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People's Republic of China: Hebei Elderly Care Development Project (Financed by the Technical Assistance Special Fund)

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Prepared by NAREE International Limited

For Hebei Provincial Government

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Poverty and Social Assessment

TA 8996-PRC: HEBEI ELDERLY CARE DEVELOPMENT PROJECT

Poverty and Social Analysis Report

October, 2016

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1. Introduction

The most significant demographic challenge facing the People's Republic of China (PRC) today is aging of the population. The proportion of people aged 60+ across the PRC is expected to grow from roughly 12% in 2010 to 34% by 2050. Combined with fast urbanization, internal migration with youth moving away from rural areas, and the one child policy, traditional family support systems are stressed and increasingly unable to meet the elderly care (EC) needs. These demographic, social and economic challenges will require increased involvement from Government, the private sector and voluntary sector efforts and other social organizations in order to build a socially inclusive EC system able to meet the care needs of China's aging population.

The proposed project supports the PRC's 13th Five-Year Plan (13YFP) (2016–2020) and the Hebei Provincial 13FYP (2016–2020), which will support developing and strengthening the EC system in PRC by developing a three-tiered system of services, stimulating investment in the sector, define roles and responsibilities for government, the private sector, civil society organizations and the public. The project is aligned with ADB's country partnership strategy (2016–2020) which prioritizes the development of the EC sector, the midterm review of Strategy 2020 which supports social protection and health, and the Operational Plan for Health (2015–2020), which has EC as a focus area.

The project will have a demonstration effect on other provinces in the PRC and has the following special features:

- a) Development of an integrated elderly care system linking home-based, community, and residential care (including medical rehabilitation hospital) that provides services for both urban and rural project areas through the collaboration of the public sector, private sector and social organizations.
- b) Promotion of seamless links in how the elderly access different elderly service components and between the EC and healthcare systems.
- c) Improvement of EC planning and service delivery capacity for provincial and local government and the EC industry, including systems for the assessment of individual care needs, monitoring and evaluation of the performance of all licensed providers of EC services, regulation of pricing, and ensuring inclusiveness in service access.
- d) Support of an enabling human resources development program for the EC industry in Hebei Province, including coordination across the new Hebei-Beijing-Tianjin region.

The impact of the project is aligned with the government's goal that a three-tiered EC system (home, community, and residential) is established. The expected outcome is that the quality of EC services in Hebei Province is improved. The project will support selected cities and counties initiatives to improve the quality and coverage of the

elderly care systems. The project is to help create a platform from which other elderly care services can grow in the future.

2. Methodology

The present PSA report is based on the primary and secondary data. The primary data came from the social and economic survey between June and September, 2016. The secondary data came from academic articles, statistical yearbooks, Internet news and publicized statistical data, data and reports from various departments, the draft FSRs, and etc.

During the social-economic survey, the methods of household questionnaire survey, Focus Group Discussions (FGDs) and key informant interview were used.

The objectives of social-economic household questionnaire surveys were to: (i) identify the project area poverty profile and obtain the primary socio-economic and socio-demographic information of households in the project area; (ii) get to know local elderly people's opinions towards the present local EC services, including residential EC, home and community based EC, ITs EC service and etc.; (iii) understand local elderly people's demands and expectations for various kinds of EC services; (iv) collect the information on their willingness to pay and ability to afford the EC services; (v) their formal and informal social safety/security systems to cope with poverty and EC needs; and (vi) identify the gender differences of the above aspects.

The objectives of Focus Group Discussions (FGDs) and key informant interview are to: (i) ensure how the project can target at the low and middle income elderly and ensure that those who need care are able to receive it; (ii) understand elderly needs, affordability and willingness to pay for services, particularly the opinions from adult children; (iii) get to know the present situation and challenges of local EC services on quality, paying, management and etc.; (iv) identify government/ community/ institutions' various demands for EC service improvement, particularly the capacity building; and (iv) seek the possibility of strengthening social inclusiveness, e.g. promoting the involvement of NGOs and volunteers.

Xinji, Chengde and Zunhua City¹ were selected as the representative project areas to conduct the social-economic survey. These three cities are representative of the diversity of local situations in the Hebei sub-projects. Xinji City is located in the mid-east area of Hebei Province. It is a county-level city but directly supervised by Hebei Provincial Government. It is one of Hebei Province's 'Ten-strong' economic counties/cities. Zunhua City is located in the North-east hilly area of Hebei Province. It is a newly-developed county-level city. Shuangluan District of Chengde City was selected as the representative of districts.

¹ Zunhua IA quitted at the end of September. However, the data analysis is still on the basis of data collected from Chengde and Zunhua in the present report.

Since about 2,000 questionnaires were collected in Xinji City in the March of 2016, the survey conducted during June and September was a supplementary to the previous one. It further clarified the real demands rather than the physical demands of local elderly people and their adult children in other cities/districts in Hebei, and also their affordability and willingness to pay.

The stratified and randomized sampling method were used in the questionnaire survey process. The total of 300 independent, 48 half-independent and 6 dependent elderly people of different income levels were covered. Finally 354 questionnaire were gotten in Chengde and Zunhua City.

Totally 35 FGDs were held in various communities/EC institutions (see Table 2-1). In each city one wealthy, one middle and one poor community were selected. In each community two FGDs were held, one for the elderly people and one for the adult children. In each group, 6~8 persons were invited to attend, generally including the male, female and also at least one person who enjoys the minimum living allowance in order to hear their different opinions. In each city, both public and private elderly care institutions were visited. In each EC institution, the administrative staff, caregivers and the elderly people living in the institution were interviewed to understand the various aspects of the EC institution and their opinions.

Also, in each city/county/district, key informants of the IAs, the visited communities, and the Civil Affairs Department were interviewed to get necessary information, background and opinions or suggestions.

Table 2-1 Questionnaires and FGDs

Area	Questionnaires	FGDs				Community
		Sub-total	Elderly	Adult Children	EC Institution	
Chengde	187	15	6	6	3	6: Susongji, Rongxin, Yuanbaoshan, Shuangan, Wanhecheng, JIngxiucheng
Zunhua	167	14	3	5	6	6: Jiangongbei, Huafu, Jianan, Haijin, Haiquan, Meiguiyuan
Xinji	—	6	2	2	2	3: Kangjian, Fudong, Xinleitou
Total	354	35	11	13	11	15

3. Rationale and Beneficiaries

3.1 Rationale

The Project plans to have four outputs: i) Community and home care services improved, ii) Institutional elderly care service capacity increased and quality improved, iii) Elderly Care planning, development of human resources and industry capacity improved, iv) Capacity of the EC Sector Organizations Improved.

The project will support the development of the elderly care (EC) system in Hebei province through improving the quality and coverage of institutional, community, and home-based elderly care services and facilities. It will improve quality and service delivery in collaboration with government and will include the participation of the private sector in most of the proposed subprojects. The project constitutes a major capacity building effort in the development of the elderly care system in Hebei province.

3.2 Beneficiaries of the Project

Benefits for the elderly:

The Project will newly build EC institutions in five selected project sites, which will provide local elderly who want to stay in the EC residential institutions with improved and expanded EC services from various aspects, e.g. daily care, health care, rehabilitation, entertainment, mental support and etc. The physical examination center, rehabilitation center to be established in these EC institutions will serve for all the elderly in the project area. Particularly, these EC institutions will concern the vulnerable elderly, such as the poor elderly and the dementia elderly.

The Project will build or rebuild day care centers both in the urban and rural communities. They will provide the elderly living in the nearby communities with improved EC services, including nutritious meals, health screening, rehabilitation, escorting, home delivery, respite care and etc.

The Project will establish the ICT system. Pertinent information will be collected to better serve for the elderly. The calling service will the elderly with convenient EC services, e.g. home-delivery meals, housekeeping, home nursing, remote monitoring, remote medical treatment, information and referral and etc. Particularly, the emergency response function will save the life of the elderly in time. The location function can find the lost elderly easily, which is especially useful for the dementia elderly.

To sum up, the improved EC services will help local elderly to have a better, healthier and happier life, which will even make them live longer.

Benefits for local people

The Project will alleviate the burden of the adult children in looking after their elderly parents especially when their parents are half or fully dependent. With the help from the EC residential institutions or community and home based EC services, the adult children need not to worry about the safety and living of their elderly parents staying alone at home, also the treatment in the EC institutions. The adult children will have more time to be engaged in their work and earn more money. They also can enjoy more leisure time of themselves.

The Project will also create job vacancies for local people. During the construction period of the EC institutions or day care centers, various kinds of engineers and workers will be used, such as the technical designers, construction workers, plumbers, carpenters, painters and etc. During the operation period, administrative staff, caregivers, doctors, nurses, accountants, cleaners, chefs and etc. will be hired to provide the EC services and run the EC institutions/day care centers. The community and home based EC services will promote the development of local business, e.g. catering, house cleaning, retailing, and etc.

The Project consists of the component of capacity building. Through trainings, the administrative and service capacity of EC providers will be improved, which will help them to attract more elderly and make achievements. The trained caregivers will improve their professional EC skills and achieve formal certificates, which will help them to get promotion or find job positions with better salaries in the future.

Benefits for the women

The Project will benefit local elderly including the female elderly. Generally the amount of female elderly is more than male elderly. The female elderly live longer than the male elderly. Of the 'empty nest' elderly, full independent elderly, and the oldest old, the female is often more than the male. The improved design will also consider the physical, psychological and economic characteristics of the female elderly, which will provide better but affordable services for the female elderly.

The Project will particularly alleviate the burden of the female adult children. Traditionally the daughter-in-law have the duty to look after her parents-in-law. Daughters will look after their parents when the sons cannot look after the parents well, or when the parents are sick and it needs taking turns.

The Project will provide local women with job opportunities during the construction and operation period, e.g. doctors, nurses, caregivers, and physical therapists, in the service industry where women are more demanded.

Most of the caregivers are female. Through the trainings provided in the Project, these female caregivers will improve their professional EC skills and achieve formal

certificates, which will help them to get promotion or find job positions with better salaries in the future.

Benefits for the poor

The Project targets at the low and mid income elderly. For the economic reason, the poor elderly cannot afford the EC service, e.g. the fully dependent poor elderly cannot live in the formal EC institution or they can only live in the cheap EC institution with poor services. The Project will supply the home and community based EC services with affordable prices. It will make the low and mid income elderly be able to enjoy the improved/expanded EC services.

Beneficiaries

The estimation of beneficiaries is mainly based on the data and description in the FSRs. Typically the EC institutions will provide the improved/expanded EC services for all the elderly in the county/city/district area only if they have the EC demand, so as well the ICT system, the physical test center and rehabilitation center. Day care centers provided the elderly living the nearby communities with improved EC services. Job opportunities are estimated by IAs and their design institutes.

In a total, the Project will benefit about 950 thousand persons in the project area. 2,230 of job opportunities will be provided during the construction and operation period. The details see Table 3.1.

Table 3.1 Beneficiaries in the Project area

Area	Total Beneficiaries (1000 persons)	EC Institutions (1000 persons)	Day care center (person)			ICT(1000 persons)	Jobs (person)	
			Sub-total	Urban	Rural		Construction	Operation
Xinji	50	50	26,391	1,916	24,475	50	140	232
Shuangluan	696.5	152	27,327	27,327	-	696.5	166	396
Li	83	83	21,692	8,950	12,742	83	90	276
She	59	59	7,899	7,899	-	59	190	174
Julu	61	61	15,986	-	15,986	61	130	222
Yanshan University	620 person/year	-	-	-	-	-	150	64
Total	950	405	99,295	46,092	53,203	949.5	866	1364

4. Socio-economic Profile

4.1 Demographic Profile

4.1.1 Demographic Profile of Project area

4.1.1.1 General population

Table 4.1 shows the demographic situation of the project areas in 2013.

Table 4.1 Demographic situation in the project area (2013)

(0,000person,%)

Region	Total	within:			
		Male	Female	Urban	Rural
Hebei Province	7332.61	3723.50 (50.78)	3609.11 (49.22)	3528.45 (48.12)	3804.16 (51.88)
Shijiazhuang Municipality	1,049.98	532.20 (50.69)	517.78 (49.31)	462.20 (44.02)	587.78 (55.98)
Chengde Municipality	351.51	180.86 (51.45)	170.65 (48.55)	147.63 (42.00)	203.88 (58.00)
Baoding Municipality	1141.63	578.47 (50.67)	563.16 (49.33)	504.6 (44.20)	637.03 (55.80)
Handan Municipality	932.51	474.26 (50.86)	458.25 (49.14)	399.11 (42.80)	533.40 (57.20)

Source: Hebei Economy Annual (2014), internet information

4.1.1.2 Population of EM

In 2015 there are 55 ethnic minority groups in Hebei Province. The total EM population is 3,333,189, accounting for 4.55% of the total population in Hebei. Man Nationality is the biggest one whose population is 2,360,513, accounting for 70.82% of the total EM population in Hebei. The second biggest one is Hui Nationality whose population is 671,298, accounting for 20.14% of the total EM population in Hebei.

Chengde Municipality has the biggest EM population of 1,605,734, accounting for 48.17% of the total EM population in Hebei, and 42.46% of the total population in Chengde.

Table 4.2 shows the demographic information of ethnic minority of the project area. Only Shuangluan District in Chengde has the EM about 30% of the total population. Man is the majority EM group.

Table 4.2 EM Population in the Project Area (2015)

Area	Total Population	Han	EMs			
			Man	Hui	Meng	Others
Xinji	625127	623292	524	1093	79	139
Percentage(%)	100.00	99.71	0.08	0.17	0.01	0.02
Shuangluan	141530	100741	36678	1397	2491	223
Percentage(%)	100.00	71.18	25.92	0.99	1.76	0.16
Li	534905	534200	460	80	24	141
Percentage(%)	100.00	99.87	0.086	0.015	0.004	0.026
She	422638	422330	75	22	25	186
Percentage(%)	100.00	99.93	0.018	0.005	0.006	0.044

Julu	461235	461051	184
Percentage(%)	100.00	99.96	0.04

Source: Data provided by the IAs, Internet information.

4.1.2 Demographic Profile of elderly population

In 2013, the elderly over 60 years old in Hebei province reached 107.42 million, accounting for 14.65% of the total population in Hebei Province. According to the data from the Elderly Committee, the population of the elderly increased at the annual rate of 3% since 1999, the year Hebei became the aging society.

Table 4.3 reveals the age distribution of the elderly in the project area in 2015. In 2015, the elderly over 60 years old accounts for 17.6%, 19.3%, 15.4%, 13.9%, and 13.3% of the total population of Xinji City, Shuangluan District, Li County, She County and Julu County respectively. Table 4.4 shows the urban/rural distribution. Rural elderly are typically more than urban elderly.

Table 4.3 Age distribution of the elderly in the project area (2015)

Area	Total Population	Over 60	Percent	Within it: 60-69	Percent	70-79	Percent	Over80	Percent
Xinji	625127	110093	17.6%	70738	64.3%	24422	22.2%	14933	13.6%
Shuangluan	141530	27327	19.3%	15352	56.2%	8797	32.2%	3178	11.6%
Li	534905	82560	15.4%	N/A	N/A	N/A	N/A	N/A	N/A
She	422638	58770	13.9%	42464	72.3%	12081	20.6%	4225	7.2%
Julu	461235	61386	13.3%	37146	60.5%	15492	25.2%	8748	14.3%

Source: From IAs, FSRs

Table 4.4 Urban and rural elderly population in the project area (2015)

Area	Population over 60	Urban	Percentage	Rural	Percentage
Xinji	110093	33028	30.0%	77065	70.0%
Shuangluan	27327	11893	43.5%	15434	56.5%
Li	82560	N/A	N/A	N/A	N/A
She	58770	7899	13.4%	50871	86.6%
Julu	61386	N/A	N/A	N/A	N/A

Source: From IAs

4.1.3 Demographic Profile of the poor population

In 2012, the PRC central government identified 14 key contiguous destitute regions for the new round of development-oriented poverty reduction, and Yan Mountain-Taihang Mountain area in Hebei is one of these regions. Based on the poverty standard of CNY2,736 (farmer's annual average net income in 2013 price), 5.12 million of rural poor people and 7,366 poor villages were identified in Hebei in 2013.

Of the five project sites where EC institutions to be located, except Xinji City, the per capita annual disposable income of urban/rural residents of other four sites are all lower than the average level of Hebei. Particularly, Julu County and She County are the national level destitute county which respectively have 68 and 86 destitute villages. The urban and rural MLS population accounts for 2.0%, 6.1%, 1.1%, 2.0%, and 3.3% of the total population of Xinji City, Shuangluan District, Li County, She County and Julu County respectively.

Table 4.5 shows the amount of urban and rural residents who enjoy the minimum living subsidy (MLS). Table 4.6 and 4.7 respectively shows the percentage of urban/rural women and the elderly enjoying MLS. Generally the rural percentages of the women and elderly are bigger than those urban ones.

Table 4.5 Poor situation in the project area (2015)

Area	Total Population	Urban Residents enjoying MLS	Rural Residents enjoying MLS	Percent
Hebei Province	74249200	684000	2133000	3.8%
Xinji	625127	1581	10730	2.0%
Shuangluan	141530	3744	4886	6.1%
Li	534905	1353	4519	1.1%
She	422638	2625	5861	2.0%
Julu	461235	4829	10454	3.3%

Source: From IAs, Internet news.

Table 4.6 Urban poor situation in the project area (2015)

Area	Urban Residents enjoying MLS	Within it: Female	Percent	The Elderly	Percent
Xinji	1581	363	23.0%	360	22.8%
Shuangluan	3744	2019	53.9%	458	12.2%
Li	1353	398	29.4%	436	32.2%
She	2625	1155	44.0%	60	2.3%
Julu	4829	N/A	N/A	N/A	N/A

Source: From IAs

Table 4.7 Rural poor situation in the project area (2015)

Area	Rural Residents enjoying MLS	Within it: Female	Percent	The Elderly	Percent
Xinji	10730	3812	35.5%	6402	59.7%
Shuangluan	4886	2561	52.4%	2938	60.1%
Li	4519	517	11.4%	432	9.6%
She	5861	2102	35.9%	1446	24.7%
Julu	10454	N/A	N/A	N/A	N/A

Source: From IAs

4.2 Economic Profile

4.2.1 Economic Profile of Project area

Table 4.8 shows the basic economic information of the project areas in 2013. Xinji City and She County are wealthier than Li County and Julu County. However, whether the public budget revenue or expenditure, those of all the project area are lower than the average level of Hebei Province.

Table 4.9 reveals the local wages and income information. Xinji people is wealthier than the others. The indicators of other counties are all lower than the average level of Hebei Province.

Table 4.8: Basic Economic situation of project area (2014)

Area	Ratio of primary, secondary, tertiary industries	Per capita GDP(Yuan)	Per capita Public Budget Revenue(Yuan)	Per capita Public Budget Expenditure(Yuan)
Hebei Province	11.7:51.0:37.3	39844	3313	6334
Xinji	12.7:61.8:25.4	59035	1816	3733
Shuangluan	N/A	N/A	N/A	N/A
Li	15.0:58.0:27.0	16090	592	2617
She	6.0:57.6:36.4	49524	2173	4183
Julu	31.0:34.5:34.4	12401	750	2692

Source: Counted according to Hebei Economy Annual (2015), Internet news

Table 4.9: Wages and Income in the project area (2014)

Area	Average Wage of Staff and Workers (Yuan)	Per Capita Annual Disposable Income of Urban Residents (Yuan)	Per Capita Annual Net Income of Rural Residents(Yuan)	Per Capita Outstanding Amount of Saving Deposit (Yuan)
Hebei Province	45114	24141	10186	34886
Xinji	37719	24735	12260	39016
Shuangluan	N/A	N/A	N/A	N/A
Li	31692	19578	10864	21194
She	38627	14343	9165	24359
Julu	31814	17662	5693	18234

Source: Counted according to Hebei Economy Annual (2015), Internet news

4.2.2 Economic Profile of the elderly

Table 4.10 shows the pension of different sectors in the project area. The elderly retired from the public institution often have more pension than those from the enterprises.

Table 4.11 shows the subsidy for the oldest old in the project area. The establishment time of the subsidy in different counties/cities/district is various, so as well the standard based on the financial level.

Table 4.10 Pensions of the elderly in the project area (2015)

Area	Public institutions	Enterprises	Others(individual)
Xinji	3000~4500	2000~3600	2000~3000
Shuangluan	3000~4500	2000~2500	N/A
Li	2528, 3537	2500	N/A
She	3200	2200	N/A
Julu	N/A	N/A	N/A

Source: FSRs, FGDs

Table 4.11 Subsidy for the oldest old in the project area (2015)

Area	Subsidy for the oldest elderly(Yuan/month)		
	80-89	90-99	Over 100
Xinji	N/A	N/A	N/A
Shuangluan	30	80	350
Li	30	50	200
She*	80	90	100
Julu	30	50	200

Source: Internet news

*: Data of 2014

4.2.3 Economic Profile of local poor

Although the Civil Affairs Ministry required local government to identify the low and mid income elderly and provide with pertinent preferential treatment, the governments in the project area have not set the identification criteria yet.

Here, Table 4.12 reveal the urban and rural standard for the residents to enjoy MLS, and the rural poverty line.

Table 4.12 Urban and rural poor standard (2014)

Area	MLS Standard (Yuan/person·year)		Rural Poverty Line (Yuan/person· year)
	Urban	Rural	
China	5040	2855	2736
Xinji	4800	2150	2736
Shuangluan	4824	2430	N/A
Li	5400	2900	2736
She	5400	3240	2850
Julu	4680	2808	2800

Source: From IAs, Internet news.

5. Present EC Services

5.1 EC institutions

5.1.1 Profile

China: By the March of 2016, there are 31,833 various kinds of officially registered EC institutions in China. Totally there are 5.84 million beds both in the institutions and the communities, of which, 1.97 million beds for the elderly's residential care and day care in the communities. Averagely every thousand elderly has 27.5 beds.

Hebei Province: In November 2013, the number of public EC institutions in Hebei Province had 185,000 beds. Private EC institutions had 47,800 beds. Per thousand elderly pension had 23 beds. There were 1,731 of community and home based elderly care service stations, with the coverage of 52%. There were 372 rural elderly welfare service center, with the coverage of 19%. Total of 22779 rural mutual -help happiness homes have been built, covering 45% of the administrative villages. Calling service network has covered the urban and rural areas with over 1 million people and 0.72 million elderly people. The province, each city and county has built one demonstration public EC institution. Each street office as built one demonstration day care center. Total of 29,415 villages have established the elderly service groups to provide the elderly with the services such as medical rehabilitation, day care, emergency assistance and mental support.

The general situation of the EC institutions in the five counties/cities is as follows:

(1) Xinji City

Currently the city has a total of 20 EC institutions, including 12 public nursing homes held by the civil affairs department, and 8 private ones. The total number of the beds are 2,037.

(2) Shuangluan District in Chengde City

According to the Chengde Civil Affairs departments statistics, up to now, the city has 90 of various EC institutions, including 32 private ones, 55 public institutions, and 3 public own-private run ones. The total beds are about 13,500.

Shuangluan District totally has various types of EC institutions of 11, of which 7 private, 1 public, and 3 public own-private run ones. The total beds are about 984. The overall average occupancy rate is about 32.1%.

(3) Li County

Currently there is only one public EC institution in Li County, i.e. the county Glorious Institution which has 200 beds and are serving for 110 elderly people. The occupancy rate is 55.0%.

(4) She County

She County has eight EC institutions. Of which, four are transforming from public to private and there are no elderly residents. The other 4 EC institutions have a total of 528 beds with 182 elderly occupants. The overall average occupancy rate is 34.5%.

(5)Julu County

Julu has 14 nursing homes (registered), of which, 10 private and 4 public. Totally there are 2,900 beds. In fact there are other more than 10 private nursing homes which are not registered in the Civil Affairs department, whose number of beds is unknown.

Table 5.1 Registered EC institutions in the project area (2015)

Area	Total	EC institutions			Total beds	Average beds	Average occupancy rate	Beds /thousand elderly people
		Public	Private	Public own-private run				
Xinji	20	12	8	0	2037	102	29.4%	18.5
Shuangluan	11	1	7	3	984	89	32.1%	36.0
Li	1	1	0	0	200	200	55.0%	2.4
She	4	2	2	0	528	132	34.5%	9.0
Julu	14	4	10	0	2900	207	45.0%	47.2

Source: civil departments, FSRs, Internet new.

Table 5.1 shows the detailed information of the registered EC institutions in the project area in 2015.

The development level of EC institutions in various city/district/counties are different. The development of EC institutions in Julu County, Shuangluan District is faster than the other area (see Table 5.1, the number of beds per thousand elderly people). Their private EC institutions account for a bigger proportion (see Table 5.1 the number of private EC Institutions). The average number of beds in the existing EC Institutions is between 87 to 207. The occupancy rate is not high, between 29% to 55%. Seeing from the visited EC institutions in the fieldwork(see Table 5.4), generally the occupancy rates are higher than average (except Zunhua Anping Nursing Home, which is a very new and thus the occupancy rate is low). It may be because the EC Institutions recommended by local civil affairs departments to visit are the better ones.

According to the Table 5.2 and Table 5.4, the occupancy rate and whether the institution is public or private have no significant relationship. In some area public EC Institutions have more beds and occupancy rates are higher. In some other area private EC institutions have more beds and occupancy rates are higher. But in general, whether it is public or private, EC institutions of better service with lower price are more welcomed by the elderly, and the occupancy rate is thus higher.

In addition, Table 5.1 only shows the data of the EC institutions officially registered in the civil affairs departments. In fact there are many unregistered small private elderly apartments, e.g. Zunhua and Julu each have more than 10 such elderly apartments. The survey found that many elderly people are living in these "black" elderly apartments although they have no the official approval. The major reason is for the cheap price, which also reflects the low-end EC market demand.

Table 5.2 Comparison of public and private EC institutions

Area	Beds		Elderly residents		Occupancy rate	
	Public	Private	Public	Private	Public	Private
Xinji	683	1354	203	396	29.7%	29.2%
Shuangluan	89	593	65	154	73.0%	26.0%
Li	200	0	110	0	55.0%	-
She	400	128	80	102	20.0%	79.7%
Julu	-	-	-	-	-	-

Source: From IAs and FSRs

5.1.2 Institutional arrangement

The staffing of the EC institutions varies, which is related to the number of elderly people and their self-care ability. From Table 5.3, the average ratio of caregivers and the elderly residents various from 1: 3 to 1: 7. The average ratio of staff and the elderly residents is 1: 2 to 1: 6. Some EC institutions have a big number of employees, but some small-scale township public EC institutions may only have 3 to 6 elderly residents with only 1-2 staff doing all the work including nursing, cooking and cleaning.

About the medical staff, in addition to the EC institutions based on the existing hospitals or health centers, such as the Love Elderly Apartment in Xinji City, Fuyuanju Elderly Institution (based on Julu County Hospital) and the Third Civil Service Center (based on Suying Township Clinic) in Julu County, generally the EC institutions would not have their own doctors or nurses. But the large scale public EC institutions may be equipped with 1 to 2 doctors or nurses.

Table 5.3 Staffing of EC Institutions in the Project Area

Area	EC Inst.	Staff					Elderly residents	Ratio between caregivers and the elderly	Ratio between the staff and the elderly
		Admi.	Doctors	Nurses	Caregivers	Sub-total			
Xinji	20	155	10	4	84	253	599	1:7	1:2
Shuangluan	9	19	9	7	36	71	219	1:6	1:3
Li	1	4	0	0	15	19	110	1:7	1:6
She	4	15	0	0	49	64	182	1:4	1:3
Julu	5	4	8	4	31	47	90	1:3	1:2

Source: from IAs, FSRs

Note: Data of Xinji, Li and She reflect the overall situation in each area. The data of the rest area only reflect the situation of partial EC institutions.

Table 5.4 reflects the situation of EC institutions visited during June to September. Some private EC institutions have limited caregivers, such as Rujia Elderly Apartment in Zunhua City, Yongkang Elderly Apartment in Xinji City. Of all the eight visited EC Institutions, only the Social Welfare Institute of Chengde City and the Glorious Institute of Zunhua City each has 1 to 2 nurses. Other Institutions all signed the service agreement/contract with the nearby hospital or clinics whose doctors will regularly check the elderly or visit when required.

Table 5.4 Occupancy rate and staffing of visited EC institutions

No	EC Inst.	Nature	Beds	Elderly Residents	Occupancy Rate	Caregivers	Total Staff	Ratio between caregivers and the elderly	Ratio between the staff and the elderly
1	Chengde Social Welfare Institute	Public	160	78	48.8%	14	23	1:6	1:3
2	Chengde Fraternity Elderly Apartment	Public own-private run	48	34	70.8%	4	5	1:9	1:7
3	Zhunchua Glorious Institute	Public	150	58	38.7%	22	34	1:3	1:2
4	Zunhua Anping Nursing Home *	Private	102	25	24.5%*	4	5	1:6	1:5
5	Zhunchua Rujia Elderly Apartment	Private	110	66	60.0%	3	6	1:22	1:11
6	Zhunchua Sanli Residential Zone Elderly Apartment	Private	20	12	60.0%	2	3	1:6	1:4
7	Xinji Yongkang Elderly Apartment	Private	100	86	86.0%	6	9	1:14	1:10
8	Xinji Nanzhiqiu Town Nursing Home	Public	55	25	45.5%	3	7	1:8	1:4

*: Newly operated and thus only a few elderly residents.

5.1.3 Philosophy and values

According to the fieldwork, many visited EC institutions have their own service philosophy and values. Details see the Table 5.5.

Table 5.5 Service Philosophy and Admission criteria of the Visited EC Institutions

EC Institutions	The Service Concept	Admission criteria
Chengde City Social Welfare Institute / EC Institutions	"Sincere, love, caring"	More than 60 years old, Expect the elderly suffering from infectious diseases, mental illness and unstable condition Concern about the "empty nest" elderly and those having special difficulties
Chengde City, Fraternity EC Institutions	"Filial piety, patience, love, kindness"	The oldest old and disabled elderly, More than 75 years old (male need more than 80 years)
Zunhua City Glorious institute/EC Institutions	"consider the elderly as parents, dedicate the love to society"	Receiving veterans, disabled soldiers, special care objects, the elderly with special difficulties and unsupported elderly
Zunhua City Anping home Nursing home	"serve the elderly wholeheartedly"	More than 60 years old, Without mental illness, infectious diseases, bed sores, Alzheimer's disease, noisy and freedom of movement without senile dementia
Zunhua City Rujia EC Institutions	"Service the elderly as your parents, love the elderly just like your children, all for the elderly, for the elderly all"	① More than 60 years old, Do not receive people suffering from infectious diseases / mental illness. ② Be centered on the self-care elderly, with the disabled elderly subsidiary.
Zunhua Xisanli EC Institutions	"Family Service"	Disabled elderly, the elderly with special difficulties and mild mental disease
Xinji City Yongkang EC Institutions	"Respect and love the elderly as the virtue and kindness, help elderly as the happiness"	More than 60 years old, Do not receive people suffering from infectious diseases / mental illness

5.1.4 Admission criteria

Generally speaking, the public EC Institutions need to meet the needs of the specific groups. For example, the city's public EC Institutions must accept the elderly without labor capacity, source of income and the supporters, i.e. the 'three-no' elderly. The rural public EC Institution must receive five guarantees elderly. The Glorious Institute must accept the martyrs, the sacrificed soldiers and the disease-caused dead soldiers' family members of unsupported elderly, disabled elderly or under the age of 16, and the elderly soldiers with disabilities, demobilized soldiers and veterans. At the request of local civil affairs departments, some private EC Institutions receive some five guarantees elderly or three-no elderly, e.g. Yong Kang EC Institution in Xinji City.

Private EC Institutions set up their own admission criteria. Public EC Institutions can also set their own admission criteria in accepting the ordinary elderly (e.g. Social Welfare Institute/EC Institutions in Chengde City and Glorious Institute in Zunhua City can receive the ordinary elderly at the same time). Generally, the EC institutions would not receive the elderly with infectious diseases or mental illness, and are not willing to accept senile dementia with manic symptoms / violent tendencies.

