

Design of Community Health Care System for Sick Elderly in Mining Area

Yue Guo^{1*}, Kun Bian¹

¹ School of Art and Design, Inner Mongolia University of Science and Technology, Baotou, China

Email Address

373143425@qq.com (Yue Guo)

*Correspondence: 373143425@qq.com

Received: 1 June 2021; **Accepted:** 15 June 2021; **Published:** 17 July 2021

Abstract:

In recent years, with the advent of an aging society, my country's social pension service industry is facing huge challenges. Restricted by factors such as economic environment, development level and unclear zoning, old-age care services in mining areas are different from rural areas and cities, and become a special old-age care system. As a shanty town deviated from the urban area, the mining area's current rehabilitation and elderly care system is not complete due to low incomes, which cannot meet the needs of the elderly to obtain more convenient services and life when they are elderly. The characteristics of the disease require special rehabilitation and recuperation, and the service system is proposed to improve and optimize the rehabilitation and elderly care environment.

Keywords:

Mining Area, Recovery, Elderly, Design, Health Care System

1. Introduction to the Mining Area

1.1. Development Status of the Mining Area

Take Datong City in Shanxi Province as an example. Shanxi Province is a major coal-producing province in my country. Datong City is one of China's largest coal energy bases and a key construction city in China's First Five-Year Plan. It has the largest mining bureau in the country - Datong Mining Bureau; and Datong Coal Mine Group is an important industrial enterprise in Datong City and one of the large coal groups in the country. Its mining area is located in Yungang District, southwest of Datong City, with a total area of 62 square kilometers. There are many people from all walks of life in the mining area. There are about 800,000 miners and their families. Among them, the proportion of elderly people is relatively high, accounting for about 20%. As a result, Datong Tongmei Group carried out the planning and transformation of the shanty towns of Tongmei in 2006, and built more than 6 million square meters of housing, which changed the housing conditions of 300,000 absentees and their families from bungalows to buildings, from lack of traffic to traffic. More convenient. However, their elderly care institutions in shanty towns are still not sound enough, community hospitals have limited medical conditions, unable to provide the elderly with rehabilitation facilities for corresponding diseases and a good elderly care

environment, and cannot meet the basic needs of the sick elderly in the mining area for home care.

In the context of an aging population, the elderly in the mining area have to stay at home for a long time due to the characteristics of their physical illness, and it is inconvenient to go out. Various factors have formed a state of difficulty in old-age care and recovery. They face many problems, including the absence of their children, imperfect community medical conditions, and low incomes. These problems not only endanger the physical and mental health of the elderly in mining areas, but also affect the quality of life of the elderly, and bring a heavy burden to the social pension burden. At the same time, at this stage, China's aging population has a large base, rapid development, and uneven distribution; and under the situation of insufficient development of elderly care resources in my country and changes in the development of elderly care at home, it is necessary to conduct in-depth exploration of the current situation of elderly care at home in mining areas. Discover the existing problems and find the corresponding solutions.

1.2. Pension Situation

Currently, China's old-age care models are diversified, but the old-age care model that currently accounts for the largest proportion is the most traditional old-age care model in China for thousands of years-home care. Because of the busy children's business and other reasons, community health care has gradually become the mainstream of old-age care. The main purpose is to recuperate the elderly while they are recovering from the disease. Basic rehabilitation facilities and a good convalescent environment are required. To achieve the goal of "health" with "nourishment", combined with the mutual penetration and cooperation of the external recuperation environment and rehabilitation treatment, to improve the physical condition and mentality of the elderly, and to promote them to continue to be in a better state.

The large population of the Datong mining area has deviated from the urban area, resulting in low wages and social isolation of employees. Moreover, because children have been working outside for many years, they cannot give the elderly the first care and care, so most choose to live at home or in the community. The sick elderly people have occupational-related diseases due to long-term underground work. In particular, male workers account for the majority, causing them to suffer from occupational and chronic diseases for a long time, such as silicosis, rheumatoid arthritis, bursitis, etc. Illness will seriously affect the health and quality of life of employees; it will also cause special health care needs due to natural aging of the body, changes in family structure, changes in the living environment, etc., and the institutional facilities for the elderly are not sound enough to meet the needs of the sick elderly. More needs to be met. For sick elderly people in the mining area, silicosis is mainly caused by the human body inhaling crystalline silica dust, causing shortness of breath, fever, fatigue, loss of appetite, chest pain, dry cough, respiratory decline, etc., and finally may be fatal. At present, there is no cure for pneumoconiosis, so symptomatic and supportive treatment is generally adopted in treatment, such as prevention and treatment of lung infections, and measures to enhance the patient's physical fitness and recuperation through exercise. Therefore, in order to prevent pulmonary fibrosis, more facilities are needed to restore lung function. For joint diseases, acupuncture, massage and Chinese medicine can be used to recover. However, for the elderly without occupational diseases, chronic diseases such as senile physiological degenerative diseases, bone and joint diseases, cardiovascular and cerebrovascular diseases, diabetes and its

