

# Investigation on Satisfaction among Elderly Residents of Senior Homes in China from a Social Marketing Perspective

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## Abstract

**Background:** An aging society is a challenge for China with over 200 million adults aged over 60. In response to the growing aging population, senior homes become inevitable care model for frail older adults in China. However, current senior homes seldom consider elderly special needs in their design, construction and operation stages which induce the low level of satisfaction. Hence, this paper introduces social marketing concept into the senior homes for improving elderly satisfaction. By adopting social marketing, operators of senior homes provide product (including built environment, healthcare services, social activities and so on) and set price in order to achieve positive behavior of the elders (i.e., satisfaction). **Methods:** To achieve this, questionnaire survey was conducted with 248 elderly respondents living in senior homes over than 6 months. Several statistical methods including descriptive analysis, correlation analysis and multiple regression modeling were used to analyze quantitative data. **Results:** The results identified nine social marketing variables including charge rate, built environment, daily caring services, catering services, medical treatment, cleanliness, recreation activities, library and seminar. Current findings indicated that (1) most senior homes in China pay attention to improve living environment and healthcare services, but might ignore the importance of charge rate and social activities; (2) all social marketing variables were significantly positively related to elderly satisfaction on senior homes; and (3) charge rate, built environment, daily caring services, catering services, medical services and cleanliness exert positive impact on overall satisfaction of elderly residents. **Conclusion:** Social marketing as a growing applied approach in healthcare industry is innovatively introduced to senior homes in China. By adopting social marketing, Chinese senior homes should investigate elders' special needs and requirements and provide appropriate living environment and caring services.

**Keywords:** China; Elders; Satisfaction; Senior Homes; Social Marketing

## INTRODUCTION

The aging population in China is rapidly growing with over 200 million adults aged over 60. The number has been predicted to achieve 243.85 million by 2020, representing 17% of the Chinese population<sup>1</sup>. Moreover, the family structure in China becomes small due to the one-child family policy. Such small family structure results in the increasing number of empty-nest elders which need special cares (Song et al., 2014). Hence, the growing aging population and changes of family structures are definitely attributed to soaring demands of senior homes. In China, financial investment on the development of elderly services has been increased by 9.8% in 2014<sup>2</sup>. The Chinese government also encourages the use of private investment to develop the senior homes in the community<sup>3</sup>. However, neither quantity nor quality of current senior homes caters for the challenges of aging society in China. It is urgent to understand the elderly special needs and factors influencing their satisfaction of senior homes.

Social marketing is an effective behavioral change tool and growing phenomena using in health-related industry<sup>4</sup>. Social marketing applies the commercial marketing approach and communicate information to targeting participants and influence their behaviors including acceptance of positive behavior and rejection of negative behavior<sup>5</sup>. In order to increase the satisfaction of elderly residents, social marketing is proposed to be adopted for studying the operation approaches of senior homes in China. By adopting social marketing, operators of senior homes provide *product* (including built environment, healthcare services, social activities and so on) and set *price* in order to achieve positive behavior of the elders (i.e., satisfaction) (Yu et al., 2015). In response to the aging challenges in China, this paper thus investigates the application of social marketing into senior homes and studies the impact of social marketing on overall satisfaction of elderly residents and finally gives practical suggestions on the senior homes' operation.

## SOCIAL MARKETING

Social marketing has been utilized effectively in public health areas, especially for older adult populations<sup>6</sup>. Social marketing concept encourages the organization to identify the needs, wants and interests of the target users, delivers desired satisfactions for the users and finally enhances the society's well-being<sup>7</sup>. According to Kotler and Zaltman<sup>5</sup>, social marketing approach is a systematic process for design, implementation and control of organizations to promote and generalize social products and ideas. The sequence of social marketing is followed as analysis of environment, identification of target users, objectives setting, analysis of competitors, four P's marketing strategy (i.e., product, price, place and promotion) and monitor of the whole process<sup>8</sup>. It emphasizes on the life cycle of the social organizations from the planning stage to the operation and maintenance stage. Hence, social marketing can be applied into the design, construction, operation and management of senior homes not only for attracting potential residents but also for improving the satisfaction and quality of life of the elders.

In China, most of elders prefer to stay at their own house instead of senior homes. Only less than 10% of old adults were reported to have willingness to move into senior homes<sup>9</sup>. Social marketing is expected to change the traditional elderly caring needs and increase the commitment of institutional caring services by improving the design and operation of senior homes from the elders' perspective. By adopting social marketing, senior homes need to consider the elders' special needs and provide appropriate product (i.e., built environment and healthcare services). Apart from living environment and caring services, the price of senior homes is found to be one of major factors influencing the elders' expectations and satisfaction<sup>10</sup>.