Generally EC Institutions receive self-care, half self-care and fully dependent elderly. But some EC Institutions have their own emphasis, such as the Fraternity EC Institution in Chengde City emphasizes that their elderly should be the oldest old who is more than 75 years old (male over 80 years old) and disabled elderly. Some other EC Institutions prefer self-care elderly because the lower cost and requirement for the caregivers. It is also easier to manage. Looking at the structure of the elderly living in the EC Institutions, the proportion of the self-care elderly is higher. (See Table 5.6)

Table 5.6 The elderly and charge rates of visited EC Institutions

EC Institutions	Elderly residents (person)	Charge rate (monthly)
Chengde City Social Welfare Institute / EC Institutions	Completely disabled: 16 Moderate disabled : 10 self-care: 52	①Self-care: 1200yuan/bed(a room with two beds, including board expenses),1300yuan/bed in winter(Including 100 yuan for heating costs); Private room: 1200×2—500(board expenses)=1900yuan/room(a room with two beds) ②Non-self-care: about 2000yuan/bed,depend on the physical condition。 (including board expenses)
Chengde City, fraternity EC Institutions	Completely disabled: 16 Moderate disabled : 10 self-care: 8	①Self-care:Minimum1800/bed ②Non-self-care: about 3000yuan/bed,depend on the physical condition (including board expenses)
Zunhua City The Glorious institute/EC Institutions	Completely disabled: 36 Moderate disabled : 6 self-care: 16	Free for the elderly meeting the state regulations; For the general social elderly: ①Self-care: 600yuan/bed;950Yuan/room(a room with two beds);1350yuan/room(a room with three beds) ②Non-self-care: 1410yuan/bed (Not including board expenses,If order the meal, take extra charge)
Zunhua City Anping home Nursing home	Moderate disabled : 1 self-care: 24	①Self-care elderly: 1500yuan/room ②Non-self-care: 1500+Care costs(including board expenses)
Zunhua City Rujia EC Institutions	Non-self-care: 12 self-care: 54	①Self-care elderly: 600yuan/bed(a room with three beds);1300~1500yuan/room ②Non-self-care: 1000~1500yuan/bed(a room with three beds); 2000yuan/room (including board expenses)
Zunhua Xisanli EC Institutions	Non-self-care: 11 self-care : 1	①Self-care elderly: 600yuan/bed ②Non-self-care: 800~1200yuan/bed (including board expenses)
Xinji City Yongkang EC Institutions	Completely disabled: 19 Half-self-care: 28 self-care: 39	①Self-care elderly: 900yuan/bed ②Half-self-care elderly: 1500yuan/bed ③disabled elderly: 2100~2200yuan/month/bed(including board expenses)
Xinji City Nan Zhi qiu town EC Institutions	Non-self-care: 4 self-care: 21	Free for the elderly meeting the state regulations, e.g. three Nos or Five Guarantees
Xinji City, love EC Institutions	Half-self-care : 10 self-care: 22	①Self-care elderly, 1,300 yuan / month / bed ②Half-self-care elderly, 1,700 yuan / month / bed ③disabled elderly, yet pricing, depend on the physical condition

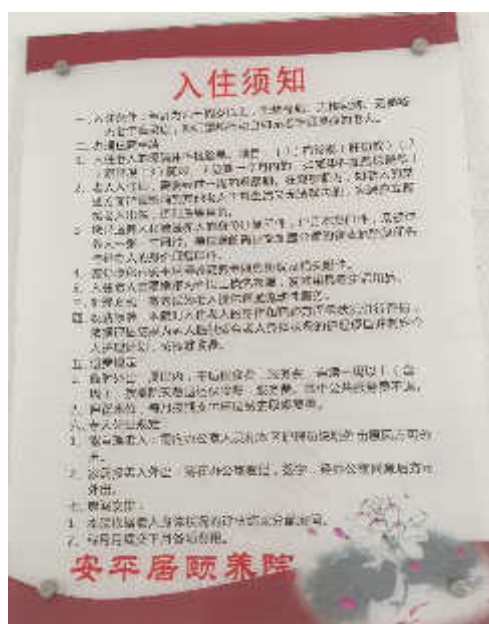


Fig 5.1 Admission Criteria of Anpingju EC institution in Zunhua City

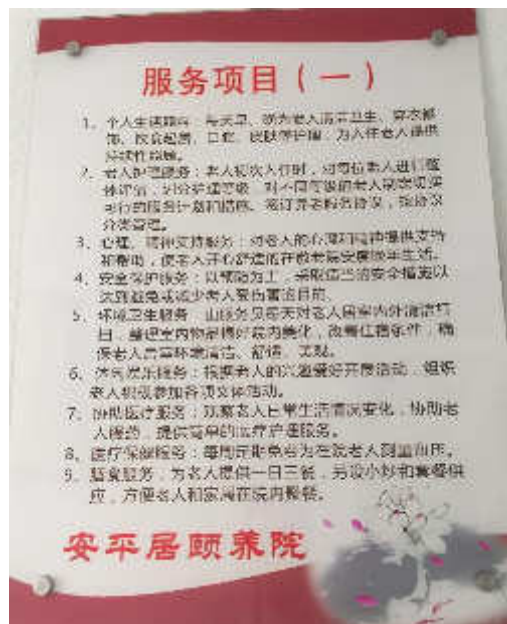


Fig 5.2 Services provided by Anpingju EC institution in Zunhua City

5.1.5 Pricing

According to the interviews with the administrative staff of the EC Institutions, the charges are based on self-care ability of the elderly, the need for different rooms (see Table 5.6). Usually the charge includes three meals per day, but there are a few EC Institutions charging the meals separately, e.g. the Glorious Institute in Zunhua City provides the menu for the elderly to choose everyday.

The pricing is based on considering the EC Institutions own cost (including staff salaries, utilities fees, rent, board expense, etc.), the market price of surrounding EC institutions, as well as their own service content and service levels. For example, the managers of the Fraternity EC Institution in Chengde City and Pinganyiju EC Institution in Zunhua City both think they provide a good service, so their price is of course higher. But also some other private EC institutions would like to set the low price in order to improve their competitiveness and attract more elderly to live in. However, accordingly the quality of services is relatively poor.

安平居康养机构收费标准

一、住宿费（按床位计）

1. 1800元以上（含1800元）按五星级（豪华套房）

2. 1200元以上（含1200元）按四星级（标准套房）

3. 800元以上（含800元）按三星级（标准套房）

4. 500元以上（含500元）按二星级（标准套房）

5. 300元以上（含300元）按一星级（标准套房）

二、护理费（按床位计）

1. 自理老人：100元/月

2. 半自理老人：200元/月

3. 全自理老人：300元/月

4. 重度失能老人：400元/月

5. 临终关怀：500元/月

三、膳食费（按床位计）

1. 自理老人：100元/月

2. 半自理老人：200元/月

3. 全自理老人：300元/月

4. 重度失能老人：400元/月

5. 临终关怀：500元/月

四、其他费用（按床位计）

1. 水电费：100元/月

2. 电话费：100元/月

3. 交通费：100元/月

4. 娱乐费：100元/月

5. 其他：100元/月

五、合计（按床位计）

1. 自理老人：1000元/月

2. 半自理老人：2000元/月

3. 全自理老人：3000元/月

4. 重度失能老人：4000元/月

5. 临终关怀：5000元/月

六、说明：以上价格为参考价，实际价格以机构公示为准。

Fig 5.3, Fig 5.4 Prices sety byof Anpingju EC institution in Zunhua City

5.1.6 Facilities and Services

(1) Facilities

According to the on-the-spot observation, the facilities of the visited EC Institutions are listed in Table 5.7. In general, the public EC Institutions have a large area and better natural environment. For example, Chengde Social Welfare Institute/Nursing Home is located in the suburb of Chengde City where near the famous scenic spot of the Waiba Temple. The institute has beautiful scenery, fresh air, and a large courtyard with exercise equipment for the elderly. The Fraternity EC Institution in Chengde City is located in the community, but its construction area reaches 1,620 square meters. However, according to the observation, the old public EC institutions often have outdated or lack of facilities, such as no elevator, monitors, emergency calling facilities and etc.

Some private EC Institutions have limited space, such as the two EC Institutions in Zunhua City. They rented and transformed two houses in the community. Thus the elderly do not have public venues for outdoor activities, and always stay inside the room. There are either no single toilets, elevators, monitors, emergency calling facilities and etc. However, some new built or rebuilt private EC institutions had a greater input in the facilities. E.g. Anpingyiju in Zunhua City is equipped with elevator, monitoring, emergency calling facilities, television, air conditioners, independent bathroom.



Fig 5.5 A big yard in Chengde Welfare Institution



Fig 5.6 A big yard with exercises facilities in Zunhua Glory Institution



Fig 5.7 Small private EC institution



Fig 5.8 Small yard for the elderly



Fig 5.9 Emergency call in Anpingju EC institution, Zunhua City



Fig 5.10 Monitors in Anpingju EC institution, Zunhua City



Fig 5.11 Three beds a room in Chengde Fraternity EC Institution, Chengde City



Fig 5.12 Two beds a room in Anpingju EC Institution, Zinhua City

(2) Services

According to the written material provided by the EC Institutions or the posters on their wall or the advertisement booklets, the namely services provided by the EC Institutions see the Table 5.7. But in practice, most of the EC Institutions can only provide the basic EC services to ensure the basic EC needs of the elderly, such as meals, accommodation, general personal care, drug distribution. If the elderly have a minor illness, they will buy the medicine or ask the doctors to have a visit. If the serious illness, they will go to the hospital with their children or caregivers.

Entertainment/exercise activities are generally carried out by the elderly themselves. EC Institutions with good conditions have public activity area for the elderly to play cards, mahjong or chess, watch TV, and etc.. They also have outdoor sports venues and equipment for the elderly to do exercises. Caregivers of some institutions will guide the elderly to dance, do gymnastics and wave swords. However, some small private EC Institutions have very little staff who are always busy and do not have time to chat with the elderly or reading newspapers, and provide the spiritual comfort.

EC institutions based on hospitals or clinics can provide rehabilitation services for the elderly, but the general EC agencies rarely provide. The reasons are as following:(i)no rehabilitation equipment. EC institutions are not aware of the importance of providing rehabilitation services or the price of rehabilitation equipment is often high.(ii)No enough professional rehabilitation therapist.(iii)Need to pay higher rates for the rehabilitation therapist. EC Institutions do not think it is necessary.(iv)Difficult to make profits. Because the treatment will need a long time, the elderly have skepticism about the rehabilitation treatment and they do not want to pay extra money for this service.

Table 5.7 Facilities and Services of Visited EC Institutions

EC Institutions	Facilities	Services
Chengde Social Welfare Institute / EC Institutions	<p>①Double room, the room has a network, television, air conditioning, tables and chairs, with independent bathroom, electric water heater</p> <p>②Home courtyard pattern, beautiful environment, benches and exercise equipment</p> <p>③A variety of recreational and sports room, such as: chess room, painting room, reading room</p> <p>④A health clinic, regular inspection</p>	Life care, nutritious catering, cultural and entertainment, medical services, spiritual comfort and so on
Chengde fraternity EC Institutions	<p>①Public activities area, billiards, table tennis, chess, television and other sports equipment</p> <p>②Each room has a separate toilet, solar hot water, floor heating, with a calling facility.</p> <p>③There are physical therapy rehabilitation room</p>	Life care, domestic service, catering services, legal rights, spiritual comfort, cultural entertainment, medical services
Zunhua Glorious institute/EC Institutions	<p>①Gates on both sides of the elderly have activities venues and a variety of fitness equipment.</p> <p>②There is an honor room, recreation room, clinic, counseling room, party room, radio station, computer room, reading room, restaurant</p> <p>③Each room has a separate toilet, water heater, heating and monitoring facilities.</p>	<p>①Long-term care and short-term day care services</p> <p>②The elderly box, alone cooking</p> <p>③For the elderly barber, laundry, bathing, massage, read, accompany therapy, medical treatment and so on</p> <p>④Dealing with the work of the elderly funeral</p> <p>⑤Legal advice, marriage, intermediary services</p> <p>⑥To provide telephone contact for the elderly family</p>
Zunhua Anpingyiju EC Institutions	<p>①Large living space with fitness equipment and tables and chairs</p> <p>②A variety of entertainment rooms, such as: chess room, dance room, painting room, reading room ... restaurant, monitoring room</p> <p>③A double / triple / quadruple room with TV, air conditioning, emergency call and separate toilet with armrest, non-slip mat</p> <p>④A community health service center</p>	<p>①Personal life care② The elderly care services③Psychological, spiritual support services ④Security services ⑤Environmental health services ⑥ Entertainment services⑦Assist in medical services⑧Health Care Services⑨Meal Service ⑩laundry service ⑪Property management and maintenance services ⑫ Communications services ⑬ Accompanied medical treatment ⑭ delivery service ⑮shopping services ⑯Transportation services</p>
Zunhua RujiaEC Institutions	<p>①The apartments are outdated and have no private toilets, but there are public toilets, public baths, public washing machines, boiling water, public television</p> <p>②There are a sofa, a small table for the elderly to chat, play chess, play cards in the yard</p> <p>③Each room has a fan, wardrobe, no TV, air conditioning, but the winter to warm</p>	Daily care, and the basic cultural and recreational activities
Zunhua XlsanliEC Institutions	<p>①Equipped with bathroom, TV, floor heating, no calling Facilities and handrail</p> <p>②There are second-hand sofas and tables, no other recreational facilities</p>	<p>①On time to help the elderly living, feeding the elderly on time, to feed and assist the elderly toilet, at any time to the elderly stand up, rubbing, for pads②On time for the elderly to wash clothes and bedding③Regular for the elderly shampoo, feet, nails, hair cut</p>

5.1.7 Monitoring and supervision

According to the national regulation, the establishment of EC institutions has to comply pertinent regulations and technical specifications. EC institutions should have the qualified buildings, facilities, equipment, activity space complying with the requirement of environment protection, fire prevention, and health prevention. It means the EC institutions have to get the approval of the environment protection, fire prevention, and health departments before its operation.

During the operation, staff of the provincial and municipal civil affairs department visit the selected EC institutions and check, especially in the winter time. The county civil affairs department also visit and check the township EC institutions, together with other pertinent departments. However, the service quality is not the focus point of the monitoring or supervision. For example, the criteria set for the check includes housing safety, heating supply in the winter, food safety, electricity using, fire prevention and etc.

5.1.8 Non-government EC organizations/groups

The EC institutions expressed that the elderly were visited by local or outside. For example, some enterprises give the elderly the rice, oil, money, or other gifts before various festivals or new year. The students of preliminary school, middle school, and college visit the elderly. They do the cleaning, chat with the elderly, make dumpling together with the elderly and etc. Volunteers of volunteer association also visit and help the elderly residents. Generally the bigger or older or more famous EC institutions will have more visitors and get more donations/help.

In Xinji City the believers of local Buddhist Association or Catholic often go to EC institutions to help the elderly. They do the housekeeping, help the elderly cut their nails and wash their feet. They accompany with the elderly, chatting and providing the mental support. They also give small gifts like cups, towels and flashlight to the elderly.

Generally the EC institutions welcome the volunteers or donations. However few managers said that they don't like the frequent visits. They thought there is often the time conflict between the visitors and the elderly since the elderly often get up, have meals and sleep earlier than the adult people. The visiting influences the routine work of the caregivers to some extent. Also, visitors can only communicate with the self-care or half-dependent elderly rather than the fully disabled elderly.

5.2 Community EC Services

5.2.1 Present Situation

The situation of community EC services in the project area is as following:

(1) Xinji City

There is no community and home based EC services in Xinji City. There are no pertinent facilities. Although some EC institutions have the brand of Community and Home EC Service Center, they actually did not provide EC services to the elderly in the communities.

(2) Shuangluan District in Chengde City

Shuangluan District has 3 Street offices and 25 communities. Since 2011, 15 community established day care rooms providing the elderly with the space of chatting, fitness, catering and other services. Since 2013, 2 street level Community and Home EC Service Center were established in Yuanbaoshan Street and Gangcheng Street, providing the EC services such as day care, health care, nutritional diet and etc.

Day care rooms are often set inside the community service center. Currently many day care rooms are not operating well. Some communities have set the day care room equipped with beds but it does not actually provide services, like Fenglinlvzhou, Shuanglan, Fenghuang communities. In the visited Yuanbaoshan community, the elderly also reported that the community had set up a catering point serving the elderly with meals but now it was closed for more than one year. The main reason is that day care rooms and catering points often rely on community service center. However, there are only 4~6 staff who have to deal with hundreds even thousands of residents in the community. They do not have enough time or energy to run the day care rooms and catering points by themselves. Catering points are self-financing and need to hire administrative personnel, cooks and waiters. In the case of the elderly are reluctant to buy the service, they could not keep the financial balance. Fig 5.13-15 show some pictures taken during the fieldwork.

(3) Li County

There is no community and home based EC services in Xinji City. There are no pertinent facilities.

(4) She County

There is one Community and Home EC Service Center in the county, which actually did not provide EC services to the elderly in the communities.

(5) Julu County

There is no community and home based EC services in Xinji City. There are no pertinent facilities.



Fig 5.13 Beds for the elderly in Huaifu Community Service Center, Zinhua City



Fig 5.14 Beds for the elderly in Conveyor Community Service Center, Chengde City



Fig 5.15 Congregate Meals point in Chengde Fraternity EC institution, Chengde City

5.2.2 Personal Experience and satisfaction

Totally there are 354 respondents, the number and percentage of respondents who have experienced the EC daily care services or help are shown in Table 5.8. Housekeeping, day care and escorting are three top experiences. Except the calling service funded by the civil affair department, home Delivered Meals and Housekeeping are the top two paid services. Next are Day care and night care, usually hiring the housekeeper.

Table 5.8 Experience of various EC daily care services/help

EC service or help	1.Home Delivered Meals	2. Congregate Meals	3. Day care(personal cleaning, toileting ,moving, reading, chatting and etc.)	4.Housekeeping (room cleaning, cloth washing)	5. Night care	6. Escorting (hospital, visiting, shopping, etc.)	7.Reminder service	8. calling service	9.Information on counseling and referral services
Frequency of the elderly who had experience	27	0	38	47	36	35	31	13	0
Percent	7.6%	0.0%	10.7%	13.3%	2.8%	10.2%	8.8%	3.7%	0.0%
Within it: EC Service Frequency	12	0	6	14	5	2	1	13	0
Percent	44.4%	-	15.8%	29.8%	13.9%	5.7%	3.2%	100.0%	-

(1) Home Delivered Meals

Of the 27 respondents who experienced the home delivered meals service/help, 15 (55.6%) were helped by their children without payment. The rest 12 respondents bought the service from the community or agencies. 5 respondents paid over 300 Yuan per month. The rest paid at 30~100 Yuan per month, which means they were not regular service.

22 respondents(81.5%) are satisfied with the home delivered meals service/help. 3 respondents expressed the dissatisfaction because of unhygienic or expensive.

Table 5.9 Service or help provider of Home Delivered Meals

Item	Frequency	Percent(%)
Children	15	55.6
Community or agencies	12	44.4
Total	27	100.0

Table 5.10 Monthly payment of Home Delivered Meals

	0	50	30	100	300	350	500	Total
Frequency	15	5	1	1	3	1	1	27
Percent(%)	55.6	18.5	3.7	3.7	11.1	3.7	3.7	100

(2) Congregate Meals

Although the residents said there was a catering point providing meals for the elderly in the visited Yuanbaoshan Community, no respondents have experienced the congregate meals service. 75.4% respondents said they are self-care. 18.6% respondents are taken care of by the children or spouse. The rest 3.6% expressed that they need the service but don't know where to get it. Only 1.4% expressed they need but cannot afford.

(3) Day care

Of the 38 respondents who experienced the day care service/help including personal cleaning, toileting, moving, reading, chatting and etc., 84.2% respondents are helped by their children or spouse. 13.2% hire the housekeeper. Only one person experience the service from the volunteer.

Generally the monthly payment for the housekeeper is over 2,000 Yuan. Those looking after the full disabled elderly will get higher payment. Typically the housekeepers stay in the employers' home and accompany with the elderly for 24 hours per day. They will have several days' leave per month. Many of them have to do cooking, washing clothes, escorting, personal cleaning/help and etc.

92.1% respondents are satisfied with the day care service/help. Only 1 respondent expressed the dissatisfaction for expensive. The other 2 persons thought the service quality is just so so.

Table 5.11 Service or help provider of Day care

Item	Frequency	Percent(%)
Children	19	50.0
Spouse	13	34.2
House maid/part-time servant	5	13.2
Community or agencies	1	2.6
Total	38	100.0

Table 5.12 Monthly payment of Day care

Item	0	200	2000	2500	5000	Total
Frequency	32	1	3	1	1	38
Percent(%)	84.2	2.6	7.9	2.6	2.6	100

(4)Housekeeping

Of the 47 respondents who experienced the housekeeping services/help including room cleaning, cloth washing and etc., 70.3% respondents are helped by their children or spouse. 27.7% hire the housekeeper or hourly employees. Only one person experience the service from the community or agency.

The payment for the hourly employees is 15~30 Yuan per hour. The monthly payment various from 100~1000 Yuan, which depends on the work hours.

93.4% respondents are satisfied with the day care service/help. Only 1 respondent expressed the dissatisfaction for expensive. The other 2 persons thought the service quality is just so so.

Table 5.13 Service or help provider of Housekeeping

Item	Frequency	Percent(%)
Children	31	66.0
House maid/part-time servant	13	27.7
Spouse	2	4.3
Community or agencies	1	2.1
Total	47	100.0

(5)Night care

Of the 47 respondents who experienced the night care services/help, 80.6% respondents are helped by their children. The spouse do not take the responsibility because they are also old and have no enough energy. 2 persons are helped by their nephews. 5 persons(13.9%)hire the housekeeper for the 24 hours care.

94.4% respondents are satisfied with the night care service/help. Only 1 respondent expressed the dissatisfaction. Another 1 persons thought the service quality is just so so.

Table 5.14 Service or help provider of night care

Item	Frequency	Percent(%)
Children	29	80.6
House maid/part-time servant	5	13.9
nephews	2	5.6
Total	36	100.0

(6)Escorting services/help

Of the 35 respondents who experienced the escorting services/help, including to the hospital, visiting, or shopping, 91.4% respondents were escorted by their children. Only two were escorted by the housekeepers and one received the help from the volunteer.

All respondents were satisfied with the escorting services/help.

Table 5.15 Service or help provider of Escorting

Provider	Frequency	Percent(%)
Children	32	91.4
House maid/part-time servant	2	5.7
volunteer	1	2.9
Total	35	100.0

(7)Reminder service/help

Of the 31 respondents who experienced the reminder services/help, including to the hospital, visiting, or shopping, 30 persons (96.8%) were helped by their children. Only 1 person were helped by the housekeepers.

(8)Push-to-talk calling service

Only 13 respondents(8.8%)experience the push-to-talk or 12349 calling service. The 13 respondents are all in Chengde because Zunhua has no such calling service. The elderly got the free mobile and certain amount of free call time.

6 respondents expressed satisfaction. Of which, 4 persons thought there were free and 2 persons for convenient. 4 respondents expressed dissatisfaction for the poor quality of the mobiles. 3 respondents thought the service is just so so because the fee call time is limited.

(9)Information counseling and referral services

No respondents have experience the information counseling and referral services.

5.2.3 Rural “Happy Yard”

Many villages have their own Happy Yard with the average beds of 6. Details see Table 5.16.

The served elderly are various. Some are renamed on the basis of previous village nursing home with the nature of social welfare, still targeting at the five-guarantee elderly. Some are facing the rural elderly who need the EC services or help, such as the oldest old, empty nest elderly or the elderly living alone. The charge is often tens of Yuan per month. Generally the elderly living in the Happy Yard can self care because the administrative staff/caregivers are only one or two doing all the work and thus no time to look after the fully disabled. Some Happy Yards can provide the space for the elderly in the villages with the space of day rest and amusement, but generally not provide the meals.

Most of the Happy Yards have one-floor buildings. Only basic meals and accommodation services are provided. Even in some Happy Yards, the elderly have to cook by themselves. Generally there is no medical and rehabilitation services.

TABLE 5.16 Happy Yare in the Rural Project Area (2015)

Area	Village	Happy Yard	Percent	Beds	Average beds
Xinji	344	N/A	N/A	N/A	N/A
Shuangluan	63	39	61.9%	312	8
Li	232	N/A	N/A	N/A	N/A
She*	280	212	75.7%	2895	14
Julu	255	211	82.7%	1200	6

Source: FSRs, Internet news.

*: Data of 2013 from Internet news.

5.3 EC ITs Services

In the project area, only Shuangluan District has the push-to-talk calling service, including the "96096" community **convenience** hotline service and "12349" home EC service hotline.

"96096" is a landline service provided by the Telecommunication Company. It started to operate in 2010 for all Chengde citizens providing living services. Based on 96096, Shuangluan District established a Home EC service command Center. The District also funded 555 households with the elderly over 75 years old to install the push-to-talk land line, so that the elderly are able to get medical assistance, health advice and other services. The Government also pay the service fee at 180 yuan per household per year. By the end of 2014, 609 users are in the network.

"12349" is a home EC calling service pilot only in the Shuangluan District. It was provided by the China Mobile Company and started the operation in 2013. Chengde City set up the Chengde Community Service Center including "12349 home EC

service hotline" and "12349 emergency call center". The Community Center is located in the Beiyuan Community. There are a total of eight staff, including three administrative staff and five operators. The elderly over 75 years old can apply for a special mobile phone freely. The monthly function fee is 15 yuan with certain amount of free time, which is subsidized by the government and the excess part will be charge at the lowest local rate. The elderly over 75 years old have to select 96096 or 12349 to enjoy the subsidy. In July 2016, a total of 1,906 elderly are in the network. There are also 1,494 business units joined in the network.

The mode of operation

At present "12349" home care service hotline actually plays a role as an intermediary platform. When the elderly call the 24-hour service center, the center will try to provide convenient, high-quality, and efficient service.

After receiving the call from the elderly, the service center will contact the nearest recommended businesses units in accordance with the needs of the elderly, and register the orders in the system. After the order transferring, the business unit will contact with the elderly and negotiate with the services and prices. If the elderly was satisfied with the business units and the services, the order will be completed. If not, the service center will recommend other business units. When the order is completed, the service center will make a visit call within 3 days to see the satisfaction and examine the business units and services. The business units with poor quality will be removed from the network.

Service scope

At present the services provided for the elderly are listed the following:

- ①Household Services: Family Nanny, Hour Worker, Moving Service, Decoration, Cleaning & Cleaning, Delivery Service, Lock Repair, Ventilation, etc.
- ②Property maintenance services: home appliance repair, home maintenance, communications maintenance, replacement of pipes / dredge maintenance, etc.
- ③Medical services: hospitals, expert consultation, medical consultation, outpatient service, health care, medical equipment, drugstore, etc.
- ④EC services: elderly care, health care, rehabilitation and so on.
- ⑤Health services: hospitals, health clinics, community service stations
- ⑥Legal services: legal advice, introducing law firms

"12349 emergency call centers" is dedicated to the elderly to cope with emergency situations. Just pressing the "SOS" button on the back of the mobile phone for 5 seconds, it can automatically help the elderly. The intelligent information platform of the service center will display the information of the elderly, then the operator will locate the elderly, if emergent, he will quickly contact 120, 110, 119, community committees, property company, family members and the nearest contact. At the

same time they will monitor the live sound condition nearby the elderly through multi-party communication and coordination, the elderly can maximally save their lives by greatly reducing the time of first aid.



Fig 5.1 Operators in the Chengdu City Community Service Center



Fig 5.2 12349 Mobile phone with "SOS" button at the back

Feedback of using "12349"

In the interview, we found that many elderly people received the "12349" specialized mobile phone, but they only used it as an ordinary mobile. They never used the "12349" services, even did not notice the "SOS" button and did not know the emergency calling service. The elderly reflected they do not know how to use the service function of the mobile. The reasons are explained as short of not enough advertisement or extension. The service center has only 8 people who distributed the mobile to communities and teach some community staff and a few elderly. The community cadres are only 5 to 6 who mainly informed the elderly to the community to get mobiles and did not carefully teach the elderly how to use the mobile and pertinent functions. The elderly's learning speed is relatively slow, some do not want to learn new things, and some are easy to forget.

In fact, in the interview, many elderly people are interested in the "SOS" emergency services, and think it is certainly necessary for the future, particularly under the situation like the children are too busy or live outside and cannot take care of them, the elderly people living alone. When encountering unexpected situations and lack of first aid measures, no one can help them.

A few elderly knew how to use the "12349" related services, but never used them. They thought they do not need the services through 12349. They have their own familiar home delivery business units, and do not trust the strange business units recommended by 12349.

A few elderly people used "12349" service several times, thought it was good but still did not continue to use it. The elderly felt complex and troublesome of the 12349

service. They had to call, wait and negotiate. They would like to call the familiar business units in the community directly. In addition, comparing the service price and quality of the 12349 recommended business units with their familiar ones, there is no much difference. So the elderly prefer the familiar ones.

Only 13 questionnaire respondents experienced the push-to-talk or 12349 calling service. 6 respondents expressed satisfaction. Of which, 4 persons thought there were free and 2 persons for convenient. 4 respondents expressed dissatisfaction for the poor quality of the mobiles. 3 respondents thought the service is just so so because the fee call time is limited.

Of all the respondents who never used the push-to-talk services, 25 people knew their relatives or friends have used the calling service. Of which, 10 persons said they were satisfied because of the convenience and free of charge. 8 persons said they were satisfied because they don't know how to use, limited usage, high payment, poor quality of the mobile (easy to be broken, small sound), etc.

6. Demand Analysis of EC Services

6.1 Elderly's Demand

6.1.1 The Most EC Demand

Of 352 respondents who answered the question of which EC mode they mostly demand when their health situation is not good enough in the future and need long-term care, 58.8% choose to be taken care of by their children. 19.3% choose the community and home based EC services. 15.6% choose the EC institutions. The rest 6.6% choose to be taken care of by the housemaid or the spouse.

Table 6.1 The Most EC Demand

Items	Frequency	Percent(%)
live with children, looked after by the housemaid	4	1.1%
live separately with children, looked after by the housemaid	8	2.3%
live separately with children, self-care or by spouse	10	2.8%
live separately with children, with the service/help provided by community (including community and home based service)	31	8.8%
live with children, the service/help provided by community (including community and home based service)	37	10.5%
live in the EC institutions	55	15.6%
live separately with children, looked after by the children	76	21.6%
live with children, looked after by the children	131	37.2%
Total	352	100.0%

6.1.2 Demand for EC Institutions

Of 353 respondents, 32.6% expressed that they will never live in the EC institutions. 35.7% don't want to live in now. Whether to live in the future will depend on the situation at that time. 27.5% don't want to live in now but will live in the EC institutions in the future. Another 4.2% want to live in the EC institutions right now. (see Table 6.2).

The major situation under which the elderly will most make the decision to live in the EC institutions include: the elderly is fully disabled(75.7%); the children cannot look after them whether busy or live outside (72.0%)(see Table 6.3).

The major reasons of choosing living in the EC institutions include: Don't want to bother children and want to relieve their burden(84.8%); Lack of caregiver in the daily life(71.4%);Weak in doing housework(47.3%); Want a better life care in the EC institutions providing more professional daily care and health care(29.5%); Feel lonely(20.5%)(see Table 6.4).

Table 6.2 Demand for EC Institutions

Items	Frequency	Percent(%)
Not now, it depends in the future	126	35.7
Never	115	32.6
Want to live in the future, but not now	97	27.5
Yes, want to live right now	15	4.2
Total	353	100

Table 6.3 Decisive situation to live in the EC institutions

Items	Frequency	Percent(%)
when I am fully disable in my daily life	181	75.7%
children cannot look after me	172	72.0%
when I feel weak in taking care of myself and need others help	66	27.6%
If I find the institution which I like	34	14.2%
When I can afford	7	2.9%
others, specify	5	2.1%

Table 6.4 Reasons for choosing EC institutions

Items	Frequency	Percent
Don't want to bother children	95	84.8%
Lack of caregiver in the daily life	80	71.4%
Weak in doing housework	53	47.3%
Want a better life care (more professional daily life and healthy diet)	33	29.5%
Feel lonely	23	20.5%
Want a higher quality elderly life (better living environment and more leisure)	12	10.7%
Want a more professional health care	9	8.0%
Poor/inconvenient residential condition for the elderly	4	3.6%
Family conflict	3	2.7%
Leave the present house for children	2	1.8%
Others, specify	0	0.0%

6.1.3 Demand for community/home based EC services

6.1.3.1 Services demanded in the future

(1) Daily Care

Surely demanded services are: day care(22.7%), housekeeping(22.0%), Congregate Meals(20.4%),Home Delivered Meals(20.2%), calling service(16.4%), night care(14.4%), escorting service(11.5%), reminder service(6.0%), and Information counseling and referral services(4.9%)。

Potentially demanded services are: housekeeping(30.0%),Home Delivered Meals(26.0%),day care(24.9%)and so on. Whether to demand will mainly depend on: the health situation, whether the children have time to look after, whether can afford, and the service quality.

Surely unwanted services are: Information counseling and referral services(85.3%), reminder service(84.8%), escorting service(78.3%), calling service(71.5%), night care(68.3%)and so on.