sequelae, and Alzheimer's will also seriously affect the daily life of the elderly. , A professional rehabilitation team is needed to assist them in returning to normal daily life, providing daily living ability training, exercise therapy, psychological rehabilitation, rehabilitation nursing and health education.

2. Community Health Care and Service Design

2.1. The Status Quo of Community Health

The Fifth Plenary Session of the 19th Central Committee of the Communist Party of China passed the "Proposal of the Central Committee of the Communist Party of China on Formulating the Fourteenth Five-Year Plan for National Economic and Social Development and the Long-term Goals for 2035". Implement a national strategy to actively respond to an aging population. Specific aspects of old-age care include: actively develop aging human resources and develop the silver-haired economy. Promote the coordinated development of the elderly care industry and the elderly care industry, improve the basic elderly care service system, develop inclusive elderly care services and mutual supportive elderly care, support families to undertake elderly care functions, cultivate new types of elderly care services, and build home-community institutions to coordinate and integrate medical care and health care A comprehensive elderly care service system and a comprehensive supervision system for elderly care services will be improved. [1] Therefore, in the future trend of old-age care, traditional Chinese medicine health care is about to become the mainstream and vigorously developed, and community health care mainly focuses on health, sub-health, chronic disease and disease, and other elderly people who are not deprived of community health care. The functions provided It can be a continuous and systematic service for the elderly living in the community, and it can also provide leisure, health preservation, recuperation, post-rehabilitation and other activities for a short period of time, mainly for the transition between family care and institutional care, and for the elderly in the community. Of the elderly are engaged in relatively professional health care, rehabilitation nursing and community care, with health promotion, preventive health care, chronic disease prevention and control, and day rehabilitation as the main service methods, and the medical treatment is provided with daily diagnosis and treatment and relatively professional chronic disease and rehabilitation care service. [2]

2.2. Service Design for the Elderly in the Mining Area

The elderly people in the mining area have different needs for the elderly. According to the social background and medical status of the Datong mining area, it is found that the elderly people in the Datong mining area suffer from occupational diseases and chronic diseases due to work that affect their quality of life. Therefore, in order to improve the mining area The well-being of the sick elderly and the convenience in the rehabilitation process are designed for service.

Currently, the only services that the community can provide are daily physical examinations and mental health services in community hospitals, and there is a lack of care for the needs of sick elderly people and the needs of special diseases. Use the method of service design to find the needs of the sick elderly in the mining area, starting from the most basic physiological needs, and gradually in-depth research after meeting the physiological needs of the sick elderly, connecting the community health and medical institutions, From the connotation level, the purpose of service design is to provide a design that meets the needs of the sick elderly in the mining area. It

emphasizes that user-centered design thinking and people-oriented concepts are compatible with each other, which has important guiding significance for the construction of community health. Integrate service design thinking into community health care, think from multiple perspectives such as sick elderly groups, family members, and communities, analyze the relationship between stakeholders, and adopt differentiated solutions for elderly groups with different diseases. [3]

The service design for the rehabilitation of sick elderly groups in the mining area can be elaborated from the following aspects:

a. Happiness

Sense of well-being is the most important aspect of improving the sick elderly. The use of service design starts with the needs of the elderly to facilitate the lives of the elderly. According to the needs and characteristics of the sick elderly, the Internet system can be used to achieve online prescription and drug delivery services. Convenient for the elderly.

b. Relieve the Pressure of Caregiver

At this stage, the children of the sick elderly population in the mining area are close together, so when taking care of the elderly, the children are under pressure from work and family. I am thinking about the health of the elderly at home while working. Through the service design, children can monitor the health of the elderly through the service system on the Internet, which can reduce the pressure of caring for the person.

c. Convenience of Health Care

Sick elderly people will have certain physical and mental inconveniences. Using the health care service system to give them psychological condolences and physical care can bring them a convenient old-age life.

