

Thoughts on the Emergency Management System of Public Health Events Based on the Background of COVID-19 Epidemic

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Abstract. The spread of COVID-19 epidemic throughout the country has had a great impact on the emergency management system of public health events in China. In the major test, the whole country responded to the epidemic with the strictest and most comprehensive prevention and control measures. During this period, China's politics, economy and culture have played an important role in epidemic prevention and control. However, China has also exposed some shortcomings in the process of dealing with public health emergencies. Based on the background of COVID-19 epidemic, this paper puts forward relevant suggestions on the emergency support system, laws and regulations, and public awareness, which provides a reference for the establishment of a more perfect public health emergency management system.

Key words: public health emergencies; Emergency management system; COVID-19 epidemic

1. Analysis of emergency response capability of different subjects in COVID-19 prevention and control

1.1 At the political level, the CPC Central Committee should play a unified leadership role in emergency response

At the political level, the CPC Central Committee focuses on protecting people's health and strengthens the national public health network security. During the outbreak of COVID-19 epidemic, the CPC Central Committee played an important role in overall planning and coordinating all parties in responding to public health emergencies. Among them, the health work is guided by the Xi Jinping's socialism with Chinese characteristics in the new era, adheres to the principle of health work in the new era, firmly establishes the concept of great hygiene and great health, and focuses on the general requirement of "being ahead of the curve and creating in an all-round way". The mainline is to build a high-quality and efficient life cycle health service system, the motivation is to deepen reform and innovation of science and technology. We will make up shortcomings, forge long boards, plug loopholes, strengthen weaknesses, coordinate epidemic prevention and control with economic and social development, and comprehensively improve the quality of health care supply and services. At the beginning of the epidemic, local governments quickly integrated superior resources and implemented the support strategy of "one province covers one city", showing the excellent quality of "all directions provide assistance when one party is in trouble". They gave full play to the advantages of the system and greatly mobilized the national human, financial and material resources in the shortest time to prepare for the battle and gave full marks to the fight against the epidemic.

1.2 At the economic level, tax policies ease the pressure caused by COVID-19 epidemic

At the economic level, our country is using targeted and socialist characteristics of active fiscal and tax policies to deal with epidemics, natural disasters and other events.

During the epidemic, taxation played a role in reducing the medical burden of residents, reflecting the guarantee dividend of the socialist system. For example, people diagnosed with COVID-19 do not need to pay individual fees, and their treatment costs will be covered by state finance. At the same time, the state adopts the way of "tax expenditure", which can flexibly and efficiently reduce the tax burden of taxpayers in a special period. For enterprises, the policy reduced pressure and production costs, ensured that enterprises and individuals can tide over difficulties, and reduced the unemployment rate to the greatest extent. For individuals, the tax incentives have increased their disposable income and eased economic pressure caused by the COVID-19 pandemic. For enterprises, the survival rate can be improved through tax incentives. Therefore, taxation plays an important role in public health emergencies such as COVID-19 epidemic.

1.3 At the cultural level, TCM plays a unique role in epidemic prevention and control

Table. 1 Research on traditional Chinese medicine epidemic prevention

Epidemic prevention research content	Specific measures for epidemic prevention
Research and development of new antiviral drugs of traditional Chinese medicine	<p>Screening effective prescriptions of traditional Chinese medicine from multiple angles with the help of molecular docking technology and high-throughput screening of prescriptions, Composition and monomer composition.</p> <p>The antiviral efficacy evaluation of traditional Chinese medicine was carried out and the antiviral spectrum database of traditional Chinese medicine was constructed.</p> <p>To carry out research on the changes of immune response and the intervention of traditional Chinese medicine to clarify the mechanism of antiviral action.</p> <p>Research and development of new antiviral TCM drugs.</p> <p>To summarize the epidemic law of epidemic diseases in the new period, and to innovate the plague theory and prevention methods of traditional Chinese medicine.</p>
Research on epidemic prevention literature of traditional Chinese medicine	<p>To construct a new system of epidemic prevention and control in traditional Chinese medicine.</p> <p>To construct knowledge maps of TCM diseases and knowledge base of TCM prescriptions for disease prevention and treatment and put forward references and methods of TCM prevention and treatment.</p>
Research on the application of the prevention of traditional Chinese medicine in normal epidemic prevention	<p>Based on the cognition of five movements and six climates in traditional Chinese medicine on the epidemic law of epidemic disease,</p> <p>the TCM early warning system of epidemic disease was established by means of information technology and numerical model.</p> <p>To evaluate the effects of Chinese herbal ointment, acupuncture, medicinal diet, guidance, vomiting and other techniques for preventing diseases on the intervention of physical state and the improvement of human immune function, and to formulate the intervention program for preventing diseases in the key population.</p>

During this epidemic, all parts of the country adhered to the principle of paying equal attention to Chinese and western medicine, combining Chinese and western medicine, and using both. In terms of treatment, traditional Chinese medicine was used for intervention. In terms of prevention and treatment, TCM was integrated into the whole process of "early detection, early reporting, early isolation and early treatment", so as to better treat untreated diseases. For patients with mild illness, TCM therapy can relieve fever, cough, fatigue and other clinical manifestations, and reduce the deterioration of the condition; At the same time, the combination of traditional Chinese medicine and western medicine was used for comprehensive treatment of critically ill patients, and for patients who still have symptoms of dizziness and fatigue, the method of combining traditional Chinese medicine and non-drug treatment was used for intervention.