Table 6.5 Daily Care Services demanded in the future

EC care service or help	will not		maybe, it depends		will		don't know	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
1.Home Delivered Meals	166	53.2%	81	26.0%	63	20.2%	2	0.6%
2.Congregate Meals	210	63.1%	52	15.6%	68	20.4%	3	0.9%
3. Day care(personal cleaning, toileting, moving, reading, chatting and etc.)	161	52.1%	77	24.9%	70	22.7%	1	0.3%
4.Housekeeping (room cleaning, cloth washing)	144	48.0%	90	30.0%	66	22.0%	0	0.0%
5. Night care	213	68.3%	52	16.7%	45	14.4%	2	0.6%
6. Escorting (hospital, visiting, shopping, etc.)	246	78.3%	30	9.6%	36	11.5%	2	0.6%
7.Reminder service	268	84.8%	27	8.5%	19	6.0%	2	0.6%
8. calling service	236	71.5%	37	11.2%	54	16.4%	3	0.9%
9.Information counseling and referral services	296	85.3%	31	8.9%	17	4.9%	3	0.9%

(2) Health care

Surely demanded services are: Family doctor or Visiting Nurse Service(25.1%),Physical examination and health care(15.3%), Emergency services/ calling service(14.7%), and Rehabilitation nursing(12.9%).

Potentially demanded services are: Physical examination and health care(25.9%),Family doctor or Visiting Nurse Service(24.2%), Rehabilitation

nursing(21.1%), and Physical medicine/occupational therapy/speech therapy/Respiratory Therapy(17.1%). Whether to demand will mainly depend on: the health situation, whether can afford, the extent of trust on the service providers, whether the children have time to look after, and etc.

Surely unwanted services are: Escorting(82.7%), Special service for patients with Alzheimer's disease /dementia, Health Information and health lecture²(81.7%), Physical medicine/occupational therapy/speech therapy/Respiratory Therapy(78.1%).

Table 6.6 Health Care Services demanded in the future

Health Care	Will not		Maybe, it depends		Will		Do not know	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Physical examination and health care	50	58.8%	22	25.9%	13	15.3%	0	0%
Health Information and health lecture	143	81.7%	17	9.7%	12	6.9%	3	1.7%
Rehabilitation nursing	205	64.5%	67	21.1%	41	12.9%	5	1.6%
Physical medicine/occupational therapy/speech therapy/Respiratory Therapy, etc.	246	78.1%	54	17.1%	11	3.5%	4	1.3%
Special service for patients with Alzheimer's disease /dementia	287	82.7%	42	12.1%	12	3.5%	6	1.7%
Escorting to see doctor	277	82.7%	29	8.7%	25	7.5%	4	1.2%
Family doctor or Visiting Nurse Service	165	49.8%	80	24.2%	83	25.1%	3	0.9%
Emergency services/ calling service	240	70.8%	46	13.6%	50	14.7%	3	0.9%

6.1.3.2 Services mostly demanded in the future

Three top daily care services mostly demanded by the elderly in the future are Housekeeping (30.1%), Home Delivered Meals (23.6%), and Day care (23.1%).

Table 6.7 Daily care services mostly demanded in the future

EC service or help	Housekeeping	Home Delivered Meals	Day care	Congregate Meals	calling service	Escorting	Night care	Other needs	Reminder service	Information counseling and referral services
Frequency	120	94	92	52	18	11	9	3	0	0
Percent	30.1%	23.6%	23.1%	13.0%	4.5%	2.8%	2.3%	0.8%	0	0

² During the FGDs, many elderly expressed that they didn't trust the health lectures because previously many health lecture providers were actually salesmen or even cheaters, promoting health care products to them. Thus they would like to watch the TV program of health care, which is all knowing.

Three health care services mostly demanded by the elderly in the future are Family doctor or Visiting Nurse Service (38.3%), Rehabilitation nursing (20.6%), and Emergency services/ calling service (13.5%).

Table 6.8 Health care services mostly demanded in the future

Items	Family doctor or Visiting Nurse Service	Rehabilitation nursing	Emergency services/ calling service	physical examination and health care	Physical medicine/occupational therapy/speech therapy/Respiratory therapy, etc.	Escorting to see doctor	Health Information and health lecture	special service for patients with Alzheimer's disease /dementia
Frequency	147	79	52	34	33	21	12	11
Percent	38.3%	20.6%	13.5%	8.9%	8.6%	5.5%	3.1%	2.9%

6.1.3.3 Demand for the day care center

About half of the questionnaire respondents would like to use the day care center in the community (see Table 6.9). Services that the elderly mostly concern are the equipment (rehabilitation equipment, chirapsia equipment, blood pressure meter/glucometer, exercising equipment) (27.4%), Entertainment (billiards, Library/reading room, Drawing room, Chess-playing room) (21.3%), and Doctors and nurses(19.8%).(see Table 6.10)

In the FGDs, the elderly respondents also expressed their expectation and demand about the Day Care Center. The elderly welcomed the Day Care Center because 1) it will be a place for the familiar elderly friends to stay together and enjoy pertinent EC services, particularly the meals. 2) they can enjoy better EC services in the community where they are familiar with, whether the environment or people. They need not to move to the EC institutions. They still can meet their children and grandchildren frequently. 3) the EC cost is estimated to be less than living in the EC institutions and thus they can afford. 4) children can focus on working without worrying about their life because they are looked after by the staff in the Day Care Center. They said they would like to pay for better elderly life.

Some elderly had different opinions. They doubted about the effect/meaning of the day care center. They thought they can play chess or cards in the open public space, or in the private chess or cards room which charge a little. They can stay in the community center or go to the public square/park to sing or dance for free. If they feel uncomfortable they can go to the clinics in the community. Some have blood pressure and blood sugar detectors at home and can do the simple test by themselves. Besides, it will be inconvenient to move the fully disabled elderly between home and the center frequently. To summarize, these doubts are based on the condition of the elderly or the community. For those communities who even have

no community center or no public activity space, and those semi-disabled elderly, the day care center seems more useful.

Table 6.9 Willingness to use the day care center

Item	Frequency	Percent(%)
Will	178	50.6
Will not	154	43.8
It depends, on	19	5.4
Don't know	1	0.3
Total	352	100.0

Table 6.10 Concerned services in the Day Care Center

Item	Frequency	Percent(%)
Equipment(rehabilitation equipment, chirapsia equipment, blood pressure meter/glucometer, exercising equipment)	94	27.4
Entertainment (billiards, Library/reading room, Drawing room, Chess-playing room)	73	21.3
Doctors and nurses	68	19.8
Daily care(Meals, personal hygiene)	51	14.9
Spiritual consolation	38	11.1
Living environment(health, space)	17	5.0
Others	2	0.6

6.1.3.4 Demand for the Calling service

Many elderly said they will call their children first if they need help. The children will help them to buy the things, make the order, escort them to the bank or hospital, and etc. Most elderly who can self-care said they don't need the home delivery. They said they have enough time and would like to do shopping by walk.

In the FGDs, we found that the existing 96096 or 12349 calling service has not been widely adopted by the elderly. The trust between the elderly and the calling service/business entity has not been established. At the same price of the services, the elderly prefer those provided by their familiar shopkeepers in the community.

The consumption willingness is also a factor. Some elderly talked about the mode of Shijiazhuang City. Shijiazhuang gave the elderly with the elderly voucher which can be used to buy EC services, which greatly encourage the elderly to enjoy the EC services. The elderly respondents also hoped their local government could subsidize them.

Many elderly respondents expressed their strong interests in the SOS function of the Push-to-talk facilities. They thought it would help to save their life in time when emergency happens.

6.1.4 Influential factors

Based on the FGDs and survey result, the following factors are thought as important to influence the elderly choices about the EC.

(1) Self-care ability

The health condition of the elderly is the most decisive factor. Generally when the elderly can take care of themselves, they will not think of living in the EC institutions unless they have family conflict and want a shelter. Table 6.11 shows the distribution of the surveyed elderly's health condition. The sampling fits for local's situation.

Table 6.11 Health condition of the elderly respondents

Health condition	Frequency	Percent(%)
Completely self-care	300	84.7
Mild disabled	33	9.3
Moderate disabled	15	4.2
Completely disabled	6	1.7
Total	354	100.0

Table 6.12 shows that the relationship between the present health condition of the elderly respondents and their most EC demand in the future. The elderly who can self-care at present prefer a litter bit more to enjoy the community and home based EC services than the semi-disabled one.

Table 6.12 Cross-tabulation: Health condition & Most EC demand

self-care ability		Self-care or by spouse	looked after by the children	looked after by the housemaid	Enjoy community and home based services	live in the EC institutions	Total
Completely self-care	Frequency	8	174	9	60	47	298
	Percent	2.7%	58.4%	3.0%	20.1%	15.8%	100.0%
Semi disabled	Frequency	1	31	2	7	7	48
	Percent	2.1%	64.6%	4.2%	14.6%	14.6%	100.0%
Completely disabled	Frequency	1	2	1	1	1	6
	Percent	16.7%	33.3%	16.7%	16.7%	16.7%	100.0%

(2) Number of children

When the elderly have more children, they prefer to be looked after by their children by turns. However, when the elderly have one or two children, they are willing to live in the EC institution or buy EC services. In the FGDs, many elderly only have one or two children strongly expressed that they don't want to be the burden of the children

when they are aging. They understood that the society is very competitive and the children have to work hard and thus the children may not have time or energy to look after them. They expected the proposed EC services.

Table 6.13 shows that most of the elderly respondents have 1 or 2 children. Some of them (20.8%) have three or above. Few have no children.

Table 6.13 Number of Children

Number	Frequency	Percent(%)
0	5	1.4
1	103	29.1
2	172	48.6
3	43	12.1
4	21	5.9
5	10	2.8
Total	354	100.0

Table 6.14 shows the cross-tabulation between the number of children and the elderly's most EC demand. The statistical meaning is significant, which proves that the number of children has close relationship with the elderly's selection of EC demand. It can be observed that the elderly who has 3 or more children prefers more to be looked after by their children.

Table 6.14 Cross-tabulation: Number of children & Most EC demand

The number of children		Self-care or by spouse	looked after by the children	looked after by the housemaid	Enjoy community and home based services	live in the EC institutions	Total
0	Frequency	0	2	0	2	1	5
	Percent	0.0%	40.0%	0.0%	40.0%	20.0%	100.0%
1	Frequency	2	51	4	27	19	103
	Percent	1.9%	49.5%	3.9%	26.2%	18.4%	100.0%
2	Frequency	7	96	7	31	30	171
	Percent	4.1%	56.1%	4.1%	18.1%	17.5%	100.0%
3	Frequency	0	35	0	5	3	43
	Percent	0.0%	81.4%	0.0%	11.6%	7.0%	100.0%
4	Frequency	1	14	1	2	2	20
	Percent	5.0%	70.0%	5.0%	10.0%	10.0%	100.0%
5	Frequency	0	9	0	1	0	10
	Percent	0.0%	90.0%	0.0%	10.0%	0.0%	100.0%

Note: Two of the elderly respondents who have no children chose to be looked after by their grandchildren.

(3) Economic condition

The elderly's economic condition is an important factor. The poor elderly is surviving with the limited income, saying nothing of 'enjoy the elderly life'. Without support,

they never imagine they can afford and live in the EC institutions with good quality. However, for the elderly who is mid-income or above, they have more options and the economic condition is not the only one decisive factor. Generally the elderly with good economic condition would like to receive and require for better EC services.

Table 6.15 shows the distribution of the monthly income of the urban elderly respondents. The elderly of different level are nearly averagely distributed with the interval of 1000.

Table 6.15 Monthly income of urban elderly

Monthly income of urban elderly	Frequency	Percent(%)
<=1000	79	25.8
1001-2000	62	20.3
2001-3000	90	29.4
3001-4000	50	16.3
>=4001	25	8.2
Total	306	100

Table 6.16 shows the cross-tabulation between economic condition of urban elderly and their most EC demand. The statistical meaning is significant, which proves that economic condition of urban elderly has close relationship with their selection of EC demand.

Table 6.16 Cross-tabulation: Economic condition & Most EC demand

Economic condition		Self-care or by spouse	looked after by the children	looked after by the housemaid	Enjoy community and home based services	live in the EC institutions	Total
<=1000	Frequency	1	61	3	7	6	78
	Percent	1.3%	78.2%	3.8%	9.0%	7.7%	100.0%
1001-2000	Frequency	1	29	0	20	12	62
	Percent	1.6%	46.8%	0.0%	32.3%	19.4%	100.0%
2001-3000	Frequency	6	50	2	20	12	90
	Percent	6.7%	55.6%	2.2%	22.2%	13.3%	100.0%
3001-4000	Frequency	0	22	5	10	12	49
	Percent	0.0%	44.9%	10.2%	20.4%	24.5%	100.0%
>=4001	Frequency	0	10	0	11	4	25
	Percent	0.0%	40.0%	0.0%	44.0%	16.0%	100.0%

(4) Age

Age often works together with other factors. Elder elderly's health condition is often worse. They have more children since the later implemented 'one child' policy. Their concept of EC are often very traditional. In the FGDs, for many times we heard that the young elderly (around 60 years old) said their parents definitely will not live in the EC institutions because they will think their children as not filial and they prefer to live

at home until the death. Also these young elderly often have several sisters or brothers, they are all retired or nearly retired and thus they have time to take care of their elder parents by turns. For these young elderly themselves, they had another kind of EC thoughts. Many of them expressed their consideration for their children. To relieve their one or two children's burden, they are willing to stay in the EC institutions or open to receive the community and home based EC services.

Table 6.17 Age of the elderly respondents

Age	Frequency	Percent(%)
60-69	201	56.8
70-79	90	25.4
80-89	59	16.7
90-99	4	1.1
Total	354	100.0

Table 6.18 shows the cross-tabulation between the age of children and the elderly's most EC demand. The statistical meaning is significant, which proves that the age of children has close relationship with the elderly's selection of EC demand.

Table 6.18 Cross-tabulation: Age & Most EC demand

Age		Self-care or by spouse	looked after by the children	looked after by the housemaid	Enjoy community and home based services	live in the EC institutions	Total
60-69	Frequency	7	106	5	46	37	201
	Percent	3.5%	52.7%	2.5%	22.9%	18.4%	100.0%
70-79	Frequency	1	55	5	16	11	88
	Percent	1.1%	62.5%	5.7%	18.2%	12.5%	100.0%
80-89	Frequency	2	42	2	6	7	59
	Percent	3.4%	71.2%	3.4%	10.2%	11.9%	100.0%
90-99	Frequency	0	4	0	0	0	4
	Percent	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%

(5) Living distance to children

When the elderly are living together with or close to their children, it would be convenient to receive the care from the children. If the children are living in another city or another province, it is hard for the elderly to be looked after unless they move to the place where their children are living.

Table 6.19 shows that most elderly are living together with or close to their children. Only 8.1% of the elderly respondents are living far away from their children.

Table 6.19 Cross-tabulation: Living distance to children & Most EC demand

Live with Children	Frequency	Percent(%)
Living with children's family	135	38.1
Not living with children, but in the nearby area	159	44.9
living with different children's families by turns	31	8.8
Not living with children, and in faraway area	29	8.1
Total	354	100.0

Table 6.20 shows the cross-tabulation between the Living distance to children and the elderly's most EC demand. The statistical meaning is significant, which proves that the Living distance to children has close relationship with the elderly's selection of EC demand. It is clearly observed that a high percentage the elderly who are living far away from their children choose the community and home based EC services.

Table 6.20 Cross-tabulation: Living distance to children & Most EC demand

Whether living together		Self-care or by spouse	looked after by the children	looked after by the housemaid	Enjoy community and home based services	live in the EC institutions	Total
living with children's family	Frequency	3	79	2	24	26	134
	Percent	2.2%	59.0%	1.5%	17.9%	19.4%	100.0%
not living with children, but in the nearby area	Frequency	6	98	7	26	22	159
	Percent	3.8%	61.6%	4.4%	16.4%	13.8%	100.0%
not living with children, and in the faraway area	Frequency	0	8	1	14	5	28
	Percent	0.0%	28.6%	3.6%	50.0%	17.9%	100.0%
living with different children's families by turns	Frequency	1	22	2	4	2	31
	Percent	3.2%	71.0%	6.5%	12.9%	6.5%	100.0%

(6) Education level

Education level of the elderly respondents is also influential. Generally the elderly with high education level are more informative and more open to the new things of EC. In the FGDs, some elderly respondents who were school teachers before retirement said they have watched TV programs introducing some community and home based EC services in Beijing as the good practice. Thus they knew what good community services look like and also expected for the good one to be established at local in the present project. They have affordability and also would like to pay for the EC services. Table 6.21 shows the education level of the elderly respondents.

Table6.21 Education level of the elderly respondents

Education	Frequency	Percent(%)
Illiterate	40	11.3
Literacy class	4	1.1
Have not graduated from primary school	21	5.9
Graduated from primary school	96	27.1
Junior High School	87	24.6
Senior high school or equivalent	81	22.9
College	19	5.4
University or above	6	1.7
Total	354	100.0

Table 6.22 shows the cross-tabulation between education level of children and the elderly's most EC demand. The statistical meaning is significant, which proves that education level of the elderly has close relationship with their selection of EC demand. We can observe from Table 6. 22 that the elderly at the educational level of above junior high school would like to receive the residential, home and community based EC services.

Table 6.22 Cross-tabulation: Education level & Most EC demand

Educacion		Self-care or by spouse	looked after by the children	looked after by the housemaid	Enjoy community and home based services	live in the EC institutions	Total
Illiterate	Frequency	2	28	1	5	4	40
	Percent	5.0%	70.0%	2.5%	12.5%	10.0%	100.0%
literacy class	Frequency	0	3	0	0	1	4
	Percent	0.0%	75.0%	0.0%	0.0%	25.0%	100.0%
Have not graduated from primary school	Frequency	0	14	1	1	5	21
	Percent	0.0%	66.7%	4.8%	4.8%	23.8%	100.0%
Primary school	Frequency	4	72	2	5	12	95
	Percent	4.2%	75.8%	2.1%	5.3%	12.6%	100.0%
Junior High School	Frequency	2	54	2	16	12	86
	Percent	2.3%	62.8%	2.3%	18.6%	14.0%	100.0%
Senior high school or equivalent	Frequency	2	31	4	32	12	81
	Percent	2.5%	38.3%	4.9%	39.5%	14.8%	100.0%
college	Frequency	0	3	1	8	7	19
	Percent	0.0%	15.8%	5.3%	42.1%	36.8%	100.0%
university or above	Frequency	0	2	1	1	2	6
	Percent	0.0%	33.3%	16.7%	16.7%	33.3%	100.0%

(7) Social network

Social network plays a supplementary but also important role in the elderly care.

Some elderly have the night care by their nephews. When some elderly were in hospital, their sisters/brothers/nephews/nieces all helped to look after them by turns.

Some elderly couples who are good friends/siblings often stay together and support each other when necessary.

Some communities are mainly consisted by the staff of the same enterprises, e.g. Yuanbaoshan Community whose residents are mainly from a flax mill and a silk plant in Chengde City, and Conveyor Community whose residents are mainly from a conveyor factory. The elderly know each other and support each other when necessary. One adult child said he could ask his neighbor to look after his father when he had to have a business trip for several days. Thus in his opinion, the respite service is not that important in the day care center. However, in the newly established residential zones, the residents are comprehensive. They just bought the apartments in the same residential zones and the cohesion is weak.

Property management services are provided in the community. In Chengde, the government specially subsidizes the property company to look after the small, old and decrepit residential zones. The elderly can easily call the staff of the property company in their community for help, e.g. change the light bulb, unblock the drain or etc. That is partial reason that some elderly think the uselessness of the calling services.

Also, some communities are active in the elderly care. Most communities provide free physical test every year for the elderly although the test items are not comprehensive and enough as desired by the elderly. Some communities organize the health lectures for the elderly about how to preserve the health, e.g. once every month in Yuanbaoshan community of Chengde City. Some communities organize the elderly dancing group and won the prize during the competition, e.g. Haijin community of Zunhua City.

Almost all the communities, pertinent government departments and some enterprises will visit the vulnerable elderly and give them the rice, oil, powder, subsidy, or etc. before each important Chinese festivals, e.g. spring festival, mid-autumn festival, the Double Ninth festival particularly for the elderly, and etc.

6.2 Adult children's demand

6.2.1 EC choices of adult children

Of the 39 respondents of the adult children, 69.4% surely expressed that they chose to take care of their parents by themselves. 75.8% of 33 respondents who answered the reasons believed that the parents could be taken good care of by the children. 54.3% thought they might use the community and home based services, but it will depend on the situation at that time, e.g. the situation of the elderly parents, the service quality, the service price and etc. 81.8% of 22 respondents who answered the reasons thought the community and home-based care sounded convenient for both the children and the elderly. 55.6% clearly expressed that they would not send their parents to the EC institutions. Many of them worried about the treatment in the EC institutions.

Table 6.23 Choices of Parents' EC in the future

Choices	Family Care	Community and home-based Care	EC institution
Will	69.4%	0.0%	11.1%
Maybe, it depends	16.7%	54.3%	27.8%
Will not	11.1%	34.3%	55.6%
Don't know	2.8%	11.4%	5.6%
Total	100.0%	100.0%	100.0%

6.2.2 Thoughts about EC institutions

During the FGDs, many adult children would not let their parents live in the EC institutions. They thought the existing services of the EC institution are poor. They did not have much personal experience but heard from the others or got the information from the media. They talked a lot about the coldness of the caregivers, elderly abuse, poor meals, poor facilities, and etc. Someone described the EC institution as the elderly's prison which accelerates the death of the elderly. Worrying about the bad treatment on their parents, many adult children prefer to look after the elderly by themselves. If economic condition permits, they would like to hire the housemaid.

Another major reason of not willing to let their parents live in the EC institutions is about the traditional concept. On one side it was regarded as children's responsibility to look after their parents. On the other side, the adult children either do not want to be criticized or blamed as unfilial by the relatives or neighbors.

Adult children who have several sisters or brothers prefer to look after the elderly by turns. Generally sons share the major responsibility to look after the elderly. Daughters will help when the elderly are ill. Or the son whose economic status is not good takes the major duty to look after the elderly and then other wealthier children will subsidize him.

Low-income adult children prefer to look after their parents by themselves. Some other adult children expressed that they would respect the thoughts of their parents. Whatever decision the elderly make, they will support.

6.2.3 Thoughts about community/home based EC services

Adult children thought the community and home based services sound good. Many of them expressed strong interests in the SOS function of the 12349 calling service. One adult child said her mother has heart disease and have fallen down suddenly once at home. She worried about her mother when staying alone at home. If there is the day care center she will send her mother to in the day time. If there is the emergency calling service, the SOS button will help to save the life of her mother.

Some adult children thought the elderly may be reluctant to pay for the EC services since the old generation is often frugal. But they would like to pay for their parents to enjoy better EC services and have a happier elderly life.

6.3 Low and mid income elderly's demand

6.3.1 Low and mid income elderly' profile

According to Table 6.15, if looking at the urban elderly whose monthly income is less than 1,000 Yuan as the urban low income elderly, the percentage of urban low income elderly is 25.8% of all urban elderly respondents. If looking at the urban elderly whose monthly income is between 1,000 and 2,000 Yuan as the urban mid income elderly, the percentage of urban mid income elderly is 20.3% of all urban elderly respondents. Thus totally the percentage of low and mid income urban elderly accounts for 46.1% of all urban elderly respondents.

6.3.2 The Most EC Demand

Table 6.24 reveals the EC mode that the urban respondent mostly demand when their health situation is not good enough in the future and need long-term care, disaggregated by the income. The statistical meaning is significant. If looking at the urban elderly whose monthly income is less than 1,000 Yuan as the low income elderly, Table 6.24 clearly shows that the most of these elderly (78.2%) chose to be looked after by the children. Only a few of them chose other EC services which need to pay for. It is obvious that the economic status restricts their demand for EC services. In the FGDs, some invited poor elderly expressed that their income are very limited for make a living. After the medical expenses, there is almost nothing left. Thus they dared not to demand for any billing EC services, especially when the economic status of their children are also not good. However, if looking at the urban elderly whose monthly income is between 1,000 and 2,000 Yuan as the mid income elderly, these elderly had more options then the low income ones. Whether demanding for the community and home based services or living in the EC institutions, the percentages of this group are both much higher than those of the low income group.

Table 6.24 The Most EC Demand of the Low and mid income elderly

Urban per capita monthly income		Self-care or by spouse	looked after by the children	looked after by the housemaid	Enjoy community and home based services	live in the EC institutions	Total
<=1000	Frequency	1	61	3	7	6	78
	Percent	1.3%	78.2%	3.8%	9.0%	7.7%	100.0%
1001-2000	Frequency	1	29	0	20	12	62
	Percent	1.6%	46.8%	0.0%	32.3%	19.4%	100.0%
2001-3000	Frequency	6	50	2	20	12	90
	Percent	6.7%	55.6%	2.2%	22.2%	13.3%	100.0%

3001-4000	Frequency	0	22	5	10	12	49
	Percent	0.0%	44.9%	10.2%	20.4%	24.5%	100.0%
>=4001	Frequency	0	10	0	11	4	25
	Percent	0.0%	40.0%	0.0%	44.0%	16.0%	100.0%

6.3.3 Demand for EC institutions

Table 6.25 reveals the urban elderly's willingness of living in the EC institutions, disaggregated by the income. The statistical meaning is significant. The low-income group is the most one who clearly expressed that they would never live in the EC institutions, mainly because of economic restriction. However the mid-income elderly group expressed much more interest of living in the EC institutions.

Table 6.25 Demand of the Low and mid income elderly for EC Institutions

Urban per capita monthly income		Yes, want to live right now	Want to live in the future, but not now	not now, it depends in the future	Never	Total
<=1000	Frequency	1	9	31	38	79
	Percent	1.3%	11.4%	39.2%	48.1%	100.0%
1001-2000	Frequency	4	21	27	10	62
	Percent	6.5%	33.9%	43.5%	16.1%	100.0%
2001-3000	Frequency	1	29	31	29	90
	Percent	1.1%	32.2%	34.4%	32.2%	100.0%
3001-4000	Frequency	2	18	16	14	50
	Percent	4.0%	36.0%	32.0%	28.0%	100.0%
>=4001	Frequency	2	6	9	8	25
	Percent	8.0%	24.0%	36.0%	32.0%	100.0%

6.3.4 Most demand for community/home based EC services

The low-income elderly preferred the daily care services as: housekeeping (29.6%), home delivered meals, congregate meal, and day care (each 20.4%).

The mid-income elderly preferred the daily care services as: housekeeping (32.9%) and home delivered meals (24.7%). Details see Table 6.26.

Table 6.26 Daily care services mostly demanded by the Low and mid income elderly in the future

Urban per capita monthly income		Home Delivered Meals	Congregate Meals	Day care	Housekeeping	Night care	Escorting	calling service	Others	Total
<=1000	Frequency	11	11	11	16	1	1	3	0	54
	Percent	20.4%	20.4%	20.4%	29.6%	1.9%	1.9%	5.6%	0.0%	100.0%
1001-2000	Frequency	21	10	13	28	3	4	6	0	85
	Percent	24.7%	11.8%	15.3%	32.9%	3.5%	4.7%	7.1%	0.0%	100.0%
2001-3000	Frequency	30	11	23	31	1	4	4	0	104
	Percent	28.8%	10.6%	22.1%	29.8%	1.0%	3.8%	3.8%	0.0%	100.0%
3001-4000	Frequency	14	10	20	22	3	1	3	1	74
	Percent	18.9%	13.5%	27.0%	29.7%	4.1%	1.4%	4.1%	1.4%	100.0%
>=4001	Frequency	6	7	11	6	0	1	2	0	33
	Percent	18.2%	21.2%	33.3%	18.2%	0.0%	3.0%	6.1%	0.0%	100.0%

The low-income elderly preferred the health care services as: Family doctor or Visiting Nurse Service (34.4%), rehabilitation nursing (20.3%).

The mid-income elderly preferred the daily care services as: Family doctor or Visiting Nurse Service (40.0%) and Emergency services/ calling service (18.7%) Details see Table 6.27.

Table 6.27 Health care services mostly demanded Low and mid income elderly in the future

Urban per capita monthly income		physical examination and health care	Health information and health lecture health care	rehabilitation nursing	Physical medicine/ occupational therapy/speech therapy/Respiratory therapy, etc.	special service for patients with Alzheimer's disease /dementia	Escorting to see doctor	Family doctor or Visiting Nurse Service	Emergency services/ calling service	Others	Total
<=1000	Frequency	10	4	13	9	0	4	22	2	0	64
	Percent	15.6%	6.3%	20.3%	14.1%	0.0%	6.3%	34.4%	3.1%	0.0%	100.0%
1001-2000	Frequency	9	2	11	4	1	3	30	14	1	75
	Percent	12.0%	2.7%	14.7%	5.3%	1.3%	4.0%	40.0%	18.7%	1.3%	100.0%
2001-3000	Frequency	6	4	32	9	1	4	40	9	0	105
	Percent	5.7%	3.8%	30.5%	8.6%	1.0%	3.8%	38.1%	8.6%	0.0%	100.0%
3001-4000	Frequency	5	0	8	3	2	6	27	14	0	65
	Percent	7.7%	0.0%	12.3%	4.6%	3.1%	9.2%	41.5%	21.5%	0.0%	100.0%
>=4001	Frequency	1	0	5	2	0	2	12	7	0	29
	Percent	3.4%	0.0%	17.2%	6.9%	0.0%	6.9%	41.4%	24.1%	0.0%	100.0%

6.4 Female elderly's demand

6.4.1 Female elderly's profile

In the survey the female elderly respondents are about 60% of all, more than the male (see Table 6.28). The widow elderly are more than widowers (see Table 6.30). Generally the education level of the female is lower than the male (see Table 6.31). Much more male elderly respondents were manufacturing workers and leaders of the government enterprises or public institution before their retirement, while much more female respondents are farmers and housewives or no jobs (see Table 6.32). Monthly income of urban female elderly are lower than that of urban male (see Table 6.33). Monthly income of rural female elderly are also lower than that of rural male (see Table 6.34). Since the female elderly respondents are generally younger than the male ones (see Table 6.29), the female elderly who can self-care are more than the male one (see Table 6.35). However, the female elderly suffered more from the diseases than the male (see Table 6.36).

