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Research on China's Epidemic Prevention Policies

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Abstract: COVID-19 has been a global pandemic since 2019. It has put a mask on the world. How to effectively reduce the spread and ravages has become a worldwide problem. China, as a developing country with a large population, has managed to control the outbreak of the virus effectively. In this paper, the research question is how China effectively controlled the spread of the virus from the initial stage of epidemic prevention to the current policy situation. The development and changes of China's epidemic prevention policy were discussed from the perspectives of time and space dimensions. In general, the dynamic zero policy is the most suitable epidemic prevention policy for China at present. It is expected that this study can provide some enlightenment for the development of China's health system and provide some reference for the epidemic prevention measures of other countries in the world.

Keywords: COVID-19, epidemic prevention policies, China

1. Introduction

COVID-19 is an emerging infectious disease caused by a novel coronavirus [1]. Most countries in the world are suffering from the virus. Countries around the world have adopted different policies against to the epidemic. China, as one of the most effective countries against the virus and the site of the early outbreak, has an excellent performance to control spread of the virus. In China at the same time, the number of deaths had stopped rising and the number of confirmed cases was only 0.47 percent. Therefore, it is very necessary to study how China is fighting the epidemic. But because the virus is so contagious, China's quarantine policies are also hampering the country's development. This paper will objectively analyze the formation and changes of policies in China's epidemic prevention work from the perspective of time and space. It will not only help us to have a better understanding of the COVID-19, but also can provide a theoretical basis or guidance for epidemic prevention in other regions or countries.

This paper can be roughly divided into four parts. The second part of this paper will review the literature, both in the world and in China. The third part of the article will mainly introduce the main idea of this paper, objectively analyze China's epidemic prevention policy, and analyze its advantages, disadvantages and the implementation of policies. Finally, the conclusion part will be an overview of the whole paper and expectations for the future of research.

2. Literature Review

Based on previous research, the history of epidemic prevention in modern China began in the 1990s, as the history of disease as a branch of social history began to enter the field of history, and as a new

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comer developed rapidly and made corresponding achievements. Specifically, the study of epidemic prevention history is mainly reflected in the case study of epidemic prevention overview of plague in modern China [2].

Later, when The People's Republic of China was founded, the work of disease prevention and control began during the Period of the New Democratic Revolution, and health and medical institutions were gradually established. The health and epidemic prevention system have undergone difficult development during the period of socialist construction and has been continuously tested in practice since the reform and opening up [3].

Today, China's health and epidemic prevention system has gradually matured and played an important role in responding to major health incidents. From the very beginning, we improved the legal system, promoted the institutionalization and standardization of health and epidemic prevention, established a central and local health and epidemic prevention system, and established the epidemic prevention policy focusing on prevention. However, sudden public health events have prompted innovation in China's health and epidemic prevention system. In 1988, there was an outbreak of hepatitis A in Shanghai. The outbreak of sudden infectious diseases caused a certain amount of panic among the people and also brought warnings to China's health and epidemic prevention system.

In 2003, after the SARS epidemic, China updated its legal documents related to public health emergencies, providing a legal basis for the response to such emergencies. Entering the new era, China's basic medical and health care system has been further improved and a multi-tiered basic medical insurance system has been established to reduce the burden on the people. In this step by step improvement, China's outstanding performance in combating the Novel Coronavirus has been revealed. From past studies, it is not hard to see that China's epidemic prevention policies are related to the changing times and the prevalence of diseases.

With the progress of science and technology, epidemic prevention measures are gradually becoming more information-based and intelligent, and China has its own unique and innovative methods. Based on the background provided in the above part, this paper will analyze the time-varying changes and regional differences of China's epidemic prevention policies against covid-19.

3. Discussion

3.1. Changing Policies over Time

According to WHO regulations, countries need to establish relevant emergency plans before the outbreak and adjust (upgrade or downgrade) their emergency plans according to the development of the outbreak. After SARS and H1N1, many countries have made corresponding emergency plans. However, when a new public health crisis comes, the emergency plan may not be fully implemented due to the numerous factors that need to be considered in decision-making.

