Government's Role in the Face of Public Health Emergencies - Take Dongying City during the COVID-19 Outbreak as an Example

Xingzhi Han*

Department of Hainan University, Hainan University, Hainan, China

*Corresponding author: xhan76@asu.edu

Abstract. In modern times, when the COVID-19 epidemic has just subsided, public health emergencies are becoming more frequent. In responding to such incidents, the government has played a vital role. Through the process tracing method of the case study, this paper first studied the functions and control measures of the Dongying City government in different periods of epidemic prevention and control. Then, the report puts forward the shortcomings of the Dongying City government in the face of such problems and finally puts forward improvement suggestions on multi-department cooperation and public opinion control of the Dongying City government based on the 5s principle of emergency management and other theories. It will help Dongying City and similar cities deal with similar public health emergencies in the future.

Keywords: COVID-19, government, multi-department cooperation, network public opinion.

1. Introduction

Medical organizations worldwide have been researching COVID-19, and the novel coronavirus has been effectively contained. It has slowly faded out of people's lives. But the impact and shadow it brings to people is indelible.

In recent years, trade and people flow between countries and regions have become more frequent, but at the same time, public health emergencies are more likely to occur than ever before. Public health emergencies such as SARS in 2003, H1N1 in 2009, H7N9 bird flu in 2013, and Ebola virus in 2019 have not only caused great harm to people's lives and health but also made local governments more and more aware of the importance of emergency management in the face of public health emergencies.

The novel coronavirus caused the outbreak, spreading globally in late 2019. The Chinese President Jinping Xi's "War on the Epidemic" is "the most widespread global pandemic mankind has encountered in the past hundred years." Since 2022, Omicron, the latest strain of the novel coronavirus, has had a new impact on the global society and economy, and most developed countries have taken specific measures to prevent disease within their capacity. For the first time, many governments in China faced Omicron, which not only caused tremendous pressure on the local health system but also challenged the emergency management ability of local governments in response to the epidemic.

The government plays a crucial role in preventing and controlling the epidemic. The government has formulated and implemented relevant policies, coordinated various forces, organized epidemic prevention and control, and provided social security and support. Effective response to public health emergencies requires the government to keep pace with The Times, constantly adjust and optimize measures based on local conditions, and combine theory with practice in emergency management.

From the perspective of theoretical significance, the study of the emergency management of public health emergencies is a complex subject of multiple disciplines and cross-fields. This paper starts from Dongying City, combines the current situation of emergency management of some local governments as material, and uses a variety of theories to carry out analysis and research, deepening the further integration of emergency management theory system and public management theory. It is helpful to improve the emergency management system of local government. At the same time, preventing and controlling the epidemic generally requires communication and cooperation among

multiple government functional departments. However, the relevant theories still need to be improved, and a reasonably complete theoretical system has not been formed. The research of this paper hopes to establish and enhance the appropriate ideas of multi-department communication and collaboration of local governments in the management of public health emergencies.

From the perspective of practical significance, based on the basic situation of Dongying City, this paper takes the process of the Dongying City government's emergency management against the novel coronavirus epidemic in September 2022 as a case study, trying to find a set of optimization methods for public health emergency management applicable to Dongying City. At the same time, it can provide guidance and reference significance for cities similar to Dongying City. If the results of research optimization can be applied in practical work, it will undoubtedly improve the emergency management ability of local governments to deal with public health emergencies.

This paper mainly analyzes and studies the local government's emergency management process after public health emergencies. Firstly, the necessity of emergency management in public health emergencies is diagnosed by reviewing and summarizing relevant literature at home and abroad through literature research. Secondly, the case study method summarizes the overall status quo of the government's response to public health emergencies, and several representative cities or regions are selected as cases. Then, taking the emergency management process of Dongying City during the outbreak of COVID-19 in September 2022 as a case, the overall in-depth analysis is made. The management system and existing problems of the Dongying City government in the emergency management of public health emergencies are summarized, the reasons behind them are analyzed, and the improvement suggestions are put forward last.

