

The Operational Mode of Grid-Based Management in Covid-19 Prevention and Control in China's Grassroots Communities

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Abstract: After the outbreak of COVID-19 in China, China's government has moved the epidemic prevention and control point forward and applied grid-based management in the community level to prevent the spread of the epidemic. Specifically, the grid-based management in the epidemic is to build a "seamless government" management mode of "horizontal to the edge, vertical to the end" through more refined spatial division, diversified staffing, more accurate information processing, more meticulous management and more thoughtful and active service. This mode makes the main body of epidemic prevention diverse and fight a people's war for epidemic prevention and control; Vertically, it has accelerated the flow of power, resources and information, and improved the efficiency of epidemic response; Horizontally, it breaks the boundaries of departments, levels and functions, so that government departments can form a joint force to formulate and implement epidemic prevention policies; When carrying out strict management, meanwhile, grid-based management provides warm and refined public services. Grid-based management, a Chinese "seamless government" mode, can provide some reference and thought for countries still fighting against the virus.

Keywords: COVID-19, Grassroots community, Grid-based management

Since COVID-19 was discovered in Wuhan, Hubei Province in December 2019, the virus has spread rapidly through China and the world. It has not only caused great impact on the economic development of all countries, but also posed a serious threat to people's lives. As the basic unit of national governance, community is not only the direct subject and front position of disaster bearing, but also the terminal organization of the national emergency management system and the partner of government emergency management, it plays a basic and fundamental role of obstruction and fortress in the emergency treatment of public health events therefore, if the community is defended, we can effectively cut off the channels for the spread of the epidemic.

At the meeting of the Standing Committee of the Political Bureau held in February 3, 2020, on the issue of prevention and control of COVID-19, China's President Xi Jinping demanded that all provinces strengthen the grid-based management in community prevention and control, adopt more precise, more effective measures to prevent the spread of the epidemic. In the notice 《on further strengthening the implementation of responsibilities and make preparations in prevention and control of COVID-19》 issued by the The State Council's joint prevention and control mechanism for Coronavirus on February 7, 2020, it required to move forward the epidemic prevention and control point, strengthen the use of grid-based management in communities, and implement the prevention and control measures as soon as possible. At the meeting of promoting overall progress in Coronavirus prevention and control & economic and social development held on February 23, 2020, President Xi Jinping pointed out: we must resolutely curb the spread and export of the epidemic, and substantially reinforce the power at the grassroots level, especially the communities, increase the intensity of epidemiological investigation, weave tightly the community prevention and control network, implement strict grid-based management, persistently move the epidemic prevention and control point forward, control the source of the virus, and carry out web-like screening. Facing Severe challenges, grid-based management has fully played the important role of organizing and mobilizing the broad masses of the people, fully utilize the digital technology, and laid a solid human and technological support for the people's war to win the epidemic. On March 6, 2020, the number of newly confirmed cases in China fell to less than 100 and to single digits on March 11. On March 18, 2020, no new local confirmed cases had been reported nationwide For the first time. By the 19th, there were no new confirmed cases in provinces other than Hubei for 7 consecutive days. On April 8, 2020, Wuhan lifted the 76-day control measures for the passage from Wuhan and Hubei, orderly restore traffic to the outside and

gradually restore normal production and living order. After nearly five months of anti-epidemic efforts, the epidemic situation in China has been basically controlled and quickly returned to the situation of work and production. In 2020, the GDP exceeded one billion yuan, an increase of 2.3% over 2019. The success of epidemic prevention in China is inseparable from the application of grid-based management to epidemic prevention and control in communities. Therefore, summarizing the operational mode of grid-based management in grassroots community in China is of great significance to China in the post-epidemic era and other countries in the world where the epidemic is still serious.

