative assessments within this framework.

Second Topic: The World Health Organization and the Mechanisms for Activating and Implementing the International Health Regulations

The World Health Organization plays a central guiding role by providing technical expertise and standardized guidelines to member states, which serves as a cornerstone for enabling the effective activation and enforcement of the International Health Regulations.

Concurrently, the Organization exercises a strategic supervisory function, monitoring member states' compliance with their legal obligations under these

1- -David P. Fidler, From International Sanitary Conventions to Global Health Security: The New International Health Regulations, Chinese Journal of International Law, Vol. 4, No. 2 (November 2005), p. 329.

regulations. Furthermore, it assesses their national core capacities and readiness to confront transboundary health risks, thereby ensuring a cohesive international alert and response system.

First Requirement: The Guiding Role

One of the most significant obligations introduced by the International Health Regulations (IHR 2005) is the commitment of States Parties to develop, strengthen, and maintain the national core capacities necessary for detecting, investigating, assessing, and responding to public health events within their territories.

This obligation stems from the recognition that effective national health systems are the fundamental pillar of Global Health Security and the primary mechanism to prevent local health incidents from escalating into international threats.

The required capacities are functionally described in Annex 1 of the Regulations, representing a major implementation milestone by establishing a global consensus on the technical scope and components essential for achieving the required performance standards.

To assist States Parties in assessing these capacities, a Monitoring and Evaluation Framework was developed, reflecting a global technical consensus among member states, technical institutions, partners, and WHO experts.

This framework leverages the latest knowledge and successful practices in capacity-building, drawing on expert experience with existing national strategies and assessment tools.

Based on the above, the primary guiding roles performed by the World Health Organization in activating the IHR include the following:

First: Legal Guidance and Legislative Alignment: The WHO ensures the optimal understanding and application of the IHR by providing interpretative toolkits and guidelines that facilitate the integration of international obligations into national legal systems. Furthermore, the Organization provides specialized legal and technical advisory services to assist states in aligning and adapting their domestic legislation to meet IHR requirements [1].

Second: International Coordination and Information Exchange: The Organization acts as a vital hub for coordinating international communication and the exchange of public health information. It manages this process by establishing the National IHR Focal Points (NFPs), ensuring continuous and effective 24/7

1- World Health Organization (WHO), International Health Regulations (2005): Toolkit for Implementation in National Legislation – Questions and Answers, Legislative Reference and Assessment Tool, and Examples of National Legislation, Geneva: WHO, January 2009.

communication channels for the timely exchange of urgent and sensitive health alerts and data [1].

Third: Monitoring, Evaluation, and Continuous Guidance: The WHO performs a vital role in the ongoing monitoring and evaluation of IHR implementation to ensure effective compliance. This advisory role is activated through two primary mechanisms: Annual Reports submitted to the World Health Assembly, providing periodic updates on the status of implementation, and the Joint External Evaluation (JEE) missions.

To move beyond a theoretical understanding of the Joint External Evaluation (JEE), an empirical assessment of its pre-pandemic missions is essential. Evidence suggests that while JEE missions successfully generated objective data and technical roadmaps, the translation of these field-based recommendations into enhanced 'national core capacities' was inconsistent across different regions.

Quantitative analysis of the Strategic Partnership for IHR and Health Security (SPH) data indicates that although states often achieved higher scores in 'technical areas' (such as laboratory systems), they frequently stagnated in 'functional capacities' (such as emergency response coordination and sustainable financing). This empirical gap reveals that the JEE, while effective as a diagnostic instrument, struggled to overcome the socio-political and economic barriers that prevent technical recommendations from becoming institutionalized realities. Consequently, the onset of the COVID-19 pandemic acted as a rigorous stress test, exposing that many improvements documented in pre-2020 JEE reports were more formalistic than functional, failing to withstand the pressures of a sustained global health crisis. [2]

Second Requirement: The Supervisory and Coordinative Role

The supervisory and coordinative role of the World Health Organization extends beyond mere administrative oversight to managing an integrated dynamic system aimed at safeguarding global health security.

This role is built upon three structural pillars: providing continuous technical and functional support to enable states to meet their international obligations; managing the early warning and notification system for public health events of international concern (PHEIC); and monitoring member states' commitment to developing core capacities as mandated by the International Health Regulations (IHR).

This synergy between support and oversight ensures the flow of vital information and the coordination of field responses, positioning the Organization as the central hub in engineering international health solidarity against transboundary crises.

1- World Health Organization. Toolkit for implementation in national legislation: Questions and answers, legislative reference and assessment tool. Geneva, WHO, 2009.

