

The Reflections on the Governance of Nursing Homes during the Epidemic

Shiqi Chen^{1†}, Jinyi Zhou^{2,*†}

¹School of Bangor, Central South University of Forestry and Technology, Changsha, Hunan, 410018, China

²School of Qingdao No.9 High School, Qingdao, Shandong, 266405, China

*Corresponding author e-mail: Jessie3120@hotmail.com, chenshiqi@csuft.edu.cn

†These authors contributed equally.

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Abstract: During the epidemic, nursing homes encounter many problems. The nursing homes are managed in a closed mode, so the satisfaction of the elderly in the nursing homes put a higher demand on the degree of construction of the nursing homes. In this paper, thirty self-care and semi-self-care older people are selected for a questionnaire survey at the Longde Road Campus of Qingdao Fuchai Nursing Home as an example. Combined with structured interviews with nursing home directors, we aim to propose a specific plan for the mechanism of resilience building and sustainability of nursing homes in Qingdao. Through data analysis and field research, we find that the nursing home has five problem. That is, the construction of facilities cannot meet the expectations of the elderly, the pressure on nursing staff, the inadequate medical system, the large gap between income and expenditure, and the lack of health knowledge of the elderly. In the government, the department to give preferential policies, change the operation logic, medical care integration, learn from the British-Japanese governance experience, improve the quality of facilities, increase the number of recreational facilities, rational planning of the area, the use of intelligent management and other programs. The construction of this nursing home will become more resilient, and its ability to withstand external disasters will increase.

1. Introduction

The Fourth Plenary Session of the 19th CPC Central Committee put forward the concept of "promoting the modernization of the national governance system and governance capacity" and "optimizing the construction of the national emergency management capacity system and improving disaster prevention, mitigation and relief capabilities" [1]. In the 14th Five-Year Plan, the country, for the first time, incorporated the concept of a "resilient city" is included in the national strategic plan for the first time. According to the International Council for Sustainable Regional Development (ICSD) definition, a city can withstand disasters by its capacity, mitigate disaster losses, and rationally deploy resources to recover quickly from disasters. The community is the basic unit of governance in a city and is a basic unit in "building a resilient city", and the ability of resilient community governance is crucial to the safety of the whole city. From 2000 to December 31, 2020, a title search was conducted in the database of Beihang University with "community" as the keyword, and there are 196 required community governance policies for risk societies. National policies are introduced to promote community resilience from environmental, social, institutional, and technological levels [2], Ren Yuan The study found that social resilience building can influence the mechanism of social sustainability through three aspects: reducing the impact of external disasters, scientific risk hierarchy control, and sound integrated community management [3], and the governance logic of community resilience under risk society has been formed.

In 2020, the New Crown pneumonia outbreak. It is a mapping of high risk in the current state of society, and has had a profound impact on global social development and brought more uncertainty to life. In the worldwide outbreak of New Coronary Pneumonia, older people in all countries present

vulnerability and high mortality [4,5]. Nursing homes are a gathering place for the elderly and most frail older people. It is also an area easily underestimated and neglected in society.

Despite the significant progress in the past decades, the problem of dealing with unexpected risks and public crisis events in nursing homes under the grip of the new crown pneumonia epidemic is not solved yet. This paper investigates the Longde Road Campus of Qingdao Fuchai Nursing Home, where thirty self-care and semi-self-care elderly are selected for a questionnaire survey. Through the questionnaire, we summarize the problems that occur in this nursing home. We used three methods: questionnaire approach, interview method and existing problems improvement measures of nursing homes to analyze the demand for nursing homes from resilience. We found that the nursing home has five problems: the construction of facilities cannot meet the expectations of the elderly, the pressure on nursing staff, the inadequate medical system, the large gap between income and expenditure, and the lack of health knowledge of the elderly. Our results show that many issues need to be addressed at the nursing home. By building physical resilience and social resilience, the nursing home will be more resilient to external disasters. Mechanism

2. Mechanism

2.1 Questionnaire approach

In this article, the questionnaire is designed and sent to the old Qingdao Fuchai Nursing Home on 23rd October 2021. We have visited each nursing home area, sorted out the research information from the aspects of functional configuration, medical condition and quality of nursing staff services, and conducted a sampling survey of 30 self-care or semi-self-care older people. They completed questionnaires with the help of nursing staff. Based on the feedback from the elderly, we obtain their satisfaction with the nursery home's facilities and stall services. Combining the field research information and the questionnaire result, we can further analyze the problem in epidemic and prevention and control of the nursing home.

