Journal of Innovation and Development
ISSN: 2958-4752 | Vol. 2, No. 1, 2023

Study of the Challenges and Ways of Improvement of International Health Regulations -based on regulations related to cooperation between Contracting States

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Abstract: The International Health Regulations (IHR) (2005) gives health guidance to prevent global outbreaks of infectious diseases and help contracting parties to become open and cooperate. The lack of horizontal information shared among States parties, the need for pre-epidemic prevention, and the wide variation of State parties' action capacity are the problems that IHR (2005) has to face in COVID-19. The revision of the IHR is necessary. Improving the information-sharing mechanism between States Parties, strengthening the capacity of States Parties to prevent public health incidents, improving the implementation of State parties' response in public health events and refining the health construction regulations of States Parties, and urging States Parties to improve the level of medical and health emergency response are important four aspects which should be implemented now.

Keywords: International Health Regulations (2005); States Parties; Coronavirus; COVID-19.

1. Introduction

The coronavirus outbreak in early 2020 has disrupted the world and threatened the health of people around the world. At the end of January 2020, the WHO (World Health Organization) declared the outbreak an international health emergency and named the virus COVID-19. According to Hopkins University statistics, as of February 11, 2022, 410,242,868 cases and 5,810,840 deaths have been confirmed worldwide. More than two years after the outbreak began, it is still spreading around the world. The International Health Regulations (2005) are universally binding on the 196 States Parties to the World Health Organization. The purpose of the International Health Regulations (2005) is to promote health cooperation among States Parties, promote the regularization of global health governance, prevent global infectious disease outbreaks, and safeguard human health. The implementation of the International Health Regulations (2005) has improved the capacity of States Parties to govern public health. However, from the perspective of practice, the effect of epidemic prevention and control is not obvious, and it needs to be further improved.

2. Status of implementation of the International Health Regulations

The current model of international health cooperation, which is largely guided by the World Health Organization, in which the outbreak country reports to WHO and WHO then assesses the information for further action, is governed by the International Health Regulations. The regulations require Member States to establish national focal points to communicate information with the World Health Organization at all times and to improve their capacity to respond to emergencies.

2.1. Binding force of the Regulations on States Parties

Under Article 43 of the IHR, countries have the right to take additional health measures in response to major public health emergencies, but decisions to implement additional health measures must be based on "scientific principles", "scientific evidence" and "recommendations from the World Health Organization".

At the press briefing of the Novel Coronavirus Emergency Committee, the World Health Organization did not recommend restrictions on trade and activities, and hoped that countries would make a unanimous decision; Oppose travel restrictions, arguing that they will do more harm than good. In practice, some countries still do not follow the recommendations of the World Health Organization and impose trade goods controls and travel restrictions on China, and these additional health measures violate International Health Regulations. For example, Turkey has temporarily suspended animal imports from China, and Indonesia has also stopped importing animal and vegetable products from China. What's more, a series of export restrictions have been adopted on medical supplies such as masks and protective clothing. On January 30, 2020, the United States announced travel restrictions and issued a ban on entry. Italy also announced the suspension of flights, suspending all flights to and from China. Malaysia announced a ban on Chinese citizens from China's Hubei province. These States Parties' blatant disregard for regulatory requirements for additional health measures hampers WHO's ability to coordinate health measures in response to public health emergencies and hinders the IHR from better fulfilling its role.

Additional health measures adopted in some countries are in line with the "respect for human rights" regulation. If Ethiopia has promised not to stop sailing; Cambodia promised not to ban or curtail flights administratively; The UAE pledged to keep the Beijing waypoint. In general, compliance

with the content of the Additional Health Measures Regulations has varied during the pandemic, and the Regulations have not fully fulfilled their role in regulating the behavior of States Parties.

2.2. Implementation of the Regulations by the State Party

Article 13.1 of the IHR requires Member States to develop, strengthen and maintain core capacities to be able to respond rapidly and effectively to "public health risks" and "public health emergencies of international concern".