The changes in China's epidemic prevention policy can be roughly divided into lockdown in the early stage and dynamic zero in the late stage.

When the epidemic broke out in Wuhan, the Chinese government immediately dispatched experts to deal with it, and immediately closed the city after it was confirmed that there was human-to-human transmission. Subsequently, Hubei province declared a level 1 public health emergency response. Much of the experience of epidemic prevention at that time came from the SARS period, including medical isolation measures, strengthened monitoring and response to the epidemic, and the implementation of the "five early" measures, namely early detection, reporting, isolation, diagnosis and treatment of cases. In light of the novel Coronavirus prevention and control situation at that time, and in view of the large flow of people during the Spring Festival, the government raised the

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prevention and control of novel Coronavirus infections to the national level, made institutional arrangements and resolutely launched the joint prevention and control mechanism to intensify the prevention and control efforts. A joint prevention and control mechanism of novel Coronavirus infections led by the NHC and composed of 32 departments has been set up [4]. Large-scale nucleic acid screening, centralized isolation and treatment of cases, rapid establishment of isolation hospitals for treatment, restrictions on the movement of people between cities, large-scale donation of treatment equipment. Since it was early in the outbreak, the number of people increased by several times every day. So, China used control strategy. Here is the data of infections and deaths from the outbreak at that time.

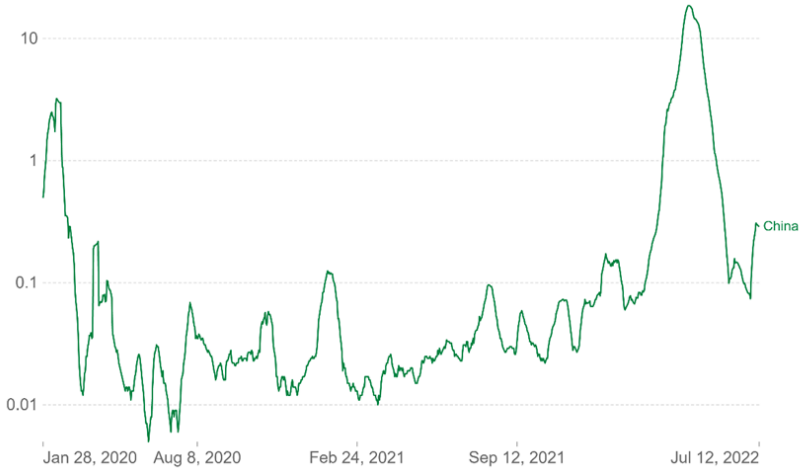

Figure 1: Daily new confirmed COVID-19 cases per million people in China (2020.1-2022.7). 7-day rolling average due to limited testing, the number of confirmed cases is lower than the true number of infections. (Source: John Hopkins University CSSE COVID-19 Data).

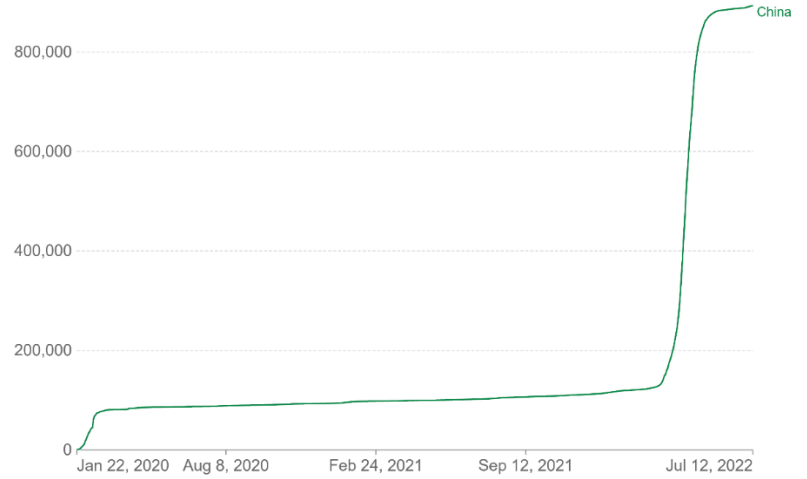

Figure 2: Cumulative confirmed COVID-19 cases in China (2020.1-2022.7). Due to limited testing, the number of confirmed cases is lower than the true number of infections. (Source: John Hopkins University CSSE COVID-19 Data).

