

Pluralistic Social Responses to Global Public Health Events: Psychological Trauma, Economic Loss, and Coping Strategies

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Abstract. This paper comprehensively discusses the profound impact of global public health events on social psychological and economic levels, and constructs the corresponding multi-social response framework. This paper analyzes in detail how public health events cause a wide range of psychological trauma, including hypochondriac psychology, panic psychology, anxiety psychology and depression psychology, and probes into the formation mechanism, manifestations and long-term effects of these psychological trauma on individuals and society. Then, the paper systematically evaluated the economic losses caused by public health events, not only analyzing the direct economic losses (such as medical treatment costs, investment in epidemic prevention and control, etc.), but also deeply exploring the complexity and breadth of indirect economic losses (such as industrial chain disruption, investment decline, consumption reduction and labor market fluctuations, etc.). In terms of constructing the framework of multi-social response, this paper puts forward the strategy system of the government, social organizations, enterprises and the public. The government should play a leading role, establish a sound public health emergency mechanism, strengthen information disclosure and science popularization education, and introduce supportive policies to relieve economic pressure. Social organizations should actively participate in psychological assistance, volunteer services and international cooperation to contribute to epidemic prevention and control and social stability. Enterprises should optimize internal management, promote scientific and technological innovation and industrial upgrading, and enhance their ability to resist risks. The public should improve self-

protection awareness, pay attention to mental health, and actively participate in volunteer service activities. Finally, this paper summarizes the main findings of the current research and looks forward to the direction of future research. With the frequent and complex global public health events, how to build a more efficient and collaborative social response mechanism will become the focus of future research. At the same time, the introduction of new technologies and new methods will also provide new ideas and means for the monitoring, early warning and response of public health events. Through this study, it is expected to provide valuable reference and guidance for the government, social organizations, enterprises and the public when dealing with global public health events, and promote social harmony and stability and sustainable economic development.

Keywords: Psychological Trauma; Economic Impact; Social Resilience; Early Warning Systems

1.Introduction

1.1 Research Background

In recent years, frequent outbreaks of public health events around the world, such as SARS, H1N1 influenza, Ebola and, most recently, COVID-19, have not only posed a serious threat to human health, but also had a profound impact on the global economy, social fabric and mental health. According to statistics, in the past 30 years, new diseases that humans have not been exposed to have emerged at a rate of one per year [1]. The Institute of Medicine predicts that "globalization has made pathogenic factors increasingly complex and common, and many infectious diseases will inevitably emerge in

the future" [2]. In 2005, in order to effectively address global public health challenges, the IHR was amended to introduce the concept of "public health emergency of international concern", which is defined in the Regulations as: Health emergencies that may pose a threat to neighbouring countries or even countries around the world through the transnational nature of a disease and require an international response [3]. The World Health Organization (WHO) was established in 1948 as the first global international organization to address public health issues. Gostin believes that WHO is essentially a normative mechanism endowed with constitutional powers [4], which has normative authority and exercises it in two ways, while Hoffman believes that WHO's authority comes from its professional authority and the promotion of international health cooperation [5]. Global public health events, with their suddenness, infectivity, and complexity, challenge the governance capacity of governments, the response capacity of healthcare systems, and the overall resilience of societies. Therefore, it is of great practical significance and theoretical value to explore the social response mechanism under global public health events, especially the relief of psychological trauma and the response to economic losses.

1.2 Literature Review

The term "global health governance" was first coined in a 2002 paper by Richard Dorgerson and Kelly and defined as "norms, rules, and procedures for collective action to achieve the common goal of promoting health on a global scale." [6] Since then, although thousands of academic papers on the subject have been published in various disciplines, However, the academic community has not yet formed a unified view on this concept [7]. Harman defines global health governance as "transnational agreements or initiatives between states and/or non-state actors to control public health problems and infectious diseases and to protect people from health risks or threats" [8]. "Global Governance and Health" focuses on describing the broad social determinants of health affecting global governance institutions outside the health sector, in particular the World Bank and the International Monetary Fund, as well as other institutional actors in global economic

relations, such as the WTO and OECD [9]. In 2003, after the SARS epidemic, the 2005 International Health Regulations were amended and the concept of "public health emergency of international concern" was introduced. PHEIC refers to a special health event identified by the World Health Organization in accordance with the provisions of the Regulations: 1, due to the cross-border spread of diseases to neighboring countries or even all countries to bring health risks; 2. A coordinated global response is needed [10].