1. What's Grid-Based Management: Background and Historical Evolution

After the founding of the people's Republic of China in 1949, the society was overwhelmed by the state completely. In urban communities, it was characterized by the Affiliate Unit system, that is, the unit assumed the intermediary between the state and the individual, the state issued national policies through the unit, and the individual citizens expressed their interests through the unit; In rural areas, it was characterized by the People's Commune system. The People's Commune was not only the grassroots political power, but also the organizational form of rural collective economy. The People's Commune, which integrates government and society, controls almost all production, management, living and migration activities, and the main agricultural resources and their distribution are controlled by the People's Commune. After China initiated economic reform and opening up in 1978, the Affiliate Unit system and People's Commune system have been difficult to adapt to the overall transformation of the country. Under the impact of marketization and socialization, the market economy of fair competition, the urban agglomeration of a large number of people, the population flow between urban and rural areas, the profound changes of urban-rural structure and the high differentiation of urban social groups ensued, all these exacerbated the collapse of the traditional social management system, bringing "horizontal social mobility in the regional sense and vertical mobility in the professional sense", in the process of social mobility, individuals become increasingly detached, showing new attributes of de-regionality and de-attachment. The emergence of grid-based management is to try to reorganize the increasingly disembodied individuals and build the corresponding social management and control system.

Grid-based management was firstly initiated in Dongcheng District, Beijing in 2004. Taking 10000 square meters as the basic unit, Dongcheng District divided the whole urban area into 1539 interconnected grid units, and recruited 350 grid administrators. The responsibility of grid administrators was to manage the urban components within their jurisdiction. The so-called urban components refer to municipal, road, traffic, sanitation, greening, housing, land and other related facilities. These facilities were coded and registered, and then put into the database, so that data could be shared among various government departments. At the same time, two parallel organizations were established above the grids, namely management command center and supervision and evaluation center. When the grid administrator found that there was a problem with the components within his jurisdiction, if he couldn't solve it, he would report it to the management command center and the supervision and evaluation center through the relevant software system. The management command center would screen the nature and characteristics of the problem, identified the relevant departments that may be involved in the component, and then sent the instructions to the relevant departments and dispatched them to the urban component location to solve the problem. The supervision and evaluation center carried out all-round tracking and supervision on the command center and relevant departments. Due to the refinement, responsibility and efficiency of grid-based management, it rapidly spread in other cities and was applied to many grassroots governance fields such as problem search, information control, conflict mediation and emergency disposal. And a few innovative demonstration samples of grid-based management have emerged, such as the "group service model" in Zhoushan, Zhejiang Province, "people foremost, three-wheel driven model" in Yichang, Hubei Province, and "urban-rural integration model" in Xixia District, Nanjing. The essence of it is to use information technology to divide grids in a region, and summarize the people, things, resources and other elements in the grids into an information system, through the interconnection of grid units and with the help of a certain information platform or system, once a problem is found, the relevant departments involved will get the instructions from the command platform, Then the problem can be solved in time. The core elements of grid-based management include grid partition, resource sharing, responsibility contracting and so on.

2. How Grid-Based Management Works: Operational Mode in Epidemic Prevention and Control in Grassroots Communities

2.1. More Precise Spatial Division of Grids

In the daily grid-based management, more households are divided into a unit grid. For example, Yichang City in Hubei Province divided 112 communities in five urban areas into 1110 grids, each grid covered 200 to 300 households. In the epidemic situation, less households are divided into a unit grid, the purpose is to achieve accurate epidemic prevention and control. For example, Junlian County, Yibin City, Sichuan Province, in "the notice on the requirements for epidemic prevention and control", established the grid-based prevention and control management mode by incorporating about 10-20 households into a unit grid. "the notice on the "construction work of grid-based management" for epidemic prevention and control" issued by Nianyuxu Town, Yueyang City, Hunan Province, required to select a grid administrator for every 30 households. In the epidemic situation, urban communities are generally divided into grids in the form of "community- neighbourhood-building-household" according to regional attributes and management convenience. If a community is regarded as the first-level grid, neighbourhoods under its jurisdiction are called the second-level grids, buildings in the neighbourhood are regarded as the third-level grids. If too many people live in a building, the residents can be divided into several fourth-level grids. In a village, the grids are divided in the form of "administrative village-village-villager group- Household". If an administrative village is seen as the first-level grid, several villages contained in it are called the second-level grids, and several villager groups are regarded as the third-level grids. If too many households in a villager group, the villager group can also be divided into several fourth-level grids.