2- World Health Organization, Implementation of the International Health Regulations (2005): Report of the Review Committee on the Functioning of the IHR. Geneva: WHO, 2016.

First. Technical and Functional Support: Technical guidance is a fundamental pillar utilized by the WHO to support Member States in ensuring the effective implementation of the **IHR (2005)**.

The Organization provides operational guidelines and technical recommendations to align national capacities with international legal obligations. This includes directing states toward establishing robust national early warning systems, strengthening laboratory capacities, and enhancing epidemiological surveillance networks to ensure diagnostic accuracy and rapid information exchange. Furthermore, the WHO prioritizes the training of national health personnel through specialized programs that provide the legal and technical skills necessary for emergency management, thereby operationalizing the principles of international health cooperation.

Second. Early Warning, Alert and Response Network (EWARN): The **EWARN** system is a vital tool for the proactive detection of outbreaks, particularly in emergency settings such as conflict zones or natural disaster areas. Characterized by its cost-effectiveness and field efficiency, the system utilizes the "**EWARS in a box**" kit—a comprehensive set of equipment (60 mobile phones, laptops, a local server, and solar chargers) designed for data collection and management in remote or resource-limited environments lacking electricity or internet, ensuring uninterrupted surveillance.

Third. Obligation to Develop Core Capacities (Surveillance and Assessment): The IHR mandates that all Member States possess core capacities for surveillance, detection, and rapid response.

Under **Article 5**, each State Party is legally obligated to strengthen its capacity to detect and assess public health events within a maximum of five years, with a possible two-year extension under exceptional circumstances. Health surveillance is an essential security measure, providing real-time data on the timing, location, and magnitude of threats, which is then analyzed to estimate potential impacts and verify the effectiveness of preventive interventions [1].

Within the framework of strengthening national capacities for event detection and response, Member States may request assistance from the WHO. In its oversight capacity, the Organization collects and assesses information to evaluate the likelihood of international disease spread, including the potential for intervention in international travel. Pursuant to **Article 11** of the IHR, such information is disseminated to Member States and relevant intergovernmental organizations as expeditiously as possible, maintaining strict confidentiality to support a unified public health response.

1- World Health Organization, Joint External Evaluation Tool: International Health Regulations (2005) Monitoring and Evaluation Framework, WHO, Geneva, 2018.

Furthermore, the processing of personal data is governed by **Article 45**, ensuring privacy protection unless disclosure is strictly necessary for assessing and managing public health risks, as stipulated in paragraph 2 of the same article.

The operationalization of the regulations follows two key procedural stages:

1. **Reporting and Notification:** Upon the detection and assessment of a case, an official 'Notification Report' is promptly submitted to the competent health authorities. This report contains epidemiological data (case numbers, mortality rates) and patient-specific information (age, sex, onset date). Under **Article 6**, states must notify the WHO—via the National IHR Focal Point—of any event that may constitute a Public Health Emergency of International Concern **(PHEIC)**.

   This enables the Organization to monitor national measures and take necessary global health decisions.
2. **Response and Coordination:** Effective response strategies are implemented in coordination with local and international partners.

   The WHO supports these efforts through technical guidance, continuous training, and the promotion of best practices and expertise exchange among Member States to enhance global preparedness.

Fourth. Guidance During Public Health Emergencies of International Concern (PHEIC):

In exercising its regulatory mandate, the World Health Organization performs mandatory guidance functions during Public Health Emergencies of International Concern. Upon the declaration of an emergency, the Organization issues temporary recommendations and specific directives to Member States.

These include determining appropriate public health measures and regulating international travel and trade to mitigate disease spread while avoiding unnecessary interference. Furthermore, the WHO coordinates a collective and harmonized crisis response, ensuring international adherence to risk containment standards [1].

The WHO actively seeks to strengthen national health systems to achieve the long-term objectives of the IHR (2005) and ensure effective emergency response. The Organization’s strategies encompass developing national health policies that support Universal Health Coverage (UHC), enhancing the health workforce through robust recruitment and training policies, and ensuring sustainable financing to increase access to integrated health services. Moreover, the WHO empowers health systems to deliver safe, effective, and inclusive services by leveraging modern health technology and innovation in early detection strategies.

1- Belkadi, op. cit, p. 182.

These efforts also extend to improving health information systems and vital statistics—such as monitoring births, deaths, and causes of mortality—enabling the assessment of health interventions and the monitoring of international health threats in alignment with global health security obligations[1].