1.3 Research Significance

At present, domestic scholars have made certain achievements in the field of public health incident response, mainly in the aspects of epidemic prevention and control strategy, medical resource allocation, information dissemination and public opinion management. However, there are relatively few in-depth studies on psychological trauma and economic loss, especially the lack of systematic and comprehensive analytical framework. This paper attempts to enrich and improve the theoretical system in the field of public health event response, provide new perspectives and ideas for research in related fields, provide scientific basis for government decision-making, guide social organizations, enterprises and the public to effectively cope with psychological trauma and economic losses caused by public health events, and promote social harmony and stability and sustainable economic development.

2. Discussion of Psychological Trauma

2.1 Definition of Psychological Trauma

Psychological trauma usually refers to the psychological damage caused by some strong emotional injury. People call this external force "life events". Modern research believes that all mental diseases are related to these life events [11]. Some scholars also believe that psychological trauma refers to the psychological damage that occurs after a person personally experiences (or witnesses others to suffer) serious injury or even threatening events [12]. After a person has experienced a psychological trauma, the damage can last for months or even years, and the traumatic memories can affect later life;

Psychological trauma stress events include two types, one is the sudden occurrence of major events in life (such as war, flood, earthquake, etc.); One is the neglect, emotional abuse and physical abuse that individuals experience in their daily lives for a long time. Such events tend to lead to the accumulation of individual negative emotions, and eventually produce emotional, behavioral, physical and cognitive problems [13]. Most people can cope well with general stressful events, but traumatic events or situations can cause distress to almost everyone and tend to have long-term negative effects [14].

2.2 Multiple Manifestations of Psychological Trauma under Public Health Events

In the context of public health events, the manifestations of psychological trauma show diversified characteristics. On the one hand, hypochondriac psychology has become a common phenomenon, and the public is excessively worried about their own health due to the high concern about the epidemic, frequently check their physical condition, and even fall into unnecessary medical anxiety. On the other hand, panic is spreading among the population, and individuals feel extremely uneasy due to the suddenness and uncertainty of the epidemic, showing behaviors such as buying epidemic prevention supplies, over-reliance on information sources, and social avoidance. In addition, anxiety and depression can not be ignored. Long-term isolation, economic pressure and changes in social relations lead to psychological symptoms such as persistent tension, low mood and loss of interest, which have a profound impact on individuals' daily life and mental health.

2.3 Analysis of Complex Influence Mechanism of Psychological Trauma

The mechanism of psychological trauma is multifaceted and complex. On a physiological level, psychological trauma can trigger a series of stress responses, such as increased heart rate, increased blood pressure and immune dysfunction, which can harm an individual's physical health in the long run. At the psychological level, psychological trauma not only affects the cognitive process of the individual, resulting in rigid thinking, memory distortion and negative cognitive bias, but also

profoundly affects the emotional response of the individual, causing strong emotions such as fear, anger and sadness, and may be accompanied by behavioral withdrawal or impulse. In addition, social factors also play an important role in the formation and development of psychological trauma. The lack of social support, misleading information dissemination and pressure of social environment may aggravate the psychological trauma experience of individuals.

2.4 Comprehensive Coping Strategies for Psychological Trauma in Public Health Events

The complex and widespread nature of psychological trauma in public health events requires a comprehensive response strategy. First of all, we should pay attention to psychological counseling and intervention work, through professional psychological counseling and treatment means, to help individuals effectively manage emotions, adjust cognition, and enhance psychological toughness. Secondly, it is essential to establish a sound social support system, including family, community, professional institutions and other aspects of support and help, to provide individuals with emotional comfort, information guidance and practical assistance. At the same time, strengthening information dissemination and public opinion management is also a key part to ensure accurate and timely dissemination of epidemic information, reduce the spread of rumors and misleading information, and stabilize public sentiment. Finally, the government should play a leading role, introduce relevant policies and measures, strengthen the construction of mental health service system, improve the public's mental health literacy and coping ability, and provide a strong guarantee for coping with psychological trauma under public health events.

3. Economic Loss Assessment and Analysis

3.1 Comprehensive Consideration of Economic Loss Assessment Methods

When assessing the economic losses caused by public health events, a comprehensive assessment method is needed to ensure comprehensiveness and accuracy. The assessment of direct economic losses usually

relies on detailed statistical surveys and market value analysis. By collecting and processing key data such as production, sales, inventory, etc., the explicit costs caused by the epidemic are directly quantified. The assessment of indirect economic losses is more complex, requiring advanced analytical tools such as input-output models and computable general equilibrium models (CGE) to simulate the profound impact of the epidemic on the economic system through indirect channels such as supply chain disruptions and market demand contraction, so as to capture hidden costs that are not easily observed directly. In addition, scenario analysis provides a powerful tool for assessing economic losses under different epidemic paths, enhancing the forward-looking and flexible assessment results.

