

# Research on Supporting Facility Configuration in Communities under the Mode of Home-based Care-Taking Hohhot City as an Example

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**Abstract.** Supporting facilities in communities cannot support home-based care of most aged people under the subject endowment mode of “taking home-based care as basis and community-based care as dependence”. At present, research on supporting facility configuration in communities for aged people is lacked in China due to lack of policies and norms. According to investigation, Hohhot was taken as an example in the thesis so as to divide living requirements of aged people into three categories. Supporting facilities in communities were divided into supporting facilities for health care, supporting facilities for daily service, and supporting facilities for cultural entertainment according to the three categories of requirements. Moreover, each category was divided in detail. Finally, configuration requirements for supporting facilities in communities under the mode of home-based care were proposed.

## Research background

China has entered aging society, but it is different from the condition of “rich first and aged later” in developed countries. Aging features of China is “aged first without being rich”. Absolute quantity of Chinese aged people is huge due to large population base. “2001-2030 is the rapid aging stage for China with annual increase of 5.96 million aged people and annual increase rate of 3.28%, which is far higher than 0.66% of increase speed for total population”[1]. “Aged population will be 248 million in 2020 with aged population proportion of 17.2%”[2]. In addition, proportion of urban aged “nest family” in China is nearly 50%, thus it is extremely urgent to explore nursing service for aged people so as to take care of them and to make them be happy in late years[3]. At present, Chinese government has determined an endowment policy of “taking home-based care as dependence and institution-based care as support”. “9073” or “9064” endowment pattern has been proposed in part of cities, which indicates that 90% of aged people can be cared through family care under the assistance of socialized service; 7% or 6% aged people can be cared through purchasing community care service; 3% aged people can be intensively cared through checking in nursing home. Therefore, most aged people will be cared in communities where they are living in the future. Living the later live in familiar environment is better than living in nursing home, and other institutions and facilities according to several years of endowment experience in developed countries. In terms of aged people, the ideal living way is to live a normal live in a normal street. Meanwhile, life service facilities required to aged people should be configured in their communities.

More than 90% Chinese aged people will be cared in their houses in the future based on national endowment policy and wills of aged people. Home-based care is supported by community endowment service, thus targeted adjustment and reconstruction should be made for relevant supporting facilities in communities with increase of aged people in addition to necessary internal house reconstruction. Main content researched in the thesis is to set system for supporting facilities in communities under the mode of home-based care (shown in Table 1).

Table 1, Division of Endowment Ways for Aged People

Endowment mode	Specific ways	Supporting system
Facility-based care	Check in professional nursing home	Public and private nursing home system
Home-based care	Reconstruction for inside of the house so as to make it suitable for aged people	<i>Supporting facilities in "field endowment" community</i>
Community-based care	Provide supporting facilities for community-based care	

Home-based care which accounts for more than 95% of aged population cannot be separated from mass community according to above-mentioned endowment modes. At present, current Standard for Urban Residential Areas Planning & Design (2002 Edition) is used as basis for planning and design of Chinese residential quarters which have been construction, are constructing, or are to be constructed. There are a few provisions in the Standard focusing on supporting facilities of aged people, while quantity of aged people in each residential quarter in the future will be increased. In case necessary configuration requirements for supporting facilities in community level are not proposed, it is hard for China to realize home-based care or community-based care for more than 90% aged people, which will definitely lead to a series of social problems. Therefore, both newly constructed quarter and current quarter should provide supporting facilities for increase of aged people so as to indicate living fairness. At present, the condition of extremely lack of supporting facilities for aged people in communities is required to be adjusted and reconstructed based on above-mentioned severe conditions.

### **Configuration principles for supporting facilities in communities under the mode of home-based care**

Configuration of supporting facilities in communities under the mode of home-based care is mainly based on contents in two aspects. Requirements of aged people are obtained according to international standard and investigation.

**International standard.** UN Principles for Aged People (No. 46/91 resolution) was passed on December 16, 1991 in the General Assembly. These principles are encouraged to be incorporated into national programs as many as possible by governments of all countries. The following principles are believed to be related to setting of supporting facilities in communities: 1. aged people should live at home for a long time as much as possible; 2. aged people should enjoy family and community care and protection according to cultural value system in each society; 3. aged people should enjoy health care services so as to help them to keep or restore to the optimal level of health, intelligence, and emotion and to prevent or delay occurrence of diseases; 4. aged people should enjoy educational, cultural, mental, and cultural entertainment resources in the society.