In 2017, for example, China's healthcare investment accounted for 5.2% of GDP, compared with 17.1% in the United States, 8.9% in Italy, and 8.7% in Iran. Under the regulations, to improve the country's core health capacity, these countries have adopted health measures to increase investment in health care. Since 2012, the United States and Italy have exceeded 8% of medical and health investment, and China's share of medical and health investment has also increased year by year.

In the 2020 new crown pneumonia epidemic, to improve China's ability to respond to the epidemic, the central government quickly organized medical reserves, quickly transferred key materials such as masks and protective clothing to Wuhan, concentrated local medical equipment, and set up a medical support team to fully support Wuhan.

In general, state parties have strengthened their health capacity building through the regulations, and upgraded the country's core health capacity, such as strengthening the allocation of medical resources and increasing financial investment in health care.

2.3. Status of implementation of cooperation and assistance mechanisms

Following Article 44 of the IHR, to better respond to major public health emergencies, States Parties should assess and respond to major public health emergencies as soon as possible, and provide technical cooperation and support to strengthen international cooperation and assistance. Taking China and Pakistan as an example, the cooperation in the early stage of the epidemic was mainly Pakistan's equipment support to China. Pakistani President Arif Alvi's visit to China in mid-March 2020 demonstrated his determination to support China in containing the spread of the epidemic. When the first case of coronavirus was discovered in Pakistan on February 26, 2020, China provided a large number of protective materials, organized three video conferences, and sent three medical teams to various parts of Pakistan to provide medical services to help Pakistan through the crisis.

According to information provided by the Information Office of the State Council on March 26, 2020, China has carried out emergency assistance operations in 89 countries, including Serbia and Iran, including a large number of testing reagents, disposable protective masks, and protective clothing, and quickly shared treatment plans with more than 100 countries and regions, and organized nearly 30 technical meetings through video conferencing. Rescue experts were sent to Italy, Serbia, Cambodia, and other countries.

The IHR provides an effective mechanism for cooperation and assistance to States Parties in responding to global health crises. China and Pakistan practice the regulations and provide mutual assistance. China has assisted more than 50 countries and international organizations in using cooperation and assistance mechanisms in compliance with the regulations and cooperation with other States Parties to jointly promote the development of global public health and safeguard human health and security.

3. Existing problems

3.1. Lack of horizontal information-sharing among States Parties

The initial stage of the outbreak of the new crown pneumonia epidemic is a critical period of prevention and control, and the speed of the epidemic transmission depends on the initial response measures. The information sharing rules under Article 7 of the IHR only provide that the State Party that has detected an outbreak shall immediately provide WHO with all relevant public health information, which is a vertical information sharing between States Parties and WHO and there is no parallel channel of information exchange between States Parties.

At the beginning of the outbreak, after assessing the epidemic situation under the regulations, China took the initiative to inform WHO of the epidemic information promptly. Because WHO still needs to go through a series of testing, analysis, and evaluation of epidemic information, such as organizing experts to visit Wuhan and convening an emergency committee to assess that the epidemic is a pandemic and constitutes an international public health emergency. (Table 1) During the World Health Organization assessment, because countries were not clear about the degree of infectious threat of the virus, the spread of the virus spread geometrically across the globe, resulting in a later spiral out of control.

Table 1. WHO Response Timeline

Time	Event
2020.1.3	China informed the World Health Organization of the epidemic situation.
2020.1.20	A brief field visit by WHO experts to Wuhan indicated that more investigations were needed.
2020.1.22	WHO convened an emergency committee to assess the outbreak? Request to reconvene upon receipt of more information.
2020.1.30	The novel coronavirus outbreak was declared a public health emergency of international concern.
2020.2.3	WHO publishes the international community's Strategic Preparedness and Response Plan to help protect countries with weak health systems.
2020.3.11	The WHO has designated COVID-19 as a pandemic.

3.2. Lack of pre-epidemic prevention

"Prevention and control," as the name implies, is prevention and control. The role of States Parties in Article 2 of the Regulations is mainly "controllers," ignoring the global public health prevention link in the pre-epidemic period.

