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Public crisis response and prevention and control of COVID-19 in Hebei

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Abstract: *The rapid development of big data has provided a variety of ideas for the diversified research of COVID-19 prevention and control and early warning. Among them, this paper, based on the spatial epidemic analysis, explores the main influencing factors of the spread and spread of the epidemic--population flow, and carries out the corresponding prevention and prevention from the main factors. In addition, the emotional state of the people under the epidemic affects the stable state of the society, which is also what the society should focus on. With the help of Baidu index big data, this paper finds that it can quickly and effectively reflect the current public situation, and assist the government to make early warning and relevant decisions.*

Keywords: *statistical analysis; epidemic response; risk prevention; Hebei*

1. Research background review

COVID-19 is the biggest public health event, and how to effectively prevent it is the focus of all provinces and cities.

The current existing studies can better reveal the status quo of novel coronavirus epidemic and the implementation of prevention and management measures, but there are few studies starting from the provincial and municipal governments.The epidemic situation in Hebei province, for example, combined with baidu public opinion index and space population flow research, for the government epidemic prevention and control, scientific return to work decision to provide certain theoretical support.

2. Case analysis

According to the development of the cumulative number of cases in each provinces and cities in Hebei province, the cumulative number of cases in each cities did not exceed 50, and the maximum daily number of new cases was 24, which controlled the epidemic in all cities in Hebei province very well. At the same time, combined with Figure 2, it can be found that the overall serious epidemic situation in Hebei province is also below the middle level compared with other provinces and cities, and the overall situation of the epidemic is not very serious.

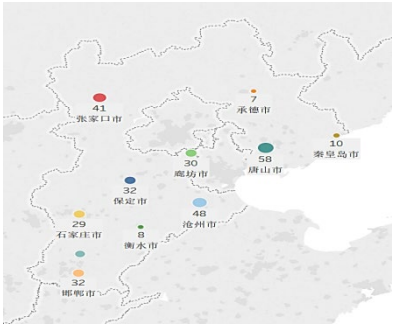

Figure 1: Accumulated number of cases in various cities of Hebei Province

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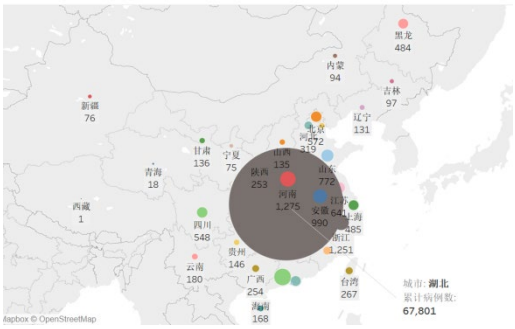

Figure 2: Spatiotemporal distribution of cumulative cases in the country

As can be seen from Figure 2, Hubei province and its surrounding provinces and cities are in the most serious cases, while the epidemic situation in distant areas is relatively weak. Hebei and Beijing are far from Wuhan. But the connection of air, high-speed rail and other transportation networks and high human turnover, the COVID-19 epidemic does not show a low number of infections as in other cities. Through the spatial distribution, it can be concluded that the severity of the epidemic has a certain correlation with the space and time distance from Hubei to a certain extent, and have the characteristics of geographical proximity. However, some abnormal cities can see that the severity of the epidemic will be affected by multiple factors such as economy and transportation.

3. Monitoring of people's conditions based on Baidu index

The following research aspects were analyzed accordingly through the relevant keyword search:

1.Taking the keyword epidemic as an example, combined with the number of newly confirmed cases, the two were found to be significantly and positively correlated. This shows that the public's attention to COVID-19 is consistent, proving that the public opinion index can effectively reflect the current relevant situation of the public to a certain extent, and thus shows that the government can use the relevant index to observe the current public awareness of prevention and control, the degree of epidemic concern, and the psychological situation.

2. Rumors also grow rapidly when the epidemic is severe. The release of a large number of false remarks disrupts the normal social order, and even affects the economic development of related industries. The current degree of social stability can be judged by the different changes in the number of rumors.

