On the Main Factors of Structural Imbalance between Supply and Demand in Institutional Service for the Elderly of Shanghai

Ao LIU
School of Management
Shanghai University of Engineering Science
Shanghai, China.

You-chun TANG
Professor
School of Multimedia Design of China and South Korea
Shanghai University of Engineering Science
Shanghai, China.

Abstract

There is serious structural imbalance between supply and demand in institutional service for the elderly of Shanghai. This paper studies on factors that affect the contradictory, then gives reference for releasing the contradictory. Data are from Electronic Map for Convenient Lives in Shanghai. It analyzes 112 institutions elderly for the elderly in 8 typical countries. By using of Logistic Regression Analysis, we find out that the attributes of institutions, location, institutional-grades, feature, whether they providing the service for the disabled elderly are the main factors that affect the occupancy rates of the institutions. Eventually, it gives some suggestions about the construction of institutions for the aged and the government responsibility.

Key words Institutions for the aged; structural imbalance between supply and demand; factor

1. Introduction

China's Twelfth Five Year Plan for Aging Development indicates that during the Twelfth Five Year Plan, the ideal of the social care service system of the elderly is "on base of home care，relying on community service，being supported by institutions."Every 1000 of elderly will have 30 institutional beds. Shanghai is one of the cities that facing serious aging, "9073" pattern for aging has been formed. Under the guidance of "socialization of social welfare" policy, the Government is introducing social capital investment to build institutions for aging actively. The number of institutions is increasing. By the end of 2012, Shanghai has 631 institutions which including 105,215 beds. Every 1000 of elderly have 29 beds. Still, in developed countries and other developing countries every 1000 of elderly have 50-70 or 30-50 beds. There is a big gap between Shanghai and other countries [3]. With the aging intensifying, disabled elderly and empty nesters will increase; there will be more older people choose to live in institutions. Therefore, the total supply of institutional beds in Shanghai is extremely short. But the contradiction of structural supply and demand is breaking out day by day .It means that the existing institutional beds have not been taking full use of. On the one hand, many institutions have high rates of empty beds. On the other hand, some institutions are short of beds. Scholars have studied the structural contradiction of supply and demand in different cities.

As to the elderly, both of Liu Hong and Pan Jin-hong find that the low disposable incomes of the elderly and old concepts of family supports are the main reasons of the contradiction. Jiang Xiang-qun also finds that the limited disposable incomes have restricts on the demands for institution to a large extent.

As to the preference of the elderly for endowment institutions, DAI Wei finds that when the elderly select the endowment institutions, they would like to select the facilities that are near to their children. Gao Xiao-lu finds out that when the elderly select the institutions they will consider on the the prices of the institutions. But when this factor is controlled, the elderly are prefer to public and ordinary institutions.

As to the institutions for the elderly, Guan Xin-ping, Liu Hong and Pan Jin-hong find that the underlying causes of structural imbalance between supply and demand in institutional service for the elderly are the inadequate capability and quality for service. Thus, the institutions fall into a vicious circle of low price - low quality - low occupancy rates. However, whether providing disability services would affect the occupy rates or not have not been involved in existing research.

2. Materials and Methods

The amount of institutions is insufficient, but the low rates of utilization make the problem worse. How to improve the occupy rates of institutions is the most urgent problem that we should consider on[4]. In this paper, the data comes from Electronic Map for Convenient Lives in Shanghai. By using of Logistic Regression Analysis, it analyzes the main factors of structural imbalance between supply and demand in institutional service for the elderly of Shanghai, in combining with the government policy reports and other information.

The sample selects 8 typical counties that includes 112 elderly institutions. Jing'an, Huang'pu, Xu'hui, hong'kou are on behalf of the urban area. Min'hang, Qing'pu, Jia'ding, Song'jiang are on behalf of the suburbs area. The sample includes 55 public institutions and 57 private institutions. Accounted for 49 % and 51 % of the total sample respectively. By the end of 2012, there are 301 public institutions and 330 private institutions in Shanghai. The percentages of publics are 48%, and the privates are 52%[2]. Therefore, the samples have the better representation.

The high and low occupancy rates of the institutions are the dependent variables. Because there is no uniform standards to distinguish the high and low. Hill - Burton Plan are responsible for the long-term development of the hospital. They use of the 85% of bed occupancy rate to determine whether to increase additional hospital beds. For data processing needs, this paper also select 85% as the standard to distinguish the low to high, Independent variables include the attributes of institutions, locations, with internal medical institution or not, there are hospitals or not within 1000 meters, institutional grade, feature, whether provides disability services, charge grades. As there is no uniform fees that are announced, we assume that:

The Total Charges = Charges for Bed + Charges for Meals + Charges for General Service + Charges for Average Nursing.

