An Analysis on the Factors Affecting Supply Efficiency of Facilities for the Aged in Small Towns in China

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Abstract

Under the background of an aging society, the pension problem in small towns becomes increasingly prominent. The wide gap, great imbalance and poor match between supply and demand lead to inefficient supply. Factors in supply efficiency include accessibility, rigid demand, functional hierarchy, service quality and environment. An analysis of these factors exerts a positive significance on space planning, structural setting and architectural design.

Keywords: Small Towns, Facilities for the Aged, Supply and Demand, Supply and Demand Efficiency, Affecting Efficiency.

1. INTRODUCTION

The United Nations stipulates that, when people aged at 60 take up 10% of the total population or aged at 65 take up 7% of the total population, this population is considered as an aging city or an aging society. The Ministry of Civil Affairs and scholars in China have regarded the age of 60 as a standard of the elderly. The older people in China take up 15.5% of its total population, which means that pension will become the main problem in China’s future development. From the perspective of the construction of facilities for the aged, at present, the number of beds in China is 2.72 beds per hundred persons, slightly higher than the world average of 1.5, but far less than that of the developed countries with a figure between 4.0 and 7.0. The facilities supply for the elderly is far below the national demand.

In China, the elderly living in small towns in China take up 70.6% of all the elderly, and the aging level of the rural population is obviously higher than that of the urban population. Under the background of rapid urbanization, a number of youngsters from rural areas living in and working in cities have demonstrated remarked urban crowding effects. The aging problem in rural areas is featured with a large proportion, aging and empty nest.

As far as the increasingly prominent aging problem is concerned, the major subjects in rural construction will be increasing demands and changes in the elderly facilities of the overall society and the setting and the perfection of the facilities for the aged.

2. CONCEPT OF SMALL TOWNS

Small towns are located between urban and rural residential areas, which is a transitional settlement with holds the characteristics of both a city and a town, and links cities and towns.

The concept of small towns is still ambiguous in China. In general, there are four points of views: 1) it refers to cities in a small scale; 2) it refers to small cities, designated towns or market towns; 3) it refers to designated towns; 4) it refers to designated towns or market towns. On the basis of the urban scale, this study defines small towns as designated towns, namely towns with local governments and centers of public service facilities.

3. CONCEPT AND CLASSIFICATION OF FACILITIES FOR THE AGED
The facilities for the aged can be classified in accord with pension pattern, service objects and business nature. The facilities for the aged can be divided into institutional facilities and community endowment facilities under the classification of pattern of pension. Institutional elderly facilities are classified as apartment for the elderly, community for the elderly, retirement home and nursing home based on their self-care ability. Community elderly facilities include day care centers and home pension service center (table 1).

The facilities for the aged, in view of the number of the beds, can be divided into four types as: small, medium, large and oversize.

### Table 1 Classification of Facilities for The Aged

<table>
<thead>
<tr>
<th>Main classification</th>
<th>Categories</th>
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<tbody>
<tr>
<td>Institutional facilities</td>
<td>Old age department</td>
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<tr>
<td></td>
<td>Old age community</td>
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<tr>
<td></td>
<td>Retirement home</td>
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<td></td>
<td>Nursing home</td>
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<tr>
<td>Community endowment facilities</td>
<td>Day care center</td>
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<tr>
<td></td>
<td>Home pension service center</td>
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The supply does not meet the demand.
4.3 Shortage of Nursing Institutes and Nursing Staff

According to the self-care ability, the elderly can be classified as self-helping aged people, device-helping aged people and under nursing aged people. Nursing institutes mainly aim at the senior citizens and aged people in need of nurses. At present, facilities for the aged in small towns do not have a clear classification of these three types of aged people and receive all of them. Nursing institutes are in large demand yet in short supply. Nursing institutes need to be equipped with professional and experienced nurses. According to the research, the ideal ratio of the nursing staff and the elderly people is 1:5. However, in China, this ratio in small towns is much lower than 1:5. In addition to that, due to the liquidity in its personnel, caregivers often lack professional skills, training and nursing experience, and the ability to meet the needs of the elderly.

4.4 Misallocation and Idleness of Resources

Because of the lagging development and the small number of pension institutes of favorable conditions in small towns, people who tend to stay at home for pension in small towns outweigh those in cities. In small towns, few people can accept to spend their remaining life in pension institutes, so the main patterns of pension in small towns are self-care and home-care. The three factors presented above result in low occupancy rate and a high bed vacancy rate in small towns. The pension institutes that locate in remote area with poor conditions have a much higher bed vacancy rate.