3.2 The Multidimensional Performance of Economic Loss

The economic losses caused by public health events are multi-dimensional and multi-level. In terms of output, enterprises are generally shutting down and reducing production, leading to a slowdown or even negative GDP growth, especially in labor-intensive industries such as manufacturing and service industries. In terms of employment, the economic recession caused by the epidemic has forced enterprises to lay off employees and go bankrupt, and the unemployment rate has risen. Coupled with the restrictions of prevention and control measures, employment opportunities in some industries have sharply decreased. From the fiscal dimension, the fiscal stimulus measures taken by the government in response to the epidemic have increased the fiscal burden, while the decline in tax revenue has further aggravated the fiscal pressure. In addition, the epidemic also led to a decline in investment and consumption, consumer confidence is insufficient, investors are wait-and-see attitude, resulting in weak market demand. In terms of supply chain, the disruption of the global supply chain caused by the epidemic has had a serious impact on the production and operation of multinational enterprises, threatening the stability of the global industrial chain and value chain.

3.3 The Long-Term Impact and Far-Reaching Significance of Economic Loss

Public health events not only have an immediate impact on the economy, but also have a long-term impact. First of all, the epidemic has a significant constraining effect on economic growth potential, and problems such as limited innovation ability of enterprises, slowing technological progress, and loss of human capital may plague economic development for a long time. Secondly, the epidemic has exacerbated social inequality, with low-income groups and vulnerable groups being hit harder by the epidemic, which may further widen the gap between the rich and the poor, posing a potential threat to social stability. Finally, the epidemic has accelerated changes in the global economic landscape. On the one hand, it has prompted countries to strengthen the localization of industrial chains to reduce external risks. On the other hand, it has also promoted the rapid development of emerging businesses such as digital economy and remote working, providing new opportunities and challenges for the transformation of the global economy. Therefore, in-depth analysis of the long-term impact of the economic loss of the epidemic is of great significance for formulating effective response strategies and promoting sustainable economic development.

3.4 Coping Strategy

Public health events not only pose a major threat to human health, but also have a huge impact on global economic activities through their wide spread and far-reaching impact. In order to effectively deal with these losses and promote economic recovery and development, we should jointly address the challenges of the epidemic through international cooperation and reduce the negative impact of the epidemic on the global economy. In light of the impact and characteristics of the epidemic on the economy, corresponding policies and measures will be formulated to support enterprises to resume work and production and stabilize employment. We will encourage enterprises to strengthen technological innovation and industrial upgrading and transformation to enhance economic competitiveness and resilience to risks. Improve the social security system, especially for low-income groups and vulnerable groups to mitigate the impact of the epidemic on people's livelihood. We should make the

global economic governance system more just, equitable and inclusive and jointly address the challenges facing the global economy.

4. Construction of Multi-Social Response Framework

4.1 A Comprehensive Exposition of the Construction Strategy

In the process of building a multi-social response framework, the first task is to establish a comprehensive and collaborative construction strategy. This strategy emphasizes the leading role of the government, through the formulation of clear policy guidance and strategic planning, leading all sectors of society to participate in epidemic prevention and control and economic recovery. At the same time, the strategy focuses on stimulating the social responsibility of enterprises, encouraging enterprises to actively fulfill their social obligations while pursuing economic benefits, and contribute to the prevention and control of the epidemic. In addition, as a bridge between the government and the public, social organizations play a unique role that cannot be ignored. By leveraging their professional and flexible advantages, they can effectively connect resources and promote information sharing and collaboration. Finally, the core of the construction strategy is to extensively mobilize public participation, and form a strong synergy of the whole society to jointly deal with the epidemic by raising public awareness of protection and encouraging voluntary service.

4.2 In-Depth Analysis of the Operating Mechanism

In order to ensure the effective operation of the multi-social response framework, it is necessary to establish a set of efficient and collaborative operation mechanism. This mechanism first emphasizes the importance of information sharing, and through the construction of an unimpeded information exchange platform, ensures that the government, enterprises, social organizations and the public can timely and accurately transmit epidemic information, prevention and control policies and resource needs, and provides strong support for scientific decision-making and precise policies. Second, the

coordination and cooperation mechanism is the core of the operational mechanism. By clarifying the responsibilities of all parties, optimizing the allocation of resources, and strengthening communication and coordination, a working pattern of coordination between the upper and lower levels and the left and the right will be formed to ensure the orderly progress of epidemic prevention and control and economic recovery. In addition, the monitoring and evaluation mechanism is also an indispensable part of the whole process of epidemic prevention and control and economic recovery, timely detection and correction of problems, to ensure the effective implementation of various policies and measures and continuous improvement.