Table 6.28 Gender-disaggregated respondents

Gender	Frequency	Percent (%)
Male	143	40.4
Female	211	59.6
Total	354	100.0

Table 6.29 Gender-disaggregated age

Age		60-69	70-79	80-89	90-99	Total
Male	Frequency	71	37	32	3	143
	Percent	49.7%	25.9%	22.4%	2.1%	100.0%
Female	Frequency	130	53	27	1	211
	Percent	61.6%	25.1%	12.8%	.5%	100.0%

Table 6.30 Gender-disaggregated Marital Status

Marital Status		Unmarried	married	divorce/ separation	widow	Total
Male	Frequency	0	111	0	32	143
	Percent	0.0%	77.6%	0.0%	22.4%	100.0%
Female	Frequency	1	145	4	61	211
	Percent	0.5%	68.7%	1.9%	28.9%	100.0%

Table 6.31 Gender-disaggregated Education Level

Education		Illiterate	literacy class	Have not graduated from primary school	graduated from primary school	Junior High School	Senior high school or equivalent	college	university or above	Total
Male	Frequency	11	2	4	43	38	34	9	2	143
	Percent	7.70%	1.40%	2.80%	30.10%	26.60%	23.80%	6.30%	1.40%	100.00%
Female	Frequency	29	2	17	53	49	47	10	4	211
	Percent	13.70%	0.90%	8.10%	25.10%	23.20%	22.30%	4.70%	1.90%	100.00%

Table 6.32 Gender-disaggregated Occupation

Occupation		leaders of the government, enterprises or public institutions	professional & technical staff	General administrative staff	Manufacturing Workers	general staff of Commercial/ services industries	self- employed businessm an	farmers	Housewiv es/no job	others	Total
Male	Frequency	16	24	4	67	3	1	24	1	3	143
	Percent	11.2%	16.8%	2.8%	46.9%	2.1%	0.7%	16.8%	0.7%	2.1%	100.0%
Female	Frequency	7	36	7	57	10	3	53	35	3	211
	Percent	3.3%	17.1%	3.3%	27.0%	4.7%	1.4%	25.1%	16.6%	1.4%	100.0%

Table 6.33 Gender-disaggregated Monthly income of urban respondents

Monthly income of urban respondents		<=1000	1001-2000	2001-3000	3001-4000	>=4001	Total
Male	Frequency	18	16	50	30	17	131
	Percent	13.7%	12.2%	38.2%	22.9%	13.0%	100.0%
Female	Frequency	61	46	40	20	8	175
	Percent	34.9%	26.3%	22.9%	11.4%	4.6%	100.0%

Table 6.34 Gender-disaggregated Monthly income of rural respondents

Monthly income of rural respondents		<=500	501-1000	1001-1500	1501-2000	>=2001	Total
Male	Frequency	8	0	3	1	1	13
	Percent	61.5%	.0%	23.1%	7.7%	7.7%	100.0%
Female	Frequency	31	1	1	2	0	35
	Percent	88.6%	2.9%	2.9%	5.7%	.0%	100.0%

Table 6.35 Gender-disaggregated Self-care ability

Self-care ability		Completely self-care	Semi-disabled	Completely disabled	Total
Male	Frequency	118	24	1	143
	Percent	82.5%	16.8%	0.7%	100.0%
Female	Frequency	182	24	5	211
	Percent	86.3%	11.3%	2.4%	100.0%

Table 6.36 Gender-disaggregated Disease

Disease		Male		Female	
		Frequency	Percent	Frequency	Percent
Hypertension	No disease	82	57.3%	114	54.0%
Heart Disease	No disease	103	72.0%	136	64.5%
Stroke or CVA	No disease	99	69.2%	151	71.6%
Parkinson's disease	No disease	135	94.4%	196	92.9%
Alzheimer's Disease	No disease	134	93.7%	196	92.9%
Gastrointestinal ulcer	No disease	129	90.2%	186	88.2%
Hepatobiliary disease	No disease	133	93.0%	194	91.9%
Kidney Disease(including stone, except cancer)	No disease	132	92.3%	195	92.4%
Diabetes	No disease	122	85.3%	178	84.4%
Rheumatoid Arthritis	No disease	122	85.3%	177	83.9%
Cervical/ lumbar spondylosis	No disease	125	87.4%	180	85.3%
Osteoporosis	No disease	133	93.0%	190	90.0%
Cataclasis	No disease	135	94.4%	194	91.9%
Bronchitis/pulmonary emphysema/pneumonia/asthma ,etc	No disease	128	89.5%	194	91.9%
Glaucoma or cataract	No disease	135	94.4%	195	92.4%
Cancer	No disease	133	93.0%	198	93.8%
Prostatitis	No disease	134	93.7%	203	96.2%
Others	No disease	137	95.8%	200	94.8%

6.4.2 The most EC Demand

Table 6.37 reveals the EC mode that the elderly respondent mostly demand when their health situation is not good enough in the future and need long-term care, disaggregated by gender. Of the 211 female elderly respondents, 59.7% choose to be taken care of by their children. 17.1% choose the community and home based EC services. 16.6% choose the EC institutions. The rest 6.7% choose to be taken care of by the housemaid or the spouse. The statistical meaning is not significant, which means there is no much demand difference between the male and female elderly.

Table 6.37 The Most EC Demand of the female elderly

Urban per capita monthly income		Self-care or by spouse	looked after by the children	looked after by the housemaid	Enjoy community and home based services	Live in the EC institutions	Total
Male	Frequency	5	81	3	32	20	141
	Percent	3.5%	57.4%	2.1%	22.7%	14.2%	100.0%
Female	Frequency	5	126	9	36	35	211
	Percent	2.4%	59.7%	4.3%	17.1%	16.6%	100.0%

6.4.3 Demand for EC institution

Table 6.38 reveals the elderly's willingness of living in the EC institutions, disaggregated by gender. 29.0% of the female respondents surely expressed that they would not live in the EC institutions. 34.3% want to live in while 36.7% will make the decision depending on the situation in the future. The statistical meaning is not significant, which means there is no much difference between male and female elderly in the demand.

Table 6.38 Demand of the female elderly for EC Institutions

Item		Yes, want to live right now	Want to live in the future, but not now	not now, it depends in the future	Never	Total
Male	Frequency	5	35	49	54	143
	Percent	3.5%	24.5%	34.3%	37.8%	100.0%
Female	Frequency	10	62	77	61	210
	Percent	4.8%	29.5%	36.7%	29.0%	100.0%

6.4.4 Most demand for community/home based EC services

The female elderly preferred the daily care services as: housekeeping (33.3%), home delivered meals (23.7%), and day care (20.2%). Details see Table 6.39. The statistical meaning is not significant, which means there is no much difference between male and female elderly in the demand.

Table 6.39 Daily care services mostly demanded by female elderly

Gender		Home Delivered Meals	Congregate Meals	Day care	Housekeeping	Night care	Escorting	calling service	Others	Total
Male	Frequency	35	20	41	39	3	6	10	1	155
	Percent	22.6%	12.9%	26.5%	25.2%	1.9%	3.9%	6.5%	0.6%	100.0%
Female	Frequency	54	32	46	76	5	5	8	2	228
	Percent	23.7%	14.0%	20.2%	33.3%	2.2%	2.2%	3.5%	0.9%	100.0%

The female elderly preferred the health care services as: Family doctor or Visiting Nurse Service (36.7%), and rehabilitation nursing (20.0%). Details see Table 6.40. The statistical meaning is not significant, which means there is no much difference between male and female elderly in the demand.

Table 6.40 Health care services mostly demanded by female elderly

Gender		physical examination and health care	Health Information and health lecture health care	rehabilitation nursing	Physical medicine/ occupational therapy/speech therapy/Respiratory therapy, etc.	special service for patients with Alzheimer's disease /dementia	Escorting to see doctor	Family doctor or Visiting Nurse Service	Emergency services/ calling service	Others	Total
Male	Frequency	13	1	31	12	3	6	59	19	0	144
	Percent	9.0%	0.7%	21.5%	8.3%	2.1%	4.2%	41.0%	13.2%	0.0%	100.0%
Female	Frequency	21	10	48	21	3	15	88	33	1	240
	Percent	8.8%	4.2%	20.0%	8.8%	1.3%	6.3%	36.7%	13.8%	0.4%	100.0%

6.5 EM elderly's demand

Table 6.41 reveals the EM types of the elderly respondents and their distribution. Man is the main EM at local, particularly in Chengde City.

Table 6.41 EM elderly's profile

EM	Frequency	Percent(%)
Han	323	91.2
Man	24	6.8
Meng	3	0.8
Hui	3	0.8
Zhuang	1	0.3
Total	354	100.0

Table 6.42 reveals the EM elderly respondents' most EC demand when their health situation is not good enough in the future and need long-term care, disaggregated by the income. Table 6.43 reveals the EM elderly respondents' demand for EC institutions. The statistical meaning for almost all the cross-tabulation analysis between EM elderly and various answers are not significant, which means the EC choices of the EM elderly are not different from those of the Han elderly.

Table 6.42 EM elderly's most EC demand

EM		Self-care or by spouse	looked after by the children	looked after by the housemaid	Enjoy community and home based services	live in the EC institutions	Total
Han	Frequency	9	188	11	63	51	322
	Percent	2.8%	58.4%	3.4%	19.6%	15.8%	100.0%
Minority	Frequency	1	19	1	5	4	30
	Percent	3.3%	63.3%	3.3%	16.7%	13.3%	100.0%

Table 6.43 EM elderly's demand for EC institutions

EM		Yes, want to live right now	Want to live in the future, but not now	not now, it depends in the future	Never	Total
Han	Frequency	13	91	114	104	322
	Percent	4.0%	28.3%	35.4%	32.3%	100.0%
Minority	Frequency	2	6	12	11	31
	Percent	6.5%	19.4%	38.7%	35.5%	100.0%

In the fieldwork, the interviewed Man elderly did not think there is any difference between them and the Han elderly, whether the clothing, living, festival, or religion. Either, these urban Man elderly could not speak Man language, not even to write. But as Man they said they don't eat dog meat.

Hui elderly respondents mostly worried about the provided meals because they don't eat pork and even the meals cooked with lard.

6.6 Caregivers' demand

From the fieldwork, generally the EC Institutions have 1 to 3 administrative staff or senior caregivers or nurses who have rich nursing experience or obtain certificate of intermediate or senior caregiver. These kinds of staff will teach or instruct the rest of the caregivers to carry out daily EC work. The ordinary caregivers are often 40 to 50 years old rural women. Some caregivers of the township EC Institutions are even more than 60 years old. Most of the caregivers only graduated from the elementary school or junior high school. They didn't have the professional and systematic training. Many of them have no primary caregiver certificate. But this year Xinji City civil affair department specially sponsored 40 caregivers to receive the training and obtain the primary caregivers certificates.

Every year municipal or county civil affairs departments provide some nursing training opportunities, the EC institutions send their administrative staff or caregivers to receive the training. But in general the participation in training is not active. There are several reasons: (1) although the training is free, trainees themselves or their institutions still have to pay the transportation and accommodation if it is held in other

places. So individuals or institutions are sometimes reluctant to invest; (2) some institutional owners or managers thought that it does not matter whether their caregivers have the certificate or not, as long as they can master the basic work skills and look after the elderly. If caregivers leave for training, it needs at least a week. Since there are often limited caregivers in the EC institutions, the institutional owners or managers do not want them to leave for training. Some caregivers are temporary workers and may leave at any time, thus the institutional owners or managers would not give them the training opportunities. (3) Some caregivers themselves either thought they do not need to receive training and obtain the certificates. Some worried about the written test because of their low educational level. Some did not want to earn less wages because of leaving for training. Some thought that since they have mastered the basic nursing skills, and most of the elderly can self-care, they need not to learn advanced nursing skills. The higher level certificate is unimportant especially when certificates are not linked with the wages.

About what training they want, the caregivers did not provide much useful suggestion. Most of the responds never thought of this question. One young caregiver who graduated from the nursing school said she wanted the communication or elderly psychology training because she wanted to learn how to get on well with the elderly. Another nurse said she wanted to learn more about elderly rehabilitation skills because there are many disabled elderly in her institution.

During the FGDs, the caregivers were also asked about the gender difference of the elderly and what they have done to deal with the difference. However few respondents have noticed the gender difference. Most of them thought they treated the female and male elderly equally.

7 Affordability Analysis of EC Demands

7.1 Affordability

7.1.1 The elderly's affordability

7.1.1.1 Income source

The major income sources of the elderly respondents are own pension, spouse's pension, and the support from the children. (See Table 7.1)

Table 7.1 Major income sources

Source	First income source		Second income source		Third income source	
	Frequency	Percent(%)	Frequency	Percent(%)	Frequency	Percent(%)
Own Pensions	183	51.7	72	26.8	4	5.6
Own earned income	16	4.5	16	5.9	2	2.8
Spouse's pensions	77	21.8	95	35.3	9	12.7
Spouse's Income	8	2.3	7	2.6	3	4.2
Support from Children	49	13.8	42	15.6	23	32.4
Government Subsidy/allowance	6	1.7	14	5.2	6	8.5
Rental Income	1	0.3	3	1.1	4	5.6
Own Saving	13	3.7	20	7.4	16	22.5
Assistance by Other relatives	0	0	0	0	4	5.6
Stocks	0	0.0	0	0.0	0	0.0
Other	1	0.3	0	0.0	0	0.0
Total	354	100.0	269	100.0	71	100.0

(1) Pensions

Table 7.2 reveals the distribution and average value of various pensions. The Pension for Urban Works is the major kind of pension for local elderly. The next is Pension for Civil Servants whose average rate is much higher than that for urban workers.

Table 7.2 Various pensions

Item		1-100	101-500	501-1500	1501-2500	2501-3500	3501-4500	4501-5500	>=5501	Total	Average
	Frequency	0	0	3	10	12	34	6	2	67	3672

Pensions for Civil Servants	Percent	0.0%	0.0%	4.5%	14.9%	17.9%	50.7%	9.0%	3.0%	18.9%	
Pensions for Urban Workers	Frequency	0	0	14	96	36	9	2	0	157	2403
	Percent	0.0%	0.0%	8.9%	61.1%	22.9%	5.7%	1.3%	0.0%	44.4%	
Pensions for Urban Residents	Frequency	2	2	5	1	0	0	0	0	10	835
	Percent	20.0%	20.0%	50.0%	10.0%	0.0%	0.0%	0.0%	0.0%	2.8%	
Minimum Living Allowance	Frequency	4	9	0	0	0	0	0	0	13	258
	Percent	30.8%	69.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	
Old Age Allowance	Frequency	11	0	0	0	0	0	0	0	11	27
	Percent	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.1%	
Other Government Assistance	Frequency	3	4	0	0	0	0	0	0	7	293
	Percent	42.9%	57.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	
Commercial Endowment Insurance	Frequency	0	2	5	1	0	0	0	0	8	909
	Percent	0.0%	25.0%	62.5%	12.5%	0.0%	0.0%	0.0%	0.0%	2.3%	
New Rural Endowment Insurance	Frequency	38	5	0	0	0	0	0	0	43	79
	Percent	88.4%	11.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.1%	
Others	Frequency	0	1	2	0	0	0	0	0	3	780
	Percent	0.0%	33.3%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	

(2) Income

Table 7.3 reveals the distribution of the monthly income of the elderly respondents. The average value is 1,970 Yuan/month.

Table 7.3 Monthly income of the elderly respondents

	Frequency	Percent(%)
<=500	102	28.8
501-1500	38	10.7
1501-2500	105	29.7
2501-3500	53	15.0
3501-4500	44	12.4
4501-5500	6	1.7
5501-6500	5	1.4
>=6500	1	0.3
Total	354	100.0

Table 7.4 reveals the distribution of the monthly income of the elderly respondents and his/her spouse if they have. The average value is 2,057 Yuan/month.

Table 7.4 Monthly income of the elderly couple

	Frequency	Percent(%)
<=1000	72	20.3
1001-3000	102	28.8
3001-5000	102	28.8
5001-7000	46	13.0
7001-9000	24	6.8
>=9001	8	2.3
Total	354	100.0

Table 7.5 reveals the distribution of the monthly income of the elderly couple and their children. The average value is 13,481 Yuan/month.

Table 7.5 Monthly income of the elderly couple and children

	Frequency	Percent(%)
<=1000	6	1.7
1001-5000	21	5.9
5001-10000	59	16.7
10001-20000	131	37.0
20001-30000	97	27.4
>=30001	40	11.3
Total	354	100.0

(3) Financial support from the children

Less than 30% of respondents got the financial support from their children. Most children do not give money to their parents. Even some elderly have to give money to their adult children. The distribution of financial support from the children see Table 7.6. The general support from the children ranges from 101-1000 Yuan per month. The average value is 307 Yuan/month.

Table 7.6 Financial support from the children

Yuan monthly	Frequency	Percent(%)
<0*	14	4.0
0	249	70.3
30-100	7	2.0
101-500	30	8.5
501-1000	21	5.9
1001-1500	12	3.4
1501-2000	9	2.5
2001-2500	2	0.6
>=2501	10	2.8
Total	354	100.0

*it means the elderly have to support the children.

7.1.1.2 Expenditure

Three major expenditure of the elderly are Basic Daily Expenses, Medical Expenses and Financial support to their children (see Table 7.7)

Table 7.7 Major expenditure

Item	First expense		Second expense		Third expense	
	Frequency	Percent(%)	Frequency	Percent(%)	Frequency	Percent(%)
Basic Daily Expenses	226	63.8	115	36.2	10	8.1
Medical Expenses	100	28.2	148	46.5	28	22.8
Entertainment (stationery, traveling, University of the Elderly, etc.)	4	1.1	3	0.9	5	4.1
Transportation and Communication Expenses (walking aids, mobile phone, computer, Electronic equipment, etc.)	0	0.0	1	0.3	8	6.5
Cost for Housemaid/housework	2	0.6	0	0	1	0.8
Cost for Emergency (natural disaster, accident, public health, Social Security)	0	0.0	0	0.0	0	0.0
Support children	15	4.2	27	8.5	38	30.9
Others	7	2	24	7.5	33	26.8
Total	354	100.0	318	100.0	123	100.0

Table 7.8 reveals the distribution of the monthly medical expense that are not covered by various kinds of insurances. The general medical expense ranges from 101-1,000 Yuan per month. The average value is 460 Yuan/month.

Table 7.8 Medical expenditure

	Frequency	Percent(%)
0	67	18.9
1-50	43	12.1
51-100	20	5.6
101-500	125	35.3
501-1000	68	19.2
1001-2000	29	8.2
2001-3000	1	0.3
>=3001	1	0.3
Total	354	100

7.1.1.3 Affordability analysis

The average affordability of the elderly = The average income of 1,970 Yuan/month – the living expense assumed as 200 Yuan/month – the average medical expense of 460 Yuan/month *80% paid by the elderly themselves – the average financial support to the children of 42 Yuan/month= 1,360 Yuan/month.

Based on this, the elderly can get the support from their adult children, which means the affordability level can be higher.

7.1.2 The adult children's affordability

Table 7.9 reveals the distribution of the monthly income of the adult children according to the elderly respondents. The average value is 3,047 Yuan/month. In the questionnaire survey we also asked some adult children directly about their income. However, the sample size is small, only 34. The average value directly answered is 4,412 Yuan/month.

Table7.9 Monthly income of the adult children

Item	Frequency	Percent(%)
<=500	8	2.3
501-1000	21	5.9
1001-1500	34	9.6
1501-2000	55	15.5
2001-2500	73	20.6
2501-3000	46	13
3001-3500	36	10.2

3501-4000	24	6.8
4001-4500	14	4
4501-5000	11	3.1
5001-5500	7	2
5501-6000	8	2.3
>=6001	17	4.8
Total	354	100

7.1.2 The female elderly's affordability

(1) Pensions

Table 7.10 reveals the distribution and average value of various pensions disaggregated by gender. The Pension for Urban Works and Pension for Civil Servants are also major pensions for the female elderly. However, the amount of these two pensions for the female elderly are both lower than those for the male. The amount of the MLS subsidy enjoyed by the female elderly is more than that by the male, which also means the poor female is even poorer than the poor male.

(2) Income

Table 7.11 reveals the distribution and average value of the monthly income of elderly disaggregated by gender. The average value of monthly income of female elderly is 1,571 Yuan/month, much lower than that of the male.

Table 7.11 Monthly income of female elderly

Item		Monthly income of interviewees					Total	Average
		<=1000	1001-2000	2001-3000	3001-4000	>=4001		
Male	Frequency	18	16	50	30	17	131	2,558
	Percent	13.7%	12.2%	38.2%	22.9%	13.0%	100.0%	
Female	Frequency	61	46	40	20	8	175	1,571
	Percent	34.9%	26.3%	22.9%	11.4%	4.6%	100.0%	

(3) Expenditure

Table 7.12 reveals the distribution and the average value of the monthly medical expense that the elderly have to pay cash by themselves, also disaggregated by gender. The average value of medical expenditure for female elderly is 422 Yuan/month.

Table 7.12 Medical expenditure of female elderly

Item		0	1-50	51-100	101-500	501-1000	1001-2000	2001-3000	>=3001	Total	Average
Male	Frequency	37	8	4	52	27	13	1	1	143	516

	Percent	25.9%	5.6%	2.8%	36.4%	18.9%	9.1%	0.7%	0.7%	100.0%	
Female	Frequency	30	35	16	73	41	16	0	0	211	422
	Percent	14.2%	16.6%	7.6%	34.6%	19.4%	7.6%	0.0%	0.0%	100.0%	

(4) Affordability analysis

The average affordability of the female elderly = The average income of 1,571 Yuan/month – the living expense assumed as 150 Yuan/month – the average medical expense of 422 Yuan/month *70% paid by the female themselves = 1,125 Yuan/month.

Based on this, the female elderly can get the support from their adult children, which means the affordability level can be higher.

Table 7.10 Various pensions of female elderly

Item			1-500	501-1000	1001-1500	1501-2000	2001-2500	2501-3000	3001-3500	3501-4000	4001-4500	>=4501	Total	Average
Pensions for Civil Servants	Male	Frequency	0	1	0	0	5	4	4	8	8	7	37	3843
		Percent	0.0%	2.7%	0.0%	0.0%	13.5%	10.8%	10.8%	21.6%	21.6%	18.9%	100.0%	
	Female	Frequency	0	1	1	3	2	3	1	13	5	1	30	3460
		Percent	0.0%	3.3%	3.3%	10.0%	6.7%	10.0%	3.3%	43.3%	16.7%	3.3%	100.0%	
Pensions for Urban Workers	Male	Frequency	0	2	2	13	24	17	9	5	0	2	74	2624
		Percent	0.0%	2.7%	2.7%	17.6%	32.4%	23.0%	12.2%	6.8%	0.0%	2.7%	100.0%	
	Female	Frequency	0	1	9	32	27	9	1	2	2	0	83	2206
		Percent	0.0%	1.2%	10.8%	38.6%	32.5%	10.8%	1.2%	2.4%	2.4%	0.0%	100.0%	
Pensions for Urban Residents	Male	Frequency	2	1	1	0	0	0	0	0	0	0	4	686
		Percent	50.0%	25.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
	Female	Frequency	2	1	2	1	0	0	0	0	0	0	6	933
		Percent	33.3%	16.7%	33.3%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Minimum Living Allowance	Male	Frequency	3	0	0	0	0	0	0	0	0	0	3	66
		Percent	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
	Female	Frequency	10	0	0	0	0	0	0	0	0	0	10	316
		Percent	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Old Age Allowance	Male	Frequency	9	0	0	0	0	0	0	0	0	0	9	36
		Percent	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

	Female	Frequency	2	0	0	0	0	0	0	0	0	0	2	30
		Percent	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Other Government Assistance	Male	Frequency	1	0	0	0	0	0	0	0	0	0	1	300
		Percent	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
	Female	Frequency	6	0	0	0	0	0	0	0	0	0	6	291
		Percent	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Commercial Endowment Insurance	Male	Frequency	0	1	0	1	0	0	0	0	0	0	2	1300
		Percent	0.0%	50.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
	Female	Frequency	2	3	1	0	0	0	0	0	0	0	6	779
		Percent	33.3%	50.0%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
New Rural Endowment Insurance	Male	Frequency	12	0	0	0	0	0	0	0	0	0	12	79
		Percent	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
	Female	Frequency	31	0	0	0	0	0	0	0	0	0	31	78
		Percent	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Others	Male	Frequency	0	1	0	0	0	0	0	0	0	0	1	1000
		Percent	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
	Female	Frequency	1	1	0	0	0	0	0	0	0	0	2	670
		Percent	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

7.2 Willingness to pay

7.2.1 The elderly's willingness to pay

Based on the questionnaire survey, the distribution of the highest rate that the respondents are willing to pay for the EC institutions, daily care services, health care services, and the day care center are shown in Table 7.13-16.

For the EC institutions, the preferred willingness to pay ranges between 501-2,000 Yuan per month, particular the segment of 501-1,000 Yuan per month.

About the daily care services, the preferred willingness to pay for housekeeping and Home Delivered Meals ranges between 101-1,000 Yuan per month, and for day care between 101-2,000 Yuan per month. The preferred willingness to pay for Congregate Meals, escorting, and night care concentrate in the segment of 101-500 Yuan per month and for calling service in 1-100 Yuan per month. About health care services, the preferred willingness to pay for Family doctor or Visiting Nurse Service and Emergency services/ calling service range between 51-500 Yuan per month/time, for Rehabilitation nursing and Physical medicine/occupational therapy/speech therapy/Respiratory therapy from 101-1,000 Yuan per month. The preferred willingness to pay for physical examination and health care concentrates in the segment of 1-50 Yuan per month.

For the Day Care Center, the preferred willingness to pay ranges between 101-500 Yuan per month.

During the FGDs, the consultant also consulted the elderly the highest rate they are willing to pay for various EC services.

For the EC institution, few respondents said they will ask their children to pay partially if it is necessary for them to live in and their own income cannot afford. However, generally most respondents are reluctant to let their children pay thus increasing their economic burden. They expressed that the highest rate should be lower than their pension. Reducing partial pension for the medical expenses, partial for pocket money, and partial to support the children, the rest can be used to pay with the highest proportion as 70%. Generally most respondents are reluctant to use their savings and houses, which are kept for serious disease, emergency or as heritage to the children/grandchildren. Although asked for the highest rate, the respondents still would like to compare with the prices and relevant services of nearby existing EC institutions, and also the market price for the housekeeper. They made the estimation of the highest rate they can afford on the basis of these comparisons.

For the daily and health care services, the respondents also would like to compare with the existing or similar services. However, it is hard for the elderly to imagine the services they knew little of.

Many of the elderly respondents expressed great interest in the services that the Day Care Center can provide, e.g. the day care, entertainment, health care, rehabilitation, spiritual comfort and etc. But because few elderly have seen what a fully functional

day care center with good quality looks like, it's harder for them to imagine and determine how much they are willing to pay, even if the interviewer describes the details. Respondents thought the price should be lower than the EC institutions because of no accommodation. Some respondents make the estimation based on how much they would like to pay for the meals per day.

More respondents expressed the hope that the Government will provide some subsidy to enable them to enjoy better EC service.

Table 7.13 Willingness to pay for living in the EC institutions

Items	1-500	501-1000	1001-1500	1501-2000	2001-2500	2501-3000	≥ 3000	Total
Frequency	23	86	45	44	12	17	8	235
Percent	9.8%	36.6%	19.1%	18.7%	5.1%	7.2%	3.4%	100.0%

Table 7.14 Willingness to pay for the daily care services mostly demanded

Items	1-100	101-500	501-1000	1001-2000	2001-3000	3001-4000	≥ 4000	Total
Housekeeping	2	39	42	23	12	2	0	120
Percent	1.7%	32.5%	35.0%	19.2%	10.0%	1.7%	0.0%	100.0%
Home Delivered Meals	1	44	29	16	1	2	0	93
Percent	1.1%	47.3%	31.2%	17.2%	1.1%	2.2%	0.0%	100.0%
Day care	0	25	30	26	5	3	1	90
Percent	0.0%	27.8%	33.3%	28.9%	5.6%	3.3%	1.1%	100.0%
Congregate Meals	2	36	9	4	0	1	0	52
Percent	3.8%	69.2%	17.3%	7.7%	0.0%	1.9%	0.0%	100.0%
calling service	6	3	0	1	0	0	0	10
Percent	60.0%	30.0%	0.0%	10.0%	0.0%	0.0%	0.0%	100.0%
Escorting	0	5	2	2	1	1	0	11
Percent	0.0%	45.5%	18.2%	18.2%	9.1%	9.1%	0.0%	100.0%
Night care	0	4	1	3	1	0	0	9
Percent	0.0%	44.4%	11.1%	33.3%	11.1%	0.0%	0.0%	100.0%

Table 7.15 Willingness to pay for the health care services mostly demanded

Items	1-50	51-100	101-500	501-1000	1001-1500	1501-2000	2001-3000	≥ 3000	Total
Family doctor or Visiting Nurse Service	19	37	62	12	1	6	2	1	140
Percent	13.6%	26.4%	44.3%	8.6%	0.7%	4.3%	1.4%	0.7%	100.0%
Rehabilitation nursing	1	4	29	25	6	6	3	3	77
Percent	1.3%	5.2%	37.7%	32.5%	7.8%	7.8%	3.9%	3.9%	100.0%

Emergency services/ calling service	6	18	15	1	0	0	0	0	40
Percent	15.0%	45.0%	37.5%	2.5%	0.0%	0.0%	0.0%	0.0%	100.0%
physical examination and health care	8	2	7	3	1	0	0	0	21
Percent	38.1%	9.5%	33.3%	14.3%	4.8%	0.0%	0.0%	0.0%	100.0%
Physical medicine/occupational therapy/speech therapy/Respiratory therapy, etc.	2	3	22	28	5	0	0	0	60
Percent	3.3%	5.0%	36.7%	46.7%	8.3%	0.0%	0.0%	0.0%	100.0%
Escorting to see doctor	2	3	9	1	2	2	0	0	19
Percent	10.5%	15.8%	47.4%	5.3%	10.5%	10.5%	0.0%	0.0%	100.0%
Health Information and health lecture	2	0	2	0	0	0	0	0	4
Percent	50.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
special service for patients with Alzheimer's disease /dementia	0	0	4	2	0	0	0	0	6
Percent	0.0%	0.0%	66.7%	33.3%	0.0%	0.0%	0.0%	0.0%	100.0%

Table 7.16 Willingness to pay for the day care center

Item	1-50	51-100	101-500	501-1000	1001-1500	1501-2500	2501-3500	Total
Frequency	18	27	58	20	3	9	2	137
Percent	13.1%	19.7%	42.3%	14.6%	2.2%	6.6%	1.5%	100.0%

7.2.2 The adult children's willingness to pay

By the 19 respondents of adult children, the preferred willingness to pay for the EC institutions ranges averagely between 501-3,000 Yuan per month. But the preferred willingness to pay for the community/home based EC services concentrates in the segment of 501-1,000 Yuan per month.

Table 7.17 Willingness to pay for living in the EC institutions

Item	1-500	501-1000	1001-1500	1501-2000	2001-2500	2501-3000	>3001	Total
Frequency	1	3	4	4	0	5	2	19
Percent	5.3%	15.8%	21.1%	21.1%	0.0%	26.3%	10.5%	100.0%

Table 7.18 Willingness to pay for the community/home based EC services

Item	1-500	501-1000	1001-1500	1501-2000	2001-2500	2501-3000	>3001	Total
Frequency	4	7	3	4	1	1	1	21
Percent	19.0%	33.3%	14.3%	19.0%	4.8%	4.8%	4.8%	100.0%

7.2.3 The low and mid income elderly's willingness to pay

7.2.3.1 For EC institutions

Table 7.19 represents the distribution of the highest rate that the respondents are willing to pay for the EC institutions, disaggregated by the monthly income of urban elderly. The statistical meaning is significant. If looking at the low and mid income as below 2,000 Yuan/month, we can see the preferred willingness of the low and mid income elderly to pay for the EC institutions ranges between 1-1,500 Yuan per month.

Table 7.19 Willingness to pay for living in the EC institutions

Monthly income of Urban elderly		What is the highest rate you would like to pay per month?									Total
		1-500	501-1000	1001-1500	1501-2000	2001-2500	2501-3000	3001-3500	3501-4000	>=4001	
<=1000	Frequency	10	18	5	3	1	2	0	1	0	40
	Percent	25.0%	45.0%	12.5%	7.5%	2.5%	5.0%	0.0%	2.5%	0.0%	100.0%
1001-2000	Frequency	4	18	18	9	0	1	0	0	0	50
	Percent	8.0%	36.0%	36.0%	18.0%	0.0%	2.0%	0.0%	0.0%	0.0%	100.0%
2001-3000	Frequency	0	27	10	15	4	6	0	0	0	62
	Percent	0.0%	43.5%	16.1%	24.2%	6.5%	9.7%	0.0%	0.0%	0.0%	100.0%
3001-4000	Frequency	0	9	5	8	6	3	1	1	2	35
	Percent	0.0%	25.7%	14.3%	22.9%	17.1%	8.6%	2.9%	2.9%	5.7%	100.0%
>=4001	Frequency	1	2	3	6	1	4	0	1	1	19
	Percent	5.3%	10.5%	15.8%	31.6%	5.3%	21.1%	0.0%	5.3%	5.3%	100.0%

7.2.3.2 For daily care

Table 7.20-23 respectively represents the distribution of the highest rate that the respondents are willing to pay for the Home Delivered meals, Congregate Meals, Day Care and housekeeping, disaggregated by the monthly income of urban elderly. The preferred willingness of the low and mid income elderly to pay for the Home Delivered meals, Congregate Meals, Day Care and housekeeping respectively ranges between 101-1,000, 101-500, 101-2,000, 101-1,000 Yuan per month.