**Requirement investigation of aged people.** Tracking investigation was made from 2015 to 107 aged people from three categories of typical communities<sup>1</sup> in Hohhot City. It is indicated from one of sub-items-"requirement investigation of aged people" that aiming at supporting facilities for aged people, there are mainly problems in the following three aspects. Firstly, aged people have to see doctors in a distant hospital for serious diseases or slight illness due to shortage of health care service facilities. Simple nursing cannot be completed. Secondly, care service for aged people in daily life is lacked. Lots of things cannot be independently completed by aged people. Moreover, they have senses of fear to strangers. Lots of daily matters are required to be completed with the help of others. Thirdly, there is no barrier free design in outdoor environment in communities. Moreover, communication place is lacked, thus they cannot kill time. Therefore, requirements of aged people for supporting facilities in communities for home-based care are mainly focused on three aspects: whether they are convenient to see doctors; whether they can be provided with care in daily life; whether their vacant later life can be enriched.

Supporting facilities in communities under the mode of home-based care is divided into three categories based on above-mentioned principles and requirements, including supporting facilities for health care to ensure "convenient treatment" of aged people, supporting facilities for care service to ensure that "aged people are cared", supporting facilities for cultural entertainment to ensure that aged people "have something to do" (shown in Fig. 1).

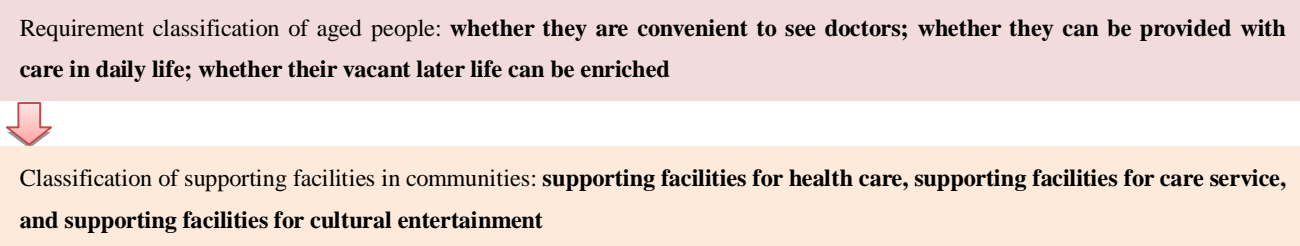


Fig. 1: Classification Principle of supporting facilities in communities

### Configuration of supporting facilities in communities under the mode of home-based care

**Supporting facilities for health care.** It is normal for aged people to see a doctor in daily life due to degeneration of physiological function for aged people, but it usually takes lots of life and time of aged people. Aged people usually cost lots energies to be treated in large hospital for some common diseases due to shortage of medical facilities in communities. It is believed that community hospital

<sup>1</sup> Typical communities in Hohhot are divided into traditional communities, communities of transformed organizations, and communities of commercial houses. 107 aged people from the three categories of communities are tracked and investigated.

or community healthcare center should satisfy the service range of 800-1000m. Health service point should be set within the range of 500m, which can provide medicine consultation, blood pressure measurement, and other routine inspection and consultation services with proper scale. Moreover, it should provide aid for common diseases and should provide some beds. Medical service substation can be set in combination with regional hospital so as to form a three-level network system of “regional hospital”, “community hospital”, and “health service point” so that aged people can be conveniently and fast treated according to their private requirements.

Supporting facilities for health care should be set at a place which is quiet and is easy to be arrived at. The kind of facilities should be accustomed to community features without large area. Complete services should be provided so as to be used by residents in communities. Moreover, welfare center for aged people, home care center, or daily care facilities should be set; home care service, daily care service, short-term nanny care service, emergency rescue service, and etc. should be provided so as to serve semi-valid aged people who are required to be cared and can walk in the daytime and for short term. Diurnal or short-term health care, diet and daily life, and other requirements of aged people should be satisfied so that aged people who do not need to be in hospital but are required for function training, nursing, and care can enjoy medical rehabilitation consultation at home. Small-size welfare facilities can be set for people in advanced ages in communities so as to avoid disadvantages in traditional welfare home and being alienated from families, which facilitates aged people to live at ease, to accept family care, and to make extensive communication with residents in familiar environment. In case medical station, welfare facilities, and etc. in communities are connected as a system, it contributes to forming welfare type of urban layout and pushing medical treatment at home and nursing at home.

**Supporting facilities for daily service.** Baby bust and empty nest have become a kind of social phenomenon in most Chinese cities. In terms of 107 aged people who are tracked and investigated, empty nest accounts for 45.8% of the total No. of people. With development of society, living concept of Chinese people is changed. More and more aged families want to keep some distance with their children, thus they choose to live in the same quarter or in the same traffic line for mutual interaction. According to investigation of living wills for 107 aged people, 88.8% aged people do not want to live with their children, but they do not want to live far away from their children. Meanwhile, they expect assistance for daily life can be provided in communities, which requires supporting facilities for daily life in communities so as to provide relevant guarantee.