Prevention is essential in global epidemic prevention and control work. In the early days of the outbreak, China focused on controlling the source of infection, interrupting transmission and preventing further information, and preventing the export of cases from Wuhan and other critical

areas in Hubei Province. WHO was notified of the outbreak on 3 January, and related surveillance activities and epidemiological investigations were conducted on 10 January. When China mobilizes the whole country to fight the epidemic, if the State party attaches great importance to and actively carries out prevention work, the epidemic may be better controlled.

The time of the onset of the patient in Wuhan is an entire month different from the time of the emergence of the confirmed case in the United States (Table 2). During this month, the United States ignored the seriousness of the problem and failed to take timely preventive action, causing the epidemic to rage. Suppose the United States had immediately activated the highest-level emergency response mechanism during this period, using the power of all government departments and society. In that case, there might have been different diagnostic data.

Table 2. Timeline of the epidemic in China and the United States

Time	Event
2019.12.31	The Wuhan Municipal Health Commission issued an emergency notice that there were patients with pneumonia of unknown cause in Wuhan.
2020.1.20	The US Centers for Disease Control and Prevention confirmed that the first case of the new crown appeared in the US state of Washington.

3.3. The enforcement capacity of States parties varies widely

International Health Regulations were designed to prevent and respond to major international public health events. Countries need to follow WHO guidelines and report to WHO promptly. However, in the actual implementation process, the implementation capacity of each country is different, and the WHO guidelines need to be more strictly implemented. Some countries have responded slowly and need to act on WHO recommendations. Any nation-state's failure to report the epidemic promptly due to its slow response will have a short-board effect, seriously damaging the entire global epidemic prevention and control system.

The new data added daily by the State party can detect whether the prevention and control measures taken in place are in place. In the case of China and the United States, March 12, 2020, was a watershed moment. Before this, the number of new daily diagnoses in China was more than the number of unique daily diagnoses in the United States. However, due to the implementation of epidemic prevention and control measures such as China's lockdown of Wuhan, the construction of Lei Shen Shan Fangcang Hospital, and the dispatch of medical teams to quickly support Wuhan, the number of new daily diagnoses gradually declined. In the early stage of the epidemic, the Trump administration in the United States ignored the warnings and recommendations of the World Health Organization. It did not implement the content of the International Health Regulations, resulting in an explosive increase in daily diagnoses. The number of new cases was much higher than that of China. The U.S. government equates the new crown pneumonia with the flu virus, ignores it, and allows the virus to spread across the country, resulting in many Americans being in a high-risk situation of infection. The U.S. government significantly reduces the effectiveness of the regulations to protect people worldwide from spreading the disease. Article 10(4) of the IHR provides that if the State Party does not accept a proposal to cooperate. WHO may share available information with other States Parties when the scale of the public health hazard justifies it necessary and encourages that State Party to accept WHO's offer of cooperation, taking into account the views of the State Party concerned. This clause reflects that WHO is not compulsorily binding on States Parties. The IHR remains ambiguous, and when a State Party chooses not to comply because of its national interests, it does not specify how to regulate the conduct of the State Party, which makes the IHR still lack "compliance gravity" in the face of public health emergencies.

4. Countermeasure suggestions

4.1. Improve information sharing and cooperation mechanisms

The messaging mechanism of the IHR (2005) is a vertical information model. The State Party in which the outbreak has analyzed and assessed the information before the World Health Organization decides on the next phase of operational deployment, which can easily delay the best time to control the outbreak. The speed of the State party's response can affect the overall success of the epidemic. WHO should add a horizontal information transmission mechanism based on the vertical information model. Increase horizontal channels of information exchange between affected countries and neighboring countries. Regional sharing and coordination of public health information in outbreaks so that neighboring countries can take adequate measures to change the level of health security control at their borders and improve the level of protection. WHO should evaluate information efficiently and accurately, increase the speed of information communication, and increase the frequency and density of information communication so that the dissemination of information is accurate, timely, and practical and attracts countries' attention to epidemic information.