3. The perception and analysis of the public conditions under the epidemic situation can assist the government to make relevant decisions, play a certain early warning role, and reflect the current public emotional state through the public opinion index and the public search attention.

3.1 With the help of Baidu index to monitor the public status of the relevant analysis

It shows that the search volume has risen sharply since January 23, when the policy of sealing down the Wuhan city was just promulgated, and residents awareness of epidemic prevention has increased greatly. Search volume peaked on February 13th, it was also the beginning of a decline in new confirmed cases, and search volumes fell.

3.2 Perception and analysis based on public sentiment

The government should release data and information related to the epidemic in a timely manner, stabilize public opinion, coordinate various resources and channels, verify information about the epidemic in a timely manner, prevent the spread of rumors, avoid disturbing the normal social order, and build a trust relationship between the government and the public.

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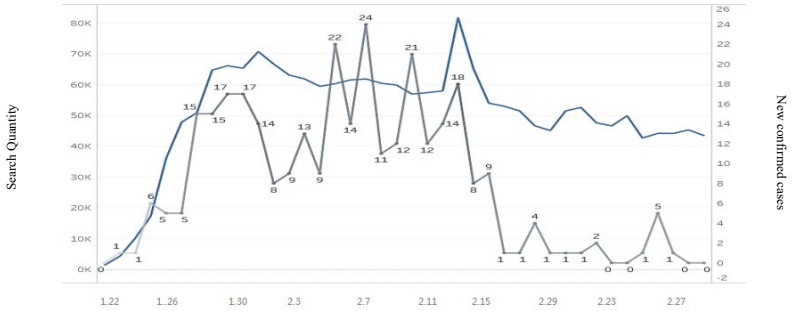

Figure 3: Line chart of the number of new confirmed cases and the Baidu index

3.3 Perception and analysis based on public sentiment

On June 12,2020, an outbreak occurred in Beijing, causing the infection in neighboring Hebei province, but the number was small, and the Hebei provincial government also took effective measures. Even though new cases fell to 0 on 25th of the same month, searches were still higher than before 12th of the same month. This shows that the government needs to continue to pay attention to the COVID-19 and should not slack off.

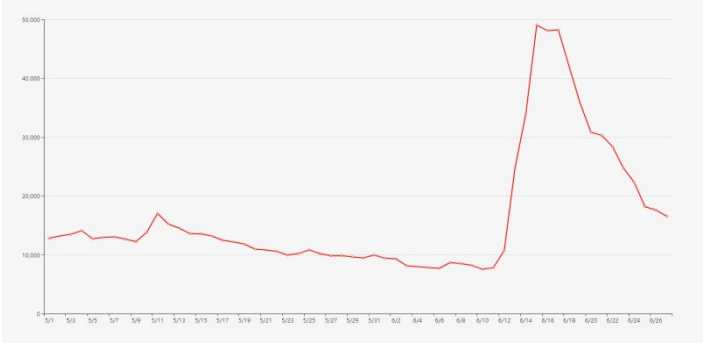

Figure 4: Baidu index trend chart

4.Analysis assisted in prevention and control based on the COVID-19 model prediction

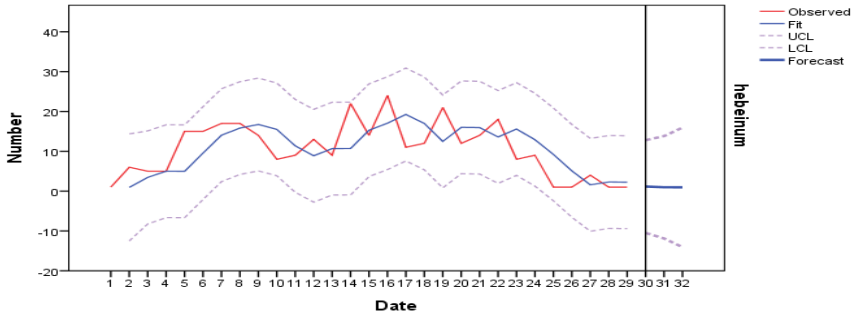

Figure 5: The hebeinum model

We can see the number of new confirmed cases will gradually reach zero in the next few days, and the outbreak will come under control. Compared with Hubei and other provinces, there was no widespread COVID-19 outbreak in Hebei province in the early stage. And as can be seen from the basic data, the overall trend of new confirmed cases in the region is declining, but the twists and turns and small increases in the medium term, that may be caused by the long incubation period of the epidemic. Moreever, the government has also taken corresponding timely prevention and control measures. After a series of measures, the number of newly confirmed cases in Hebei province was less than 30, and the epidemic was finally brought under control, which also shows that the early detection and early prevention and control of the epidemic can effectively contain the spread of the epidemic.