At the beginning of the outbreak in Wuhan epidemic, China's public health emergency management mechanism was not perfect. However, with the gradual spread of diseases, a combination of TCM and Western medicine with "mechanisms, teams, measures and effectiveness" has gradually formed in practical work. In the process of practice, Chinese medicine management institutions at all levels follow the overall coordination of local governments, forming an empirical model with Chinese medicine characteristics. At the same time, the expert diagnosis and treatment of both Chinese and Western medicine also provide technical experience support.

2. Problems of China's emergency management system in dealing with public health emergencies

2.1 There are loopholes in the public health emergency support system

In terms of financial guarantee, the epidemic funds in China mainly come from the national public finance, with a single source of funds, complicated approval procedures and a small amount of funds for emergency management. At the same time, during the epidemic, the resources allocation of various medical institutions was insufficient, and the financial subsidies for those involved in prevention, control and treatment were neglected.

In terms of material management, on the one hand, China's emergency management materials are relatively scarce, and before the outbreak of the epidemic, most of them were mere formalities. On the other hand, there is a lack of effective information communication platforms between the material demander and charity organizations, and there is no overall arrangement for the distribution of materials. This also led to the lack of alcohol, masks and other goods at the beginning of the outbreak, and the price of epidemic prevention products continued to rise for quite some time.

2.2 Local governments have less autonomy in emergencies

At present, although China advocates giving full play to the initiative of both the central and local governments, on the whole, local governments and institutions have little autonomy and poor decision-making ability. First of all, in the early stage of the outbreak of Wuhan epidemic, the local government had the right to give early warning to public health emergencies, but it did not issue early warning information in the first time without explicit instructions from the higher authorities. Secondly, local governments were slow to take preventive measures. Local governments only strictly followed the instructions of their superiors, but did not adjust measures according to local conditions, making independent decisions, and even the phenomenon of "one size fits all" appeared. For example, local governments cut off roads without authorization, affecting the normal traffic operation; After several days of family reunions, some returnees were asked by community members to stay at home or stay in quarantine. The implementation of this policy is just to fulfill the formalism of the task requirements of the superior, but to give up seeking truth from facts, thus failing to achieve the desired effect.

2.3 Public awareness of public health emergencies risks is weak

China's emergency education and training are not taken seriously by the state. Most emergency drills are mere formalities, and the lack of emergency education makes our citizens' risk awareness weak and their ability to deal with crises relatively lacking. In the early stage of the outbreak, the epidemic was concealed and had a long incubation period, which did not attract enough attention and missed the best prevention and control period. For example, at the beginning of the outbreak, the government did not pay attention to the epidemic and the public's awareness of prevention and control was weak. As a result, Wuhan people infected with COVID-19 took public transport and left the city, causing the rapid spread of the virus. In March 2022, a large-scale epidemic broke out in Shanghai and the situation was grim. Omicron is the main cause of the outbreak. The Omicron strain became more infectious, and the symptoms of infection were atypical, which makes it more hidden in the process of transmission. Shanghai people left Shanghai, resulting in a large number of COVID-19 patients flowing into various provinces and cities, and a small spread in other provinces and cities.

2.4 The supply of infectious disease prevention base is insufficient

From the perspective of demand, the situation of public health security in China is still complicated and severe. Sudden acute infectious diseases spread rapidly, involve a wide range of areas, and have great impact and harm. In the early stage of the epidemic, the state set up Huoshenshan hospital, Leishenshan hospital and mobile cabin hospital, but the supply of these beds still could not meet the demand in the severe period of the epidemic.

From the perspective of supply, the structural problems in the health service system are still serious. In peacetime, it is manifested as "medical care is difficult and expensive, and there are contradictions between doctors and patients", while in public health emergencies, it is manifested as a lack of medical resources – the weak prevention and control ability of major epidemic, the insufficient coordination of medical prevention and emergency response, and the emergency combination is not tight. During the concentrated outbreak of the epidemic, some regions did not set up special isolation places, but concentrated patients in hospitals, and the hospitals stopped treating patients, exposing the insufficient supply of existing medical resources.