Table7.20 Willingness to pay for Home Delivered meals

Monthly income of Urban elderly		Home Delivered Meals						
		1-100	101-500	501-1000	1001-2000	2001-3000	3001-4000	Total
<=1000	frequency	0	8	3	0	0	0	11
	percent	0.0%	72.7%	27.3%	0.0%	0.0%	0.0%	100.0%
1001-2000	frequency	0	10	7	3	0	0	20
	percent	0.0%	50.0%	35.0%	15.0%	0.0%	0.0%	100.0%
2001-3000	frequency	0	9	11	7	2	1	30
	percent	0.0%	30.0%	36.7%	23.3%	6.7%	3.3%	100.0%
3001-4000	frequency	0	3	6	2	2	1	14
	percent	0.0%	21.4%	42.9%	14.3%	14.3%	7.1%	100.0%
>=4001	frequency	0	1	2	2	1	0	6
	percent	0.0%	16.7%	33.3%	33.3%	16.7%	0.0%	100.0%

Table7.21 Willingness to pay for Congregate Meals

Monthly income of Urban elderly		Congregate Meals						
		1-100	101-500	501-1000	1001-2000	2001-3000	3001-4000	Total
<=1000	frequency	0	10	0	0	0	0	10
	percent	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
1001-2000	frequency	0	10	0	0	0	0	10
	percent	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
2001-3000	frequency	0	5	3	2	0	1	11
	percent	0.0%	45.5%	27.3%	18.2%	0.0%	9.1%	100.0%
3001-4000	frequency	0	5	5	0	0	0	10
	percent	0.0%	50.0%	50.0%	0.0%	0.0%	0.0%	100.0%
>=4001	frequency	0	4	1	2	0	0	7
	percent	0.0%	57.1%	14.3%	28.6%	0.0%	0.0%	100.0%

Table7.22 Willingness to pay for Day Care

Monthly income of Urban elderly		Day care						
		1-100	101-500	501-1000	1001-2000	2001-3000	3001-4000	Total
<=1000	frequency	0	8	1	1	0	0	10
	percent	0.0%	80.0%	10.0%	10.0%	0.0%	0.0%	100.0%
1001-2000	frequency	0	3	5	5	0	0	13
	percent	0.0%	23.1%	38.5%	38.5%	0.0%	0.0%	100.0%
2001-3000	frequency	0	13	7	2	0	1	23
	percent	0.0%	56.5%	30.4%	8.7%	0.0%	4.3%	100.0%
3001-4000	frequency	0	3	8	7	1	1	20
	percent	0.0%	15.0%	40.0%	35.0%	5.0%	5.0%	100.0%
>=4001	frequency	0	4	1	4	1	1	11
	percent	0.0%	36.4%	9.1%	36.4%	9.1%	9.1%	100.0%

Table7.23 Willingness to pay for Housekeeping

Monthly income of Urban elderly		Housekeeping						
		1-100	101-500	501-1000	1001-2000	2001-3000	3001-4000	Total
<=1000	frequency	0	10	4	1	0	0	15
	percent	0.0%	66.7%	26.7%	6.7%	0.0%	0.0%	100.0%
1001-2000	frequency	0	13	10	4	0	0	27
	percent	0.0%	48.1%	37.0%	14.8%	0.0%	0.0%	100.0%
2001-3000	frequency	0	12	10	6	2	1	31
	percent	0.0%	38.7%	32.3%	19.4%	6.5%	3.2%	100.0%
3001-4000	frequency	0	3	8	7	4	0	22
	percent	0.0%	13.6%	36.4%	31.8%	18.2%	0.0%	100.0%
>=4001	frequency	0	0	2	4	0	0	6
	percent	0.0%	0.0%	33.3%	66.7%	0.0%	0.0%	100.0%

7.2.3.3 For health care

Table7.24-27 respectively represents the distribution of the highest rate that the respondents are willing to pay for Rehabilitation nursing, Physical medicine/occupational therapy/speech therapy/Respiratory therapy, Family doctor or Visiting Nurse Service, and Emergency services/ calling service. The preferred willingness of the low and mid income elderly to pay for Rehabilitation nursing, Physical medicine/occupational therapy/speech therapy/Respiratory therapy, Family doctor or Visiting Nurse Service, and Emergency services/ calling service respectively ranges between 101-1,000, 101-500, 51-500, 51-500 Yuan per month/time.

Table7.24 Willingness to pay for Rehabilitation nursing

Monthly income of Urban elderly		Rehabilitation nursing							
		1-50	51-100	101-500	501-1000	1001-1500	1501-2000	2001-3000	>=3001
<=1000	frequency	0	1	8	3	0	0	0	0
	Percent	0.0%	8.3%	66.7%	25.0%	0.0%	0.0%	0.0%	0.0%
1001-2000	frequency	0	0	6	4	1	0	0	0
	Percent	0.0%	0.0%	54.5%	36.4%	9.1%	0.0%	0.0%	0.0%
2001-3000	frequency	0	2	9	11	3	5	1	0
	Percent	0.0%	6.5%	29.0%	35.5%	9.7%	16.1%	3.2%	0.0%
3001-4000	frequency	0	0	0	4	1	0	1	2
	Percent	0.0%	0.0%	0.0%	50.0%	12.5%	0.0%	25.0%	100.0%
>=4001	frequency	0	0	1	1	1	1	0	1
	Percent	0.0%	0.0%	20.0%	20.0%	20.0%	20.0%	0.0%	20.0%

Table7.25 Willingness to pay for Physical medicine/occupational therapy/speech therapy/Respiratory therapy

Monthly income of Urban elderly		Physical medicine/occupational therapy/speech therapy/Respiratory therapy							
		1-50	51-100	101-500	501-1000	1001-1500	1501-2000	2001-3000	>=3001
<=1000	frequency	1	0	7	1	0	0	0	0
	Percent	11.1%	0.0%	77.8%	11.1%	0.0%	0.0%	0.0%	0.0%
1001-2000	frequency	0	2	2	0	0	0	0	4
	Percent	0.0%	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%	100.0%
2001-3000	frequency	0	0	7	2	0	0	0	9
	Percent	0.0%	0.0%	77.8%	22.2%	0.0%	0.0%	0.0%	100.0%
3001-4000	frequency	0	0	1	1	0	0	0	3
	Percent	0.0%	0.0%	33.3%	33.3%	0.0%	0.0%	0.0%	100.0%
>=4001	frequency	0	0	2	0	0	0	0	2
	Percent	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Table7.26 Willingness to pay for Family doctor or Visiting Nurse Service

Monthly income of Urban elderly		Family doctor or Visiting Nurse Service							
		1-50	51-100	101-500	501-1000	1001-1500	1501-2000	2001-3000	>=3001
<=1000	frequency	3	8	8	0	0	0	0	19
	Percent	15.8%	42.1%	42.1%	0.0%	0.0%	0.0%	0.0%	100.0%
1001-2000	frequency	5	4	17	3	0	1	0	30
	Percent	16.7%	13.3%	56.7%	10.0%	0.0%	3.3%	0.0%	100.0%
2001-3000	frequency	5	13	15	3	0	2	1	38
	Percent	13.2%	34.2%	39.5%	7.9%	0.0%	5.3%	2.6%	100.0%
3001-4000	frequency	3	5	9	6	0	1	1	24
	Percent	12.5%	20.8%	37.5%	25.0%	0.0%	4.2%	4.2%	100.0%
>=4001	frequency	2	2	4	0	0	2	0	8
	Percent	25.0%	25.0%	50.0%	0.0%	0.0%	25.0%	0.0%	100.0%

Table7.27 Willingness to pay for Emergency services/ calling service

Monthly income of Urban elderly		Emergency services/ calling service							
		1-50	51-100	101-500	501-1000	1001-1500	1501-2000	2001-3000	>=3001
<=1000	frequency	0	1	0	0	0	0	0	1
	Percent	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
1001-2000	frequency	2	6	4	0	0	0	0	12
	Percent	16.7%	50.0%	33.3%	0.0%	0.0%	0.0%	0.0%	100.0%
2001-3000	frequency	0	3	4	0	0	0	0	7
	Percent	0.0%	42.9%	57.1%	0.0%	0.0%	0.0%	0.0%	100.0%
3001-4000	frequency	2	5	3	0	0	0	0	10
	Percent	20.0%	50.0%	30.0%	0.0%	0.0%	0.0%	0.0%	100.0%
>=4001	frequency	1	1	2	1	0	0	0	3
	Percent	33.3%	20.0%	40.0%	20.0%	0.0%	0.0%	0.0%	100.0%

7.2.3.4 For Day Care Center

Table 7.28 represents the distribution of the highest rate that the respondents are willing to pay for the Day Care Center, disaggregated by the monthly income of urban elderly. The preferred willingness of the low and mid income elderly to pay for the Day Care Center ranges between 1-500 Yuan per month.

Table7.28 Willingness to pay for Day Care Center

Monthly income of Urban elderly		Day Care Center						
		1-50	51-100	101-500	501-1000	1001-1500	1501-2500	2501-3500
<=1000	frequency	5	4	10	2	0	1	0
	percent	22.7%	18.2%	45.5%	9.1%	0.0%	4.5%	0.0%
1001-2000	frequency	7	4	15	2	1	0	0
	percent	24.1%	13.8%	51.7%	6.9%	3.4%	0.0%	0.0%
2001-3000	frequency	3	7	15	9	2	4	1
	percent	7.3%	17.1%	36.6%	22.0%	4.9%	9.8%	2.4%
3001-4000	frequency	1	5	7	2	0	3	1
	percent	5.3%	26.3%	36.8%	10.5%	0.0%	15.8%	5.3%
>=4001	frequency	1	3	7	1	0	1	0
	percent	7.7%	23.1%	53.8%	7.7%	0.0%	7.7%	0.0%

7.2.4 The female elderly's willingness to pay

7.2.4.1 For EC institutions

Table 7.29 represents the distribution of the highest rate that the respondents are willing to pay for the EC institutions, disaggregated by gender. The preferred willingness of the female elderly to pay for the EC institutions ranges between 1-2,000 Yuan per month.

Table 7.29 Willingness to pay for living in the EC institutions

Item		1-1000	1001-2000	2001-3000	3001-4000	>=4001	Total
Male	Frequency	39	34	13	1	1	88
	Percent	44.3%	38.6%	14.8%	1.1%	1.1%	100.0%
Female	Frequency	70	55	16	4	2	147
	Percent	47.6%	37.4%	10.9%	2.7%	1.4%	100.0%
Total	Frequency	109	89	29	5	3	235
	Percent	46.4%	37.9%	12.3%	2.1%	1.3%	100.0%

7.2.4.2 For daily care

Table 7.30-33 represents the distribution of the highest rate that the respondents are willing to pay for the Home Delivered meals, Congregate Meals, Day Care and housekeeping, disaggregated by gender. The preferred willingness of the female elderly to pay for the Home Delivered meals, Congregate Meals, Day Care and housekeeping respectively ranges between 101-1,000, 101-500, 101-1,100, 101-1,000 Yuan per month.

Table7.30 Willingness to pay for Home Delivered meals

Monthly income of Urban elderly		Home Delivered Meals						
		1-100	101-500	501-1000	1001-2000	2001-3000	3001-4000	≥ 4000
male	frequency	0	15	10	9	0	1	0
	Percent	0.0%	42.9%	28.6%	25.7%	0.0%	2.9%	0.0%
female	frequency	1	26	17	7	1	1	0
	Percent	1.9%	49.1%	32.1%	13.2%	1.9%	1.9%	0.0%
Total		1	41	27	16	1	2	0
		0.4%	42.9%	28.6%	25.7%	0.4%	2.9%	0.0%

Table7.31 Willingness to pay for Congregate Meals

Gender		Congregate Meals						
		1-100	101-500	501-1000	1001-2000	2001-3000	3001-4000	≥ 4000
male	frequency	0	14	5	9	0	0	0
	Percent	0.0%	50.0%	17.9%	32.1%	0.0%	0.0%	0.0%
female	frequency	2	22	4	7	0	1	0
	Percent	5.6%	61.1%	11.1%	19.4%	0.0%	2.8%	0.0%
Total		2	36	9	16	0	1	0
		2.2%	61.1%	11.1%	19.4%	0.0%	2.8%	0.0%

Table7.32 Willingness to pay for Day Care

Gender		Day care						
		1-100	101-500	501-1000	1001-2000	2001-3000	3001-4000	≥ 4000
male	frequency	0	8	12	16	2	2	1
	Percent	0.0%	19.5%	29.3%	39.0%	4.9%	4.9%	2.4%
female	frequency	0	16	16	9	3	0	0
	Percent	0.0%	36.4%	36.4%	20.5%	6.8%	0.0%	0.0%
Total		0	24	28	25	5	2	1
		0.0%	36.4%	36.4%	20.5%	6.8%	0.0%	0.0%

Table7.33 Willingness to pay for Housekeeping

Gender		Housekeeping						
		1-100	101-500	501-1000	1001-2000	2001-3000	3001-4000	≥ 4000
male	frequency	1	7	15	10	5	1	0
	Percent	2.6%	17.9%	38.5%	25.6%	12.8%	2.6%	0.0%
female	frequency	1	30	27	12	6	0	0
	Percent	1.3%	39.5%	35.5%	15.8%	7.9%	0.0%	0.0%
Total		2	37	42	22	11	1	0
		2.2%	39.5%	35.5%	15.8%	7.9%	0.0%	0.0%

7.2.4.3 For health care

Table 7.34-37 represents the distribution of the highest rate that the respondents are willing to pay for the Rehabilitation nursing, Physical medicine/occupational therapy/speech therapy/Respiratory therapy, Family doctor or Visiting Nurse Service, and Emergency services/ calling service, disaggregated by gender. The preferred willingness of the female elderly to pay for the Rehabilitation nursing, Physical medicine/occupational therapy/speech therapy/Respiratory therapy, Family doctor or Visiting Nurse Service, and Emergency services/ calling service respectively ranges between 101-1,000, 101-1,000, 1-500, 51-500 Yuan per month.

Table7.34 Willingness to pay for Rehabilitation nursing

Gender		Rehabilitation nursing								Total
		1-50	51-100	101-500	501-1000	1001-1500	1501-2000	2001-3000	>=3001	
male	frequency	0	2	11	11	2	3	0	1	30
	percent	0.0%	6.7%	36.7%	36.7%	6.7%	10.0%	0.0%	3.3%	100.0%
female	frequency	1	2	18	14	4	3	3	2	47
	percent	2.1%	4.3%	38.3%	29.8%	8.5%	6.4%	6.4%	4.3%	100.0%

Table7.35 Willingness to pay for Physical medicine/occupational therapy/speech therapy/Respiratory therapy

Gender		Physical medicine/occupational therapy/speech therapy/Respiratory therapy								Total
		1-50	51-100	101-500	501-1000	1001-1500	1501-2000	2001-3000	>=3001	
male	frequency	0	2	10	0	0	0	0	0	12
	percent	0.0%	16.7%	83.3%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
female	frequency	2	1	12	5	1	0	0	0	21
	percent	9.5%	4.8%	57.1%	23.8%	4.8%	0.0%	0.0%	0.0%	100.0%

Table7.36 Willingness to pay for Family doctor or Visiting Nurse Service

Gender		Family doctor or Visiting Nurse Service								Total
		1-50	51-100	101-500	501-1000	1001-1500	1501-2000	2001-3000	>=3001	
male	frequency	4	17	23	8	0	3	1	1	57
	percent	7.0%	29.8%	40.4%	14.0%	0.0%	5.3%	1.8%	1.8%	100.0%
female	frequency	15	20	39	4	1	3	1	0	83
	percent	18.1%	24.1%	47.0%	4.8%	1.2%	3.6%	1.2%	0.0%	100.0%

Table7.37 Willingness to pay for Emergency services/ calling service

Gender		Emergency services/ calling service								Total
		1-50	51-100	101-500	501-1000	1001-1500	1501-2000	2001-3000	>=3001	
male	frequency	3	4	5	1	0	0	0	0	13
	percent	23.1%	30.8%	38.5%	7.7%	0.0%	0.0%	0.0%	0.0%	100.0%
female	frequency	3	14	10	0	0	0	0	0	27
	percent	11.1%	51.9%	37.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

7.2.4.4 For day care center

Table 7.38 represents the distribution of the highest rate that the respondents are willing to pay for the day care center, disaggregated by gender. The preferred willingness of the female elderly to pay for the day care center concentrates in the segment of 101-500 Yuan per month.

Table7.38 Willingness to pay for day care center

Item		1-50	51-100	101-500	501-1000	1001-1500	1501-2500	2501-3500	Total
Male	Frequency	4	11	17	8	2	1	2	45
	Percent	8.9%	24.4%	37.8%	17.8%	4.4%	2.2%	4.4%	100.0%
Female	Frequency	14	16	41	12	1	8	0	92
	Percent	15.2%	17.4%	44.6%	13.0%	1.1%	8.7%	0.0%	100.0%
Total	Frequency	18	27	58	20	3	9	2	137
	Percent	13.1%	19.7%	42.3%	14.6%	2.2%	6.6%	1.5%	100.0%

8 Social and Gender Action Plan

A major challenge for the project is to ensure that the EC services will be socially inclusive and affordable. To strengthen the social inclusiveness, and promote the integration of social inclusiveness into the project design and implementation, a social and gender action plan is prepared under wide consultation with various stakeholders.

Table 8.1: Social and Gender Action Plan

Outputs	Action	Indicators and targets	Responsible Institutions	Timeframe	Budget
Output 1: Community and home care services improved					
Improve selected community centers and rural communal homes	<ol style="list-style-type: none"> 1. Ensure affordability of community EC services for vulnerable elderly, including women 2. Conduct stakeholders consultations on the design of the community and home care services, and ensure design of services are gender sensitive 3. Establish gender sensitive community feedback mechanism on quality and accessibility of EC services 4. Establish/use gender sensitive self-support groups of elders and their families who can help others at the community level 	<ol style="list-style-type: none"> 1. Number and percentage of the vulnerable elderly enjoying the EC services, (age and sex-disaggregated). At least 40% are female. 2. Minutes of consultation; number of suggestions incorporated into the design; number of gender-sensitive design features 3. Feedback records 4. Number of self-support groups; number of groups' participants (age and sex-disaggregated) 5. At least one self-support group established in each county/city/district, funded at 1,2000 Yuan per year for three years 	IAs, PMO, consultants, design institute, civil affair department, communities	2017-2019	Project budget,
Develop information technology networks	<ol style="list-style-type: none"> 1. Training and consultations for the elders on how to use ICT terminal facilities 	<ol style="list-style-type: none"> 1. Number and percentage of training participants (age and sex-disaggregated) 	IAs, PMO, civil affair department, communities, ICT operator	2017-2022	Project budget

Outputs	Action	Indicators and targets	Responsible Institutions	Timeframe	Budget
Develop services and creating links and support networks	Develop a HCBC working group	1. 50% of group members are female 2. Time and frequency of working group meetings; Minutes of the meetings	IAs, PMO, civil affair department, health department	2017-2018	
Output 2: Institutional elderly care service capacity increased and quality improved					
Provide expanded institutional care facilities and services for elderly at various stages of need	1. Staff orientation and in-service training on diversity and inclusion 2. Organize caregivers supporting program, including counseling services	1. About 80% of staff, including caregivers, received training on diversity and inclusion 2. Number and percentage of participants of which 70% are women.	IAs, PMO, consultants, civil affair department	2017-2022	Project budget
For Outputs 1-2: Generating Job Opportunities					
Develop HCBS centers, EC centers and a training center in Yanshan University	1. Generate 690 skilled and 176XXX unskilled jobs at the construction stage with no age discrimination 2. Generate 1,211 skilled and 153 unskilled jobs at the operation stage with no age discrimination	1. 20% of which are first made available to the poors and 15 % to women (Baseline for female construction workers is 5%) 2. 30% of which are first made available to the low-income person and 50 % to women (Baseline for female staff is 30 %) 3. 35 % of managerial positions will be given to women	IAs, PMO, consultants, design institute, contractors	2017-2022	Project construction and operation funds
Output 3: Elderly Care planning, development of human resources and industry capacity improved					

Outputs	Action	Indicators and targets	Responsible Institutions	Timeframe	Budget
Develop training programs and training materials	1. Raise the awareness of residential, community and home based ECSs' providers and local officials on social inclusion issues through providing gender and age-sensitive training. 2. Yanshan University to develop a gender and age-sensitive staff recruitment and development plan	1. Gender and age-sensitive training courses and materials Number, percentage and type of trainees (Sex-disaggregated) 2. Number and percentage of newly recruited staff (sex and age disaggregated)	Yanshan University, training program developer, social consultant, EC consultants, PMO, civil affairs dept. human resource and social safeguard dept.	1. 2017 - 2022 2. 2017 - 2019	Project budget
Output 4: Capacity of the EC Sector Organizations Improved (Pilot)					
Develop local EC Development Planning (Li County)	Consultation with stakeholders on socially inclusive local EC development	1. Draft socially inclusive EC planning document 2. Number, percentage and types of stakeholders participated in the planning process (sex-disaggregated)	IAs, PMO, consultants, local government, civil affairs department	2017-2019	Project budget
Develop the elderly long-term care assessment system (Shuangluan District)	Develop a gender and age-sensitive EC care assessment guideline	A gender and age-sensitive EC care assessment guideline			
Develop quality management system for EC institutions (She County)	Develop quality monitoring indicators for gender sensitive and social inclusiveness	Monitoring indicators established (sex and age-disaggregated)			

Annex 1: FGDs Notes

Interview records 1

Time: July 12, 2016

Place: ShuangAn Community of Shuangluan District, Chengde City

Interviewees:

Ms. Yu Guiqin, 71 years old, the government of Shuangta Town
Mr. Fan Gui, 74 years old, District Health Bureau
Mr. Wang Yushan, 70 years old, District Federation of Trade Unions
Ms. Han Guiqin, 60 years old, a retired worker
Ms. Zhang Peng, 66 years old, retired from jute spinning factory
Mr. Yu Fusheng, 71 years old, a retired worker

Interviewee 1: Ms. Yu Guiqin, who live with her children.

1) About the elderly care

I think it depends on the family situations. Every family is really different. For example, some old people have many children and their children are all around; some old people have many children but their children are in other place or work busy so have no time to take care of them; some old people have only one child who has huge social pressure and great family burden...In the way of elderly care, if old people have the ability to take care of themselves, they usually stay at home. Also, if old people cannot take care of themselves, they will ask their children to look after them or spend some money to pay a nanny or a elderly care institution. This has nothing to do with the children's filial piety. In the community, some old people spend 2500 yuan per month into the elderly care institution; some old people spend 2000 yuan per month to pay a nanny. They are all semi self-care. However, these all depend on that old people have pensions. It is really a big problem for those old people who do not have pensions.

2) About the community-based elderly care service

First of all, I hope there are more community service to help the old people in need of help. Our community only has 6 staff. So it is too hard for them to look after thousands of people in the community. I wish the community will increase personnel, strengthen community management, pay close attention to the old people's life and family situation in the future. In addition, it is necessary to give more solicitude to them in timely.

Secondly, I hope the community can build a small elderly care institution because everyone is familiar with each other and we can help each other if we have problems. Also, this requirement is existent no matter the model of it is a residential or a day care. Near WenMiao, there has a 'Day Care center'. Members of it can get a lot of good care. Most of them have the ability to look after on themselves and only few old people cannot. ShuangAn community also has the day care center but it is short of staff, beds and service. If our community will have the elderly care institution in the future, I prefer to choose the model of day care. Because it is convenient to go home and I can often meet my children.

Finally, as to the choice of the public or private elderly care institution, the former is more trustable. For private institutions, if there is a department to supervise and control well them rather than just taking earning money as the purpose, I accept it.

Interviewee 2: Mr. Wang Yushan, who has a son and a daughter. His daughter lives in Shenzhen, his son lives in the local, he and his wife live alone.

1) What do you think about the community's role in the elderly care?

The needs for elderly care are various, but the community doesn't provide any service. For example, as stipulated by the state, the community should arrange a free physical examination for the elderly while our community has never done it. On Double Ninth Festival, the elderly activities have not organized for 2 years. On the aspect of the elderly service, the substantial help and spiritual culture is not in place.

2) What problems do you think are there about the elderly care? What do you want the community do?

In my opinion, there are two problems. One problem is that when the children do not live with their parents how can the elderly people take care of themselves. Second problem is that our community is old and it can't provide us with enough space.

In order to construct the elderly service platform, I think the community can do the following things. In daily life, the community can deliver the rice, noodles, cooking oil and vegetables to the old people if they need help. In medical care, when the old people are not convenient, doctors can provide door-to-door service, such as measure blood pressure and blood sugar for free. Third, Civil affairs department can transfer part of the special funds to support the community to build a nursing home and provide related services. Moreover, it is necessary to build new elderly activity-rooms and increase various entertainment facilities and extend activity-space to diversify the extracurricular activities for old people. Above all, human resource and finance should be allocated.

3) Do you know about the elderly care institution? What's your attitude towards the community-based elderly care?

I know it very well, Pian Qiaozi and the city's elderly care institution sent leaflets in the past. Also, there are many related advertisements on TV. Chengde city's elderly care institution are generally not good. Most of them are private founded with poor environment and health conditions and expensive prices. I visited some while they are unworthy of the name. No old people in our community wants to go to the elderly care institution which is influenced by traditional ideas, worrying that others may gossip of the children's unfiliality; second, the elderly care institution conditions such as diet, health, service personnel quality is not in conformity with the standards.

I think community-based EC is good. Day care center, in particular, is especially suitable for a person who is lonely at home during the day and can take care of himself. However, community now has no conditions, no money, and no space. As long as you can do it, equipping with the activity room, dining room and the clinic...Various conditions are good enough, there are quite a lot of old people willing to go there.

If there has community-based EC in the future, life care is the most important. The diet should be based on the nutrition need of the elderly. Second, it is required that a professional medical person should be available for a long time in case of some special situations. Of course, the quality and the attitude of service personnel are also very important. Please treat old people like your parents. If they can meet the above requirements, the old people are willing to pay. The highest acceptable price for me is 3000 yuan every month.

Interviewee 3: Ms. Han Guiqin, who is 60 years old and has a daughter

Interviewee 4: Ms. Zhang Peng, who is 66 years old and has two daughters. Her husband has been retired from the police station and they live together.

1) What is your opinion about elderly care institution? Would you like to live in it in the future?

Theoretically, elderly care institution is quite good because it is suitable for the elderly. Reasons are as follows: Old people of the same age can chat and play well together; There is someone to arrange meals and cleaning which make the life healthy and harmonious; Caregivers are relatively professional because they know the demand of the old and can take care of them well. But in fact, Chengde has few EC institutions and most of them basically are undertaken by private personnel. Their service is bad and prices are expensive. So we have few choices.

If there has a good EC institution, I will move in. Because when my daughter got married, she would not live with us and have her job and family to take care of. As a parent, I don't want to let the child feel difficult that she has to look after me. Elderly care institution may be a good choice. I think the ideological consciousness and the degree of love of the service staff is the most important. Fee standards should be adapted to the local economy level and pensions. Mostly I can undertake 2,000 yuan a month.

2) Do you know the community-based elderly care? To compare with elderly care institution, which do you like better?

I know a little. It seems that several big cities have had community elderly care and it achieves good effects. As a new elderly care style, it is equipped with complete entertainment and medical facilities, and all aspects of the care and services are in place. Within the community-based EC, it is not far from home and full of familiar atmosphere. This can make old people feel easy. In addition, it belongs to the street and government which may also provide certain subsidy, so the old man would surely pay few fees. In general, it has lots of advantages. I believe many old people will accept it.

From where I stand, no matter you choose community elderly care or elderly care institution, it depends on your physical situation and income levels. If you need to live in it for a long time, you should compare with various kinds of EC institutions and community-based elderly care. If you don't want your children's allowances and you can look after yourself well, you could choose community-based elderly care.

3) Are there any ideas or suggestions?

First of all, I hope our country and local government can attach great importance to the EC industry such as devote more fund and build more cost-effective EC institutions. Moreover, the

government should devote more power for the community to build a great service platform. Supervision is also needed. Finally, I wish the government can establish voluntary service in the future and set up 'the time bank', recording the good manners of the volunteers when they are young. These people can enjoy elderly care service for free when they are old.

All respondents:

1) Old people over 75 in the community can receive free cell phones, but they haven't heard of "12349" or "96096" call service, etc. The service sounds good and useful, but the key is that it is not popular now. If it will exist in the future, they are willing to use related services.

2) The retiree's medical insurance has shortcomings because its insurance standards are not same. Currently the insurance is calculated according to 3.5%~3.8% of the salary. The normal expenses for medicine and transfusion cannot be reimbursed. Fixed-point medical care is expensive while only a few actual expenses of living in the hospital can be reimbursed.

3) Compared to a variety of endowment ways, old people questioned are more inclined to community-based EC, because of familiar with each other between people and if there are difficulties, the community can provide help. But the premise is that must be regulated and supervised.

4) About community-based EC service projects, the elderly men care about the life care, recreation facilities, and activity space. They hope to expand the scope of community's function and let the community serve people directly. Street are unnecessary. For the women, the most attention are to environment, health and quality of service, hoping those service personnel have been professional trained. In fact, the elderly have different hobbies and service should follow the individual demand. Community-based EC should be comprehensive.

Interview records 2

Time: July 13, 2016

Place: ShuangAn Community of Shuangluan District, Chengde City

Interviewees: Ms. Li Xuejing (secretary) , TEL:13084599833

Mr. Sun Zhenhe

Children representatives

Basic situation introduction:

ShuangAn community was founded in July 2008, it covers an area of 0.25 square kilometers, the population of permanent residents is 8000 people of 2349 families, and the elderly account for about a quarter. Community has the elderly activity center, equipped with daytime care room, tea ceremony room, calligraphy studio, chess and card room, etc. They are all free of charge. Secretary Li believes that "no small matter, residents' problems are great". Especially the elderly, need more various and multi-level care, one is the material help, the second is psychological and spiritual help, the third help

is from the love of children, four is the support from people of all walks of life. At present there are many 'Empty Nest' elderly. Although there are certain help for low-income residents and old party members, but the future EC is still difficult.

Children representatives

Interviewees 1: Ms. Li Xuejing, who is 51 years old and works in the community. There are four brothers and sisters.

1) My father died this year. He was a veteran cadre of Chengde steel factory and his pension was 4000 yuan/month. Before he died, he had been paralyzed for two years, was cared by my mother, child care is complementary. My mother is a 76-year-old retired teacher. She has 3500 yuan/month of wages and lives alone. Sometimes she plays mahjong and ballroom dancing. Now she is healthy and can take care of herself.

2) Do you know about elderly care institution? What your thoughts about the old people's EC way?

I know it very well. On the one hand, I often participate in volunteer service activities to assist various EC institutions ; On the other hand, when my father was paralyzed, I also looked at a lot of EC institutions. For example, the best private elderly care institution in Chengde charge 6000 yuan a month can provide feeding, infusion, roll over, which is very comprehensive.

When I have difficulty looking after my father, I have thought to send my father to the elderly care institution. But my father was strict with his children and very traditional so he refused to go. As children, the most important is filial piety, "filial piety" embodied in the moral level, the meaning of "shun" is to follow the old man. About my mother's EC issue in the future, I will respect the wishes of her. If she can live alone, I listen to her; if she can't, I will respect her choice whether to come to my home or go to elderly care institution with her friends.

3) What is your opinion of "push-to-talk" EC service?

"Push-to-talk" EC service don't achieve good effects. As a daily life demand service, community shops around will send rice, noodles, oil directly to your door. When they need normal maintenance service, property management company also can provide door-to-door service. In addition, if they come into emergency situations, they will make a phone call to their children. I think there are two reasons: one is the old people distrust "push-to-talk", the other is the human's nature that parents only believe the most intimate people.

4) What is your attitude towards 'community-based EC'?

Old people are not willing to leave home and community-based EC is the best way of EC. Actually, the old people who can take care of themselves can go to a day care center in the community. While the old people who cannot look after themselves they can buy door-to-door service, but this is based on children economy is in good condition or have a pension. Those old people with bad economic situations or come from rural areas don't have the same condition with the community, how can they get good elderly care in the future?

Interviewee 2: Mr. Sun Zhenhe, who is 55-year-old and works in hotel with a salary of 3000 yuan per month.

1) My mother is 78-year-old, her hometown is Pingquan county. She lives in Chengde a few months every year. She has five children, three of them are in other places, and the rest are in their hometown. Now she is in good condition having the Rural Cooperative Medical Service. She can take care of herself; every child gives her 200 yuan monthly.

2) The parents of my wife are the retiree from steel mills of Chengde, and with pensions. They have three daughters, and their economic conditions are all very well. The old couple are live alone with healthy body and young mentality. They go to travel every year; never worry about their future life.

3) What is your thoughts about the issue of supporting old people?

The problem of supporting old people in countryside is significant. My viewpoint is that the alone and lonely elder and five guarantees family should be responsible by the government. But in countryside it is not good, it hasn't been managed well. Actually the countryside has "happiness yard", yet, not all countryside has it. What's more, the recipients are limited, which lead to the problem that a lot of elder people cannot live in although they have EC demand.

I hope the nursing home could be built in the countryside. Age like our parents, they have three to four offspring at least. The cost can be accepted if they share it. I believe that most of the offspring who are migrant workers would like to send the old people to nursing home because it can eliminate their worries. It doesn't mean the offspring haven't filial piety; on the contrary, they are afraid that the old people's life are not convenient and feel lonely. The old people maybe cannot get used to it at first, but if their thought can change quickly, it will be ok. According to the economic development level of Chengde, generally, the settlement fee is less than 1000 yuan per month.

If my hometown has a nursing home, I would like to send my mother to live in. I can accept 2000 yuan per month, the highest. My four brothers and sisters can share the fee, and I can offer 1000 yuan per month, the highest.

4) What is your expectation about your EC issue?

I have a son which was born in the 1980s. I live with him now taking care of the grandson. When I get old, I would choose nursing home or community services for the aged. Firstly, living habits between the old and young generation are different; living together will generate conflict. Secondly, I don't want to make trouble for them because of their busy work. Thirdly, lots of peers in the nursing home or community, and it is fit for me to play and chat with them.