For the nursing charges, they are divided into three levels. We select the average as the average nursing charges. The values and the distributions of these variables are shown in table 1.

Table 1. The values and the distributions of variables

Classification	Variables	Values	Numbers	Ratio
Occupancy rates	low	1	59	53%
	high	2	53	47%
Location	urban	1	52	46%
	suburb	2	60	54%
Attributes	private	1	57	51%
	Public build by town	2	44	39%
	Public build by countries	3	11	10%
Internal medical institution	yes	1	14	12%
	no	0	98	88%
Hospitals within 1000 meters	yes	1	61	54%
	no	0	51	46%
Institutional grades	ordinary	1	97	87%
	top	2	15	13%
Feature	yes	1	54	48%
	no	0	58	52%
Disability services	yes	1	60	54%
	no	0	52	46%
Charge-grade	1000-1999	1	69	61%
	2000-2999	2	40	36%
	More than 3,000	3	3	3%

Table 2.The distribution of occupancy rates of the institutions and Chi-square tests

Classification	Variables	Low (n=59)	High(n=53)	Chi-Square	Sig.
Location	urban	21 （27.4）	31	5.885	0.015
	suburb	38	22		
Attributes	private	38	19	13.779	0.001
	Public build by town	20	24		
	Public build by countries	1	10		
Internal medical institution	yes	54	44	1.847	0.174
	no	5	9		
Hospitals within 1000 meters	yes	32	19	3.806	0.051
	no	27	34		
Institutional grade	ordinary	48	49	2.964	0.085
Feature	top	11	4		
	yes	41	17	15.655	0.000
Disability services	no	18	36		
Charge-grade	yes	39	13	19.401	0.000
	no	20	40		
	1000-1999	34	35	3.745	0.442
	2000-2999	22	18		
	More than 3,000	3	0		

Table 2 shows that Locations, Attributes, Hospitals within 1000 meters, Institutional level, Feature, Disability services have correlation （sig<=0.1） with occupancy rates, and the statistical data is significant. In Logistic Regression Analysis, we select the occupancy rates as the dependent variables, the data that have relevance with occupancy rates （sig<=0.1） as the independent variables, and the significance level α =0.05. The results are shown in table 3. We find that there are hospitals within 1000 meters or not are no longer significant.

Table 3.The factors that affecting the occupancy rates of the institutions

Classification	Factors	B	Wald	Sig.
Attributes	Private	2.756	5.177	0.023
Location	Urban	-1.359	5.403	0.020
Institutional grade	ordinary	-1.900	5.417	0.020
Feature	No	1.880	9.811	0.002
Disability services	No	1.275	5.591	0.018

3. Statistical Analyses

We can draw from the samples data that the average occupancy rates of the institutions in Shanghai is 71%. Only 53% of institutions are higher than 85%. So most of institutions are not taken full use of. However, that not means the supply is excessive. There are some institutions are deadly short of beds now. From the samples data, we can see that 14% of samples are short of beds. So there is great potential demand for elderly in Shanghai. Through lake of beds, structural imbalance between supply and demand in institutional service for the elderly is still severe.

In table 3, it can be concluded that private, suburb, high-grade, lake of feature, have no disability services are the main factors that make the occupancy rates low. But the variables that there are hospitals or not within 1000 meters and whether equipped with internal medical institution or not, have no significant influence on occupancy rates. The reason may be that the vast majority of internal medical institution have not been networked with social medical insurance. When the elderly seek medical service in internal medical institution, they have no access to medical insurance compensation. So they are reluctant to seek medical service inside. Of course, they do not care of whether there are equipped with internal medical institution. The charge-grade is not the main factor that affecting occupancy rates.

The reason may be that the economy in Shanghai is developed, the old people's income level is relatively high, and they also can obtain corresponding subsidies from government. When the elderly choose institutions at the beginning, they would consider the fees, but after considering other factors, the charge-grade is less important for the elderly.

From the perspective of attributes, the occupancy rates of the public institutions are higher than the privates. The privates' average occupancy rate is 65%, the average occupancy rate of the public institutions build by towns is 73%, the average occupancy rate of the public institutions build by countries is 95%. The public institutions can get preferential about land and tax. Also, the subsidies for beds are higher than the private institutions. The public institutions are well-funded, equipped with good facilities, but the charge is low, so the elderly need to queue to live in. And the publics have the governments' credit to guarantee, the elderly are more likely to choose public institutions. Although the government introduced some preferential policies for private institutions, but it is hard to perform [4].The private institutions are self-financing. So the running cost is high. Often, they take the strategy of low price-low quality [5],the low quality service results in poor public praise. the public institutions are overcrowded, while the private institutions have empty beds.