As can be seen from figure 1and figure 2, the increase in the number of infected people is the largest at the initial stage of the outbreak, and the slope of the curve is very large.

China implements a dynamic zero policy in 2021.So what is a dynamic zero out policy? "Dynamic zero" is the current Chinese COVID general policy - 19 outbreak. To put it in a simple way, it is about

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rapid response and precise prevention and control. For example, People with high possibility of infection, like staff in airports and harbors, cold chain freight transportation and hospitals, are taking regular nucleic acid testing. Using scientific and efficient epidemiological surveys, close contacts and sub-close contacts can be identified within 24 hours.

From the professional point of view, the scientific point of view of "dynamic zero clearance" connotation, can be understood from the following aspects.

First, how to find the source of infection in time. This source of infection includes patients, asymptomatic infected persons, and even other related animals that may carry the pathogen. The main method is to detect the source of infection by monitoring the early warning of fever clinics as well as some means of testing and active screening.

Second, once a case is found, public health and social intervention measures should be taken quickly, including the control of the epidemic point, the management of close contacts, epidemiological investigation, and the reduction of crowd gathering.

Third, effective treatment. Integrated traditional Chinese and western medicine are mainly used to treat patients effectively, prevent the progress of the epidemic as soon as possible and as far as possible, that is, prevent the mild from becoming severe and reduce the occurrence of severe illness and death.

3.2. Quarantine Policies Vary by Region

By the end of 2020, China had 34 provincial-level administrative regions (including 23 provinces, five autonomous regions, four municipalities directly under the Central Government and two special administrative regions), 333 prefecture-level administrative regions, 2,844 county-level administrative regions, and 38,741 township-level administrative regions.

The divisions of the China are as follows: The country is divided into provinces, autonomous regions and municipalities directly under the Central Government; Provinces and autonomous regions are divided into autonomous prefectures, counties, autonomous counties and cities; Counties and autonomous counties are divided into townships, nationality townships and towns; The state may establish special administrative regions when necessary.

The main policies are the following: Avoid high-risk areas as far as possible; Entry or return to other areas requires an acid test and 7-14 days of isolation; Increased access to vaccines; Health codes unique to each region.

Beijing. For people from medium-high risk areas, Beijing will continue to implement the quarantine policy of suspending entry and return to Beijing, and conduct comprehensive screening of people with travel history in medium-high risk areas. Remote screening should be strengthened for people from other areas. Holders of negative acid test within 48 hours and Beijing Jiankangbao Green code can return to Beijing and take another nucleic acid test within 72 hours after arriving in Beijing. Persons with travel and residence history in areas where more than one (including one) domestic novel coronavirus infection occurred within 14 days shall be strictly restricted from entering Beijing.

Hong Kong. Persons arriving from the Mainland are required to undergo a 14-day compulsory quarantine at a designated place (home, hotel or other accommodation). Certain persons (e.g. cross-boundary goods vehicle drivers, crew members, etc.) may be exempted from quarantine, provided that novel Coronavirus tests are performed and negative results are obtained. As the epidemic gradually eases and is brought under control, the Hong Kong SAR government is gradually introducing policies to relax the entry requirements.

Currently, the epidemic situation on the mainland is stable. To facilitate Hong Kong residents to return to Hong Kong without quarantine, the "Easy Re-entry Hong Kong" scheme will be fully resumed from midnight on September 8. If some areas on the mainland are classified as medium-high risk, the "easy Return to Hong Kong" scheme will not apply.

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"Easy Re-entry" Scheme. Applies in the mainland and Hong Kong residents of Macao, if can meet the requirements of "back to Hong Kong yi" plan, including in addition to the mandatory quarantine period back to Hong Kong before 14 days never to other regions outside Hong Kong, the mainland or Macao and "back to Hong Kong yi" plan temporarily shall not apply to the parts list of risk areas, back to the port 14 days to enforce quarantine arrangements can be avoided.