2.2 Interview method

We conducted an online structure interview with the nursing home director. We better understood the operation status, the number of the elderly, and other essential statistics of nursing homes. Nevertheless, we consulted the information related to the nursing home, such as national policies, looked up Journal papers and Master's thesis, and comprehensive analysis the problems and solutions of nursing homes to apply the excellent domestic and international experience to practical cases and also provide the basis for improving the resilience of nursing home sustainable development. These findings provide favourable support for the research content in this essay.

3. Existing problems improvement measures of nursing homes

In community resilience research, domestic and foreign scholars focus on the factors which have a substantial impact on community disaster resilience, and these factors influence aspects covering the whole process of a community fighting against COVID-19, such as the ability to prevent public health crisis before the outbreak, the ability to deal with a public health crisis when COVID-19 outbreak and the ability to recover after the outbreak. Some scholars build the framework for community disaster resilience analysis based on the research status at home and abroad, divided into social and physical resilience. On the one hand, social resilience is a factor that can be changed at any moment through subjective initiatives, such as funding sources and government management policies. On the other hand, physical resilience, also known as "hardware resilience", includes environmental resilience, spatial resilience, etc. Based on the facilities and services system of nursing homes, this essay draws forth and simplifies the framework of the previous scholar to study the resilience of nursing homes and build an analytical framework for the resilience of nursing homes shown in Fig. 1.

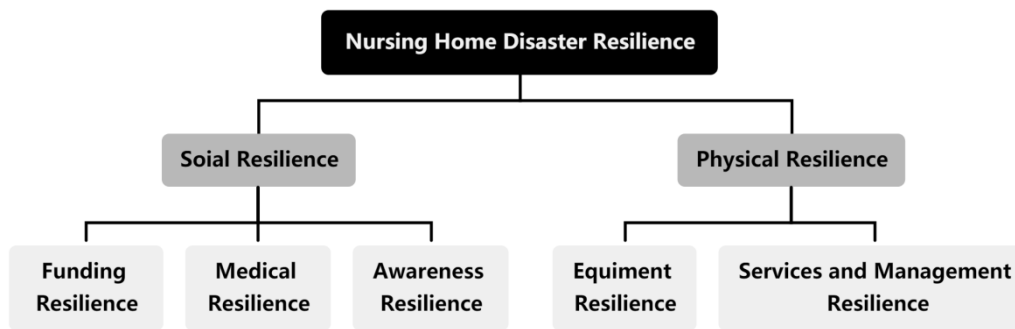


Fig. 1 Analytical framework for nursing home disaster resilience

3.1 Strengthening community resilience through building on social resilience

a. Problem and solution of imbalance income and expenditure

Based on "construction and operating subject", Chinese nursing home can be divided into four parts, including public construction and public operation, public construction and private operation, private construction and public operation, private construction and private operation (Huang& Zhan, 2020). According to the statistic of the Civil Affairs Bureau in 2015, more than half of the private nursing homes in China can only make ends meet, 40% of the private pension institutions are at a loss all year round, and only less than 9% of nursing homes are profitable [6]. The object of this study, Qingdao Fucai Nursing Home, is a public nursing home directly under Qingdao Civil Affairs Bureau. Compared with private nursing homes, the government supports general nursing homes with more tax and fee policies and more investment in the pension service industry. However, in the first half of 2020, most nursing homes suffered from the out-of-balance situation due to the decreasing number of the elderly who could not return to the nursing home and a sharp rise in the price of medical supplies and daily necessities.

Moreover, in the first quarter of 2020, due to the epidemic and the trade war between China and the United States, the government's fiscal revenue and expenditure were significantly reduced, and the investment in the service of a nursing home decreased a lot. In such a context, nursing homes have been closed down due to the broken capital chain. Nursing homes can only survive if they receive as much steady funding as possible.

On the one hand, the government departments should give preferential policy support. During the epidemic, the government vigorously implemented treatment for enterprises, whereas they did not provide some struggling nursing homes such policy support. Therefore, civil affairs departments can support the distribution of epidemic prevention supplies according to the scale of nursing homes, the number of elderly residents and their health conditions; Finance and taxation departments should separately formulate specialized support policies for the situation of each nursing home, such as reducing and exempting social security payments and giving subsidies to employees, etc.