From the perspective of locations, the occupancy rates of the urban institutions are higher than the privates. The urban aging degree is higher than the suburb, but the institutions in suburb are more than in urban. When the elderly select endowment institutions, they would like to select the facilities that are near to their children or their original communities. The living facilities may be not convenient, while living in the institutions in suburbs. Therefore the elderly tend to choose institutions in urban, even if the suburbs endowment institutions have free bed, they would not like to live in suburbs.

Institutions-grade has significant effect on the occupancy rates of endowment institutions. The occupancy rates of high-grade endowment institutions are low. Older people tend to choose the ordinary institutions. This is consistent with the existing research about preferences. The elderly choose ordinary institutions are not necessarily caused by lacking of ability to pay of the service. Reason may be the information asymmetry. When lack of information about the quality of institutions, the elderly prefer to choose the ordinary institutions [7], and give up choosing high-grade endowment institutions.

Whether service have feature or not also affects the occupancy rates of endowment institutions. The elderly not only have common demand of service, but also special demand of service. Old people expect to enjoy professional, caring services in the endowment institutions. Those institutions that have all the same service, are less attractive for the elderly, the occupancy rates alsowould be lower.

From the perspective of whether providing services for disabled elderly, the institutions that admit to disabled elderly have higher bed occupancy rate than not admit to disabled elderly. The average e occupancy rates of the institutions that admit to disabled elderly is 85%, the other is just 58%. At present, the elderly who are disabled and part of disabled account for about 6.7% of all the elderly population in Shanghai [8]. With the aging intensifying, the disabled elderly will continue to increase. But it is precisely this part of the people are most in need of service in institutions. Due to the disabled elderly need more professional care, and the nursing workload is also big, the institutions are often reluctant to accept the vulnerable group. And in the process of collecting information, we find that most of the endowment institutions marked that the elderly with intelligent deficits are not admitted to. That leads to the elderly with dementia very difficult to live in endowment institutions. A few institutions that admit disable elderly are hard to get a free bed.

4. Discussion

Shanghai is one of the cities with the most severe population aging in our country, the future demand for endowment institutions beds will increases in the future. The structural imbalance between supply and demand of endowment institutions has not been solved. Expanding the construction of endowment institutions without plans and goals, the structural contradiction will be more serious. Through above analysis, we can see that the main factors that influence the structural contradictions can be divided into two angles: institutions and governments.

3.1. The problems of institutions and the suggestions

Private institutions should promote the quality of service to reassure the public suspicion of them and win the public reputation actively, and then they gradually turn into the virtuous cycle of high quality-high occupancy rates. Private institutions must not get stuck in a vicious cycle of low price-low quality-low occupancy rates. The construction of institutions for the elderly should never be the same and should not be too costly. The institutions for the elderly should make the investigations about the preference of the elderly and discover the real needs of old people.The construction of institutions should be centered on the elderly. They should provide service that are multi-level, distinctive and conform to the old people's physical and mental needs. The construction of high-grade endowment institutions should not be excessive. On the basis of meeting some old man, social investments should pay attention to the construction of ordinary endowment institutions.

3.2. The responsibilities of government and the suggestions.

According to the new public management theory of Peters, the difference between private management and public administration is an illusion [9].As long as they provide the necessary public services, whatever the nature of the endowment institutions are, the government should treat them fairly. The government should be pay more attention to the concept of new public service. The publics and the privates should obtain fair treatment on some preferential policies. For the private institutions' fiscal subsidies, the government should distinguish between for-profit and nonprofit. Government just needs to give preferential policies for for-profit endowment institutions. For the non-profit private institutions, government should give them the fair policy as the public institutions.

The government should make overall planning to the construction of institutions for the elderly. (1) For the mismanagement of the endowment institutions, government should limit them to increase beds blindly and avoid waste. (2) The institutions should guarantee a certain percentage of the beds to receive disabled elderly. The facilities that receiving disable elderly should obtain more subsidies. Due to the elderly with dementia may disturb the other olds in institutions; the government should guide to establish specialized institutions for the elderly with dementia as soon as possible.

Encouraging institutions build in community. These institutions are oriented to the elderly in community, and they meet the demand of the elderly that choosing the endowment institutions nearby. Also living in the community, the facilities will be more convenient. The government should give more supports on the construction of these endowment institutions.

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