The product provided by senior homes consists of both hard environment and soft services. Due to the decline of physical and psychological function, the elders heavily depend on the living environment and facilities to support their daily life<sup>11</sup>. The design of senior homes and the application of building materials need to provide a convenient and safe living environment in consideration of elders' special requirement<sup>12, 13</sup>. In China, senior homes should thus follow the design standards for an elderly-friendly environment<sup>14</sup>. Apart from built environment of senior homes, healthcare services including catering, healthcare, cleanliness and medical services as well as social activities are also regulated by Ministry of Civil Affairs of China. Senior homes are required to recruit qualified nursing workers, medical staff and cooks with respect to the elderly residents' needs<sup>15</sup>. According to the regulations in China, social activities are also suggested to be regularly organized to maintain social relationships among the elderly residents and improve their psychological health<sup>15</sup>.

Previous research indicated that charge rate of senior homes influenced the expectation of older adults and affected their satisfaction<sup>16</sup>. The elders often choose the senior homes with moderate price and high quality of services. In China, market mechanisms have been introduced into the elderly care industry<sup>17</sup>. Senior homes set service prices in consideration of market competitiveness. A positive association was reported between the charged price and the quality of services in senior homes<sup>18</sup>. Moreover, price is also considered as one of major social marketing factors influencing the behavior changes of the target users<sup>19</sup>. Hence, the charge rate together with the built environment and healthcare services of senior homes are assumed to have positive impact on the elderly positive behavior, i.e., satisfaction.

## MATERIALS AND METHODS

A questionnaire survey was designed in order to investigate the application of social marketing into senior homes. The data collected from questionnaire were also used to study the impact of social marketing variables on the overall satisfaction of senior adults. The questionnaire included three main sections: (1) background information of the elderly residents; (2) the agreement of the elderly residents on social marketing variables of senior homes; (3) the overall satisfaction level of the senior homes. In consideration of their decreasing cognitive capacity, the elderly respondents only assess nine items for social marketing variables of elderly homes, including charge rate (SM1), built environment (SM2), daily care services (SM3), catering services (SM4), medical treatment (SM5), cleanliness (SM6), recreation activities (SM7), library (SM8) and seminar (SM9). A 5-point Likert-type scale ranging from 1 (very disagree) to 5 (very agree) was recruited to measure ten social marketing items. The elderly respondents were invited to rate their overall satisfaction level in the range of 1 to 10 points.

The questionnaire survey was administered to elderly residents at fifteen senior homes in China. Due to the former's limited abilities in reading and writing, a trained interviewer carried out a face-to-face semi-structural interview with each respondent, in private, so as to avoid any misunderstandings. All elderly persons were introduced to the researcher by the staff of senior homes, in order to make sure that none had communication problems with the researcher. A total of 248 respondents participated. There were 147 female respondents and 101 male respondents, accounting for 59.3% and 40.7% respectively. 11.7%, 33.5%, 47.6% and 7.3% of respondents were aged 60-70, 71-80, 81-90 and over 90, respectively. Among elderly respondents, over 60% of them lived in elderly homes over one year. The respondents would therefore be expected to have a good understanding of the elderly homes. Over 83% of respondents reported a relatively low income with less

than RMB 3,000 per month (i.e., \$483). The major financial sources for senior respondents were pension and family support with the percentage of 44.7 and 38.1, respectively. Elderly respondents chose the senior home in consideration of good living environment (34.0%) and good quality of services (29.6%).

In order to investigate the complicated relationships among social marketing variables of senior homes and overall satisfaction of senior adults, descriptive analysis, correlation and regression analysis were computed using the software SPSS version 20.0. The agreement of social marketing application in senior homes was described by descriptive analysis. Pearson correlation was adopted to investigate the linear relationship among factors, while multiple regression modeling was used to predict the impact of social marketing variables on the overall satisfaction of old adults in the senior homes.

## RESULTS

The means and variances of social marketing variables were illustrated in Table 1. Built environment (SM2) and healthcare services variables (including daily care services (SM3), catering services (SM4), medical treatment (SM5) and cleanliness (SM6)) achieved relatively high mean value in a range of 3.663 to 3.947, while social activities variables (i.e., recreation activities (SM7), library (SM8) and seminar (SM9)) got the lower mean value of 3.241, 3.029 and 2.975 respectively. The mean value of charge rate (SM1) which was only 2.776 was reported the lowest among all social marketing variables. The results of descriptive analysis indicated that current senior homes might emphasize on living environment and healthcare services, while social activities were weakened. The charge rate of senior homes was under satisfaction of senior residents.