On the other hand, it is essential to change the market operation logic of nursing homes. The government and academia have long overemphasized the welfare aspect of nursing homes while ignoring their marketability. No matter for public construction and public operation, private construction and public operation, public construction and private operation, private construction and private operation marketability should come first, followed by welfare. That is, if there is no balance between the market and interest of nursing homes, it is difficult to run for a long time only by charitable donations and feelings. Hence, we should advocate a higher charging standard of nursing homes to give full play to market forces and strive to obtain resources for self-rescue and improving self-resilience.

b. Problem and solution of an unsound system of medical service

In the COVID-19 crisis, the elderly are one of the most vulnerable groups, and their plight is exacerbated by inadequate medical resources [3]. Even though, in 2011-2019 Chinese government

respectively published "Development of Chinese aging' twelfth five-year' plan ", "Several opinions on speed up the development of pension services", "About promoting health and pension service of combining the guidance", "About promoting health and pension service of combining the guidance", "Civil administration career thirteenth five-year plan" and "In the policy of Government Report" to support medical rehabilitation services in nursing homes and old-age care services aiming at improving the combination of medical care and old-age care institutions. Qingdao Fucai Nursing Home also performs strictly according to the variety of medical care and old-age care policy in Qingdao and is highly rated among 30 older people surveyed, shown in Table 1. However, these policies do not take the medical measures that nursing homes need in the face of risks such as the epidemic situation into consideration; that is, they lack pre-epidemic prevention capacity. It is impossible to tackle the root of problems by issuing the “Novel Coronavirus Pneumonia Prevention and Control Guide” after the epidemic outbreak.

Table 1. Satisfaction with nursing home medical services

	Great Satisfied	Satisfied	Fair	Dissatisfied	Great Dissatisfied
Number	18	12	0	0	0

We can learn from the British medical and health service system to establish a medical and health care system with comprehensive coverage and diverse treatment areas. In addition to the basic medical insurance designated agreement signed between the nursing home and the primary medical insurance agency, the Health Sector can guide the nearby medical institution of the nursing home to take charge of the medical situation of the nursing home one on one and carry out periodic shifts in the nursing home. This is to ensure that the nursing home itself can provide a perfect medical service system [7]. When an epidemic breaks out, such a system can deliver drugs and timely treatment to 70 per cent of patients and reduce the risk of infection for the elderly travelling to the hospital. It ensures the full utilization of health service resources and improves the quality of medical services and the resilience of nursing homes.

c. Problem and solution of lacking hygienic knowledge

Nursing homes play an important role in protecting the elderly here when an epidemic breaks out. They can take preventive measures quickly and timely, such as closed management and prohibiting family visits. However, these measures limit the elderly’s access to information, which might lead to their inconclusive understanding of the epidemic, weakening their attached importance to the epidemic. In addition, despite the elderly in a nursing home being able to get the utmost care by a nurse, it also leads to less protection awareness than those elderly outside the nursing home and lack of knowledge of health care. Therefore, prevention in nursing homes might have the opposite effect. This is not groundless based on the cluster infection that occurred in nursing homes in the UK, Spain and Taiwan (China).

As is well-known, Japan is a country prone to natural disasters. The residents themselves and responding to the crisis response capacity play a key role. Japan has rich experience in raising residents’ awareness of disaster reduction and prevention, so we can take its essence and discard the dregs, such as the propaganda in health knowledge by the government, broadcast propaganda of knowledge of disaster prevention and reduction, and the relevant speech carried out regularly. In the nursing home investigated this time, the ability of epidemic prevention and control was popularized in lectures for the staff and the elderly. In addition, the nursing home should always have disaster prevention materials in case of emergency.

3.2 Enhance physical resilience through construction of physical resilience aspects

a. The construction of facilities cannot meet the needs of the elderly

We surveyed a sample of thirty older people in the Longde Road area of Qingdao Fucai Nursing Home by questionnaire. When asked about satisfaction with recreational facilities, eighteen out of the thirty older people thought that recreational facilities were among the satisfactory items. When asked about the overall quality of the infrastructure of the nursing home, a total of sixteen older people thought that the infrastructure needed to be improved. Through the data analysis, we conclude that

nursing homes are now facing the problem that the quality of infrastructure construction is difficult to meet the needs of the elderly and that there are too few recreational facilities.

Table 2. Elderly satisfaction with recreational facilities

	Great Satisfied	Satisfied	Fair	Dissatisfied	Great Dissatisfied
Number	11	18	1	0	0

Table 3. What improvements do nursing homes need to make

	Improve service facilities	Improve service programs	Improve staff quality	Others
Number	16	1	0	13

First of all, the construction of recreational facilities is reasonable according to the needs of the elderly. In the face of the new crown epidemic in the first half of 2020, most nursing homes use closed management, and meeting with children has become a problem. If the closed management is implemented for a long time during the prevention and control of the new crown pneumonia epidemic, it will lead to psychological imbalance and emotional disorder of the elderly [6]. Therefore, it is essential to improve recreational facilities to relieve the psychological stress of the elderly.