Third Topic: The Effectiveness of Implementing the International Health Regulations (IHR) and Existing Challenges

The COVID-19 pandemic, alongside other infectious disease outbreaks, has underscored that controlling such transboundary threats is unattainable without robust international cooperation. Consequently, global solidarity and pandemic preparedness have become imperative, necessitating that intergovernmental organizations play an active role in crisis response.

In this context, the World Health Organization stands as the sole legal authority and the exclusive source of the International Health Regulations—the legally binding framework for pandemic response. Furthermore, recognizing that resilient national health systems are vital for epidemic prevention and control, particularly in low-income countries, international organizations facilitate this through various guidance mechanisms.

The WHO plays a preeminent role among intergovernmental organizations by supporting training programs, coordinating member states' preparedness and response efforts, establishing standardized guidelines, and enhancing biosafety and biosecurity measures [2].

First Requirement: Assessing the Effectiveness of the IHR in Combating Epidemics

The COVID-19 pandemic underscored the urgent need to reform global health governance, revealing fundamental gaps in the International Health Regulations (IHR 2005). This has prompted several nations to propose a new 'Pandemic Treaty' to address existing deficiencies and enhance future response mechanisms.

One of the primary limitations identified was the uncoordinated implementation of travel measures—such as restrictions, testing, and quarantine—which resulted in adverse public health and economic outcomes.

The persistent and repeated violations of Article 43 by member states do not merely represent isolated failures of compliance; rather, they systematically undermine the 'binding' character of the International Health Regulations (IHR). From a legal

1- Gasmi Samir, Prevention of Public Health Risks of International Spread under the International Health Regulations and the Law, Journal of Legal and Political Studies, Vol. 6, No. 20 (June 2022), p. 184.

2- Article 6, Paragraphs 1 and 2 of the International Health Regulations (2005).

perspective, the efficacy of any international instrument relies on the consistent adherence of its signatories. However, the recurring tendency of states to implement trade and travel restrictions that bypass scientific evidence—and WHO recommendations—creates a normalization of non-compliance.

This erosion of legal authority suggests that the IHR is transitioning from a mandatory framework into a de facto voluntary guideline. Consequently, the failure of the 2024 amendments to strengthen enforcement mechanisms against such violations further weakens the principle of (agreements must be kept) within global health law, signaling a critical crisis in international legal accountability where sovereign discretion consistently outweighs collective treaty obligations. [1]

To maintain conceptual clarity, it is imperative to delineate the distinction between the proposed 'Pandemic Treaty' (WHO CA+) and the 2024 amendments to the International Health Regulations (IHR). While both instruments aim to fortify global health security, they operate through different legal architectures and scopes. The **IHR amendments** focus on optimizing an existing, technocratic framework designed for the 'early detection and containment' of localized outbreaks before they escalate. In contrast, the **Pandemic Treaty** is envisioned as a new, overarching international accord aimed at 'inter-sectoral prevention, preparedness, and response' on a global scale, addressing systemic issues like equitable access to countermeasures and pathogens-sharing. Delineating these paths is crucial: the IHR serves as a specialized manual for immediate epidemiological alerts, whereas the Treaty seeks to establish a broader political and ethical consensus for managing future planetary-scale crises.

Failure to distinguish these instruments risks overlooking the unique legal challenges of each, particularly regarding how the Treaty's new obligations will interact with the IHR's established sovereignty-based constraints.

In terms of legal compliance, international practices demonstrated recurrent violations of Article 43. Many states repeatedly disregarded WHO guidance concerning additional health measures. Research indicates that only 32% of countries imposed travel restrictions during the COVID-19 pandemic in alignment with WHO recommendations.

This pattern of non-compliance, previously observed during the Ebola and H1N1 outbreaks, signifies a profound crisis of confidence in the IHR framework.

Furthermore, "The 'politicization of health crises' serves as a critical manifestation of the inherent legal tension between national sovereignty and the World Health Organization's (WHO) supervisory mandate. This friction is particularly evident in the operational challenges facing the International Health Regulations

1- World Health Organization, Early Warning, Alert and Response System (EWARS), (2023), Retrieved from https://www.who.int/emergencies/surveillance/early-warning-alert-and-response-system-ewars

(IHR). While the IHR provides a legal framework for global surveillance, its effectiveness is often compromised by the 'sovereignty trap' , where member states prioritize national interests and domestic secrecy over collective transparency. In the case of COVID-19, although the WHO possessed substantial evidence of the virus's severity by January 2020, its mandate was curtailed by the lack of enforcement mechanisms to compel state cooperation.