2. Literature Review

The outbreak of COVID-19 has caused many scholars to think about epidemic prevention and control, and they have found many problems with the outdated public health event management system and put forward suggestions for improvement. Xue Lan believes that emergency management is the management of emergencies, and local governments and other public institutions should use multiple management means. Necessary measures should be taken in prevention before, response during, and recovery after emergencies, and general life and property safety should be ensured by establishing emergency management response mechanisms [1]. Hua Juxiang et al. researched public health emergencies using social work intervention and other strategies combined with departmental cooperation. They provided a better living environment based on public demand, further proving the value and significance of social collaboration in public health [2]. Xu Peng, Luo Li, et al. collected and summarized the monitoring and early warning of public health emergencies by clarifying the rights and responsibilities as well as the direction of work, extracted quality control indicators according to the prescribed process, and finally selected vital indicators to provide the scientific basis for the control measures of emergencies [3]. Chen Jing and Zhou Feng believe that the critical point of local government emergency management is to organize relevant forces to control or resolve troubles and adopt specific management methods and measures in the development process of crisis events [4]. Zhang Chengfu et al. took the influenza A (H1N1) virus outbreak as the research object, analyzed the emergency measures and ideas to deal with infectious disease outbreaks in public health emergencies from actual cases, and then proposed many new research directions on emergency management measures for epidemics [5]. Liu Xia and Yan Xiao believe that emergency management, in a broad sense, means that the state and the government coordinate material, human, financial, and information resources and implement dynamic management of the four sequential stages of the development of public emergencies. In contrast, in a narrow sense, emergency management only implements active management of the emergency response stage of public emergencies [6].

Based on the "4L-5S" model, Chen An summarized and analyzed the internal operating mechanism and life cycle theory of public health emergencies, combined with cross-regional and multi-departmental joint and collaborative management of emergency response mechanisms, and put

forward feasible suggestions [7]. Yang Guanchun analyzed the situation of coordinated management of COVID-19 prevention and control in Henan Province and summarized the characteristics of coordinated management in four aspects: diversification of prevention and control subjects, coordination of work mechanisms, consistency of stage objectives and diversity of prevention and control measures [8]. Zhang Weijing et al., combined with the characteristics of the 2022 Omicron variant strain, proposed that the response to public health emergencies in the new era should shift from the original risk response thinking to the future risk prevention thinking, establish and improve the multiple responsibility system that puts prevention and control first, and shift from the study of conventional risks to the analysis of unconventional threats. People should build a regular emergency response mechanism, move from stable to extreme scenarios, and promote innovation in unique emergency management plans and packaged policies [9]. He Zhen took the 4R crisis management model, the 5S principle of crisis response, the cooperative governance theory, and the spiral theory of silence as the fundamental ideas for research and analysis. He carried out research with literature, case study, content analysis, and interview research methods. Taking the emergency management process of epidemic prevention and control in Xinzhou City from November 2022 as the main case study, the problems existing in the process of epidemic prevention and control of Xinzhou City government were analyzed and studied, and corresponding strategy optimization was proposed. He believes a good epidemic prevention and control system needs the cooperation of the local government and multiple organizations [10].

3. COVID-19 Prevention and Control in Dongying: A Case Study of Emergency Management

3.1. Preventive Measures at the Early Stage of the Epidemic

Since the epidemic in China in 2019, the Dongying City government has paid great attention to the epidemic prevention work. Only in September 2022 Dongying had a single COVID-19 patient.

During this period, the government was mainly a preventive advocate, and the government's main concern was those who entered Dongying from outside the city. In the early morning of April 8, 2022, an asymptomatic COVID-19 patient was found in the Dongying service area of Rongwu Expressway. He was a truck driver outside the city who passed through the Dongying service area from Tianjin to Weifang Shouguang. The driver conducted a novel coronavirus antigen test and nucleic acid sampling in the Dongying service area of Rongwu Expressway. He was immediately quarantined in place after the antigen test result was positive. Meanwhile, the service area was temporarily sealed off, and all personnel in the service area were under static management. The city People's Hospital, on the driver nucleic acid test screening the city CDC review, the results are positive. After consultation with the expert group, he was diagnosed as an asymptomatic COVID-19 patient. The infected virus is a variant of Omicron. Thanks to the excellent epidemic prevention system in Dongying City and the rapid and timely isolation of the source of the epidemic. This time, the virus has not spread to Dongying. Even so, the government has developed relatively strict prevention policies.

After the "van driver" incident in April 2022, the government has stepped up surveillance of foreigners. The government requires citizens to only travel to medium-high-risk areas if necessary. Dongying personnel who have lived in medium-high risk areas and local epidemic cities within the past 14 days must take the initiative to report to their communities, work units, or accommodation hotels. At the same time, for the city's citizens, the government regularly organizes nucleic acid tests for all employees in the community. If they pass the test, they can get a green health code from their mobile phones (for travel). When taking public transport and entering and leaving public places, the public should always wear a mask, take temperature measurements, and voluntarily show the green health code. If people have symptoms such as fever, dry cough, fatigue, sore throat, and decreased sense of smell, go to the fever clinic immediately, wear a mask during the treatment, and avoid public transportation.

