Novel Coronavirus Pneumonia Epidemic Data Analysis and Regional Prevention and Control Research

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Abstract. At the beginning of 2020, a war without smoke of gunpowder came. Scientific prevention and accurate policy implementation is the key to epidemic prevention and control. General secretary Xi Jinping stressed the importance of using big data to strengthen the tracing and monitoring of the epidemic situation. With 1.6 billion mobile phone users in China, the use of Telecom big data analysis can provide strong decision support for epidemic prevention and control in a more real-time, accurate and comprehensive way. In the battle against novel coronavirus pneumonia, the Ministry of industry and information technology has been coordinating and organizing the information and communication industry to support the epidemic prevention and control work with the analysis of telecommunications big data.

Keywords: Novel Coronavirus Pneumonia, Big Data Analysis, Regional Prevention and Control

1. A Brief Introduction and Current Situation
2019 the novel coronavirus was found in 2019 in Wuhan. Named novel coronavirus pneumonia novel coronavirus pneumonia (Corona Virus Disease 2019), named WHO 2019-nCoV in January 12, 2020. In March 11, 2020, novel coronavirus pneumonia was considered to be a global pandemic (pandemic) based on the assessment.

2. The Contribution of Big Data during the Epidemic Period
Human beings will eventually overcome the epidemic, but major public health emergencies will not be the last for human beings. "Preparing for Yu is a common way of the country." Major infectious diseases and biosafety risks are major risks and challenges related to national security and development and social stability. Major scientific and technological achievements in the field of life safety and biosafety are also important to the country. Epidemic prevention and control and public health emergency system are important components of the national strategic system. One of the most important aspects of keeping away the major risks in the field of health and building a strong public health system is to strengthen the support of science and technology. We should take biosafety as an important part of the overall national security, adhere to the combination of peacetime and wartime, prevention and emergency, scientific research and treatment prevention and control, and strengthen the
system and capacity-building of epidemic prevention and control and public health scientific research [8]. We should make overall plans for all aspects of scientific research and improve the ability and level of systematic confrontation. We should take forward-looking and effective measures to deal with the epidemic situation, plan and predict the epidemic situation in a timely manner. Study and establish the command, action and support system for scientific research after the epidemic spread into the emergency state, prepare the emergency action guide at ordinary times, and start quickly in emergency [7].

Since the outbreak of the epidemic, big data related products have emerged one after another. In the face of the epidemic, big data and big data analysis play their strong points. China Railway Group uses big data to analyze freight demand, arrange peak load shifting return capacity and dynamically increase or decrease trains; the E-government Office of the general office of the State Council has launched the app "close contacts measuring instrument" to let the public inquire whether they are close contacts "These train numbers, ships and flights have found patients, and they are looking for the same pedestrians!" In novel coronavirus pneumonia, many people have seen or forwarded news like [1] that is similar to the new vehicle with the same traffic.

Science and technology are the sharp weapons for human beings to fight against diseases. Human beings can't defeat the great disasters without scientific development and technological innovation. General secretary Xi Jinping held the forum of experts and scholars, stressed that we should increase investment in science and technology in the field of health and health, and concentrate our efforts on tackling key technical problems and give full play to the advantages of the new national system. It is necessary to deepen the reform of the system and mechanism for the development of scientific research talents, improve the discovery, training and incentive mechanisms for strategic scientists and innovative scientific and technological talents, and attract more outstanding talents into the scientific research team to create conditions for them to stand out [3].

China faces novel coronavirus pneumonia in the face of sudden new outbreak of the disease. China is carrying out the struggle against epidemic at the two fronts. One is the first line of epidemic prevention and control, the other is scientific research and material production. In less than a week, we determined the whole genome sequence of the new coronavirus and isolated the virus strain, launched a variety of detection reagent products in time, quickly screened a number of effective drugs and treatment programs, and entered the clinical trial stage of vaccine research and development of multiple technical routes. Recently, it took only 19 days to complete the centralized nucleic acid detection of nearly 9.9 million people in Wuhan. The application of digital technologies, such as health code, infrared thermometer, medical assistant robot, 5g remote consultation, plays an important role in epidemic monitoring and analysis, virus tracing, prevention and treatment, and resource allocation [5].

Scientific research, clinical, prevention and control front-line coordination, industry university research parties closely cooperate, which provides strong scientific and technological support for the national epidemic prevention and control war to achieve major strategic results. As Richard Horton, editor in chief of the lancet, said: Chinese doctors and scientists have made the most outstanding contributions [6].

3. Problems to be Considered in Regional Prevention and Control
The WHO report points out that to maintain a healthy and good living environment should be a multi-scale circle support system. In the innermost circle, it is the most closely related elements to people's living conditions, namely lifestyle, community social network and local economy. The activities in cities, built environment, natural environment and even the global economy are in a state of crisis the outer circle [4]. It can be seen that for people, to maintain a relatively normal survival state, at least a minimum scale support system is needed, and this support system has certain spatial scale requirements. During the epidemic period, when strict prevention and control measures isolate people at home, we should realize that the scale of single housing is not enough to support normal living conditions. Once the isolation time is extended, people will have various physical and mental health problems. Therefore, it is necessary for us to reserve a set of support system with spatial scale
attribute for maintaining people's quality of life in the case of outbreak [2]. The first circle with people as the core is community. Community is the physical space and social space closest to the residents, and it should also be regarded as the minimum scale unit of epidemic isolation, which is "epidemic prevention cell". On the one hand, in order to meet the requirements of effective isolation, this basic unit should contain three key spatial elements, namely, control boundary, closed control points, and personnel and material access routes during the closed period. These three spatial elements should be included in urban planning, and regular prevention and control drills should be organized accordingly. On the other hand, in the community unit, it should also be carried out through community level training urban design and environmental construction. The second layer is the service supply system. The basic service supply mainly includes: first, the public service and commercial network system; second, the express delivery system; third, the allocation of public places. The third circle is the material supply system. To learn from the congestion of external materials at the gate of expressways in the early period of Wuhan's "city closure", we should consider in advance the setting of stacking points for external materials entering the city in special periods, so as to ensure that the materials entering from expressways, railways, airports and shipping channels can arrive quickly and are convenient for material stacking and transportation. In order to improve the community's health and epidemic prevention capacity, material supply capacity and emergency response time [9] [10].

4. Summary
Through the cooperation of big data and regional prevention and control, the large-scale spread is divided into several small areas, so as to form a safe area and a risk area. Then, through the real-time nature of big data, the safety of each small area is known at the first time, so as to decide whether to isolate or not. Practice has proved that this method is very effective, and the number of infected people has been greatly reduced, it can be said that it is the most perfect solution for the prevention and control of the new crown epidemic.

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