According to the choice of nursing home, I will lay emphasis on eating on time and entertainments. Nowadays, phenomenon of elder abuse is popular. The quality of caregivers should be improved, and I hope they can have 24hrs CCTV.

About payment aspiration, I am willing to put half of my pension on it, but no more than 3000 RMB per month. And the rest of my pension, I would like to give my offspring and grandchild, the concerns from the parents/grandparents. I wouldn't use my savings, in case I meet unexpected accident.

Interview records 3

Time: Afternoon, July, 13th, 2016

Place: Wanhecheng Community of Shuangluan District, Chengde City

Interviewees: the representatives of community

Interviewees 1: Mr. Mo Lanrong, who is a retired teacher and aged 73.

1) He has 2 sons and 1 daughter. I am living with my wife, and my children always come to see me. My wife and I has pension, so we need not our offspring give alimony to us. We want to reduce their burden.

2) My body is in a good condition. I have Medicare Card, 1700 RMB per month, which is extracted according to 3.8% of my salary. I can apply for reimbursement in certain proportion if I were in hospital.

3) Wanhecheng is a new community, so the push-to-talk “12349” and “96096” is not established. But the community has elder activity center, which has big rooms including the dancing room, calligraphy room, gymnasium, paper-cut room, chess and card room, etc. In our spare time, we will have fun together. So our spiritual culture is rich.

4) To the nursing home organization, I have not investigated it yet, and also no organizations have come here to advertise it. Talking about my elder life in the future, I can take care of myself, so I haven't thought about it yet. When I cannot move conveniently, I will think about it again. My children are busy in their works and no time to take care of me; maybe I would like to choose nursing home or community EC services. Good location, medium price and normal condition will be nice. I will pay more attention on eating and sanitary condition. The less price and the better service is what I want. As door-to-door service, it is unnecessary for me. The convenience store has free home delivery service, and if I catch cold or have other diseases, I can call the health-center.

Interviewee2: Ms. Liu Xiurong, who is a retired teacher and aged 63.

1) I has a son and a daughter, and living with my son in order to take care of my grandson. The cost in my normal life is not very much. I and my son do not split the finance. My health condition is just so so. I have hypertension. The medical fee is 300 yuan per month. Owing to my occupation, expense on monetary gift are always a lot every year. These money all depend on my pension, but it is enough.

2) Our community has organized keeping good health lectures three times. I get the notice by phone call or noticeboard. The content is filial piety, Traditional Chinese Medicine and tea ceremony.

A lot of elder people participated the lectures. Our community also offered the lunch. We are very satisfied with it. I hope our community can hold more activities like this which could promote our communication with each other.

3) Talking to my EC life in the future, I have my own traditional concept. It must be “the old people should be taken care of, the offspring should take care of the parents”. If they have no time to take care of me, I will hire a housekeeper to take care me at home. I wouldn’t like to leave home, either, wouldn’t consider any other way. Door-to-door service maybe is not better than the housekeeper. It has not been put into practice in Chengde. I am not sure whether the effect is good or not. Nowadays there are too many cheaters. It is hard to trust a stranger and let him/her give me door-to-door service.

Interviewee3: Ms. Li Shuqin, who is a retired teacher and aged 65.

1) I have two daughters, one is in Tianjin, one is local. I live with my husband. We can afford our normal life, thus my children needn’t worry about it. Our health condition is very well. We don’t have any other chronic disease and medical fee. I have sphygmomanometer, glucometer and so forth. Talking about the problem of supporting the old, I have no demands.

2) Because of the new community, the old are not familiar with each other. Our normal life is simple. Activity places and gymnasium facilities are pretty little, which cannot fulfill the old people’s demands. Though the community has dancing room, paper-cut room, chess and card room, the room of these are really limited, and not all of the old like these activities. University for the aged is available in the downtown. The entertainments in it are relatively comprehensive, like film, drawing, ball games, gymnasium, singing and dancing, opera, etc. But the distance is the problem.

I hope our community can organize “activity class”, establish “activity day”, and invite professional teachers to give us a lecture weekly. The elderly people can choose what they want according to their interests. This action can enhance the communication between the elderly people.

3) What are your thought of the EC institution?

I don’t know it very well, but some elderly people around me who are living in the EC institution and it is established privately. I have heard that the food, care and any other service are not good. Some demands need additional fee, so the cost performance is very low. My opinion is public organization will be better, because it is organized by government; some relative departments will supervise it. The old people will not be cheated.

Talking to my EC issue, it is too early to say it. I hope I can live in my home when I get old. The older I am, the more unwilling to leave home. Even if my offspring have no time to take care of me, a lot of problems can be solved by a phone call. I do not worry about it.

Interviewee4: Mr. Luo Zhenhua, a retired worker from ramie mill and aged 66.

1) I have a 92-year-old mother and she is hemiplegia. She lives with me and my wife and we take care of her. The medicine fee is about 1500 yuan per month. But my mother has pension and advanced age allowance, so we don’t need to pay.

2) The most difficult problem to take care of the old people is to wash the clothes. I have been taking care of my mother for 4 years. I am familiar with the care and grasp some skills, so I needn't have any professional EC guidance.

I haven't thought about hiring a housekeeper or sent my mother to the elderly care institution. Firstly, I am not at ease to let other people take care of my mother. We are more careful. Secondly, our economic capability is limited. Hiring a housekeeper need 3000 yuan per month at least, including eating and living. Thirdly, my mother is traditional. She cannot live without her offspring and doesn't like the stranger to take care of her. Fourthly, my mother has a lot of demands. Maybe it is hard to find the housekeeper. Fifthly, my wife and I have retired. We have enough time to take care of my mother.

3) My wife and I have a good health condition. Although my wife has hypertension and diabetes, and the medicine fee is 1000 RMB monthly, they do not affect our normal life. We participate in different kinds of sports in the spare time, like playing the drum, dancing and so forth. My children are all in other cities, but they always come back to see us. We are satisfied with our life now.

4) I haven't thought about my EC issue in the future. We will see by then. Although my children are not keeping company me, but I also hope I can spend my elderly life in my hometown. My wife and I can take care of each other, keep company each other. If we meet some problems, we can call my children to solve it.

Interviewee5: Ms. Li Ruinian, who is a retired worker and aged 50-year-old.

1) My family has four old people. The average age of them are more than 80-year-old. They are all in poor health with inconvenient action, so they need to be taken care of. Because of the different living habits between the old and offspring, they live alone now. Considering about the convenience to take care of them, my parents and parents-in-law live in the same residential zone. We children take care of our parents with shift system. The period is one week. And the main mission is cooking and cleaning. My husband goes to my parents-in-law every evening. In the daytime, his brothers and sisters go to cooking, also, with shift system.

2) The old people have phones. If they have problems, they will call us. "Push-to-talk" phone is unnecessary. The old are difficult to accept new things though it is pretty simple for us to use. We cannot put our thought to the old toughly. But the "yellow bracelet" (emergency call) may be useful in the future. I can accept it.

3) On the method of supporting the old people, we have discussed about hiring a housekeeper. But the old people don't want to spend their children's money. They think it is unnecessary. I have never thought to send the old to the EC institution. Last generation's thought are traditional, so they cannot accept it. They will feel their offspring shirk responsibility and won't take care of them. Additionally, to the offspring, we are afraid that our relatives or neighbors will make gossip. Thus, no matter what the old people's health is good or bad, we all would like to accept and take care of them.

4) Talking to my EC issue, I am happy to go to the EC institution. I like playing with peers, and also want to reduce the burden of my children. Having a free life is the best.

Interview records 4

Time: the morning of July 14, 2016

Place: Fairview City Community of Shuangluan District, Chengde City

Interviewees: Children representative, the elderly representative

Children representatives

Interviewees 1: Ms. Zhao Xiuli, who is 57 years old and retired from Shuangluan Commercial.

1) She has no EC burden since the elderly people has died. She has only one daughter. Currently she and her husband are living alone, with their pension of 7,000 yuan per month, sufficient for the daily expenses and the medical costs, and thus often subsidize her daughter.

2) It is lack of care for the elderly in the community. There is no entertainment room. The community never organized a physical examination. The people at 50~60 years old now are concerned about their health. Because of the inconvenience to go to the hospital alone, they hope that the community can organize a systematically physical examination for the elderly regularly. They are willing to pay part of the cost as long as the test projects are sound.

3) EC mode of yourself:

They have carried out family meetings to discuss the future EC modes. She has 4 sisters and brothers, who also have only one child. They are very united. Their only children must not be able to take care of them, so EC issues have to be solved by themselves.

First, when they can take care of themselves, they will stay at home. If they have difficulties, they will get help from other families. The elderly of 5 families even can live and play together in a big house without loneliness.

Second, when they incapable of looking after themselves, they will choose to stay in the elderly care institution, at mid-level, not too luxury, as long as they are comfortable and can live happily. She preferred the government supported institutions, which can give them satisfied health care and entertainment. Due to her daughter's heavy economic burden, her willingness to pay is on the use of their own pension instead of the daughter's money or their own savings. She and her husband can bear the maximum 5000 yuan per month for the nursing home.

4) Attitude of your child:

The daughter does not agree the parents to go elderly care institution, since she has a serious dependence on them, and worries about their life in the EC institution because of the high exposure rate of negative news. But Ms. Zhao doesn't want to trouble her daughter. She will have a good talk with her, let her to help investigating the elderly care institution until she agrees.

Interviewees 2: Mr. Chen Haiwen, who is 55 years old and retired from steel mills of Chengde.

1) His mother, a 81 year-old woman in poor health, with a pension of 1500 yuan per month, lives together. He and His wife take care of her in normal times.

2) Views on elderly care institution:

He is not very familiar with the elderly care institution, since no one issues leaflets in the residential district and he has not concerned about it.

There are old people nearby, who are unable to take care of themselves, living in the public elderly care institution, which provides satisfactory service and charges 2600 yuan per month. He said

he won't send his parent to the elderly care institution. On one hand, his mother will not accept to live away from home, on the other hand, he has traditional ideas and worries others call him not filial. He and his wife both have retired so that they have time to take care of his parents.

3) Other ideas:

Now EC problem is one of the most important issue. The majority of the elderly has conservative thoughts, willing to stay at home, holding a misunderstanding or bias on other EC modes.

In the future, the government needs to guide the consumption and the ideological realm of the elderly. At the same time, the government should strengthen the construction of community and increase the content of community services.

Mr. Chen likes the idea of community-based EC, which is familiar environment and close to home. He prefers good health care and colorful entertainments and sports. In his view, a maximum of 20 yuan per day for diet and entertainment and a maximum 50 yuan per time for health care are reasonable.

Other interviewees:

Interviewees 3: Ms. Qiu Yinlong, who is a retired worker and aged 59. She has one mother-in-law, who is a semi-self-elderly and live in the rural home. Be taken care of by her husband, and have some difficulties. Ms. Qiu is in the city, live with his son to help looking after the grandchildren.

Interviewees 4: Ms. Jiao Guili, who is a retired worker and aged 51. There are two elderly people, having a total of ten children, of whom five sons and five daughters. All the children take turns to take care of the elderly.

Interviewees 5: Ms. Ji Sufeng, 57 years old and no work, in a general economic condition. Her mother is taken care of by other brothers and sisters, and she neither needs to worry about nor give alimony.

Interviewees 6: Ms. Zhi Yanling, who is 57 years old and retired from steel mills of Chengde. There are two elderly people at home, who are retired cadres with enough pensions, and bought a yard to live alone. They have hired a nanny, so do not require children to care or give alimony.

Interviewees 7: Mr. Liu Shaohua, who is a retired worker and aged 59. Only one elderly, live together, and he is responsible for care.

Interviewees 8: Ms. Sun Lirong, who is a farmer and aged 52. Now in the city and live together with son so that can help bring granddaughter.

1) Views on elderly care institution:

Interviewees generally believe that the elderly care institution are good, suitable for the elderly to live in.

But the number of existing elderly care institution in Chengde is not much, and the conditions of these are not satisfactory. Meanwhile, most of the institutions, which are private oriented, for the purpose to earn, do not really serve for the elderly. They trust the public elderly care institution, which enjoy the beds and food subsidies and thus services are relatively at the acceptable level. However,

the capacity of the public EC institution is limited and the admission criteria is high, so the general elderly people cannot live in.

2) Your wishes of elderly care institution:

Whether to stay or not in the future has not been considered, because the respondents are relatively young and healthy, and there is a long time to consider the EC problems since there is still a generation of more elderly people. And most of these potential elderly people have only child of their family, so in the future they prefer going to the elderly care institution or ask a housekeeper at home rather than depending on their children. However, because of no pensions and economic difficulties, the rural elderly indicated that they can only stay at home in the future. They hoped the government to give them the assistance about EC.

3) Views on Community-based EC:

They know something about it from the news, but don't think Chengde can reach such a service level. They would like the government invest and subsidy a public elderly care agency that keep up with good diet, colorful entertainment, satisfied health care, environmental health and services in the community. If introducing the private capital, the private EC agency should be regulated by the government.

4) Your wishes of Community-based EC:

Whether consume it or not depends on the specific service items and charges. Because of the traditional idea, the elderly who can live by themselves will not go to the elderly care institution. When there are the medical service, they will afford a maximum 40 yuan per day for bed fee according to the city hospital bed price. Retired workers of steel mills can bear up to 27 yuan per day for bed fee. When incapable of looking after themselves, they may demand these services.

The elderly representatives

Interviewees 1: Mr. Zhang, who was a steel mill cadre before retired, now with a pension of 5,000 yuan per month and a medical insurance.

1) The elderly people only has one daughter whose career and family condition are both very good. After the death of his wife, he moved to live with her daughter. Currently he is in good health, suffering from gallstones and pancreatitis, but it does not require long-term medication. The daughter is very filial, bear all the expenses of his life.

2) Difficulties on EC:

There is no worry about the money, as long as keeping fit is to reduce the burden on his daughter. Have been living in the present residential zone for almost 6 years, the biggest difficulty is that there is no suitable place for the activities of the elderly people. He hopes that the community has a special activity room, which equipped with exercise equipment, so that the elderly people can have a place for recreation.

3) Views of elderly care institution:

Mr. Zhang does not want to live in the elderly care institution for several reasons. First, he can take care of himself currently. Second, his daughter will retire in 2 years, and then she can look after her father at home. Third and the most important thing, He respected his wife, who told him not to go to

the nursing home before she died. His daughter also disagreed of staying in the elderly care institution. She believed that the service of EC institution is certainly not as good as that from the children.

4) Views of calling services:

He has a '12349' mobile phone, which was distributed by the community. Previously it was used by his wife to communicate with him every day. But the button of 'SOS' have never been used. After his wife died, he never used this mobile because there is no need. Also it is inconvenient to bring with a mobile when going out. Now if he goes out, he will tell his daughter where to go. But of course his daughter cannot know his exact position and health condition.

'96096' calling service had saved his life. Once he stayed at home alone and felt very uncomfortable and used the 'Push-to-talk'. The calling center is located in Yuxiangyuan. They sent the car to pick me up to the hospital and informed his daughter. He received the timely treatment. Personally he thinks the call service is useful and effective, but he prefers an electronic hand ring which can indicate his health condition and can be located. He is very willing to accept it because it will let the families know his health situation. It will work for the emergency or lost.

5) About your own EC situation

He is satisfied with the present situation. His daughter and her families are all living very well. He needs not to worry about them. The only one unsatisfied thing is that he has no place for entertainment. He wants a community entertainment center which can provide the entertainment and medical treatment to fulfill the elderly people's life.

Interviewees 2: Mr. Liu Li, who is 62 years old. Previously worked in the steel mill before retired, now receive the monthly pension of 2,600 yuan.

1) He only has one son. Currently they are living together in order to take care of the grandson. His wife and son are both workers of Chengde Steel Factory. However, daughter-in-law does not work, and expense of grandson is great. There is a big economic pressure for his son.

2) He just retired 2 years ago. He is in good health and full of vitality. He pays attention to exercise and keen to maintain fit. He thinks parents' health is the greatest wealth of their children.

3) About EC now?

He feels nothing to do but staying at home, with good health and no economic burden. There are no activity facilities in the community. Although there is a large square nearby. But there are so many people dancing and singing in the evening, which is too noisy and chaotic, not suitable for the elderly people. The only amusement is to go shopping in the supermarket. Then nothing to do and nowhere to go after that.

4) Views of community-based EC:

Community-based elderly care is the future trend. Mental health of the elderly is the most urgent problem to be solved. If the community can provide a place for the elderly people's activity, together with food, entertainment, medical treatment and other services, and the price is reasonable, he is willing to pay. He most concerns about the entertainment and health services of the community-based elderly care.

5) Views of calling services:

He does not need such services now, because he feels that the smart phone has a variety of services. There is no need to bring one more phone, which is a little cumbersome. If electronic equipment can show the health condition and can be located, or other functions, he may demand it at his 80s and 90s. He hopes the government can purchase these services and he can enjoy them.

6) Future EC plan of yourself:

Comparing several EC ways, he prefer staying at home. There is more freedom and comfort than staying in the EC institution. If his children do not want to take care of him, he will choose the elderly care institution. And the highest willingness to pay is probably about 2,000 yuan per month.

Interviewees 3: Ms. Yu, who is 83 years old and widowed. She retired as a government civil servant with a pension of 3,000 yuan per month.

1) She has a son who is engaged in business. She also has three daughters, two of whom are teachers. One son in law is the senior engineer. The economic condition of them are very good. She and her children do not live together, but close to each other. After the death of her husband, her children take turns to accompany with her every day.

2) Her health condition is not good, suffering from diabetes, hypertension, and heart disease, and thus requiring long-term medical treatment. Monthly medical expense is about 1,000 yuan.

3) Views on elderly care institution:

Currently there is no good quality elderly care institution in Chengd. Beijing and other big cities have good ones, but many elderly people can't afford the high expense. Personally she concerns about the sanitary and medical condition of the elderly care institution. Also she need good recreational facilities. If the EC institution meets the above requirements, she is willing to pay 3,000 yuan per month.

Whether the elderly care institution is public or private are not important. Public agency may charge less, but the service may be bad. The fees of private agency may be high, but the service will be better accordingly.

4) Views on Community-based EC services:

If there are community-based EC services, she might consider buying the services so that it can reduce the burden of her children. The most urgent need is meal service, with nutrition. So if children are busy, the elderly do not need to trouble them and can solve the eating problems.

She hopes the community-based EC services can be quickly provided, and all services should be in place. She hopes there are reading room, painting room, chess room, chorus hall, and dance studio.

Interviewees 4: Mr. Lu, who aged 74. He was a teacher before retired. Now he has monthly pension of 4,700 yuan.

1) He has a son and four daughters. He is living with the son. The son is working in the steel mills. One daughter is a doctor. One daughter owns a brick factory. All their economic conditions are good. He does not need alimony from the children, but the son pays all for him.

2) With a healthy body, there is only a small medical expense for his occasional cold or cough. There is no economic pressure.

3) Views on elderly care institution, Community-based EC services:

He does not know much about the present elderly care institution, and has never thought of going for the elderly care institution. It is very comfortable to be taken care of by children at home. Personally he thinks that good elderly care institution needs to have beautiful environment, clean health, advanced medical care, high-quality caregivers with good service attitude. If so, he is willing to bear the maximum cost of 4,000 yuan a month.

At present, there is no demand for community-based EC services. But he may demand it in the future, because he does not want his children to spend a lot of time on him. It is worth of spending some pension if he hires someone to take care of his simple daily life. Then the children can concentrate on their own career.

He concerns about the spiritual life, but there is no entertainment in the community. He often feels lonely staying at home. He hope the community can provide more recreational activities.

Interviewees 5: Mr. Xia, he is 79 years old and retired from steel mills of Chengde, with a pension of 3,000 yuan per month.

1) He has two sons and a daughter, all are working in steel mills. And his wife's monthly pension is 2,000 yuan. The couple's pensions are enough to cover daily expenses. They do not need the alimony from their children.

2) He is in general physical condition, suffering from arthritis, and needs long-term medication. Medical expense is several hundred yuan a month. He can afford by himself.

3) EC mode of yourself:

His EC mode can be divided into two stages. If he can live independently, he prefers to stay at home. If the health is not good, he will consider of choosing community-based EC services. The expense of the community-based EC services should be low and he can enjoy the services nearby at home. It will be more freedom and comfortable for the aged.

He does not want to go to elderly care institution. Although many of his peers can live together and be happy, lifestyle are still different among each other, which might easily lead to conflict and affect moods.

Interviewees 6: Ms. Zhuang, who is 77 years old. She comes from the countryside, without any pension.

1) She has only one son, who is engaged in construction and his economic condition is very good. After the death of her husband, she moved to the city and lives together wither son. Since suffering nervous rheumatism and stomach problems, she has poor health, and needs to take medicine. But with the filial son, who bears all expenses of her living and medical treatment. She has nothing to worry about.

2) EC mode of yourself:

At present, she is staying at home. The daughter-in-law is responsible for her daily living, which makes her comfortable and satisfied. She doesn't think the service of the EC institution could be better. She does not want the strangers to provide door-to-door service for unsafety. Either she does not want to increase additional financial burden on her son. Based on the above reasons, she does not consider of EC services but staying at home.

When she is incapable of looking after herself, and needs to be taken care of all day long, she personally wants to hire a housekeeper. But it will rely on his son.

Interview records 5

Time: the morning of July 15, 2016

Place: Jiangongbei Community of Huaming Road Street, Zunhua City

Interviewees: Ms. Wu Shufen (director) , 42 years old, Tel: 13472960611

The elderly representatives, Children representatives

The basic situation of the community:

There are 553 households in the Jiangongbei community with the population of resident as 1367. The proportion of men and women accounted for about half for each. The elderly over 60 years old accounted for about 1/4 of the total population, including 13 of them over 80 years old. The older they are, the more advanced elderly allowance they can enjoy. Community occasionally organize the activities for the elderly and health knowledge lectures, but few elderly people would like to come, because most of the elderly like activities with freedom. They have the activities in their own circle. What is more, the health knowledge has been advertised on TV, the elderly don't want to learn repeatedly. The community does not provide psychological counseling services at present, but there is free legal aid. In addition, the community attaches importance of women's right protection, such as 'women's home', 'women's school' and 'women's entrepreneurship and employment training room'. The community tries to help the women as much as possible.

The elderly representatives:

Respondents 1: Chen Shulian, female, 80 years old, her original work was in the supply and marketing cooperatives, owing the pension of 2400 yuan / month. She has two sons, and a daughter. Now she is living with her husband alone. Medical cost is about 1000 yuan /month for in worse physical condition with a variety of diseases. Their children's economic condition is poor. They cannot give alimony to the parents, but they will come to visit and help cleaning up and doing the housework for the parents each week.

Respondents 2: Luo Caifeng, female, 67 years old. She has no work but the rural elderly insurance of 1000 yuan/year. She is living with her husband alone who is paid for 1500 yuan/month by doing odd jobs. She has a son and a daughter. Her son is working outside. Her daughter has no job and often comes to visit her parents. Because she is in good health and can live independently, she has not considered of her EC issue.

Respondents3: Luan Xiuzhi, female, 60 years old, no job, makes a living by doing odd jobs. Her monthly income is 1700 to 1800 yuan. She has a son and a daughter. Her son is an ordinary staff with the salary of 2000 yuan / month. Her daughter is out of work. Her husband is a semi-disabled elderly, with cerebral infarction, cerebellar atrophy. Thus they have to pay certain amount of medical

expenses. The economic condition is not good enough and the children are not living together, so she needs to take care of the daily life of her husband and feels her life as difficult.

Respondents 4: Qi Zuo Cun, male, 65 years old, no job.

Respondents 5: Zhou Chunrong, male, 84 years old, retired workers, with pension at 1800 yuan / month.

Respondents 6: Run Lihui, female, 74 year old, retired workers.

1) What do you think of the elderly care institution and would you like to stay?

Elderly respondents generally don't know much about the elderly care institution, but think it is good for someone provide food and drink and serve for them. Some elderly they know who are living in the elderly care institution, are often those who cannot move inconveniently and no one takes care of them. They heard that the fee is low and they are well looked after. The elderly people have no high expectation about whether the elderly care institution's services are complete, they just care about the basic life. They will be satisfied when provided with good food and drinks. They do not care much about the recreational activities. The elderly do not have clear concept about public/ private EC institution. They understand that most elderly care institutions are private, however, they still think the public ones are better.

There are two viewpoints about whether they would like to live in the elderly care institution: one is step by step, their physical condition is good and are able to take care of themselves at present. So they won't live in the elderly care institution until they can't move. The charges shouldn't be high, the maximum should not be more than 700~800 yuan / month. The other is willing to live in the elderly care institution. They think they will have more freedom in the elderly care institution, These elderly are afraid of being abandoned by children with being older. But because of no affordability, they are not able to live in.

2) if there are community based services in the future, will you accept it ?

The elderly people think community/home based EC care services are better than the elderly care institution because it is closer, familiar with the surrounding environment and people, more comfortable. Interviewed elderly now can take care of themselves, thus they don't consider the EC issue thoroughly. They said they don't need the day care in the community, but they are willing to consider about it in the future. They care about the food and staff services rather than equipment and facilities, They just need to chat with other elderly and watch TV, the highest payment is 20 to 30 yuan / day. About the door-to-door service, only two elderly people have the intention, other elderly people are not willing to accept because they think the door-to-door service charges highly.

Children representatives

Respondents 1: Shao Fengyan, female, 57 years old, no work, usually doing odd jobs, her income is not steady, the average is 1000 yuan / month.

1) She has 3 elderly people in her family: father-in-law, mother-in-law and her mother. Her husband has three brothers and sisters; her mother has five brothers and sisters.

2) Her father-in-law and mother-in-law are 78 year. Father-in-law has pension. The old couple are living alone by themselves, and they are in good health, do not need to be cared of. If the elderly is ill and stay in hospital, their two sons will take turns to take care of; the cost is also shared by their two sons. Her 83 year old mother has no pension, just enjoys the rural elderly insurance of 70 to 80 yuan a month, stays in semi self-care condition, and now takes turns to live in her brothers and sisters' home for 1 month each. When living in whose house, who is responsible for all expense. If being ill, her five brothers and sisters take turns to take care of. Medical expenses is shared together, but the son will share more.

3) For parents in law, the children and the elderly never have the idea of staying in the elderly care institution. Firstly, the elderly can take care of themselves and also the old couple can take care of each other; secondly, the elderly's thought is conservative,. Only unfilial children will send the old parents to the elderly care institution; thirdly, children are afraid of losing face if sending their elderly parents to the elderly care institution, and others will say gossip too; lastly, in Zunhua there exist some sayings that the elderly care institution are not good, poor condition, poor service and is not responsible for the elderly people.

4) For her mother, there were family conflicts since she lives with various children's families in turn. Due to the different circumstances of each family, some families have no time to take care of her and want to send her to the elderly care institution, but the other families don't agree. It is not the problem of the concept or the elderly care institution, but they don't want to pay the charge of elderly care institution. So her mother still takes turn to live with the children now. But her mother herself wants to live in the elderly care institution because she doesn't want to affect the children's normal life.

5) What is your understanding of the community-based EC services, and your own EC expectation?

She thinks the community based EC services are good for the elderly. She has watched the TV and know it is the future EC trend. But Zunhua is undeveloped, it is difficult for the generation of her parents in law and her mother to enjoy related services. If any, they are willing to pay the elderly people. Hope the condition of the community EC services can have clean and sanitary environment, make the elderly people eat well, and be taken care of at the normal level. She understands that the service personnel may be busy for one to many. But she prefers good attitude. Rate cannot be more than that the elderly care institution. As for the door-to-door service, it should be more suitable for the elderly who cannot move conveniently. The independent elderly often do not like staying at home. Generally they will not call for the home services. The fees might be high. So she estimates not many elderly people will use related services only in urgent situation.

For her own EC issue, she has not considered about it yet. Her two children must have no time to care for them, when she are older. If she can take care of herself, she will stay at home to take care of herself, or the old couple take care of each other; if not, she will choose retirement community or home care, health care is regarded important, and hope organize examination regularly ... As for the cost, she hope that the community can subsidize part to reduce the economic pressure of pension.

Respondents 2: Li Guoyun, female, 33 years old, housewife, taking care of children.

1) her parents are more than 60 years old and in good health, without any chronic disease. Her father has a pension, but mother doesn't have. Her father's pension can afford the living costs of the old couples and they do not need children's support. Her parents have two children.

2) For parents' way of elderly care, she will not intervene. She respects their willingness. She will support whatever her parents like. If they need children to pay certain cost, she will fully support as long as her parents can enjoy their elderly life.

3) What is your viewpoint about the elderly care institution, are you willing to allow parents to live in ?

To some extent, elderly care institution is especially for the elderly people and all the services provided should make the elderly live better, comfortable and pleasant. But most elderly care institutions are run by private contractors in Zunhua. According to some elderly people who have lived in those EC institutions, the condition is not good. There exist many problems in diet, environment, sanitation... all aspects of the quality of services. Public elderly care institution is few. Ordinary elderly people are difficult to go in. So government or civil affairs departments should take measures to manage or supervise the private elderly care institutions, which should not be allowed to open until they meet certain conditions and standards.

At present, she thinks her parents must not be willing to go to the elderly care institution. Her parents want to live with the children and the grandchildren. Also it is unnecessary because they can take care of themselves and do not need nursing service. She is also reluctant to send her parents to the elderly care institution now, mainly worrying about the poor condition which will make her parents suffer. If there is a good EC institution in the future, she will consider it. But the premise is that it has a good environment and can provide favorable services.

4) what is your attitude to the community-based EC?

She knows little about community-based EC. But she thinks if an elderly care institution are set up in the community, the elderly people are willing to go as long as the community supervise it, together with the good service quality. In her view, diversification of cultural and exercise activities is necessary. In addition to the basic chess room, fitness room, painting room, dancing room, ball games room... should be set up. The spirit of elderly people needs to be cared for. If this kind of elderly care institution exists in the future, she is willing to send parents to and she is also willing to go when she becomes old. She hopes the cost is in the range of pension. According to the current price level, the maximum price she can afford is 1,200 yuan / month.

The demand of home service should not be big. Most elderly people who stay at home have children or the spouse to take care of them. They don't need a door-to-door service. What's more, there are a lot of liars in the society and they often cheat the elderly people. Children are worried about the stranger's visit at the elderly people. If economic condition allows, it is better to hire the nanny to take care of the parents at home.

Respondents3: Zhang Shuwen, female, 49 years old, no work, usually does odd jobs.

1) She has an old father at 82 years old, no pension, currently in good health without any disease. Her father has four children. Now he is living alone. The living costs are shared by the

children, while sons assume some more than the daughters.

2) How do you think about elderly care and your attitude to the EC institution?

Now her father can live by himself. When he cannot move or self-care, the children will take turns to take care of him. Her father has thought about the way of 'housing endowment'. But now is not widely implemented all over China, thus it is also very difficult to implement in Zunhua.

She has bad impression on the EC institutions in Zunhua. A lot of Elderly' Homes are for the elderly people, but most of which are run privately. She heard that the conditions are very poor and quality of service is bad. Some elderly had lived for some time but went home because it is not suitable to live in. As for Public elderly care institution, she knows little. But she estimated that the charge should not be cheap, the beds are limited, and the ordinary elderly people cannot live in for not qualified.

If there is a good elderly care institution with good diet, environment, and services from all aspects in the future, she may consider to send her father to there. Her father is like busy people. She believes that he is willing to go. The expense will be shared by the children. Her maximum payment is 1500 yuan / month.

3) If there is a day care center or EC home service, do you need?

There is the need. She knew the community based EC through watching television. Besides the daily meals and chess activities, there are a lot of other activities and exercise equipment, so as well the medical service. Now the activity place is very small in the community. There are no fitness equipment and no health clinic. It is very inconvenient for the elderly people's living and entertainment. It is best if the community-based EC can be provide. She believes that there will be a big demand. She concerns about meals and medical services. She hopes the charges will not be too high.

As for the home services, she thinks few elderly people will have the needs. Old people are restless and like walking out. What is more, it is inconvenient to make a call for home services and the price is not cheap. It is better to hire a housekeeper if really need the home service.

Respondents 4: Wang Xiuhong, female, 42 years old, community staff, wages at over 1000 yuan/month. There are two old people to look after, who are now living alone. She has two brothers/sisters.

Respondents 5: Wu Yulian, female, 43 years old, community staff. There is an elderly people to look after, who is 75 years old, no pension, good physical condition, and can self care. She are one brother.

1) Have you considered of the elderly care? will you send the elderly people to the EC institutions?

They have not considered of this issue. Elderly people should stay at home. Our parents all have several children. When they become older and cannot take care of themselves in the future, we should have retired and have time to take care of them.

They will not send their parents to the EC institutions. On the one hand, conditions of present EC institutions are not good. It seems to send them to prison. On the other hand, because their concept,

old people are not willing to go to the EC institution. They think only abused at home or the children are not filial, will they go to the EC institution. But the interviewees have only a child, they may have to go to the EC institution in the future.