4.3 Detailed Planning of the Implementation Path

On the basis of defining the construction strategy and operation mechanism, it is necessary to further plan the concrete implementation path of the multi-social response framework. First of all, a detailed and feasible implementation plan should be formulated to clarify key elements such as objectives and tasks, division of responsibilities, time nodes and safeguard measures, so as to ensure that all work has rules to follow and evidence to rely on. Secondly, we need to strengthen publicity, education and training, and create a good social atmosphere and talent support for epidemic prevention and control and economic recovery through extensive publicity of epidemic prevention and control knowledge, raising public awareness of protection, and organizing professional training. At the same time, promoting scientific and technological innovation and application is also an important part of the implementation path, through the use of advanced technological means such as big data and artificial intelligence, to improve the accuracy and efficiency of epidemic prevention and control, and provide technical support for the continuous optimization and improvement of the response framework of a pluralistic society. Finally, continuous optimization and improvement of the implementation path is the key to ensure the long-term effective operation of the multi-social response framework, and relevant

policies and measures and operational mechanisms should be timely adjusted and improved according to the changes in the epidemic prevention and control situation and social and economic development, so as to ensure that the multi-social response framework always meets the needs of the development of The Times.

5. Conclusions

Building a multi-social response framework is an effective way to deal with public health events and mitigate socio-economic impacts. By integrating the forces of the government, enterprises, social organizations and the public to form a concerted response, the efficiency and effectiveness of epidemic prevention and control and economic recovery can be significantly improved. The establishment of the construction strategy should fully consider the positioning and responsibilities of each party's roles. The government should play a leading role in formulating scientific and reasonable policies and measures. Enterprises should actively fulfill their social responsibilities and contribute to epidemic prevention and control. Social organizations should play the role of bridge to promote information sharing and cooperation. The public should raise awareness of prevention and take an active part in epidemic prevention and control. At the same time, the establishment of operational mechanisms is the key to ensuring the effective operation of the pluralistic social response framework. The combination of information sharing mechanisms, coordination and cooperation mechanisms and supervision and evaluation mechanisms can ensure smooth communication and efficient coordination among all parties in the process of epidemic prevention and control and economic recovery. Finally, the planning of the implementation path should focus on operability and sustainability. By formulating a detailed and feasible implementation plan, strengthening publicity, education and training, promoting scientific and technological innovation and application, and continuously optimizing and improving the implementation path, the smooth advancement and long-term effective operation of the multi-social response framework can be ensured.

Looking forward to the future, with the

increasing frequency and complexity of global public health events, it will become the common pursuit of governments and all sectors of society to build a more complete and efficient multi-social response framework. Public health events are global challenges that require governments of all countries to strengthen cooperation and jointly respond to. In the future, closer international cooperation mechanisms should be established to share epidemic prevention and control experience and technical achievements, and jointly improve global public health security. Scientific and technological innovation is an important driving force to promote the continuous improvement of the multi-social response framework. In the future, more investment should be made in scientific and technological innovation in the field of public health, and scientific research institutions and enterprises should be encouraged to carry out research and development and application of new technologies and new methods to improve the accuracy and efficiency of epidemic prevention and control. A sound legal and regulatory system is an important basis for ensuring the effective operation of the multi-social response framework. In the future, we should speed up the formulation and improvement of relevant laws, regulations, policies and measures, clarify the rights and obligations of all parties, and provide a solid legal guarantee for epidemic prevention and control and economic recovery. The public is the first line of defense against the epidemic. In the future, we should continue to strengthen public health education, publicity and guidance, improve the public's awareness of protection and self-protection ability, and form a good atmosphere for the whole society to jointly respond to the epidemic. In the process of building a multi-social response framework, attention should be paid to the integration of the concept of sustainable development. Efforts should be made to coordinate epidemic prevention and control with economic and social development by optimizing resource allocation, promoting industrial upgrading, and strengthening ecological and environmental protection.

In conclusion, building a framework for pluralistic social response is a long-term and arduous task. In the future, the joint efforts and continuous investment of all forces such

as the government, enterprises, social organizations and the public are needed to continuously improve and optimize this framework, so as to better meet the challenges of public health events and protect people's life safety and health.

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