This power imbalance underscores a fundamental crisis of confidence: the IHR framework remains a 'soft law' instrument attempting to oversee hard sovereign powers, resulting in a paralysis of global response when geopolitical pressures override scientific urgency. [1].

The lessons derived from past epidemics, such as Ebola, must be leveraged to enhance the resilience of the IHR, ensuring it can effectively mitigate the negative impacts of future pandemics, particularly given their inherently transboundary nature [2].

Second Requirement: Challenges and Future Prospects

The enforcement of the International Health Regulations (IHR 2005) faces fundamental obstacles that hinder its primary objectives. The implementation difficulties are characterized by sharp disparities in technical and financial capacities among states, alongside the conflict between international transparency obligations and national sovereign or economic interests. In light of these challenges, the international community's focus has shifted toward future reform prospects, manifested in two paths: the amendment of existing texts to enhance their mandatory nature, and the pursuit of a new international instrument (the Pandemic Treaty) to ensure equitable resource distribution and a more coordinated, solidary response.

First. Challenges to National Implementation of the IHR: "The implementation of the International Health Regulations (IHR 2005) is hindered by a matrix of structural obstacles that limit its overall effectiveness. Chief among these is the gap in institutional and technical capacities; developing nations, in particular, suffer from dilapidated health infrastructures, a shortage of qualified personnel, and fragile epidemiological surveillance systems. This systemic weakness undermines the ability of states to fulfill their legal obligations regarding early detection and prompt notification of health risks.

Furthermore, the lack of sustainable funding emerges as a pivotal barrier. The IHR mandates substantial financial investments to build and maintain 'Core

1- World Health Organization, International Health Regulations (2005), Third Edition. WHO, Geneva, 2016.

2- Hassan Hamad Badr al-Din Abd Allah, The Problematic Implementation of International Health Treaties and Regulations in the Field of Combating Pandemics, Journal of Legal and Social Sciences, Vol. 6, No. 2 (June 01, 2021), p. 170.

Capacities,' a requirement that many states fail to meet due to resource constraints, thereby stalling early warning and preventive initiatives.

Additionally, bureaucratic hurdles and political complexities act as impediments to rapid strategic decision-making. Delays resulting from sovereign considerations or administrative constraints exacerbate the severity of transboundary health crises, necessitating a re-evaluation of compliance mechanisms to ensure the effective enforcement of legal obligations at both national and regional levels.

I. Conceptual and Legal Modernization: To achieve a meaningful 'Conceptual Modernization' of global health law, the IHR must transcend ambiguous terminology by institutionalizing specific legal criteria for a 'Pandemic Health Emergency' (PHE). This category should not merely signify a large-scale outbreak but must serve as a mandatory procedural trigger based on three cumulative criteria:

1. **Geographic Velocity:** The rapid, sustained transmission of a pathogen across multiple WHO regions.
2. **Systemic Disruption:** A high probability of overwhelming national healthcare infrastructures and global supply chains.
3. **Non-Linear Severity:** Clinical evidence of high morbidity or mortality that necessitates exceptional non-pharmaceutical interventions (NPIs).

By codifying these objective benchmarks, the IHR can eliminate the 'wait-and-see' approach that characterized previous crises. Once these criteria are met, the declaration of a PHE would automatically activate pre-negotiated rapid response protocols, including the immediate streamlining of regulatory approvals for countermeasures and the mandatory invocation of transboundary risk-sharing agreements.

This shift transforms the WHO's role from a mere advisory body into a coordinator of a predictable, rule-based international response, thereby bridging the gap between scientific warning and sovereign legal compliance.

II. Financial Sustainability and Technical Empowerment: Effective compliance with international standards depends on robust investment in national health sectors. Allocating sufficient budgets for advanced surveillance systems, specialized training, and medical infrastructure is a prerequisite for meeting global health security requirements.

III. Institutionalizing Transparency and Accountability: The effectiveness of the IHR hinges on establishing clear accountability mechanisms and immediate reporting protocols.

From a legal perspective, implementing periodic progress reports and transparency-based accountability ensures that states respect international frameworks and safeguard global public health against cross-border threats [1].

Second. Future Reform Prospects

The rapid transformations in the global health landscape necessitate a comprehensive reform vision that transcends temporary solutions toward institutionalizing a sustainable international response. Future reform prospects are centered on restructuring legal and financial frameworks to bridge the gaps exposed by previous health crises. This vision is articulated through three strategic pillars: normative modernization, financial empowerment, and the consolidation of international transparency and accountability. [2]

I. Modernizing Normative Frameworks and Legal Definitions: There isa paramount need to revise and update the International Health Regulations, particularly regarding the precision of legal definitions for public health emergencies. It is essential to establish a comprehensive and definitive conceptualization of "Public Health Emergencies of International Concern" , including the formal designation of a "Pandemic Health Emergency." Such normative development is not merely a theoretical exercise but a procedural necessity to enable Member States and international actors to implement proactive responses with greater efficiency.