3.2. Control Measures in the Middle of the Epidemic

On September 29, 2022, two abnormal nucleic acid test results were found in a crucial population screening in Dongying District. After review by the Municipal Center for Disease Control and Prevention, the expert team diagnosed one as a confirmed (mild) COVID-19 case and one as an asymptomatic infected person. One of the two persons is key personnel from outside the province, and one is local close contact personnel associated with it. This incident caused the outbreak in Dongying City. It broke the record of zero epidemics in Dongying City in the past three years.

Since then, the role of government has become that of controller. While preventing outsiders from bringing in the virus, the government has focused more on avoiding transmission among citizens. Compared with the prevention stage, the government has introduced stricter policies for the citizens of Dongying City:

The first is to step up publicity of epidemic prevention and control policies, guide people to strengthen their protection and self-health monitoring and go to the nearest fever clinic immediately in case of discomfort symptoms such as fever. Please take personal protective measures, such as wearing a mask and avoiding public transportation during the treatment. Then, advocate unnecessary not to leave Dongying, do need to go to the unit, the community to report the negative nucleic acid test within 48 hours, temperature detection and check the health code, travel card (can show people have been to the place in the recent period) can leave Dongying before there is no abnormality. Advocate non-essential do not come to Dongying, enter Dongying personnel should be notified three days before the community to report cooperate with the implementation of appropriate health management measures.

At the same time, in terms of venues, closed places in critical areas of the city, such as indoor cultural venues such as libraries, indoor sports venues such as gyms and dance rooms, entertainment venues such as theaters and KTV, public bathrooms, chess and card rooms and other business service venues will be suspended. Public service places such as supermarkets and farmers' markets should comprehensively strengthen control and strictly check the temperature, health codes, travel cards, and other preventive measures. Government agencies, enterprises, public institutions, and communities exactly fit foreign personnel and vehicles and conduct health screening and information registration.

In terms of activities, the city suspended offline teaching activities of off-campus tutoring institutions, and critical areas in the town adjusted offline teaching activities promptly according to the situation. Stop non-essential gathering activities, offline meetings, get-togethers, promotions, recruitment examinations, sports competitions, and other activities. Public transport stations, buses, taxis, etc., should increase the frequency of ventilation and disinfection.

In terms of people's lives, continue to mobilize eligible people to take the initiative to complete the novel coronavirus vaccine as soon as possible and build a robust immune barrier. The supply of daily necessities and personal protection materials should be increased, and market supervision departments should strengthen market supervision and strictly prevent unfair business practices such as price gouging under the pretext of the epidemic.

3.3. Recovery Measures at the End of the Epidemic

According to the relevant public information, as of November 23, 2022, there were no new infections in Dongying City for a consecutive week. Epidemic prevention and control will be normalized. During this period, the role of government returned to prevention and advocacy. But this time, while preventing the invasion of foreign viruses, it is also necessary to prevent the secondary transmission of patients still positive in the city. The requirement in epidemic prevention and control measures is to lift the lockdown. Public Spaces are back in operation. Schools and work units will resume offline teaching and office work. However, nucleic acid testing will still be organized regularly, and citizens with green health codes can enter and exit public places.

4. Suggestions for Improvement of Collaboration Across Multiple Departments

The government has played a significant role in the epidemic control process. Although the epidemic prevention and control in Dongying City has succeeded, some problems have still been exposed throughout the process. Among them, the two most prominent problems are the low efficiency of cooperation between multiple departments and the need for more control of online public opinion. Here are my suggestions for addressing both issues. It is believed that these suggestions can help Dongying City and other cities with similar situations in Dongying City to do better in the face of public health incidents in the future.