**Table 1 Descriptive Analysis among Social Marketing Variables**

Social Marketing Variables		Mean	Standard Deviation	Variance
<b>Charge Rate</b>				
SM1	Charge rate	2.776	0.044	0.485
<b>Built Environment</b>				
SM2	Built environment	3.805	0.042	0.427
<b>Healthcare Services</b>				
SM3	Daily care services	3.800	0.043	0.462
SM4	Catering services	3.663	0.043	0.445
SM5	Medical treatment	3.781	0.049	0.613
SM6	Cleanliness	3.947	0.041	0.418
<b>Social Activities</b>				
SM7	Recreation activities	3.241	0.058	0.820
SM8	Library	3.029	0.061	0.926
SM9	Seminar	2.975	0.073	1.325

As shown in Table 2, Pearson correlation was conducted to analyze the strength of relationships among all of the variables. The results indicated that (1) all social marketing variables were significantly positively related to overall elderly satisfaction; (2) charge rate had significant positive relationships with daily care services, medical treatment, recreation activities, library and seminar; and (3) except of charge rate, other social marketing variables were significantly inter-related.

**Table 2 Correlations between Social Marketing Variables and Overall Satisfaction**

Variables	Sat	SM1	SM2	SM3	SM4	SM5	SM6	SM7	SM8	SM9
Sat Overall satisfaction	1									
SM1 Charge rate	0.140*	1								
SM2 Built environment	0.388**	0.092	1							
SM3 Care services	0.459**	0.160*	0.454**	1						
SM4 Catering services	0.530**	0.122	0.504**	0.508**	1					
SM5 Medical treatment	0.519**	0.194**	0.315**	0.393**	0.373**	1				
SM6 Cleanliness	0.413**	0.123	0.555**	0.440**	0.432**	0.251**	1			
SM7 Recreation activities	0.395**	0.263**	0.328**	0.310**	0.337**	0.443**	0.203**	1		
SM8 Library	0.382**	0.195**	0.191**	0.152*	0.193**	0.306**	0.167**	0.629**	1	
SM9 Seminar	0.247**	0.321**	0.213**	0.240**	0.194**	0.317**	0.143*	0.541**	0.551**	1

Note: \* – Correlation is significant at the 0.05 level (2-tailed); and

\*\* – Correlation is significant at the 0.01 level (2-tailed).

Since bivariate correlation can only be applied to test the linear relationship among variables, multiple regression analysis with stepwise estimation method was employed to investigate the complicated relationships between social marketing variables and overall satisfaction among elders in senior homes. All regression models

were qualified by both the R-squared value and the significance levels of a t-test and F-test<sup>20</sup>. The results of the regression analyses were described in Table 3. In the regression model, catering services (SM4), medical treatment (SM5), built environment (SM2), cleanliness (SM6) and daily care services (SM3) were the social marketing variables explaining overall satisfaction, which represented 46.5% of variances of the dependent variable.

**Table 3 Multiple Regression among Social Marketing Variables and Overall Satisfaction**

Dependent Factor	Independent Factors	B	t	Sig.t	R <sup>2</sup>	F	Sig.f
Sat: Overall Satisfaction	Constant	1.879	3.943	0.000	0.465	43.553	0.000
	SM4: Catering services	0.510	4.581	0.000			
	SM5: Medical treatment	0.450	5.084	0.000			
	SM2: Built environment	0.274	4.147	0.000			
	SM6: Cleanliness	0.283	2.617	0.000			
	SM3: Daily care services	0.234	2.121	0.000			

## DISCUSSION

Based on the results of the three analytical techniques, the linear relationships among social marketing variables and overall satisfaction are summarized in Table 4. Positive linear relationships were found out among nine social marketing variables and overall satisfaction of elderly residents in senior homes. But only variables of built environment and healthcare services in senior homes were reported causal relationships with overall satisfaction. In compliance with the descriptive analysis, current senior homes emphasized the provision of good living environment and healthcare services to their elderly residents, but ignore the appropriate charge rate and meaningful social activities.

**Table 4 Linear Relationships among Social Marketing Variables and Overall Satisfaction**

Social Marketing Variables	Overall Satisfaction	
	Correlation	Regression
<b>Charge Rate</b>		
SM1: Charge Rate	✓	
<b>Built Environment</b>		
SM2: Built Environment	✓	✓
<b>Healthcare Services</b>		
SM3: Care services	✓	✓
SM4: Catering services	✓	✓
SM5: Medical treatment	✓	✓
SM6: Cleanliness	✓	✓
<b>Social Activities</b>		
SM7: Recreation activities	✓	
SM8: Library	✓	
SM9: Seminar	✓	

Note: ✓ = positive linear significant relationship shown in Table 2 and Table 3.