Lots of things of aged people in actual life are required to be assisted or cared by someone. With growth of age, self-care capacities of aged people are gradually declined, thus the following relevant services are required to be provided in communities. Institutions which are similar to “service center for aged people” should be set so as to satisfy requirements of aged people for daily life. Moreover, services should be complete, such as household service, safety patrol, friendly visit, safe early-warning system, travel service, utilities agency services, purchase agency service, nursing home, short-term stay service, leading of auxiliary equipment for aged people, and etc. Household service includes room cleaning, cloth washing and meal preparation, home appliance maintenance and carrying, life consultation, and etc. Safety patrol service refers to enquire conditions about aged people living alone on schedule so as to avoid accident. Friendly visit refers to regular care living dynamics of aged people. Travel service refers to visiting friends and seeing doctors with aged people, providing line consultation, organizing travel activities of aged people in communities, and etc. The kind of facilities should be next to medical station for health care. The two kinds of ways of providing service through welfare facilities and home service of nurse are not two mutually

contradictory concepts but should be mutually improved and mutually supplemented. They should be comprehensively considered as community plan at the time of design rather than just implement a certain plan.

**Supporting facilities for cultural entertainment.** Aged people are afraid of being lonely. Most healthy people and semi-valid aged people do not want to be isolated from the society. They need to participate in lots of activities so as to get rid of lonely aged life, thus new requirements for how to create a place where is suitable for communication and entertainment of aged people in communities under the mode of home-based care are proposed.

At present, most places in communities which provide communication center on the central Greenland and walkway, but the aging problem is rarely considered. However, environmental facilities in communities are frequently used by children and aged people, thus requirements of this group should be considered more. In addition to central green-land, and other facilities provided in normal communities, aiming at interests and hobbies of aged people, multi-layered contact space should be provided so as to stimulate occurrence of potential contact. Encounter chance of aged people can be increased through design of walkway. Facilities should be diversified; diversified space should be created. In terms of space design, a place where is suitable for overlook should be provided for aged people. Sense organs and memories of aged people can be stimulated and survivability of people in advanced age and disabled people in combination with natural garden design and path to walk. Aged people should feel plant growth and season change as much as possible through various facilities so as to strengthen their smells, tastes, and touches. Handrail should be set on footpath so as to encourage disabled aged people to use it. A proper place should be provided in communities so that aged people can plant flowers and plants. At present, there are lots of passive spaces within communities not being properly used. Passive spaces can be changed to positive spaces through simple design, such as increase of simple greening, adding of seat, and footpath increase.

As aged people are afraid of danger, a safe environment is expected to be provided in communities, thus marketability and safety of facilities, transparent line design, and safe floor decoration are very important. Design should start from physical and mental features of aged people so as to make careful design, to avoid collision and falling down of aged people, to increase facilities which can be leaned on, and to increase seats.

## Conclusion

Based on above-mentioned researches, several suggestions are proposed for construction of supporting facilities in Hohhot City under the model of home-based care. (1) Relevant facilities should be configured according to aged population based on predication of aged population in Hohhot City. Reasonable service radius is proposed; relevant standards for facilities are formulated; network system for supporting facilities in home-based care community is established. (2) Communities should be rooted in; features of communities should be adapted; community requirements for service facilities should be satisfied so as to avoid disadvantages caused by “sweeping approach” and to improve positivity of aged people in communities to participate in service facilities. (3) Miniaturization of supporting facilities. Extravagant and waste supporting facilities should be avoided but should be subject to miniaturization with large quantity and complete coverage. Small-sized supporting facilities are next to residence place of aged people so as to form fixed users who can be quickly integrate and adapted. Moreover, nurse or nursing personnel are easy to establish good relationships with aged people so as to know conditions of

aged people. In addition, small-sized service facilities have strong adaptability, which is easy to be adjusted according to various behaviors and activities of aged people. (4) Sustainable development should be completed in community planning; human growth law should be respected; community should be planned for human life; in addition, proper reconstruction should be conducted with development change of social structure.

Aged people should be considered at the time of providing supporting facilities in communities in aging society. Aged people should be provided with comfortable and considerate supporting facilities which are easy to be used to the maximum. Regardless of age, gender, race or ethnic background, disability or other conditions, aged people across China should be fairly treated. Endowment cannot completely depend on children under the gradually serious 4-2-1 family structure. Government should provide relevant welfare so as to be counted on by aged people, thus policy making is the reliable basis for realization of home-based care.

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