After a sample survey of thirty older people in the Longde Road area of Qingdao nursing home, we have found that many older people prefer walking and fitness, accounting for 21%. The park could be set up with an indoor activity area and an outdoor garden combined with the data analysis. The indoor activity area should contain a movie viewing area for the elderly to watch movies and catch up on dramas together. At the same time, a chess area with four mahjong tables should be set up for the elderly to play chess. For the outdoor space, based on the original facilities, fitness equipment such as shoulder rehabilitation machines and exercise machines should be introduced so that the elderly can do physical exercise and strengthen their body.

Interest distribution map of elderly people in nursing homes

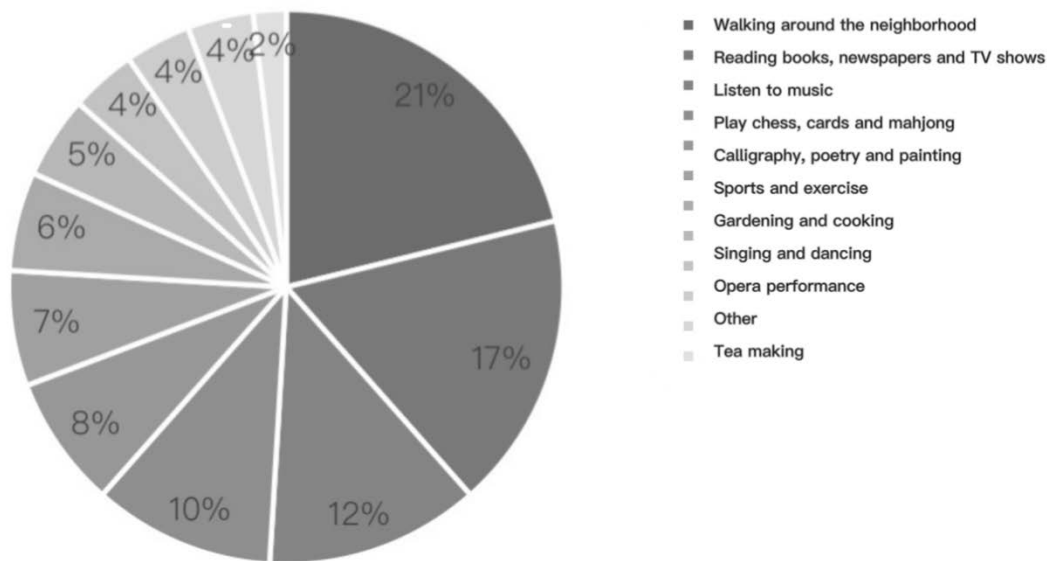


Fig. 2 Pie chart of senior interest statistics

Secondly, improving the soundness of service facilities can increase the comfort level of older people living in nursing homes. This is even more important in the case of high-risk infectious diseases. Of the thirty elderly people who filled out the questionnaire, twenty-five were interested in the "reading robot", and many of them also read newspapers. We conclude from the survey that the nursing home

could provide intelligent robots such as Tmall Genie. These robots can meet the needs of the elderly to listen to books, songs and newspapers, making their lives easier and more convenient. The robots are small enough to be placed above a bed or cabinet and are highly operable in the voice input.