3. Research on the Service Design System of Community Health Care

3.1. User Groups for Community Health

Different elderly groups will have different needs for community health and wellness according to their own conditions and social environment. The elderly can be divided into five categories, namely: the elderly with chronic diseases, the elderly with unhealthy health due to occupation, the elderly with physical disabilities, the elderly who need to stay in bed all the year round, and those suffering from sudden diseases. Elderly groups: The elderly groups with sudden diseases are divided into two categories, one is the elderly group with children, and the other is the elderly group without children. [4] For example, most elderly people with chronic diseases will be accompanied by diseases such as high blood pressure and diabetes. They need to take medications in a timely manner when they are old, and the elderly will also forget to take medications. Someone needs to remind them to take medications on a regular basis. Measure blood pressure, purchase medicine, etc.; and occupational diseases generally affect the cardiopulmonary function and joint diseases of the elderly. They need to restore psychological rehabilitation care, respiratory muscle function training, and guide patients with intermittent training, as well as elderly people suffering from rheumatism and joint diseases. Sports rehabilitation is needed

to restore joint function, etc.; the disabled elderly people need to use equipment for auxiliary rehabilitation; there are also elderly people who are bedridden all year round and have sudden illnesses who cannot take care of themselves and need long-term care when traveling. There is a certain inconvenience. According to the needs of the elderly with different diseases.

3.2. User Role Construction

Mr.Song	75years old/ retired worker	Ms.Zhou	58years old / Sick retired employee
	<p>Objective:Need a convenient way to buy medicines.</p> <p>Life situation:Datong mining Area resident,living together With his wife,They have a daughter, but only during the holidays can his daughter and son-in-law visit them. Taking medicine for a long time cannot go out to buy medicine due to inconvenience of movement.</p> <p>Physical condition:Work injury on the right leg,need to rely on medication for rehabilitation</p>		<p>Objective:Long-term bedridden, unable to take care of themselves</p> <p>Life situation: Resident of Datong mining area, living with her husband, living in the same community with son and daughter.Because of the paralysis of the waist caused by working underground, he needs to stay in bed for a long time and cannot move.</p> <p>Physical condition: long-term bed rest requires full-time escort</p>
Mr.Yu		68years old /retired worker	
		<p>Objective:Measure blood sugar and blood pressure on time to prevent secondary embolism.</p> <p>Life situation:An elderly person living alone, with a daughter who works in another place, will return to Datong to visit his old father on holidays. Take hypoglycemic drugs on time every day and take corresponding drugs for cardiovascular and cerebrovascular diseases. And adjust the dosage of the drug according to the blood sugar situation.</p> <p>Physical condition: Suffering from diabetes and cardiovascular and cerebrovascular diseases</p>	

3.3. Construction of the Stakeholder Map of the Sick Elderly Group in the Mining Area

Figure 1 shows the distribution of the various stakeholders at all levels when constructing the stakeholders of the sick elderly group.

The partner is the most direct subject of care for the elderly, and is the companion and spiritual support outside of care. The relationship between children and the elderly group is mainly reflected in family care and material support, and community volunteers themselves play a variety of roles in the community. For the sick elderly group, they play a certain accompany and help. effect. At this stage, every community health service center (community hospital) has a corresponding hospital to manage it. For the elderly, community hospitals with more serious occupational diseases and chronic symptoms cannot provide adequate medical support. [5]

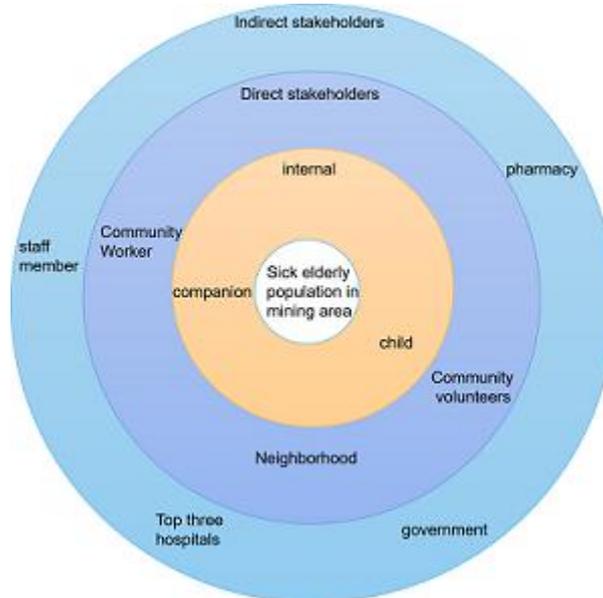


Figure 1. Stakeholders.