2.2. More Diversified Staffing of Grids

In the daily grid-based management, each cell grid is staffed with a grid administrator. In communities with severe epidemic situation, a grid is staffed in the form of grid plus: the community police and doctors, property management personnel and volunteers are absorbed into the epidemic prevention and control grids to form a grid team, then a grid chief or a grid team chief is set above a grid or a grid team, and so on. The responsibility of a grid administrator or a grid team is to make clear the situation under his (their) jurisdiction and provide management and service. For example, Xincun Sub-district in Fengtai District of Beijing adopts the working mechanism of "five members in one grid", that is, a grid administrator (a community cadre serves), a grid police officer (a patrolman serves), a grid server (a property management personnel a volunteer serves), a grid health provider (a doctor in a community medical service center serves) and a grid Instructor (an assignment cadre serves). Through the direct access between the grid administrator and the masses, the five-member grid team responded in a timely manner to ensure the accurate assist to the epidemic prevention and control.

2.3. More Accurate Information Processing of Grids

In the daily grid-based management, a grid administrator is mainly responsible for the urban components in the grid and mastering the basic household information he/she manages. In the case of epidemic situation, on the one hand, in addition to thoroughly registering the basic information of residents in the grid, a grid administrator also uses relevant software to collect the travelling trajectories of residents in the grid and report them daily through relevant network platforms, so as to facilitate the superior government to comprehensively master the epidemic situation in the region, then scientific and reasonable anti-epidemic decisions can be made. On the other hand, due to the implementation of community closure and traffic control, it has affected the daily life of community residents. Therefore, grid administrators should strengthen communication and exchange with residents in their grid through wechat, QQ and other network software at any time to meet residents' demands, the grid administrator solve the problems if they could, but If the problem can not be solved, it will be reported to the grid administrator at the upper level through the relevant government platform, and it will be reported layer by layer until the problem is solved. For example, Chongqing has developed the "epidemic investigation" information system to provide grid administrators with a "good assistant" in front-line investigation, which not only improves the investigation efficiency, through the investigation data entered by grid administrators, the background can automatically summarize, count and report the data, and carry out real-time monitoring, judgment and early warning of the epidemic situation.

2.4. More Detailed Grid-Based Management.

In the daily grid-based management, grid administrators are mainly responsible for information input and problem reporting, while in the epidemic situation, grid administrators assume more roles and responsibilities. Firstly, grid administrators act as "information operators". Grid administrators have made clear the number of households, population and health status of each family in their grids during their house visits, at the same time, with the help of modern communication means, they collect key information including personnel flow areas in the grid, and conduct dragnet health screening every day to bridge the difference between big data and the actual situation, so as to realize the "early detection, early report, early isolation and early treatment" of epidemic infected persons; Secondly, grid administrators act as "propagandists". They promptly publicize the government's epidemic prevention policies and guidelines to the residents in the grid, explain safety precautions to them, popularize epidemic prevention and control knowledge, and guided the masses not to believe, spread and make rumors. Thirdly, grid administrators play the role of "supervisors". They advise the masses not to go out unnecessarily, postpone the wedding date, simplify the funeral arrangements, and not to gather or have dinner together during the epidemic period. For example, an average of 4300 grid administrators were on duty every day in Beijing during the epidemic period, they strictly implemented the duty system, made detailed screenings to record information, disinfected corridors, visited households, registered entry and exit information, and publicized epidemic prevention knowledge.