Taiwan. Starting from June 15, 2022, the quarantine period will be shortened to 3+4 days and the independent health management rule of 7 days will be abolished. Starting from day 0 of the day of entry, the 3-day home quarantine will be followed by 4-day self-quarantine. One person must stay in one family or stay in an epidemic prevention hostel, and complete 3-day home quarantine and 4-day independent epidemic prevention in the same quarantine place as the principle; In the next four days, if you want to carry out independent epidemic prevention at your own home or the residence of your relatives and friends, you must obtain the consent of the county or government of the place where the independent epidemic prevention is located. Only one person and one household can be moved for quarantine. In addition, landing nasopharyngeal screening will be cancelled from June 1, 2022, and saliva screening will be maintained for all inbound passengers. (Before the end of May, airlines in Southeast Asia, India, South Korea, the Middle East and Europe will continue to implement "landing PCR", which will be fully relaxed from June 1).

Different from ordinary social policy decisions, decision-making in the epidemic not only includes emergency response in the process of similar natural disasters, but also includes the release of the resilience accumulated in the early stage of the epidemic, so as to ensure that the entire economic and social system has sufficient capacity to support the long-term anti-epidemic [5]. China's epidemic prevention policy has slowed down economic growth to some extent, and many people's social problems such as unemployment, education and medical treatment are gradually increasing, which has led to social unrest. However, China is one of the countries with the lowest proportion of patients with covid-19 and the lowest mortality rate in the world. Meanwhile, in the first three quarters of 2021, China's economy generally maintained a recovery trend, becoming a rare country in the world to achieve positive economic growth under the background of the epidemic [6].

In general, the dynamic zero policy is the most suitable epidemic prevention policy for China at present. It effectively suppressed each outbreak of the virus and controlled the situation in the shortest possible time. The ultimate goal of dynamic zero elimination is to maximize the protection of people's lives and health, and at the same time to maximize the protection of economic and social development and normal production and life. Epidemic prevention and control, normal production and life, and economic and social development are by no means a "single choice". They are both one of the main goals of dynamic zero elimination. To achieve dynamic zero elimination, we need to strike a balance between epidemic prevention and control and economic and social development, so as to achieve maximum effect at minimum cost [7].

4. Conclusion

At present, the novel coronavirus continues to linger and spread at a faster pace, posing a serious threat to the safety and health of people around the world and having a severe impact on world economic development. Speaking at the opening of the 75th World Health Assembly on 22 May, WHO Director-General Tedros Adhanom Ghebreyesus also said that the COVID-19 outbreak is far from over, despite a significant drop in novel Coronavirus reports of confirmed cases and deaths. Nearly 1 billion people in low-income countries remain unvaccinated, and the global distribution of vaccine resources is grossly unequal.

In the face of the epidemic of the omicron variant strain, which is significantly more transmissibility and concealment. The COVID-19 epidemic in China is in a situation of multi-point distribution and local scale interweaving, and the prevention and control situation in Shanghai,

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Tianjin, Guangzhou, Beijing and other places is grim. China implemented the policy of "Dynamic Zero", and immediately coordinated the deployment of testing, evacuation, transfer, isolation and treatment forces to contain the spread of the epidemic to the greatest extent. Epidemic prevention and control have withstood the most severe test since the battle of Wuhan and achieved initial results. At present, the vast majority of Chinese areas and people are working and living normally, such as Shenzhen, Changchun and Jilin City, which have effectively controlled the spread of the epidemic. At the same time, China's infection rate and death rate remain the lowest in the world.

There is no universal and unchanging COVID-19 policy that can be used all over the world. China has formulated and implemented a "Dynamic Zero" policy based on its own national conditions, which will benefit not only China but also the world. China will continue to focus on both epidemic prevention and control and on the economy, strive to win the battle against the epidemic, protect human health, and make greater contribution to world economic recovery and global solidarity against the epidemic.

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