4.2. Strengthening the capacity of States Parties to prevent public health events and epidemic prevention and control are the two main lines of response to public health emergencies

States Parties should notify WHO within 24 hours of assessing public health information after monitoring an incident. The prevention of infectious diseases requires a country to have a scientific and reasonable public health system. When an infectious disease breaks out, sovereign states and the international community need access to all kinds of public health information related to infectious diseases. States Parties should improve public health prevention and surveillance systems to increase their capacity to detect and report outbreaks promptly and rapidly. In addition to the global preventive mechanism, WHO should establish regional preventive mechanisms. Regional prevention refers to establishing information exchange and joint prevention mechanisms for public health incidents between States Parties and their neighboring countries to help countries effectively carry out epidemic prevention and control work. States Parties should actively improve relevant

public health laws and prevention and control systems to respond quickly to outbreaks. All countries should further improve the emergency management mechanism of public health incidents and their ability to handle them.

4.3. Improve the implementation of the State Party's response to public health events

If States Parties selectively comply with regulations or do not enforce them vigorously, achieving an effective global response won't be easy. WHO can start specific improvement measures from the following three aspects. First, through the formulation of particular regulations, IHR can give the World Health Organization the function of reminding and supervising the implementation of States parties. The member countries can strengthen the constraints on governments, and at the same time, state parties should also run each other. Second, it is necessary to improve the awareness of self-monitoring of States parties and actively take measures when faced with public health emergencies so as not to let it go or take it lightly and strive to reduce proliferation. Of course, state parties should also avoid going to extremes and not increase additional health measures indefinitely in the event of a public health incident. The application of other health measures should consider the prevention of the spread of the epidemic and the impact on international traffic and trade. Especially the excessive restriction of international trade and traffic health measures not only does not contribute to epidemic prevention and control but also harms the world's economic development. The third is to establish a sound monitoring system. When States Parties ignore the temporary or long-term recommendations issued by the WHO Director-General, they should give WHO appropriate management authority to jointly build a global health security system of a united front.

4.4. Refine the health construction regulations of the State party, and urge the State party to improve the level of medical and health emergency

Due to the shortage of medical supplies for initial epidemic prevention, the epidemic caused many infections and panic among the people. The lack of medical supplies for epidemic prevention has reduced the efficiency of controlling the spread of the epidemic and is not conducive to emergency management. The International Health Organization should amend the provisions of the International Health Regulations to make requirements for the health emergency management of States Parties, urge States Parties to increase financial investment in essential medical and health services, and establish and improve the reserve system of epidemic prevention medical supplies.

Through the reflection on the process of the new crown virus outbreak, the initial doctor's diagnosis and early warning are essential for the prevention and control of the epidemic, and accurate early notification can provide valuable reaction time for controlling the spread of the epidemic. The International Health Organization should require States Parties to strengthen the training of medical personnel in preventing and controlling infectious diseases. For underdeveloped countries, the World Health Organization can train medical personnel through various forms such as financial assistance and sending expert groups. The model of global cooperation is conducive to improving the capacity of underdeveloped countries to prevent and control infectious diseases.

5. Conclusion

The ravages of the new crown pneumonia epidemic have seriously threatened the life and health safety of people around the world, and the governance of international public health security is also facing a severe test. An evolving IHR treaty must guide an effective global health governance system. The IHR is a worldwide agreement that is open and cooperative, and States Parties should work together to respond to the outbreak of highly pathogenic infectious diseases without prejudice. The World Health Organization should draw lessons from the experience and lessons learned from the prevention and control of this epidemic, revise the International Health Regulations promptly, and work with States Parties to establish a public health protection network to safeguard human life and health.

Acknowledgment

We thank 2020 Zhanjiang Philosophy and Social Science Planning Project (Key Project) "Research on Social Assistance Work in Major Public Health Emergencies" (ZJ20ZD01). This work was supported by the fund.

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