2.5 The legal system of public health needs to be improved

Although Laws and regulations such as *Law on Prevention and Treatment of Infectious Diseases*, *Regulation on the Urgent Handling of Public Health Emergencies* and *National Public Health Emergency Preparedness* have been successively promulgated in China, the matching supporting systems and methods are not systematic enough. For example, the emergency transfer of production lines and the prevention and control of business sites require coordination and joint participation of the government and enterprises, but the rights and responsibilities are not yet clear. Secondly, the government's procurement efficiency could not meet the emergency needs due to the lack of procurement methods, and the phenomenon of food shortage such as vegetables and fruits appeared during the period of home isolation. At the same time, China's public health laws and regulations are fragmented and lack of foresight. For example, the *Regulation on the Urgent Handling of Public Health Emergencies* issued in 2003 was forced to be implemented after the outbreak of SARS. In the long run, the lag of laws and regulations will hinder the prevention and control of public health emergencies, which is not conducive to the healthy and orderly development of public health undertakings.

3. Thoughts and suggestions on improving the emergency management system of public health emergencies

3.1 Strengthen emergency support for public health emergencies

Firstly, the government should expand the source of funds for public health emergencies. In addition to finance, we should increase the distribution of taxes and treasury bonds, increase the source of funds, and increase the proportion of emergency guarantee funds. At the same time, we will accelerate the development of the insurance industry and delegate some of the government's responsibilities to society to relieve pressure. Secondly, we should speed up the improvement of material support. On the one hand, it is necessary to speed up the construction of production lines for supplies to ensure that residents' supplies can be met whenever and wherever the epidemic breaks out. On the other hand, with the help of third-party organizations such as foundations, associations, alumni associations, etc., we call for the improvement of material reserves and contribute to medical assistance services.

3.2 Increase the independent decision-making power of local governments

First of all, local governments should be given the right to make independent decisions at the legal level. The actual situation of public health emergencies varies from region to region, and the central government can only give policy guidance at the macro level. Therefore, it is particularly important for the government to take measures in accordance with local conditions to prevent and control public health emergencies. It is necessary to clarify the information early warning and measures formulation of public health emergencies by local governments in the form of laws, encourage independent decision-making, control the crisis at the first time, and reduce the scope of public health emergencies. Secondly, the public feedback system has been introduced so that local governments can fully consider public opinions when formulating health policies suitable for local development, effectively protect public rights and interests, and provide a solid guarantee for China's health undertakings.

3.3 Strengthen risk awareness, build and improve the education and training system

We will comprehensively carry out school-based public health and safety education in primary and secondary schools, incorporate emergency education into the curriculum of primary and secondary school students, strengthen health education in schools, regularly participate in emergency drills, cultivate students' emergency response ability and raise their awareness of crisis. Public health and emergency management will be included in the education and training of cadres at party schools (schools of administration), cadre college and other units at all levels.

To strengthen the publicity of emergency knowledge throughout the society, and disseminate knowledge and skills of preventing public health emergencies through books, television and other means. And for different age groups, launching different publicity methods to increase the acceptability of the masses. At the same time, online and offline knowledge and skills competitions will be held regularly in communities to improve residents' sense of participation.

3.4 Accelerate the construction of national bases for the prevention and control of major infectious diseases

In the event of large-scale epidemic outbreaks, the layout and construction of high-level comprehensive medical institutions and national bases for the prevention and treatment of major infectious diseases should be accelerated so as to bring China's ability for the prevention and treatment of infectious diseases to a new level.

At the same time, China should improve the graded, stratified and decentralized treatment system for major epidemics. Strengthen the construction of national medical centers, regional medical centers, provincial medical centers and provincial medical centers for major public health events by utilizing existing resources. In times of public health emergencies, specially treat related patients; After the end of public health emergencies, it can be used as a routine hospital to relieve the pressure of tight

medical resources. At the same time, we will continue to strengthen the prevention and control of nosocomial infections, and improve our ability to deal with major epidemics.

3.5 Comprehensively improve the legal level and operability of public health risk prevention

At present, International Health Regulations (IHR) is the only rule basis for the prevention and control of infectious diseases in the world. Its main contents include: defining public health surveillance standards and implementing specific national responsibilities; Adhere to the principles of fair, objective and transparent governance. While abiding by international rules, China should also speed up the legislation of its own laws and regulations. Firstly, establish a joint prevention and control mechanism of the State Council to coordinate with other departments to form a good situation of epidemic prevention and control and medical treatment. Secondly, establish overseas prevention and control mechanisms for public health emergencies. Accurately control and monitor people entering China; Finally, China will coordinate with the international community to jointly respond to public health emergencies. And we will play a stronger role in preventing and responding to pandemics of infectious diseases, promote good governance of global public health security with good international laws, and jointly build a "community of common health for mankind".

4. Conclusion

The outbreak of COVID-19 has posed challenges to China's public health emergency management system. In order to achieve the goal of perfecting the public health emergency management system, there are still some problems to be solved. In particular, we need to strengthen emergency support, expand funding sources, and speed up legislation to escort the battle against the epidemic. At the same time, the whole country should unite, strengthen risk awareness and prevention and control ability training to help promote the construction of the public health service system, build a public health service emergency system in the new era, and improve the public health emergency management system.

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