2) What is your understanding of the community-based EC? Will you buy related services?

The construction of the Elderly's Home/community-based EC is the trend in the future. The aging speed of our country is fast, common family care or present EC institutions simply cannot meet the needs of the future elderly care.

Personally they think that the development of EC should be comprehensive. It is not enough to provide the elderly people with food or drink. The material and spiritual support are both very important. A good way of elderly care should contain life care, sports and recreational activities, medical services, psychological counseling and humane care. They hope the community to set up specialized physical examination center and organize regular physical examination for the elderly people. And they also hope the diet can be made with different packages under the nutritionist's advice, for the elderly to choose.

If the community-based EC can reach a certain standard in the future, they believe not only the elderly people are willing to; they are also willing to go when they become old. As for the payment, the sons of the older generation need to pay the expenses. Daughters are voluntary because the daughters do not inherit their parents' property. They only need to contribute in taking care of their parents. The younger generation of the elderly people may need the pension to pay because the only one child may have heavy economic burden.

Interview records 6

Time: the afternoon of July 15, 2016

Place: Huafu Community of Huaming Road Street, Zunhua City

Interviewees: Children representative, the elderly representative

Children representatives

Respondents 1: Ren Junqing, female, 50 years old, no formal work

Respondents 2: Lu Haiying, female, 50 years old, no formal work

Respondents 3: Wang Zhishan, male, 41 years old, low income household, uremic patients, no formal work

Respondents 4: Wang Shujun, female, 48 years old, no formal work

Respondents 5: Zhang Xuelin, male, 53 years old, worker in Lihe Fertilizer Factory

Respondents 6: Yang Fengbo, female, 45 years old, no formal work

Respondents 7: Liu Liwen, female, 46 years old, no formal work

Respondents 8: Song Aimin, female, 49 years old, no formal work

Respondents 9: Long Guiwen, female, 49 years old, no formal work

1) Interviewed adult children basically have no formal work. Most of them are making a living by doing odd jobs or community part-time jobs. Their income is not steady and the average salary is 1500 yuan/month. They all have elderly people at home. These elderly people are in good health and can take care of themselves. Thus as the children they don't need to take care of them now. Surveyed children all have several brothers and sisters, at least two. The children share the EC expense and are responsible for elderly together.

2) What do you think about the EC institution? Will you let your parents live in?

The majority of respondents do not trust and think elderly care institution as irresponsible. Their purpose is to earn money. Some children said that caregivers treat the elderly badly, unlikely family care. The routines in front of the families and behind are different. Some children said the environment of the elderly care institution is poor. Caregivers do not pay much attention to the sanitary issue, especially for those elderly who cannot self-care. They use the same chopsticks/spoon to feed several elderly people at the same time. Some caregivers even insult or abuse the elderly. The phenomenon of the elderly abuse had been exposed by the media. The private institutions are short of supervision. Some children said living in the elderly care institution is of no freedom, for narrow space, few entertainment activities and poor diet. The elderly people can not be cared for both in the physical and mental aspect. Their moods are affected much, easy to get sick and older faster. It is not for care, it is going for die.

All children interviewed are not willing to send the elderly people to the elderly care institution. First is because elderly care institution is not good; second, because the generation of the elderly and children are more conservative. On the one hand, the elderly are homesick, they do not want to go to elderly care institution, worrying about others' gossiping. On the other hand, children aren't willing to let the elderly people go, worrying the elderly will feel lonely and the services of the elderly care institution are poor. Thirdly, brothers and sisters can take turns to take care of the elderly. Particularly, the elderly people at 70~80 years old will choose to stay at home. Lastly, that is the limited economic condition.

3) What do you know about the community-based EC? Will you buy those services for the elderly people?

Children have a general understanding of the community/home-based EC are the two ways of future EC trend. After all many families have the only child. The child is busy and thus have no time to take care of the elderly people. They can let the elderly people go to the community 'day care center'. The elderly can not only solve the meal problem, but also can have entertainment activity with peers during the day time, and go home at night to stay with the children. It can be said to serve multiple purposes. They think it will be in great demand in the future. Home care is just to move the service to home. The function is the same, but it may lack of entertainment activities, and thus the elderly people who choose it may be relatively less.

There has three requirements about the day care center: good meal, good facilities making the elderly people feel warm in winter and cool in summer, good environment and services making the elderly people feel comfortable and happy. If the above requirements can be met, the children are willing to pay for the elderly people.

As for choosing which kind of EC service, it will be decided by the elderly people's physical condition. If the elderly people can take care of themselves, they can choose the day care center; on

the contrary, they should choose the home/based care. If necessary, they can also hire family doctor. Payment should be consistent with the local standard of living. Their parents generally have no income, so the children's economic burden is heavy. They hope the price not to be too high. Now the highest price they can afford is 500 yuan/month.

4) Have you heard of the 'yellow hand ring' or 'push-to-talk' ? Do you have any other suggestions for the community?

They did not heard of those. But emergency mode of 'yellow hand ring' sounds nice. It is simple and convenient. It should be promoted in the future. Some of them are willing to use even if it needs payment. 'Push-to-talk' mobile phone also sounds useful. But they hope the function of this kind of mobile phone should not be too complicated, otherwise the elderly cannot remember how to use.

Although the community now provides a free medical examination, which only includes very simple items. They hope the community to concern more about the health of the elderly people. They want to have more complex examination items. At the same time, they hope the community to organize the health knowledge lectures for the elderly people, also explaining and demonstrating the professional nursing knowledge to the adult children.

The elderly representatives

Respondents 1: Gu Lianyun, 65 years old, female, no pension

Respondents 2: Sun Zhisheng, male, 62 years old, no pension

Respondents 3: Huo Xiuying, female, 70 years old, no pension

Respondents 4: Song Shuike, female, 65 years old, no pension

Respondents 5: Xie Mengzhen, female, 64 years old, no pension

1) The interviewed elderly people all have no pension, but the majority of the female elderly people's husband have pension which is enough for the elderly couple's their daily expense. For those elderly couple who has no pension, their children is responsible for their living costs. The elderly people have at least two children. Their health are generally ok and can take care of themselves. There are few medical expenses. The biggest difficulty is the economic difficulties. They never consider their own EC issue. Their concept is to be cared by the children and stay at home.

2) what is your views on the elderly care institution? will you choose?

There are many elderly care institutions in Zunhua. They are basically run by the private. The conditions of some elderly care institution are good and fees are favorable. Some elderly people have stayed in. The diet is good and old friends can chat and play together. For public elderly care institution, these elderly people don't know much, either don't know whether it exists in Zunhua, but they still think the public ones should be better.

Surveyed elderly people have different views about whether they will stay the elderly care institution. Some elderly people think that they have no income source and their children are under poor economic condition. Thus they can not afford to live in an EC institution. They expect their

children to look after them. Some other elderly people say that they are just over 60 years old and their body is still healthy, thus they won't go to elderly care institution at present. When they are unable to take care of themselves, they will go to the elderly care institution because they do not want to add trouble to their children. Some elderly people said they will go as long as the elderly care institution make them satisfied. They hope the elderly care institution is clean, good food, equipped with medical facilities and staff, good attitude, and enough space for activities. They expect their sons make the main contribution to the expense and daughters just supplement. As far as the current situation, the highest payment for the elderly people who can take care of themselves is no more than 600 yuan/month.

3) what is your attitude for the 'community-based EC'? Will you require the 'yellow hand ring' or 'Push-to-talk' mobile phone?

First of all, the community/home based elderly care is definitely better than the elderly care institution. One is that the elderly people can enjoy the relevant elderly care services without leaving home. One is to avoid the pain of separating with children and grandchildren. If they have any demand, they can tell the children. The other is that old friends from the same community are familiar with each other. They can communicate with each other easily and their spiritual comfort degree is high.

Secondly, they think that the community/home based elderly care will be more popular in the future. The environment and related infrastructure will be improved. Services for the elderly care must also be more comprehensive and better. Comparing with the elderly care institution, these elderly people tend to choose the community based elderly care. They think the elderly need to go out and participate in some collective activities. The elderly cannot stay at home for a long time, or they will be easy to feel lonely and depressed.

Some surveyed elderly people have seen the Yellow Bracelet or push-to-talk mobile on the TV. The effect looks ideal. But they don't want to own it at present. They may need it when they become older.

4) what do you want the government / community to do for the elderly care?

First, they hope that the government/enterprise invest as quick as possible to construct community-based services or day care center. The software and hardware facilities should be put in place.

Second, the government should pay attention to the living standards of the elderly and the children's economic level. They expect the government to provide some subsidies when necessary.

Third, all kinds of elderly care institutions need to be supervised. The fees should be reasonable. The different charges should be determined according to different physical and economic conditions of the elderly people. The expense gap needs to be made up by the state or civil affairs authorities.

Interview records 7

Time: the afternoon of June 16, 2016

Place: Social Welfare Home of Chengde City

Interviewees: Director, The elderly people, Caregivers

Basic Information

Director: Mr. Jiang, responsible for the elderly people institution

1. The Social Welfare Home of Chengde is a public institution, which is regulated by the municipal civil affairs department. Totally there are 160 beds. One room has 2 beds. Now generally it is fully occupied. The majority of the elderly people occupy one room and they need to pay the additional cost of one more bed.

2. The charge of the elderly people who can self-care is 1,200 yuan per month, including meals. In the winter, because of the heating demands, the costs will increase by 100 yuan per month. If the elderly people occupy a room, the charge will become 1,900 yuan per month, which including 700 yuan of another bed fee. As for the disabled elderly people, the cost is decided according to their physical conditions.

3. There are 18 workers in the Social Welfare Home, of which 4 for cooking, and 2 male caregivers in the remaining 14 caregivers. Male and female caregivers are provided with the same salary, whose per capita wage is 2700~2800 yuan a month together with five insurance. Recruitment is determined by the actual demands. The most important characteristic of the caregivers is patience, responsibility and love with treating the elderly people as their families.

4. For the future EC business, Mr. Jiang prefers the direction of 'medical-EC combined' mode.

The Elderly representatives

Interviewees 1: Ms. Si Guifang, who is 79 years old and widowed.

1) She retired from a state-owned hotel, with a pension of 2,000 yuan per month. She began to stay in the elderly care institution in January 2016. There are several reasons to live in. Firstly, she used to live together with her grandson. But it was not convenient to live further after the grandson got married. Secondly, her children are busy with their work. She does not want to add their burden of looking after her. Thirdly, she is afraid of loneliness and like crowded places.

2) Views on the elderly care institution:

As a healthy elderly people, she is very satisfied with the institution, not only because of the good environment and sanitation condition, but also the complete supporting facilities, such as: exercise equipment, mahjong room, washing machine and so on. The most important is that caregivers are diligent and responsible. However, there is a small problem. She thinks many kinds of food are too soft and not chewy.

In general, her life here is colorful. She is easy to have a good mood and feel happy. She intends to live longer in the institution.

Interviewees 2: Ms. Wang Li, 70 years old, at the education level of high school.

1) She has two children, but the economic conditions of them are not good. She retired from the shoe factory of Chengde City, at a pension of 2,000 yuan per month. She lived in the elderly care institution after January 2016 paying with her own pension. Children rarely come to visit her.

2) Two reasons for choosing the elderly care institution. On the one hand, the son has no formal work and his family relies on her pension. But the daughter-in-law is not filial, who often scolds her and makes her feel aggrieved. On the other hand, it is not suitable for living with her daughter although her daughter cares about her. The son-in-law is a foreigner who said not willing to live with his wife's parents before the marriage. She stayed in her daughter's home for a while when she got sick. But they have language barriers and different lifestyle from each other. It is easy to cause family conflict. So at last, she chose to move into the elderly care institution.

3) Views on the elderly care institution:

She likes the institution so much, where she are not be bullied. She feels the life of freedom. And the care service is fine. She is willing to continue living in here.

Interviewees 3: Mr. Chen Zhenrui, who is 79 years old and his wife has died.

1) Previously he worked in the Railway Bureau, now enjoy the monthly pension of 2,600 yuan. He has lived in the elderly care institution for eight years since 2009, paying the expense by himself.

2) He has two sons and two daughters. The sons are laid off, and make a living by doing odd jobs. Their economic ability are poor and not filial. In addition, he does not want to trouble his daughter. He will stay in the institution for a longer time.

3) Evaluation:

The EC institution is suitable for the aged, owing to good environment and high quality of fresh air. The diet is good, and there is a military hospital of '266' nearby. It is convenient to go to the hospital and receive medical services, but the charge is high. He proposed that the institution should pay more attention to the caregivers and to improve their payment because they work too hard.

Interviewees 4: Mr. Ma Xiaoliang, who is 86 years old and widowed.

1) He was engaged in the film work before the retirement. Now he has a pension of 3,000 yuan per month. His physical condition is not very good, suffering from hypertension and other chronic diseases. He entered into the elderly care institution since the December of 2015. He occupies a room to live alone, pay 1,900 yuan a month by his pension.

2) He has a son and two daughters, all of them are very filial. After the death of his wife, he proposed the idea to stay in an elderly care institution, but the children did not agree. Then he lived in her daughter's home for a period of time. Eventually due to different living habits and loneliness, he insisted his idea of moving and his children finally agreed with him.

3) Evaluation:

The caregivers are diligent and responsible. They clean and wash the rooms everyday so that the environmental sanitation is good. He is very satisfied with their services. He hopes that the institution can have a medical room with professional doctors and nurses, in case of emergency situations. It is said that there is the doctor in the institution. However the doctor only stay in the institution occasionally.

Interviewees 5: Ms. Wu, who comes from other cities and 77 years old.

1) As a retired worker, now she has a pension of 2,300 yuan per month which is controlled by herself. Her three daughters are all in Chengde, open-minded and very filial.

2) There are two reasons for her to live in the elderly care institution. First, her daughters are usually busy. After his husband died, she feels lonely at home. Second, her apartment is on the sixth floor. When she becomes older and older, it is not convenient for her to go up and down stairs.

3) Evaluation:

The EC institution has a total of more than 80 elderly people. They usually eat, chat, or enjoy entertainment together, and are easy to feel pleasant. She plans to stay longer in the institution in the future. However, she was dissatisfied with the management personnel, who do not care about the elderly and often absent from work. On the contrary, the caregivers are very dedicated to caring for the elderly people.

Caregivers

Interviewees 1: Ms. Ren Lichao, who is 31 years old, with the educational level of junior high school. She has a child of 12-years-old. She has worked for the welfare home for more than 1 year.

1) Previously she was engaged in the hotel rooms services, which was too dirty and tiresome. So she changed her job. The present work is dispatched by a labor company which is responsible for her wages and five insurances. She has no nursing or caregiver certificate. In the future she does not intend to get one because with or without a certificate will not affect the payment. Now her wage is 2,000 yuan a month.

2) Views:

The leaders of the elderly care institution concern about the staff and work actively, so the caregivers are relatively stable without much resigning. Since she only needs to look after the elderly people who can self-care, she doesn't feel much tired. She personally is very satisfied with the elderly care institution and will be in favor of her parents to come here. She did not hear any complaints from the elder people or their families.

Interviewees 2: Ms. Zhang Yang, who is 27 years old and graduated from the nursing school in 2012. She has a nursing certificate and has stayed in the institution for three years.

1) The reason why she chose this job is because she grew up with her grandparents and thus she have a sense of intimacy to the elderly people. She is responsible for caring for the self-care elderly, more than 20 people. One caregiver is in charge of an area. Two caregivers can shift. The

main work for her is to help the elderly, such as delivering the meals, washing the clothes, cleaning the rooms, etc.

2) For the fully disabled elderly people, more professional caregivers are responsible for the care. Usually 1 people take care of 3.5 disabled elderly persons. There is a clinic with nurses in the institution but no doctor. Someone on duty from Monday to Friday can help to deal with the measurement of blood pressure, distribute the prescription drugs, and conduct the injections of insulin and other small problems. If there is any emergency, they will inform the relatives first. After their agreement, they will send the elderly to the hospital.

The elderly people play the swords, diabolos, and the ground dancing. Many often walk for practice rather than using the rehabilitation in the institution.

3) Views:

The elderly people living here mostly because their children are busy with work and have no time to take care of them. A small number of lonely elderly can find companions here, chatting or playing together to avoiding loneliness. She believes that the quality of life of all the elderly people is improved.

She hopes that there can be more training on how to conduct the psychological counseling for the elderly and how to communicate with the elderly well.

Interviewees 3: Ms. He Guochun, who is 43 years old and with a junior high school education.

1) She previously worked as cleaners in the hospital. Later she found the job in this institution. She has been engaged in the caregiver work for nearly 10 years. She has no qualification certificate. She think it is unnecessary because her educational level is low and too old to learn more.

2) As a full time caregiver, she needs to take care of eight disabled elderly people, 24 hours a day with a shift system. Totally there are four full time caregivers like her in the institution. She feels little difference between male elderly and female elderly people. When they are disabled, she has to treat them as the same, e.g. feeding, and body cleaning. When people are getting older and older, there is little gender difference. She thinks the most important thing for the caregiver is to be caring and patient to the elderly people.

Interviews Records 8

Time: June 17th, 2016. In the morning

Location: Conveyor Community, Shuangluan District, Chengde City

Participants: Aijie Wang(Director)

Representatives of the community residents

Adult children representatives

Children 1. Ms. Guodou Zhao is a 43-year-old woman, who has a child in high school.

She was laid off, and she usually does odd jobs to make a living.

There are three elderly people living at home. They are over 70 years old. They are currently living alone. They are healthy and can take care of themselves. Those three elderly people are her parents-in-law and her mother. Her parents-in-law were factory workers. They have a son and a daughter. Her mother have two sons and one daughter. Now, she lives with her sons.

The adult children don't want their parents to go to the elderly care agency. Even when the elderly people's physical condition challenged, they want the elderly parents stay nearby. Children can take turns to take care of them. Children will feel at ease because they don't trust the EC institutions in providing good services.

Children 2. Lirong Miao is a 38-year-old woman. She was laid off. She usually does odd jobs. Her income is low and unstable.

She doesn't live with the elderly people. They are healthy and can take care of themselves. They don't need to look after the grandchildren. Her parents were factory workers. Her mother passed away several years ago. Parents-in-law doesn't live in the same city with her family, but she usually give them the money for their living. On holidays, she and her husband always visit them. Personally she think that the main support for the elderly people should be the son while the daughter plays the supplement role. The concept of supporting parents by sons is taken as granted at local.

If the parents-in-law cannot take care of themselves one day due to old age, they will move them around to take care of. They do not intend to send the parents to the elderly care institution. One reason is about the traditional concepts. They worry about what others say, e.g. not filial; Second, they heard that the elderly care institution is not good. It is ok for the elderly people to stay while the elderly people can take care of themselves. But if the elderly people cannot take care of themselves, they are vulnerable to be abused. Third, the sons should look after their parents. It is their duty.

Children 3. Chunli Xu is a 55-year-old woman. She was originally the staff in the Shuangluan First Construction Company. She retired at the age of 50.

Her husband is 58 years old. He worked at the same factory as his wife. Now he also retired. His parents passed away. He has no burden of elderly care.

Children 4. Jiying Wang is a 57-year-old woman. She was a mining machinery plant worker. Now she retired.

Her parents passed away. Parents-in-law are still alive. They are about 80 years old. They have 2 sons and 2 daughters. They are now living alone. They are all in good health and can take care of themselves. They have no economic problem. Father-in-law is a retired cadres. His pension is RMB7,000 per month. Mother-in-law is a retired worker. Her pension is RMB3,000 per month. They don't need children to pay for their living expenses. Rather, they often give the money to their children.

Her mother had stayed in the elderly care institution for a while at the age of her eighty. She felt very bad services and later took her home. Traditionally the elderly people do not want to go to the elderly care institution and they want to stay with the children. Children are either not willing to send their parents to the elderly care institution. They worried about neighbors' gossip. In addition, the majority of elderly care institutions are privately run. They cannot take good care of the elderly people. The quality of their service is not good.

But she think on her own elderly care problems, the elderly care institution may be more professional and better. People of her generation may be willing to go to the elderly care institutions. Because most of them just have only one child. The child has to work very busily and will not have enough time to take care of his elderly parents. But she is also not sure whether she will go when she becomes too old to look after herself.

Children 5. Hongxiao Zhang is a 54-year-old woman. She has two brothers and one sister. She retired at the age of forty-five. Her husband is still at work. They have one son. Their son is married and has no child. Now their son is working in Tangshan City.

Of her and her husband's parents, both only fathers are alive. Both got remarried. They don't live with their children. Father-in-law is 90 years old. He was a soldier in the Support-Korean and Anti-America War. Her father is 82 years old. He was a factory worker. He has pension. He has four children, two sons and two daughters.

The two elderly father both have many hobbies. They make wine, play chess games, handwriting and mahjong. They are in good health. At present the adult children don't worry about them. Temporarily there is no problem of elderly care.

In the future, if the elderly fathers cannot take care of themselves, four children can take turns to look after them. They don't need a housekeeper or caregiver. Either they won't send their fathers to the elderly care institution for it is unnecessary. Personally she think that her father has 4 children who are all retired and thus have time to take turns to take care of her father. Also she can feel at ease if the adult children look after the father by themselves.

About the "elderly care into the community" activity

It is activity organized by Chengde Government and the civil affair department. They have heard it. They felt it good and useful.

Previously health doctors and nurses have come to their community providing some health lectures. Most participants were elderly people, only a few young people.

About the day-care center

As long as the services is good for the physical and mental health of the elderly people, they would like to let the elderly people to experience. And they are willing to pay the fee.

Their parents can enjoy the services during the day time, but the children must take them back at home at night. They concern most about the hygiene condition and the quality of the staff including

service attitude and medical/caregiving ability. They don't care much about the recreational equipment.

Ms. Zhao thought the fee of the day care on RMB60~70 one day is reasonable, which includes three meals a day. She also thought the highest fee is RMB100 one day. It is not worth if the price is higher than 100 and she prefers to hire a housekeeper by then. She also said the hospital caregiving fee is RMB180 one day. A housekeeper who only prepares lunch will get RMB1500 per month.

Ms. Miao thought the highest fee is RMB150 one day. The fee should include meals, nursing, recreation and body cleaning. She also thought that the neighbors could take care of the elderly people if the adult children have to leave for several days and cannot look after their parents. The neighbours know each other because they are all the workers/staff of the same factory. In fact it is not that necessary to go to the day-care center. The most important thing is the security of the elderly.

About "push to talk" / 12349 call service

They heard about this service, but never saw anyone use it. Children often have their parents equipped with the cell phone. It is convenient to contact the children if the elderly has some trouble. If the "push to talk" or 12349 service is good, they are willing to buy the service for the elderly people, but the price can't be expensive.

About the services: The elderly people may have the call services demanding for meals. They felt that the rehabilitation, massage, chatting and other services are not necessary. No matter how busy they will take time to accompany the elderly to the hospital.

About public or private elderly care institution

Public elderly care institutions sound more formal. They are managed and supervised by higher authorities, and thus more reliable. It seems the ordinary elderly people who want to live in those public ones have to rely on some personal relationship.

They think some private elderly care institutions are some good but some are bad. The fees are various. But they don't know the details. Someone sent them the advertisement leaflet in the square or in front of the supermarket. Also they have watched some advertisement on the television. But they didn't concern those advertisement much before and thus knew little.

About Affordability and Willingness to pay

They are reluctant to tell us their exact income.

Ms. Zhao said she is willing to pay the highest at RMB3500 per month for two elderly people. She couldn't afford more.

Ms. Miao said she is willing to pay RMB3000~4000 per month for two elderly people. Because she does odds work and the payment is not high, she cannot afford more.

They both expressed their willingness to be caregivers. On one hand they could serve the elderly people, on the hand the payment will be relatively stable. They will consider the job opportunity in the future, but not now. Now they need to take care of their children and have no time.

Situation of the elderly people in this community

There are many elderly in our community. Most of them are in good health. Maybe there are some disabled or half-disabled, but they did not notice it. The elderly people usually have rich leisure life. They usually gather together to chat, play cards, dancing, etc. More elderly men play cards, more elderly woman dance.

Representatives of the Elderly People

Elderly 1. Changhai Han is a 65-year-old man. He was a mining machinery plant worker. Now he is retired. His pension is RMB2400 per month.

He has one son, who works in Beijing alone. He is in poor health, suffering from diabetes and cerebral thrombosis. Medical costs RMB2,000 per month. His wife takes care of him. Nowadays, they can take care of themselves.

He often goes to the community center to participate in various amusement/culture/sports activities. He is basically satisfied with the community amusement/culture facilities. He hopes there will be more health lectures in the community center.

Now there are elderly care-related services in the community, such as buy-for-you services. But he didn't use this service yet. In local grain and other heavy goods can be delivered to your door. However, most elderly people are in good health. They can buy food and medicines on their own. Thus these services are not popular now. However, if the elderly people cannot take care of themselves in the future, they can consider of using these services. They can pay certain fee, but they also require the government to give some subsidy.

Elderly 2. Xiqing Cao is a 74-year-old man. He was a mining machinery plant worker. He has three children who are all busy and they live in the same city. He has his own estate. Now he lives with his wife, and he can take care of himself. He is in poor health, suffering from lung cancer. He has had two chemotherapy. Now he doesn't need medicine. He often participates in community activities with other elderly people, such as doing aerobics, playing billiards and reading newspapers, etc.

Elderly 3. Guilang Yue is a 77-year-old woman. She was a mining machinery plant worker. Her pension is RMB2800 per month.

She has four children, all living in the surrounding residential area, who are all steel workers. However, due to poor business performance of the factory, they have four months without wages. Their life is more difficult. She lives alone. She can take care of herself. She does not want to bother her children.

She never used community-based care services, even never heard of them, such as: "12349" call service, or buying goods services ... She is still healthy. To buy things every day is equivalent to a walk. So now she does not need these services. Until she could not move, and if the government offers these EC services, she might choose them.

Her future elderly care expectation: She will have the initiative, and the views of children will only be taken as a reference. If she cannot take care of herself, she will choose to go to elderly care institution. She will consider the quality of the services, the level of the elderly care institution and the

price should be within her affordability. Or she will stay at home taken care of by her children, or to hire a housekeeper.

Given her and children's current income and economic condition, if home-based elderly care services are in place and the price is within an acceptable range, she will be more inclined to select the home-based elderly care services. First, because the cost of the home-based elderly care services will be lower than that of the elderly care institution because there will be no the accommodation fee. Second is she can meet the children more often, also it is more convenient for the children to look at her. Third is that she will have more freedom when staying at home than in the elderly care institution.

Elderly 4. Jin Zhang is a 71-year-old man. He has two children who both are working at local.

He has his own estate. He lives with his wife. He is in poor health, suffering from hypertension and heart disease. He does not know about elderly care services in the community, and he has not heard of "96096" or "12349" Call service.

He doesn't want to bother the children. He tried to take care of himself at home.

No elderly people surrounding him live in the elderly care institution. On the one hand because of the price factor, many families cannot afford. Some elderly people want to live in but there is no corresponding financial support. On the other hand, he has not heard of any good quality elderly care institution Chengde City. Those elderly people who will choose to live in elderly care institution eventually only because their children cannot take care of them at home.

Elderly 5. Jihong Lin is a 85-year-old woman. She has three children. Two of them doesn't live in the same city. She lives alone. She has hypertension and heart disease.

She used the "96096" before. But it was removed because of the complicated procedure, difficulty to use and occupying the home fixed telephone interface. During the initial promotion stage in the community, a total of 15 households installed 96096. Now only one person is still using it.

Her future elderly care expectation: she is not sure about her future elderly care expectation. She temporarily doesn't consider of this issue due to her physical health. According the current EC service in Chengde City and her own situation, she is inclined to stay in the elderly care institution. On the one hand she is less dependent on her children. On the other hand, a lot of elderly people who have the common language will live together, which will make life happier. But the costs of staying in the elderly care institution need to be paid by the children.

Elderly 6. Shuzhen Li is a 65-year-old woman, the wife of elderly 1 (Mr. Changhai Han) who mentioned above. She was also a mining machinery plant worker. Her pension is RMB2300 per month. She has one child, who is working in Beijing.

She lives with her husband. Her daily life is housekeeping and taking care of her husband. She has no other extracurricular activities.

Her future pension expectations: She pays attention to psychological identity, and she does not want her elderly life to be lonely. Either way of elderly care, high-quality services are demanded. She is currently living independently and needs to take care of her husband, so now she would not go to live in the elderly care institution.

If hiring a housekeeper paid at least at the monthly salary of RMB2,000, except providing food and accommodation, it is a heavy burden for the average working families. She will not consider of this mode now.

Compared to home / community based / institutional elderly care, she prefers the day care center in the community. Because she is familiar with the living environment and other elderly people in her own community. They know each other well. On their leisure time, they can chat with each other, and they will not feel lonely.

Whichever way of elderly care to choose, she hopes that she can afford the cost. She and her husband totally have more RMB4,000 per month. Reducing the daily expenses and medical expenses, they can have RMB1,000 left per month. After paying the elderly care services, she hopes she can have some savings for potential contingencies.

Other suggestions: She hopes the government can give more support to the elderly care institutions or the communities, so the elderly people can be able to enjoy more and better services. In Chengde at the current wage level, she hopes the low-income people also have the ability to enjoy the elderly care services.

Interviews Records 9

Time: 17th June, 2016, Afternoon

Location: Yongxing Community, Shuangluan District, Chengde City

Participants: Lihua He (Director)

Representatives of district residents

Basic situation of the community

Yongxing community was established in August 2008, the area of which is about two square kilometers. It has a total of five residential zones. The community has 1,397 households. The resident population is 4,632 while the Hukou registered population is 1,315. There are 22 empty nesters, 2 disabled elderly people, 116 people aged over 70 and 26 of which enjoying advanced age allowance. There are 85 people in 57 households have the minimum living allowance, taking account of family member's per capita net income does not reached RMB 420 per month. Generally the MLA household enjoy the allowance at RMB202 ~ RMB385 per month, only one enjoy the full RMB420 per month (fully blind).

Resident representatives

Representative1. Female. Ms. Lihua He. She is 46 years old. She is the director of the neighborhood committee.

Present situation: Her parents are living in their hometown. As the child, she often takes the time to go home to visit her parents, doing some house cleaning, or do some cooking at home.

What do you think of the elderly care institution?

She doesn't want her parents to live in the elderly care institution. First, home is more comfortable and warmer than the elderly care institution. The elderly are free at home. Second, the elderly people living in the elderly care institutions are all elderly, especially some are sick, which will make the elderly people feel more desolated. Third, her parents are now healthy and it is unnecessary to go to the elderly care institution. Even if in the future her parents need the care, the children themselves have the ability and time to take care of them. So she prefers the home care.

Even her parents are willing to live in the elderly care institution, the children won't allow them to do that. Her parents have several children. Other people will gossip on them if they send their parents in elderly care institution.

Now many families just have one child. The young couple may have to afford four elderly people. Thus it is a trend to live in the elderly care institution in the future. Children born in the 1960s or 1970s will let their parents live at home. Children born in the 1980s or 1990s will send their parents live in the elderly care institution, but it is more for the children who are working very busily. In general, most elderly people still prefer home care. If the country to promote the community-based care, personally she feels that 80% of the elderly people will accept, provided that the charge is lower than hiring a housekeeper or living in the elderly care institution. As long as the price is reasonable and the good services are in place, she is certainly willing to buy.

If the parents are full disabled and the children cannot take care of them, it is hard to afford the cost of living in the elderly care institutions since the average income of the district residents is RMB2,000~2,500 per month(working in company) and RMB3,000~4,500 per month(Civil Servants). If a family hires a live-in housekeeper, RMB3,000 per month is demanded to pay besides providing the food and accommodation. It is also difficult for a family to hire a long-term housekeeper.

In general, comparing different elderly care modes, the preference is: day care center> home-based care> housekeeper>elderly care institution.

Representative2. Ms. Chunying Du is 47 years old woman. She has no job. She suffers from uremia. She is the mother. Mr. Ao Wang is her son. He is 24 years old. He just graduated from the university and has not found the job yet.

The son's opinion: He thought he had the ability to take care of his parents. He is willing to live with them together.

The mother's opinion: Whether to live in the elderly care institution depends on the economic capacity. She needs dialysis due to illness. The whole family can't afford it any more. All income is only from her husband, who works in the Rural Credit Cooperatives. Now she takes care of herself. In the future, if they can afford, they will hire a housekeeper to take care of her. She also can go back to her rural birthplace. Of course, it is better that there are some rural elderly care institutions in her birthplace.

Her parents are more than 80 years old. They cannot take care of themselves now. They are living in the countryside, looked after by their children. It is impossible for them to live in the elderly care institution due to the poor economic situation. Their children have time to take care of the parents because they have no formal jobs to do.