In addition, there is a growing demand for the nursing institutes, which cannot be met by the existing old-age facilities. As a result, misallocation and idleness in nursing institutes occur at the same time.

4.5 Unreasonable Distribution in the Elderly Facilities Space

At present, most elderly facilities are set up around the local government. Few elderly institutes meet the requirement of 500-meter service radius.

In addition, limited types and single form of the facilities for the aged have led to a uneven distribution in space and have not met the need of different types of elderly people. In Beijing, for example, the government has set the standard as 4 beds per hundred people in the Special Planning for the Facilities for the aged Persons in Beijing. But only 14 towns meet the requirements and mainly concentrate in the northwest. Other areas fail to meet the object and 48% of the towns have only provided 2 beds per hundred people. This problem is more severe nationwide.

5. FACTORS AFFECTING THE SUPPLY EFFICIENCY OF ELDERLY FACILITIES IN SMALL TOWNS IN CHINA

5.1 Accessibility

Accessibility of facilities can be divided into spatial accessibility and non-spatial accessibility. Spatial accessibility pays attention to the distance barrier of the supply points or transportation medium surpassing this barrier. The non-spatial accessibility focuses on the influence of the non-geographical factors, such as economic accessibility, information accessibility, etc.

The accessibility of the facilities for the aged mainly analyzes spatial accessibility, namely the analysis on their locations, service radius and traffic conditions. Public center is a reasonable place in small towns. For small towns with a small area, its service radius is 500 meters with convenient transportation. For small towns with a large area, the facilities for the aged can also be set next to residential areas for the sake of visits of families and neighbors.

Code for planning of city and town facilities for the aged (GB50437-2007) stipulates that convenient transportation should be provided and the distance in between should be less than one hour for the children visiting the elderly. Those that do not meet the requirements will confront with a low occupancy rate and lead to an imbalance in supply and demand.
5.2 Rigid Demand

With the rapid increase of an aging population and the 4-2-1 family as well as the improving elderly institutes, pension institutes and pension services will become the rigid demand of the aged. At present, nursing homes have become an inevitable choice for the elderly persons in need of equipments and nurses.

As the rigid demand expands, the quantity and the quality will rise sharply with varied types and hierarchies. The number and the scale of the facilities for the aged should match the rigid demand in order to maintain the maximum supply efficiency.

Code for planning of city and town facilities for the aged(GB50437-2007) stipulates the beds provided by the institutions as “retirement home apartment for the aged and home for the aged should provide 1.5 to 3.0 beds per hundred people”. However, based on the statistics and the anticipation of these three kinds of the elder people and the detailed social study, reasonable beds setting in each facility can use the best of it.

5.3 Hierarchy of Functions

In general, there are mainly four demands in the elderly, namely, material demand, medical demand, daily care demand and mental demand. The last three are the main part. In addition, the demands of the elderly vary. Thus, the facilities for the aged should meet diversified needs and have a clear functional localization and a service object and a scale. Facilities for the aged with a rich hierarchy will greatly improve the supply efficiency and achieve an optimal allocation of resources.

Types and location should reach the most optimal setting after detailed research on the elderly people in small towns. It should focus on the services provided, the surrounding environment and the medical care so as to ensure the maximum use of the facilities for the aged.

5.4 Quality of Service

Nowadays, most service personnel in small towns are equipped with poor professional experience and services, resulting in that the elderly can only access basic daily care in these facilities. In the event of an emergency, deficiency in service personnel will result in aid delay, wrong treatment for the elderly, and losing the best time for aid. In addition to providing daily care, pension services should pay attention to the psychological needs of the aged. Lacking of mentally professional service staff is another important reason for the low occupancy rate. Improvements in the service quality will increase the acceptance and the occupancy rate and avoids bed vacancy.

5.5 Pension Environment

Environment is the main factor affecting living comfortability. A favorable living environment is not only livable but also psychologically cozy. Whether the external environment, the internal living environment or the internal public environment is in line with the psychological and physiological characteristics of the elderly does not affect their choice of pension institutions.

The environment of pension institutions should adopt a reasonable layout, a color and facilities in accordance with the characteristics of the elderly so as to satisfy their mental needs.

In addition to the above factors, a variety of factors, such as economic and social culture, will not be discussed in this essay. This study, from the perspective of the allocation of resources, explores the affecting factors of facilities for the aged in order to provide a theoretical reference and reasons for space planning, structure setting and architectural design of the facilities for the aged.

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