The facilities that the elderly are most interested in

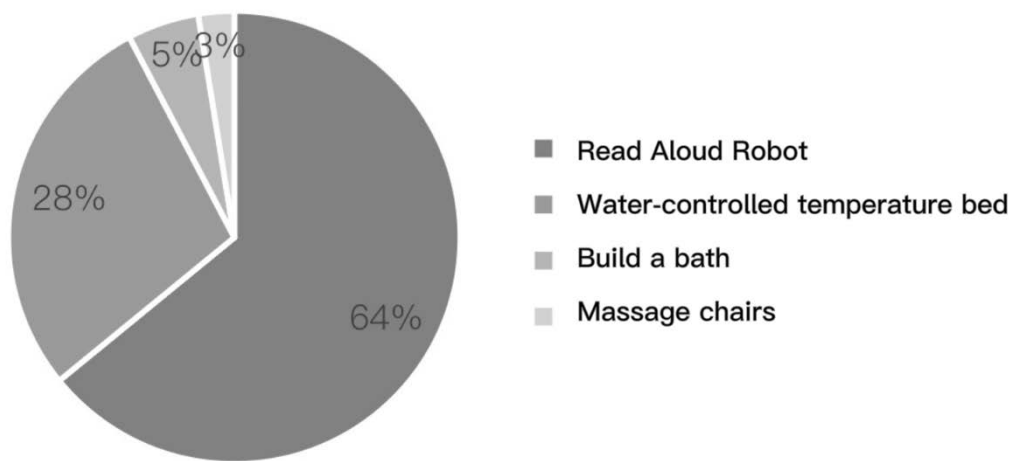


Fig. 3 Pie chart of facilities that the elderly are most interested in

Besides, the area is planned according to the concept of preventing and controlling high-risk infectious diseases. After the field investigation, we found that quadruple rooms, double rooms, and single rooms were set up in this nursing home. Although the quadruple rooms are affordable and have a good layout design, they are not conducive to preventing and controlling epidemics and other high-risk infectious diseases, and there is a risk of widespread infection. And the nursing home currently has 310 elderly people with 389 beds, with empty beds. Considering that the elderly who cannot take care of themselves need to be managed centrally and that the elderly are prone to loneliness in single rooms, we believe that the nursing home can adopt a model of arranging for the elderly to stay in separate rooms and providing small isolation for the elderly who have just entered the nursing home. The elderly who come back from outside the nursing home can stay in a single room or a double room, and after fourteen days of isolation, they can continue to stay in multiple rooms after they are found okay.

b. Low number of caregivers and high risk of working during an epidemic

The Ministry of Civil Affairs 2020 survey data shows that there are more than 2 million older people and more than 40,000 nursing institutions within the country. However, there is only 370,000 nursing institution staff, and only more than 200,000 caregivers, each caregiver needs to take care of about ten older people on average, and their service workload is enormous. During the New Crown Pneumonia epidemic, caregivers' total amount of services increased during the epidemic to achieve epidemic prevention. Taking the temperature of the elderly multiple times a day and disinfecting the campus at regular intervals made the caregivers' work more difficult as well. However, there is a risk of human-to-human transmission of the new coronavirus, and the combined immunity of the elderly population is poor. Older people who contact infected caregivers and then contact other more aged people are prone to widespread infection in nursing homes.

Intelligent management should be used in nursing homes in the future. During the epidemic, smart management mitigates the impact of the epidemic on people's lives. Students of different ages learn knowledge through online classroom software, and people clock in and out online. Therefore the nursing home should also adopt intelligent management to reduce the impact of the epidemic on it. On the one hand, the use of smart management can reduce the risk of epidemic transmission caused by the movement of people. The morning shift and evening shift system of caregivers can reduce the pressure of caregivers through time coordination, but their high mobility also tends to increase the risk

of epidemic transmission during an epidemic. Through intelligent management and artificial intelligence, the risk of outbreaks in nursing homes will be significantly reduced. On the other hand, the work pressure of caregivers can be relieved by building systems intelligently. In the Internet era, computer networks and software management systems are very developed and convenient, building an information-based management platform for nursing homes and improving work efficiency [8]. In the past, caregivers needed to check the temperature of the elderly 3-5 times a day, but by having the elderly carry a temperature tester in an intelligent management way, the difficulty of measurement is reduced. Each older person's temperature data is quickly transmitted to the person in charge and recorded. At the same time, considering that the elderly will have difficulties entering the password, a face-scanning system can be added. Every time an older person passes through a door, the time he passes will be recorded. In the long run, the nursing home will be able to customize its schedule for each older person through data analysis and summarize their preferences through total data analysis so that they can be provided with facilities that better meet their needs.

4. Conclusion

Through data analysis and investigation, we found that the COVID-19 outbreak exposed some shortcomings of the nursing home development model before the epidemic, such as infrastructure construction of nursing homes can not meet the expectations of the elderly and lack of recreational facilities and inadequate medical system. At the same time, we can expect a series of profound changes in sustainable development after the COVID-19 outbreak. Sustainable society is an important part of sustainable development [9]. In order to achieve sustainable development goals, the nursing home, one of the basic unit society, not only should develop innovation to create new patterns, but also strengthen the social investment, social management and modernization and build the smart nursing home to adapt to the high risk society [10]. To summarize, strengthening their social and physical resilience to cope with risks and challenges, establishing mechanisms to safeguard the development process, and achieving the goal of "providing for, enjoying, and enjoying health" should be the goal of nursing homes all over the world.

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