2.5. More Considerate and Active Service of Grids

In the daily grid-based management, the service work of a grid administrator is relatively passive, a grid administrator mainly assists the government or government agencies such as sub-district offices to do some work. During the epidemic period, due to strict community closure, traffic control, closure of cinemas, parks and other cultural and entertainment places, supermarkets and agricultural trade markets related to people's livelihood can continue to be opened only after reporting to the government for the record. In order not to affect the daily life of residents, grid administrators provide accurate services such as medicine purchase, express delivery, catering and shopping for residents, especially the disabled, the elderly, etc. through QQ, wechat and other social software and telephone inquiry. For those who have anxiety, fear, irritability and other psychological emotions caused by staying at home for a long time, grid administrators or grid teams also provide with mental health knowledge to reduce their psychological pressure and relieve their tension. For example, during the epidemic times, Raohe County, Shuangyashan City, Heilongjiang Province was divided into 61 grids, and 200 grid administrators implemented grid-based and carpet-like management. In order to ensure the daily life needs of those who observe home quarantine, grid administrators not only did a good job in information collection and supervision, but also worked as "purchasers, cleaners and waiters". They purchase fruits, vegetables, rice, medicine and other living materials for those who observe home quarantine 1-2 times a week, disinfect the domestic garbage in time, and help deal with the garbage at the home every day.

3. Why Grid-based management Works Well: Operational Mechanism of Grid-Based Management in Epidemic Prevention and Control in Grassroots Communities

In the epidemic situation, grid-based management has realized the diversification of epidemic prevention and control subjects in grassroots communities, thus weaving a horizontal to edge and vertical to the end prevention and control network, and fighting a people's war against the virus. In the war, the government, communities, volunteers, non-governmental organizations, enterprises, etc. are involved, the society is highly mobilized, they develop their strengths, avoid their weaknesses, perform their own duties, try to do the utmost and empower each other, establish an anti-epidemic mechanism of co construction, sharing and co governance, so as to enhance the initiative of epidemic prevention and control measures, contain the spread of the epidemic in time.

Grid-based management speeds up the vertical flow of power, resources and information, and improves the efficiency of epidemic response. Grid administrators or grid teams are deployed to the community to manage and serve the residents in the grid. On the one hand, it is conducive to the government's rapid grasp of epidemic data and situation changes, then the government could make epidemic prevention and control policies quickly. Rapid descent of epidemic prevention and control instructions to the grassroots level ensure the accuracy of policy implementation. On the other hand, rapid transmission and timely handling of the common and individual needs of the masses, realize the

dynamic tracking and linkage co-management of people's livelihood issues during the anti-epidemic period, improve the response time of the epidemic, and do good to community stability.

Grid-based management uses digital technology to break the disadvantages of traditional government departments' segmentation and vague rights and responsibilities, break through the "information island", build a regional epidemic management and service platform, strengthen the horizontal connection of relevant government departments, and they can update and share epidemic data, so as to quickly form a joint force of departments and maximize the allocation of medical Sanitation, transportation, municipal and other resources to effectively implement relevant anti-epidemic measures.

Grid administrators not only do a good job in management, but also give consideration to service work, realizing the balance between epidemic containment and people's livelihood security, social order and community vitality. Regarding to management, The grid-based management has played an important role in cutting off the epidemic prevention chain and reducing the flow of personnel; In terms of service functions, daily needs, psychological counseling and other services are provided to residents, which is conducive to social stability; Communication between grid administrators and residents can obtain the understanding and support from residents under self-quarantine, helps to form relevant value consensus, and facilitate epidemic prevention and control and the construction of community building.

4. Conclusion

By now, according to the statistics of the World Health Organization, more than 180 million corona virus cases have been confirmed worldwide, and more than 4 million people have died. After the outbreak of the epidemic, China decisively took measures to achieve zero indigenous case reports in the past five months, and soon began work resumption, China achieved a GDP of 101598.6 billion yuan in 2020, becoming the only major economy in the world to achieve positive economic growth. At present, COVID-19 in China shows the characteristics of point explosion and mostly from the outside. It can be said that successful prevention against COVID-19 is inseparable from the modernization of China's governance system and governance capability. As the Chinese "seamless government" management model, grid-based management can break the boundaries of departments and levels, build a "horizontal to edge and vertical to the end" grid-like structure, achieve accurate identification and management in epidemic prevention and control, and quickly provide refined and personalized integrated services or products. It has played an important role in China's fight against the epidemic. At present, the international anti epidemic situation is still grim, although different countries have different regimes, social conditions and cultures, China's management and service-oriented government and multi governance model with the help of grid-based management have achieved high efficiency, refinement and socialization of epidemic prevention and control, It can still provide some reference and thoughts for countries with serious epidemic situation.

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