Table 1 summarizes the main stakeholder contacts. It can be found that the closest stakeholders are the wife and children. Although the elderly health care activities involve the community and other medical institutions, the family is still the main living area, and the distance between family members is much closer than other members of the community, so the family is still the core of interest.[6]

Table 1. Summary of stakeholder relationships.

Stakeholder	contact
Patient-wife	Care, spiritual companionship, first safety guarantee
Patient-child	Material support, spiritual comfort, remote supervision
Patient-neighborhood	Socialize, supervise, help
Patient-Community Volunteer	Help, comfort, socialize
Patient-Community Hospital	Supervision, guidance, basic inspection, physical therapy, drugs
Patients-Top 3 Hospitals	Guidance, in-depth examination, medication, physical therapy
Community Hospital-Third-A Hospital	Referral, supervision, medical support, training

According to Maslow’s needs theory, after meeting the minimum physiological needs of the elderly in the mining area, more attention should be paid to their high-level spiritual needs. Whether it is due to physical discomfort or loneliness at home alone, the sick elderly in the mining area face more serious psychological burdens and pressures, so they need others to give spiritual guidance and pressure to relax need to be accompanied and chatted frequently. [7] As they age, their ability to work gradually declines, their social circle keeps shrinking, and they are prone to feeling

are designed to solve the insecure factors encountered by the elderly in the process of rehabilitation exercises and the elderly also need correct rehabilitation exercise guidance. This aspect of services is also mainly realized by the community rehabilitation mutual aid platform to realize the interconnection of community groups, and form a good mutual aid service relationship within the community.

4. Conclusions

According to the basic needs of the sick elderly in the mining area, starting from solving the basic medical care for the elderly, the service design system is used to connect the medical institutions and the elderly to provide convenience for the sick elderly in their lives. Then use mobile phones to provide convenient services for the elderly to purchase and deliver medicines; and use the Internet to complete cloud-based health files to provide timely information about the elderly physical illnesses and diseases. While providing convenient rehabilitation for the elderly, it also solves the problem that the physical condition of the elderly can be understood for the first time when the children are not around. It solves the physical and mental health of the elderly in the mining area, improves the quality of life of their sick elderly groups, and reduces the burden of the elderly in the society.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

References

- [1] Wang, Y. What changes have been brought about by the recommendations of the “14th Five-Year Plan” for the elderly and the elderly. *Late sunny*, 2021, 4.
- [2] Shi, L. Research on the difficulties and countermeasures of the home-based model of combining medical care and elderly care for the elderly and its countermeasures. *Medicine and Society*, 2019, 32(2), 14-17.
- [3] Gou, M. Zhou, R. Research on Community Toilet Service Design Based on Park City. *Packaging Engineering*, 2020, 41(24), 193-201.
- [4] Cao, M.J.; Chen, L.Y. Survey on the demand for home care services for the elderly living alone in cities. *Nursing Research*, 2012, 26(16), 1469-1471.
- [5] Lin, H. Research on the Design of Chronic Disease Nursing Services for the Elderly in Community Home Care: Taking Guangzhou as an Example. Guangzhou: Guangdong University of Technology, 2017,
- [6] Wei, X.N.; Zhao, X.W.; Fan, Z.Y. Investigation and practice of the construction of the old-age service system in Changqing Oilfield. *Modern Property (mid-day issue)*, 2016, 9, 80-85.
- [7] Cai, S. Research on the Demands of Home Care Services for the Empty-nest Elderly in Rural Areas - Based on the Survey of Four Villages in S City, Jingzhou

City, Hubei Province. Chongqing:Chongqing Technology and Business University, 2015,

- [8] Long, Q. Research on the Countermeasures for the Elderly in the Urban Empty Nest Community Supporting the Elderly. Qingdao: Qingdao University International Business School, 2017, 1.



© 2021 by the author(s); licensee International Technology and Science Publications (ITS), this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (<http://creativecommons.org/licenses/by/4.0/>)