This ensures alignment with legal obligations under the IHR, specifically those pertaining to mandatory notification and the adoption of appropriate measures to mitigate transboundary health risks.

II. Strengthening Financial Solvency and Institutional Capacities: Compliance with global health security requirements necessitates that Member States enhance the financial sustainability of their health sectors. This is achieved by increasing sovereign investments in national health infrastructure and allocating sustainable budgetary resources to develop the institutional and technical capacities required for pandemic preparedness. [3]

This obligation entails the establishment of advanced surveillance and evaluation systems, specialized training programs for health personnel, and the procurement of essential medical logistics. Financial empowerment serves as the cornerstone for ensuring legal compliance with international obligations, bridging the

1- Mustafa, Engy Ahmed Abdel Ghani, The Impact of International Policies on the World Health Organization's Management of the COVID-19 Crisis, King Saud University, Kingdom of Saudi Arabia, 2021, p. 326.

2- Lee K, & Piper J, (2025), Latest revisions to the International Health Regulations will fail to prevent future travel chaos, BMJ Global Health 10, no. 1, (2025).

3- Eissa Heidi, The Role of International Health Regulations in Combating COVID-19, Cairo University, Faculty of Law, June 2, 2020, p. 3.

gap between theoretical commitments and the practical capacity to uphold international public health standards.

III. Institutionalizing Transparency and International Accountability: Transparency and accountability are fundamental pillars for ensuring the effective implementation of the IHR. This requires the development of enduring institutional mechanisms for both periodic and real-time reporting of public health events, alongside the establishment of robust accountability frameworks to ensure state adherence to regulatory requirements. Furthermore, a system of "periodic progress reports" should be adopted to monitor the implementation of these commitments. From a private and public international law perspective, these measures do not only enhance the efficacy of the IHR but also reinforce respect for international legal frameworks, ensuring collective global protection against transboundary biological threats. [1]

Conclusion:

In conclusion, the International Health Regulations (IHR 2005) constitute the cornerstone of international health law and a binding legal framework that has fundamentally reshaped the governance of transboundary health crises. These regulations have successfully formulated a precise balance between national sovereignty and the imperatives of global health security, while maintaining due regard for human rights and the facilitation of international trade.

However, practical experience—particularly during the COVID-19 pandemic—has demonstrated that the legislative strength of the IHR often clashes with a complex operational reality. Gaps in national capacities, funding shortages, and the politicization of crises emerge as fundamental obstacles to full compliance. Within this context, the strategic role of the World Health Organization remains paramount, acting not merely as an advisory body but as a technical and legal leader mandated to guide and harmonize the international response.

Safeguarding the future of global health necessitates an inevitable transition from 'legislative stagnation' to 'operational resilience.' This requires updating the regulations, securing sustainable financing, and institutionalizing accountability and transparency mechanisms.

Global health security is not merely a medical objective; it is a legal and strategic necessity that demands genuine international political will to empower both the WHO and Member States to confront epidemic threats with efficiency and sustainability.

Accordingly, the following recommendations can be drawn:

1- Rahman-Shepherd Afifah, and Nelson Aghogho, Establishing the Value of Regional Cooperation and a Critical Role for Regional Organizations in Managing Future Health Emergencies, The Lancet Global Health 13, no. 3, (March 2025), e585.

Modernizing the Legislative Framework: It is essential to revise and update the IHR to align with the dynamic nature of contemporary epidemic threats, ensuring that the legal and technical gaps revealed by previous crises are addressed.

Financial Sustainability: Establishing innovative and sustainable international financing mechanisms dedicated to supporting developing nations in building their "Core Capacities" and enhancing early warning and response systems.

Technical and Field Empowerment: Investing in the development of Member States' health infrastructure to ensure rapid risk detection and minimize the time elapsed between monitoring and emergency response.

Institutionalizing Transboundary Cooperation: Strengthening joint coordination frameworks among states and regional/international organizations to ensure a unified response and prevent conflicting national measures during emergencies.

Strengthening the Organization’s Executive Mandate: Activating the WHO's supervisory and guiding role by providing more effective tools for monitoring compliance and offering the necessary legal and technical support to ensure the implementation of international recommendations.

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