The first is the low efficiency of cooperation between multiple departments. In the emergency management of public health emergencies, to achieve orderly and efficient collaboration between government departments and social organizations, it is necessary to establish a sound multi-departmental linkage cooperation mechanism and open up information exchange channels using the collaborative governance theory. This is not only conducive to the optimization of public policies and the realization of policy effectiveness but also emphasizes the open and rational communication between the government, the market, and society based on equality and mutual assistance, forming and maintaining a state of mutual trust and understanding, and forming a dynamic equilibrium among different stakeholders. To address the issue of multi-departmental cooperation, this research would like to make the following two suggestions:

4.1. Build a horizontal information-sharing platform

The task of multi-departmental cooperation in this epidemic prevention and control work is often accompanied by untimely communication and exchange of information, which not only causes misunderstandings and contradictions but also makes much work meaningless, repetition, and rework, resulting in unnecessary waste. In public health emergencies, due to the suddenness, complexity, diversity, and real-time nature of the information generated, various departments are more likely to have deviations and omissions in the information transmission process, leading to misreading and misunderstanding. In emergency management, all departments should share the work progress and information in real-time, continuously optimize the process, save various resources in cooperation, and improve the overall operation efficiency as much as possible. Each department may set up a particular information group responsible for uploading and sharing information.

4.2. Improve the information management system

After establishing the information platform, a perfect and sound management system should be set to standardize and guide. A special team should organize the information on the sharing platform to remove duplicate and useless information and only display real-time information. At the same time, the information platform should be open to the public, keep the timeliness of information release at any time, and constantly update and modify the relevant information management system in work practice to ensure the standardization, scientific and timeliness of the information displayed on the information sharing platform.

5. Suggestions for Improvement of Public Opinion Guidance and Public Opinion Control

Then, there needs to be more control of online public opinion. Online public opinion plays a vital role in preventing and controlling the epidemic. Improving the level of online public opinion detection and management is an essential aspect of local governments to fulfill their duties, and it is also an inevitable measure to safeguard the safety of public life and property. Local governments can make correct and timely guidance and governance of online public opinions, which can not only maintain social stability but also strengthen the credibility of the government and further improve the happiness of the people. According to the 5S principle of crisis response, in public opinion monitoring and

treatment, the government should put speed first, communicate sincerely, be brave enough to take responsibility and be systematic and standard. To solve the problem of online public opinion, this research has the following two suggestions:

5.1. Establish a Network Public Opinion Early Warning Mechanism

According to the spiral theory of silence, the early stage of public opinion fermentation is the best time to guide the direction of public opinion. The monitoring and early warning mechanism of public opinion is to find the signs of negative public opinion the first time, make reasonable disposal and guidance before its fermentation is complete, and minimize its impact. In the new era, big data and artificial intelligence technology should be used to monitor the direction of public opinion on new media platforms in real-time, exsanguinate negative public opinion promptly, strengthen the public opinion monitoring mechanism, establish a vast information network, obtain local network information through multiple channels, and effectively control sensitive information on mass media. All departments should also train and further study the staff responsible for online public opinion monitoring and early warning, improve their understanding of online public opinion, and establish a correct sense of crisis. Public health emergencies, different from conventional emergency events, belong to the field of public health, which requires staff to have professional knowledge of journalism and communication as well as knowledge in the field of public health to complete the work related to online public opinion more efficiently and in high quality after public health emergencies.

5.2. Improve Online Public Opinion Governance Laws and Regulations

While the state is improving laws and regulations related to online public opinion, local governments must formulate policies and regulations applicable to the local situation, provide more targeted legal guidance for dealing with public opinion in public health emergencies, and establish relevant punishment regulations and management systems for rumor-mongers. At the same time, it should also strengthen law enforcement teams' enforcement of applicable regulations. In the current network environment, people will continue to enhance the supervision of the implementation of the network real-name system, improve the network user credit evaluation system, urge the network media industry to conduct regular self-inspection, and strengthen the accountability of the source of public opinion.

6. Conclusion

The study on epidemic prevention and control in Dongying City shows that the government still needs to improve multi-department cooperation and online public opinion control in the face of public health emergencies. It is still necessary to improve measures in the face of public health emergencies by building horizontal information-sharing platforms, improving information management systems, establishing online public opinion early warning mechanisms, and improving online public opinion governance laws and regulations. Suppose the government can modify the policies and measures proposed by the government concerning the suggestions put forward in this paper when encountering similar emergencies in the future. In that case, the government will be more efficient and gain better results in managing similar public health emergencies in the future.

This paper also has some limitations. First of all, this paper is only based on the study of the management and control process of Dongying City, which applies to areas with similar situations. Applicability to other regions has yet to be proven. Secondly, this paper only suggests multi-department cooperation and public opinion management. There are many different areas for improvement in the natural control process. These deficiencies still need to be identified and improved. Only the government's continuous improvement and self-improvement can ensure society's stability and the health of the masses.

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