The correlation results indicated that charge rate was positively related to elderly satisfaction. Within China, the living environment and caring services of senior homes vary greatly between rural and urban areas, and among the different economic developing areas<sup>21</sup>. Some senior homes emphasizes the high quality of healthcare and nursing services, while some homes only provide basic accommodation for the residents. Senior homes normally set charge rate according to their orientation and the quality of homes' living environment, facilities and services. The senior adults choose institutional caring services mainly considering the quality of built environment and services as well as the charged prices<sup>22</sup>. Homes with high charge rate normally provide good quality of healthcare services and comfortable living environment, which is attributed to improve satisfaction level of their residents.

Built environment had a positive impact on overall satisfaction of elderly residents in senior homes, which align with previous studies<sup>23</sup>. Elders depend on their living and surrounding environment to compensate for their increasing frailty. In consideration of social marketing concept, senior homes are designed and built according to the special needs of their target users, i.e., the old adults. Built environment within senior homes including layout, space planning (i.e., bedroom, bathroom and common areas) and build services system (i.e., lift, air conditioning, lighting and indoor air quality) support the elderly later life<sup>24</sup>. The elderly residents living in the senior homes with good built environment often achieve higher satisfaction level than those in the poor environment.

Along with the increasing age, the elders are more likely to need healthcare services including daily caring, catering, cleanliness and medical services. Hence, social marketing variables which are classified as healthcare services positively influence the elderly overall satisfaction. Senior homes provide accommodation

for the elders in order to assist their daily life including food, clothing, shelter, transportation, communication and so forth. To keep the elders healthy, caregivers in senior homes need to clean the elderly bedroom and bathroom, guide them to use recovery and recreation facilities and feed the elders with physical or psychological disability<sup>17</sup>. Moreover, the Chinese government encourages the cooperation between senior homes and local hospitals for increasing the quality of medical services and the quantity of medical facilities<sup>15</sup>. With better daily caring and medical services, the elders tend to increase their satisfaction level on senior homes.

The elders in senior homes get limited emotional and social support from their family<sup>22</sup>. Lack of social activities and family support dangers the psychological health of elders and results in depression<sup>25</sup>. In order to maintain social relationships among the elderly residents and enhance their emotional health, it is thus important to arrange appropriate social activities in senior homes. Elders are encouraged to participate in recreation activities such as playing Mahjong, chess and attending opera playgroups and make friends with other residents. Library in senior homes also provide a platform for elders to spend their spare time. Moreover, the regulation about Chinese elderly social welfare organizations encouraged that the senior homes could arrange regular seminar about healthcare and rehabilitation therapy for the older adults<sup>15</sup>. Hence, social activities including recreation activities, library and seminars were positively associated to elderly overall satisfaction.

This paper introduced social marketing concept into the senior homes operation and management. Based on current results, several practical recommendations have been proposed. By adopting social marketing concept, it is firstly suggested to identify functional orientation of senior homes and set appropriate charge rates accordingly. Senior homes with professional rehabilitation and medical services are recommended to set relatively high price, while other homes with normal healthcare services can set moderate prices for the elders with physical and psychological capabilities. Social marketing emphasizes the identification of the target users' needs, wants and expectations. Hence, it is recommended that elderly requirements should be identified in order to improve built environment and service of senior homes. The built environment of senior homes is encouraged to be built based on Chinese design standards for elder-friendly building<sup>26</sup>. In order to improve the healthcare services, professional training programmes should be arranged for caregivers and staff in senior homes<sup>22</sup>. Senior homes are also encouraged to provide professional caring services such as terminal care and dementia rehabilitation. In consideration of elderly emotional and social needs, senior homes are suggested to cooperate with local community and university and allow volunteers to organize social activities for elderly residents.

The positive relationships between nine social marketing variables and elderly satisfaction have been confirmed, but there are other factors that influence elderly satisfaction, such as building age, the sizes of bedroom, gender, and the types of financial support. The current study has provided a platform for more detailed research to further investigate design and operation in senior homes in China. To cross-validate current results of quantitative data analysis, qualitative research methods such as on-site measurement and personal interviews are also suggested.

Social marketing as a growing applied approach in healthcare industry is innovatively introduced to senior homes in China. By adopting social marketing, Chinese senior homes should investigate elders' special needs and requirements and provide product and price accordingly. Hence, this paper investigated elderly satisfaction on senior homes and associated factors from a social marketing perspective. The results identified nine social marketing variables including charge rate, built environment, daily caring services, catering services, medical treatment, cleanliness, recreation activities, library and seminar. Most senior homes in China pay attention to improve living environment and healthcare services for their elderly residents, but might ignore the importance of charge rate and social activities.

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