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5.Summary and suggestions

Due to the strong transmission and wide transmission routes of the novel coronavirus, consumers will inevitably be affected by the development of the epidemic, which will bring a non-negligible negative effect on social and economic development. The problems faced by enterprises are that it is difficult for them to resume work on time, their operating funds are in short supply, and their employment costs continue to increase. How Hebei adjusts the policy, vigorously supports, rescues the related enterprise, is the current main solution path.

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Commerce Statistical Society of China 2021 annual planning project.（2021STY04）
Commerce Statistical Society of China 2021 annual planning project.（2021STY27）

Reference Documentation

[1] Hao Guoxiang. Research on COVID-19 Epidemic Prevention and Control Countermeasures in Rural Areas [J]. Journal of Shandong University of Administration, 2020, (No.2).
[2] Zhang Xiumei. Disclosure and countermeasures of COVID-19 on existing problems in public crisis management in China [J]. Journal of Shaanxi Administration University, 2020,34 (02): 112-117.
[3] Xiang Yunbo, Wang Shengyun. Spatial relationship between the spread of COVID-19 and population mobility and its enlightenment on the classified governance of urban public health in China [J]. Tropical Geography, 2020-06-30:1-18.
[4] Zhao Jian. Epidemic prevention and control and management in the process of urbanization, informatization and national governance modernization [J]. Humanities Magazine, 2020, (No.5).
[5] Tan Fei, Kang Ming has been. Research on the public opinion guidance mechanism for epidemic prevention and control [J]. School Party building and Ideological education, 2020 (12): 31-33.
[6] Feng Shi Lan, Tan Ya, Zhai Yingjie. Epidemic prevention and control of basic population quality and major public health emergencies. —— takes the 2019-nCoV-COVID-19 transmission as an example [J]. World Economic Wenhui, 2020 (03): 1-14.
[7] Lin Jie, Yan Kun, Dai Qi, et al. Retrospective study and prevention and control strategies of COVID-19 patients in Ningbo city [J]. Modern practical Medicine, 2020,32 (2): 147-149.
[8] Qun Li, M.Med, Xuhua Guan,et al. Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus–Infected Pneumonia[J]. The New England Journal of Medicine, 2020, 382(13):1199-1207.
[9] Liu Zhang, Qianile, Du Yunyan, et al. Estimated model of multi-level spatial distribution of interregional migrants based on multi-source spatial and big data- -People who migrated from Wuhan during the COVID-19 epidemic as an example [J]. Journal of Earth Information Science, 2020,22 (2): 147-160.
[10] Wang Yizhang, Liao Conghui, Li Zhihui, et al. Preliminary analysis of the early prevalence and spatiotemporal distribution of COVID-19 in Guangdong Province [J]. Journal of Tropical Medicine, (2020-02-13).
[11] Zhang Baosheng, Zhang Qingpu. Study on the Law of Negative Emotion in Major Public Emergencies
From the novel Coronavirus epidemic prevention and control measures of qi [J]. Intelligence Journal, 2020-06-30:1-8.
[12] Wu Tingting, Zhu Ang Ang. The impact of COVID-19 on the Chinese economy and its response strategies [J]. Southern Finance, 2020-06-30:1-9.
[13] Aliyun. Spatiotemporal clustering analysis of dengue outbreaks in Zhejiang Province [D]. Zhejiang: Ningbo University, 2018.
[14] Cheng Shoutai, chief editor. Legal Practice Guide for Emergency Prevention and Control according to law [M]. Chengdu: Sichuan People's Publishing House, 2020.02.