Representative3: Ms. Mingxiang Li is a retired female worker. Her pension is more than RMB2,000 per month. She is the mother. Ms. Shuyan Jing is the daughter. She does small private business. She has a younger sister.

The mother's opinion: Her elderly care depends on whether her daughters have time to take care of her. Considering of the present burden on the young people, she wants to go to the elderly care institution in order to minimize the burden on her daughters if their work and life are too busy. There are many activities in the elderly care institution. She will feel happy staying with other elderly people. Government, community and social conditions are getting better and better, which need to provide more opportunities for the elderly people.

The elderly people generally extend their life. More elderly care institutions will be demanded in the future. Talking about her selection of EC institutions, she will choose a slightly better quality of EC institution under her affordability range.

Her parents are more than 80 years old, both paralyzed. The adult children hired a housekeeper to look after them and shared the expenses.

Suggestion to the Project: To build the elderly care institution should consider of the local conditions. Different living standards of local people should be considered.

It is better to arrange the elderly people of different age to live in different sections in the EC institution.

It makes sense to build the elderly care institution in Chengde city. But the price cannot be over RMB3,000 per month. If the price is higher, they will feel the economic pressure. The possibility of living in the EC institution will be lower.

The daughter's opinion: She has different opinion. She will not let her parents live in elderly care institution. Even they can take care of their parents one by one. If she has no time to take care, she can hire a housekeeper to look after the parents at home. She feels at ease only when she can often see the parents.

It is easier for people to accept the day-care center. The elderly people can chat and play mahjong inside the center. But she is still reluctant to accept this mode although it will depend on whether her mother feels comfortable or not. She is afraid that her mother cannot be taken good care of if one

staff has to serve several elderly people. She still prefers to hire a housekeeper to look after her mother one by one.

If to build a high-grade elderly care institution, comfortable with good environment, care, rehabilitation and recreation conditions, she will choose to respect her mother's willingness. If the ordinary elderly care institution costs RMB3,000 per month, she will accept up to RMB5000 ~7000 per month. If the parents will live in the high-grade elderly care institution at same time, her sister can share some expense.

Representative4: Ms. Cui is 83 years old. She has no income. She has advanced age allowance at RMB30 per month. She is the mother. Mr. Cao is the son. His salary was RMB2,400 per month. Now he is laid-off. They were awarded as "five-good families" in 2003.

The mother's opinion: Comparing with the elderly care institution, she prefers to stay at home. She doesn't concern more about future. Now she lives with her son, not because of traditional concepts, but because she likes to stay at home.

The son's opinion: He has four elder sisters. He doesn't want his mother to live in the elderly care institution. If he got a job and busy, he either will not send his mother to the elderly care institution. He is not worried about being judged or gossiped. He just wants to stay with his mother and feels at ease. Also his sisters can help him to take care of their mother.

He will consider of the day-care center. It sounds useful.

About the elderly care institution, he thought the government will provide the subsidy. There might be three choices. One is to give the direct subsidy to the individuals. Second is to give the subsidy to the EC institution. Third is that the individual choose an institution first, then the government gives the institution the subsidy. He prefers the third choice. It is fair because there is the restriction for both the individual and the institution.

Representative 5: Ms. Xiuling Yu is laid-off. She has no pension. Now she is doing odd jobs. Her income is about RMB1,000 per month. She is the mother. Ms. Yannan Xu is the daughter. She is an ordinary office staff. Her income is about RMB2,000 per month.

The mother's opinion: Whether to live in the elderly care institution or not depends on the economic condition. She can't completely depend on her child. She just has one daughter who is unmarried and can't afford the elderly care expense. For herself, she is in good health and can take good care of herself now. If she becomes older and cannot take care of herself, she will make the EC decision according to various factors by then.

Her husband is retired. His pension is RMB1,000 per month. Together with her own income by doing odd jobs, there is no problem for their living. But it cannot afford their living in elderly care institutions.

Her parents had passed away. She has a father-in-law whose pension is RMB2,000 per month. He doesn't live with her family. He occasionally comes to visit them. Of course, they takes good care of

him. With the traditional thoughts, he doesn't want to go to the elderly care institution because he has the sons.

ADB will invest on supporting the elderly care in Hebei, she feels happy but hopes the government provides the subsidy to the elderly, and the provided environment and facilities should be better than that at home. Also she hopes that the government can consider various economic conditions of different groups of people, without ignoring the low-income groups.

The daughter's opinion:

For her parents' elderly care, she can accept that her parents go to the day-care center in the daytime. They can have fun with other elderly people. She thinks it is good. But they must go home at night, she will feel at ease when she sees parents at home. Within her ability range, she is willing to pay part of the cost.

Representative 6: Ms. Chunzi Li is a middle-aged woman. There are seven people in her family. They are she and her husband, her one child and both parents of four.

About the elderly care, the most important thing is economic conditions. They cannot afford sending the elderly people to the elderly care institution. But she may consider about the day-care center. If she is busy on daytime, her parents can stay in the daycare center. At night, she takes her parents back to take care of. Her economic condition is not as good as others. She still has to concern about the fee charged by the daycare center.

About future plan, she will bring four elderly people together. They can take care each other. If they get older and can't take care of themselves, she will think about the elderly care institution. But she prefer to look after the parents by her own to save money.

She thought upscale elderly care institution should not be built in the poverty-stricken areas. Mid or low-grade are more reasonable. For example, four elderly in her family all have no pension. They can only pay a few hundred Yuan per month for each elderly people, otherwise the economic pressure will be much great.

Other issues:

1. "96096" / "12349" call services

We have 96096 in our community, but the use of this service is not ideal. Twelve families installed it in 2011. This service aims to convenient the elderly and prevent accidents. The elderly people over 70 years old are free to use this service. But now just one family consists using this service, buying medicines, ordering meals, buying vegetables and so on. Undesirable effect was mainly due to: on the one hand, the elderly do not trust other people's services. Also they like to do these things by themselves. On the other hand, the elderly people all have their own children, who buy something to eat or drink for them every week. So the electronic 96096 was idle. Now the elderly people don't like using it even it is free.

Some elderly people use 12349 call service. First, cell phone is convince to carry with. It is more convince than 96096, a fixed telephone. Second, there is 100 minutes of free calls per month (subsidized by the government RMB15 per month).

2. Difficulties of the elderly people in the community

The biggest difficulty is that the income is too low. Usually only one person of the elderly couple has the pension.

The community is an old district. There are four buildings. Above 85% in building 1 are the elderly, with an average age of 80 to 90 years old. The elderly couple are living alone, supporting each other. The adult children occasionally come back to visit their parents. Parents often live with their children in building 2. In building 3 and 4, most residents are young people, less are elderly.

3. About community based elderly care / day care centers

We prefer the community based elderly care, of which, we are more inclined to day-care centers. Community can organize it and related services can be outsourced to private institutions. They suggested several communities cooperate to build a large-scale day care center together, which will be more marketable.

4. About the elderly care institution

Elderly 1's opinion:

Some elderly people of our community are living in the elderly care institution. They cannot take care of themselves and their children have difficulties to look after them. There is few elderly people who went to the elderly care institution due to the family conflicts. 90% of the elderly people in the community have their own houses and live alone because their children often move out and have their own house when they got married. So there is no family conflict problem. There are many social activities in the community, so the elderly people do not want to go to the elderly care institutions.

The elderly care institutions' conditions are not good. It may be limited by local people's living standards. You will see such conditions in Shuangluan District and Pianqiao Area. The government can build an elderly care institution of better condition, but the elderly's pension and physical condition should be considered, otherwise no one will go. On one hand, the community average old age pension is RMB2,500 per month, the elderly is unwilling to let their children pay for them. They hope they can afford the expense on their own pension. On the other hand, only if the elderly can move, they are willing to stay at home. They don't want to go to the elderly care institution because they think they cannot see the hope in the elderly care institution. They feel psychological stress.

Elderly 2 and 3 's opinion:

They thought the service of elderly care institution isn't good. But the future if economic conditions improve, the government give subsidies, the elderly care institution improve their facilities, the elderly

people and their children will have a willingness to go to the elderly care institution. At present, some children can afford to send their parents to the elderly care institution, but they didn't do it due to the 'face' issue, i.e. worrying about others' blame. If the elderly people cannot take care of themselves, but the economic capacity is not good enough, the elderly people may only be sent to the low-grade elderly care institution. In short, there are many uncertainties about elderly care decisions.

Chengde is a poor city. There is a few enterprises. There are not many migrant population. As a tourist city, the prices are often high, which leads to most of the elderly people spend their pension on the living expenses. They cannot afford to stay in the elderly care institution and thus most are willing to stay at home. But if to build an elderly care institution, a high-grade one should have consumers because currently there is no such a kind in Chengde City.

5. About medical problems of the elderly

The elderly people basically all have medical insurances. Retired workers have workers' medical insurance and the urban residents have the urban residents' medical insurance.

Medicare reimbursement rules are not clear. Under normal circumstances, only the hospitalization can be reimbursed, the reimbursement rate is regulated at 80%. However in fact still some medicines used during hospitalization cannot be reimbursed, thus the actual reimbursement rate may be only 50%.

They suggest to improve community medical treatment. Medicines are too expensive, for many elderly people to afford. The elderly people not only need to improve medical services but also need the subsidy to the medical expenses. They recommend to refer to a return of certain outpatient expenses (e.g. by 0.85% return).

Interviews Record 10

Time: 18th June, 2016, Afternoon

Location: Haijin community, Wenhua Street, Zunhua City

Participants: Yanbo Chen (Community Director) Female, 44 years old

Children representatives

Basic situation of the community

Workers of a previous Armed Police Engineering Forces and their families are living in this community. Most of them are 80~95 years old. They have no special treatment. Their pension is about RMB3,500 per month. There are more than 200 households in building 1 to 5, most are elderly, living alone. Building 6 to 12 were built much later. Now they are occupied by many migrant workers. There are over ten semi-disabled elderly people in the community. There are 5 to 6 fully disabled

elderly people in the community. Generally the adult children look after them. A few hire the housekeeper, whose salary is about RMB2,500 per month.

Children representatives

Child 1. Ms. Yanbo Chen. She is the community director. She is 44 years old.

Her mother is living in this community, who cannot take care of herself. Her pension is about RMB1,000 per month. She has two brothers and one sisters. They are all too busy. They have no time to look after their mother. She is currently looked after by a live-in housekeeper who was introduced by the relatives and looks after her mother for 24 hours a day. The fee is RMB2,500 per months, excluding meal and accommodation. She doesn't trust the housekeeper agency. She has changed a few housekeepers because of their poor services. Her brothers and sisters share the cost of their mother, no difference between male and female children.

About the elderly care institution: She has a bad impression on the elderly care institution. If the elderly people can take care of themselves, she strongly doesn't recommend them to live in the elderly care institution. It will shorten their life. She thought that the public elderly care institution is not better than private ones. She had visited a public elderly care institution with good environment and complete facilities, but the staffs were in poor attitude with ignoring the elderly people who cannot take care of themselves since no one saw their activities.

She doesn't want to send her mother to the elderly care institution. On one hand, it is often far away from home. She cannot feel at ease. On the other hand, it is lack of affection to let her mother living alone in the elderly care institution.

About community-based elderly care: She felt it is good because it is close to the houses. But the "day care center" may not be suitable for the disabled or semi-disabled elderly. It will bring much inconvenience to the adult children to send those disabled or semi-disabled elderly people every morning to the day care center and then pick them up every evening. It will be less convenient to hire a housekeeper at home. "Home-to-door service" sounds good. But the elderly people need to call, and the staff will leave when the service is over. She still did not feel at ease since the elderly man is still at home alone to deal with the stranger.

Whether to consume the community-based care services: It depends on the physical condition of the elderly people and the specific services. She thought dining centralized service is very good. She will consider of it but hopes the price is not too high. There will be no much demand for medical services since there are community clinics nearby. If minor diseases, these clinics are able to solve. If big problems they will go directly to the hospital. So unless there are some other advantages, it would be difficult to promote. They will not need the recreation or amusement services if they will charge.

Child 2. Ms. Huanhua Li is a 56-year-old woman. She is a retired worker.

She has a mother-in-law, who is 80 years old and can take care of herself. The mother-in-law has strong personality. She has lived in a local elderly care institution for a while. This was her own idea.

The elderly care institution is run by the Beida Hospital, kind of "medical-EC combined." Later because of loneliness and no good meals, she went home.

On elderly care issue: She thinks that what the most that the elderly people need is the family, living together with their children. Services like food and entertainment are less important. For the old generation like her mother in law, they only would like to choose home care, or hire a housekeeper or choose home-to-door service. They must stay at home accompanying with her children. But for her own generation, the children certainly do not have time to take care of their parents. She may choose the elderly care institution or community elderly care. Or several families can hire one housekeeper, which will share the cost, and also several elderly people can company with each other.

Child 3. Ms. Xiuling He is a 48-year-old woman. She has no job.

She has one mother-in-law, who is 84 years old and cannot take care of herself. Her mother-in-law has four sons. Three of them are working on other places. Her mother-in-law are living with and looked after by her family. Her husband and she do not have formal jobs. They do odd jobs and the income is unstable. So other children pay more of her mother-in-law's living and medical expenses. They pay less because they take more responsibility in looking after her mother-in-law.

Her mother-in-law doesn't want to go. She either won't send her mother-in-law to the elderly care institution. If they send her to the elderly care institution, they would be criticized by the relatives and friends, and neighbors because she has four sons. Also, they does not trust other persons to take care of her mother-in-law, who must be less attentive and careful than her own children.

Interviews Records 5

Time: 19th June, 2016, Morning

Location: Haiquan Community , Wenhua Street, Zunhua City

Participants: Children representatives

Basic situation of the communitiy

Haiquan Community has 1,410 households with more than 3,500 people. There are many tenants living in the community. There are more than 150 people between 60 to 80 years old. There are more than 50 people above 80 years old. There are totally more than 200 elderly people in the community. Of which, there are 51 'empty nesters', over 20 disabled or semi-disabled elderly people. The community didn't organize any medical or elderly health lectures.

Children representatives

Child 1. Ms. Shuhui Liang is a 53-year-old woman. She was a teacher before retirement. Her pension was RMB5,000 per month.

There are three elderly people in her family, who are all in good health and can take care of themselves. She has a father who is 89 years old and has six children. They are all filial. Now her father is living with his son. The children share the living expenses. She visits her father every half a month. Her parents-in-law have two children, one son and one daughter. But they are living alone. The son, her husband, affords more living expenses of his parents than the daughter.

Views on elderly care services: The conditions on elderly care institutions are not good in Zunhua City. Generally the elderly care institutions are privately run. These elderly care institutions usually only provide food and drink without other services. The public one may be better. It contains entertainment, physical examination and other services. But there is the strict admission requirement and the ordinary elderly people cannot live in. If there will be an elderly care institution with better services she will consider of sending the elderly people to. But she also thinks the old generation would not like to go for their backward concept. When she gets older, she is willing to stay in the elderly care institution. The most important for her is the medical equipment. She is willing to pay up to RMB2,500 per month.

Community based elderly care sounds good. In addition to the basic meal service, it is better to provide the recreational activities and health care, where the small body problems can be processed directly. Also she prefers the large space reasonable charge. She is willing to pay up to RMB1,500 per month for the day care center.

Other opinions: For future construction of the elderly care institutions, we hope government provide more funding and more investment to raise up the quality of the institutions, at the same time with cheaper costs. Elderly people have limited economic conditions and thus they pay more attention on cost-effective value of the elderly care institution.

Child 2. Ms. Yuwei Xi is a 45 year-old worker.

She has one father-in-law, who is 80 years old. He is in general physical condition. He has four sons. Now he lives alone. His sons take turns to cook and take care of him. Every son is responsible for one month and assume the living costs. If he gets sick or hospitalized, medical expenses are equally shared among the sons.

Views about the elderly care institutions: She thinks that the elderly care institution is fine: the elderly people do not worry about the eating and drinking, can chat and play cards with the peers. She prefers public elderly care institutions. She thinks it is under the supervision of the Civil Affairs Department, the caregivers are formal staff, and the medical staff should be more professional, which make her feel more at ease.

But her father-in-law will not be sent to the elderly care institution. He has biased concept on the elderly care institutions and want to stay at home. Moreover, her father-in-law has so many children who have enough time to look after him and either would not want to trouble him living in the elderly care institution.

Other opinions: The government is now advocating "medical-elderly care integration", but it is difficult to implement in Zunhua City because this is directly related to the economic level of the region. However, personally she prefers this kind of elderly care mode providing with delicious food and professional caregivers. If there are government subsidies, the price will certainly be more appropriate.

How to choose the way of elderly care, there is no fixed answer. It depends on the individual or family's economic conditions and their own demand. But she thinks that the government should give support to the elderly people/ families with special difficulties.

Child 3. Ms. Wanli Zhao is a 33-year-old woman. She is a worker. Her parents and parents-in-law are all about 60 years old. She has two sisters. Her husband is the only child in his family. Now the three elderly people in her family are still young and in good health. They have not considered the elderly care issues.

Child 4. Ms. Yufeng Li is a 51-year-old woman. She is a worker. Her parents have passed away. Her parents-in-law are about 70 years old, wo have three sons.

Child 5. Mr. Ranyou Meng is a 54-year-old man. He is a worker. His parents are over 80 years old. They are living together with him.

Child 6. Mr. Jian Du is a 36-year-old man. He is a worker. His parents are in good health, and they didn't think about elderly care issues.

Opinions about elderly care institution:

The elderly care institutions in Zunhua City are bad: poor diet, poor facilities and poor sanitation. The caregivers are all temporary workers, mostly are rural women at low educational level and with poor service attitude. There is only one public elderly care institution whose conditions are either not good.

They will not send the elderly people to the elderly care institutions. They fears of old parents being abused in these institutions. Also, due to the influence of traditional concepts, they are afraid of being said as infilial children. When the elderly parents can't move, they will take care of their parents on their own or they prefer to hire the housekeeper to look after them.

About community based elderly care:

Community based elderly care sounds good. It is close to the home, with familiar environment, mutual understanding among the elderly peers, and community activities. They would like to accept this mode.

They are interested in the day-care center. When the children go to work in the day time, their parents can go to the day-care center. Children bring them back at night. They paid more attention on the cultural recreational activities since there is nothing related in the community now and the elderly people are lack of the spirit communication. They want the center to be equipped with full facilities demanded by the elderly people like the new community has. Thus the food, entertainment and medical issues can be resolved, which will make the adult children feel at ease. The fee of the day

care center for elderly people will be the similar with that of the kindergartens for the kids. The elderly people should not spend much on drinking and food. They think that the charge of RMB600~700 per month is appropriate.

But when the parents cannot take care of themselves, it will be too bothersome to go to the day-care center. The elderly people will need the home-to-door service. The most important should be the medical services. It will be good if the community doctors can visit the elderly people regularly and provide free physical examination. For massage or rehabilitation care, since their economic conditions are not good enough, they might need some but not frequent. Empty nesters may need the escort services to see the doctor.

Other opinions:

First, price is the most important factor for the elderly care issue. It has close relationship with whether the elderly people have the pension and the economic capacity of their children. Today, the advanced elderly generation are basically taken care of by their children at home. Generally the elderly people are reluctant to spend money. Even if they have enough money, they want to save it for their children, or for future needs of the potential diseases. They hope the government care more about the elderly people. If the government can provide the subsidies and the expense for the elderly service care is not that high, the elderly may be slowly adapt to consume the elderly services.

Second, it is necessary to change the concept of the elderly. The relevant departments should strengthen their awareness.

Annex 2: Survey Pictures



Fig 1 FGD with Adult Children in Yuanbaoshan Community in Shuangluan District, Chengde City



Fig 2 FGD with the elderly in Jinxiucheng Community in Shuangluan District, Chengde City



Fig 3 FGD with the elderly in Jian'an Community in Huaminglu Street, Zunhua City



Fig 4 FGD with adult children in Huafu Community in Huaminglu Street, Zunhua City



Fig 5 FGD with the elderly in Shifudong Community in Lucheng Street, Xinji City



Fig 6 FGD with the elderly in Xinleitou Village, Xinji City



Fig 7 FGD with the elderly living in the Chengde Welfare Institution



Fig 8 Administrative interview with the director of the Chengde Welfare Institution



Fig 9 Interview with caregivers



Fig 10 Meeting with Shuangluan District Civil Affairs Department, Chengde City



Fig 11~14 Questionnaire survey with the elderly

Hebei Elderly Care Development Project

Final Report

Volume Three

Document 3-E

Technical Report on EC Design

I. INTRODUCTION

A. Aim and Scope of Work

1. This report deals with the technical due diligence required by ADB during the PPTA. Its objective is to optimize the functional, aesthetic, technical, environmental and economic aspects of each of the proposed elderly care facility designs at a conceptual level. And, in the following stage, to guide such detailed designs so as to ensure the construction of all sub-projects move coherently in the direction of effectiveness and efficiency, thus serving the main aim to improve the availability, accessibility and quality of long-term professional care for the elderly in the Hebei Province.

B. Proposed Outputs

2. The main outputs from the technical due diligence encompass a comprehensive technical analysis and evaluation of each sub-project's design and a series of technical guidelines indicating general design principles and key technical issues towards appropriateness of design. Such guidelines focus on establishing a position of balance between advanced international experience and feasibility at a local level.

C. Adopted Methodology

3. Considering that EC facility design and construction in China is still in its initial stage, the methodology to be used in this work will –while allowing for minimal difference in details among the sub-projects- essentially aim to the following:

- (i) Facilitating the interchange of first-hand information through site visits and workshops.
- (ii) Providing the latest and warranted EC knowledge, international EC development experiences and the best design practice for reference.
- (iii) Ensuring that feasibility is optimized by means of a thorough identification and evaluation of alternatives to the project.
- (iv) Ensuring that the scale and specification of the proposed facilities is compatible with provisions of demand and stipulated performance standards as well as the rest of relevant technical guidelines.
- (v) Providing guidance for the detailed design stage.

D. The Application of this report

4. Seven topics covering from the macro level of architectural visions to the micro level of design details for promoting the social commitment of elderly care and services in Hebei are structured into the following seven chapters.

- (i) Chapter 2 is concerned with the fundamental strategies that would help to appropriately set up the vision, mission, values, position and competence of each sub-project to be developed.
- (ii) Chapter 3 provides referable international experiences and completed cases pointed to sustainable, cost-effective and preferable development of EC facilities.
- (iii) Chapter 4 includes six key design principles that would help to synthesize the logic of design thinking with the preferable outcomes of a good architectural design for EC facility.
- (iv) Chapter 5 stresses the particularly applied design codes and regulations, and distinctive solutions to the technical issues in safety design and physical environment design for EC facility.

- (v) Chapter 6 provides a series of checklist of design items and features for repeatedly testing the design completeness and effectiveness degree in the different stages of design process.
- (vi) Chapter 7 provides specific evaluation of the current design status of each sub-project, as well as suggestions for further developing and improving the detailed design in the next stage.
- (vii) Chapter 8 is concerned with the tactics and methods of managing the process of design and construction for EC facility.

5. The users of this report, including ADB project team, IAs, EAs DIs, and other involved consulting teams as needed, may have different distribution and emphasis to refer and arrange their follow up actions for each sub-project, but full understanding of all these contents is required to achieve the acceptable program and quality of the elderly care facilities assigned by this ADB loan development project.

6. Noted that, this report plus conducted collective trainings and individual instructions to IAs, EAs and DIs, have been a three dimensional system to teach the design for elderly care facilities. However, one indispensable step to guarantee the quality of final design is to check the capacity and certification of DIs at first. Also considering that very few DI in China now is qualified for designing EC facilities, design supervision by elderly care facility design experts will be necessary during the full process of design and construction. The supervision cost will not be high compared to the whole investment, but surely needs to be considered and included as another design cost item.

II. STRATEGIES FOR ELDERLY CARE FACILITIES DESIGN IN HEBEI

A. Overview/rationale

7. China is at a very initial stage in the process to achieve two basic tasks according to World Health Organization's call for immediate action in the developing countries. One is the provision of state funded basic pensions adequate to protect older people against extreme poverty, and the other is the provision of basic primary health care and mechanisms to support the long term care of people with functional loss. Elderly care facilities have been indispensable components of the society modern welfare system since the mid-20th century, in which public services were regularly programmed for improving ordinary people's well-being. Nursing homes were the first architectural prototypes with emphasis on the elderly people to replace the role of charity organizations and hospitals for healthcare and poor relief aid from the second half of the 20th century in Europe and North America.

8. Along with the present advance of elderly care notions, more architectural types for senior living and various models of elderly housing and residential care facilities have emerged for both social and commercial purposes. In European countries, the classical type of nursing home has been substituted by residential care facilities aiming to eliminate any hospital-like appearance and character as well as to reduce unnecessary costs. As such, Activity Centers for Senior Citizens, Day-Care Centers.

9. The current elderly care design practice in Hebei needs to match -or get as close as possible to- the best international and national design references.

10. **Outstanding problems in the current situation are:**

- (i) Target users of elderly care facilities are not clearly classified nor defined according to their degree of dependency.
- (ii) The psychological approach is not considered nor reflected in design options, although it has been proved to be relevant for the results in both preserving and recovering health.
- (iii) Design of elderly facilities suffer the same kind of problems of most architectural design in China in the last decades of fast economic development: very fast production often based on non-critical use of stereotypes; without taking advantage of each specific site, context, circumstances, needs and potentials; predominance of uniformity due to the use of a few patterns of urban planning and housing typology. These problems are particularly acute when the matter comes to designing a new type of facility with no existing patterns to copy or reproduce.
- (iv) Institutions design technical staff have no experience nor are there enough experts in the country in this kind of design -which would be a key requirement for success-, so present projects in Hebei don't match EC basic requirements and show important deficiencies in relation to desirable best practices.

11. According to this, the best EC facilities design principles, which we find are now lacking in the current practice in Hebei could be grouped as the following:

- (i) Site specificity: maximum integration in the local context from the urban, physical, climatic and social point of view.
- (ii) Geriatric approach reflected in connectivity, accessibility, safety in case need of quick evacuation for fire, earthquake, etc., and adequacy to the special condition of the users in design at all levels, from the overall concept to the interior design detail, equipment, etc. according to the users condition of disability and its degree.
- (iii) Psychological design approach. The building character perception responds to a relatively new pattern, which is neither that of a hospital nor a charity institution. Elderly must feel at some place where they can live, learn, amuse,

- make acquaintances and be properly attended. So it's some kind of mixture of a home, a club, a school, etc.
- (iv) Efficiency of functional design, providing flexible multi-use spaces, control of surface consumption and designing distribution and zoning to optimize staff operation and users limitations in relation to staircases, wheelchairs use and the diminished sensory capacities of seniors.
 - (v) Enhance close contact to nature by any possible means according to each specific project. Design of inner and outer yards, gardens and orchards; consider and control windows views according to this principle by providing trees and framing view directions. Inclusion of conservatory like cushion spaces - glassed buildings, protected porches, season convertible pieces- which can adapt to every climate and season becoming inner or outer spaces and providing climatic comfort, spatial and environmental quality and fine sustainable behavior from the energetic point of view.
 - (vi) Consider every sustainability aspect in the whole cycle of the building life, from design and construction to life operation and possible future recycling, i.e. maximum use of natural light and sun energy control for both sustainability and therapeutic-psychological reasons.

12. Therefore, until now, present elderly care practice in China has not been in accordance with international good practice nor with the latest research and findings about senior health care, as recognized and proposed by international institutions; both design and construction has been attending to quantitative demands more than deepening in quality and effective design.

B. Methodological Strategies

13. To tackle these issues we propose to implement -in broad strokes- the following strategies, from the design point of view, mainly conducted by the design consultants:

- (i) Review and undertake an analysis of current Elderly Care design practice in Hebei, based on a few early design stage real projects. In this way, proceed to improve and recommend alternative design features based on recent research achievements and consolidated principles of international best practices, adapted to local reality and potential.
- (ii) Assess the logical reasons and justification of the projects and strengthen the projects designs to fulfill its shortcomings according to the previously mentioned principles and concepts.
- (iii) Review the architectural and technical design of each project, considering all project elements to verify and evaluate their technical soundness degree as well as the proper design answer to each specific requirement (technical standards, efficiency and quality) to be suitable for financing support.
- (iv) Conduct design analysis and critical workshops to show detailed examples of the best foreign practices, state underlying principles and show how to use operative methodologies. Explain how to learn from them and apply to the local situation. Visit their construction sites or existing buildings to reform, just in case. Discussion and dialog with all project involved actors about those concrete current early design stage projects from the pilot experience. Assess all involved agents capacity for the control of environmental impact and sustainability management, and recommend measures for capacity building and institutional strengthening in this field.

14. The key strategic design points to focus and to stress are the following:

15. **To face an EC facility architectural project, an organic unity needs to be envisioned as such from the earliest design stages.** First decisions are crucial to achieve the whole potential of each specific site and conditions. Sustainability, contextual integration and proper response to the user conditions, functional and equipment energetic efficiency,

are not considered features, which keep appearing through a succession of stages but must present from the very first sketches in the concept design. Consider the possible existence of any kind of public facility in the neighborhood to create synergies and avoid duplications.

16. Sustainability and green building principal to be tackled in the following ways:

- (i) Use all the passive costless solar design strategies, like Sun seasonal control traditional devices. Use wind orientation, cross section disposition and cantilevered floors to optimize seasonal benefits from sunlight; apply measures like topography adaptation -avoid big terrain movements-, rainwater and waste water recycling and so on.
- (ii) Include as much as possible sustainability enhancing mechanical and electronic devices, technologies and equipment according to the budget constrictions.
- (iii) Restoration of existing buildings must be considered not only from the plain economic point of view, but also evaluating the environmental impact of the whole process in case of demolition (and rebuilding) and its possible value as a memorial or identity reference for users and neighbors.
- (iv) Consider also the sustainability of the manufacturing process of selected materials. Use all available and affordable prefabricated options in any stage of the construction process.

17. A key reference tool to strengthen the correct learning and implementation of these design principles is the redaction of a Technical Report on Elderly Care Facility Design, including two main groups of contents:

- (i) One is a guidance of updated General Design Principles taken from international best practices, and illustrated with international cases elected in function of similarities of budget, construction technology standards, user's idiosyncrasy and site conditions.
- (ii) The other is a report and documentation of the critical analysis of current Hebei projects and the subsequent monitoring of the evolution of their changes and improvements as a result of the whole current interaction process with experts.

18. Apart from the case studies and analyzed examples, the report contents focus on those key points of the mostly updated design approaches, which are more sensible to the most present day situation than those usual obsolete design routines:

- (i) The potential of the architectural environment in positively influencing the process of ageing - Community based planning and design principles, User centered design principles, Non institutional Design principles, Sustainable design principle.
- (ii) Guidance to address key technical design issues like: Elderly accessibility, ergonomic and safe design (fire, disorientation and accident prevention). Physical environment attentive design, including lighting properties and healthcare influence, space and materials acoustical quality, air quality, temperature and humidity control and effects.

C. Design Outcomes

19. What we expect at the end of this project:
- (i) A notable increase of capacity in much of the local institutions technical staff and all other actors involved in the EC facilities building, in the direction of updating their design methodologies to project and construct more functionally efficient, user sensible, context integrated and sustainable elderly care facilities.
 - (ii) A thorough available documentation of the whole process of a pilot learning experience, based on real and concrete ongoing local projects, and consisting on dialog and discussion with foreign and local experts to accumulate experiences, which should be the platform from where to go ahead in the same direction at a bigger scale after proper corrections.
 - (iii) The backbone of the documents being a Technical Report, which will include both the principles and guidance to design and design checking for the best practice, and to the specific situations of the Hebei subprojects, which the interaction through workshops and permanent contact and communication during this PPTA stage also have contribute to improve.
 - (iv) A broader vision of the big picture from the first decisions about the previous necessary design response survey scale, the kind of care according to the users, the complementary home based and community center design, synergies with nearby medical or health care related facilities, social integration and accessibility, importance of considering the psychological-emotional healing aspects of design and concrete guidance to implement it through materials, use of contact with nature and social contact potentiality.
 - (v) Setting further reference standards of surfaces, ratios, unitary and global costs, program variations.
 - (vi) A realistic and operative way of facing sustainability in EC facility design, beyond typical bureaucratic routines.

D. Supervising and Training Activities

- (i) To define the distinctive design principles and concrete project aspects, which characterize present day proper and efficient Elderly Care facility design.
- (ii) To illustrate those by analyzing international exemplary study cases which have been selected according to similarities in budget, construction technology standards, users' idiosyncrasy and site conditions.
- (iii) To implement the effective transmission of that knowledge through an experiential interchanging process based on imparting two workshops -by local and foreign experts- about main principles and guidance, exemplary cases analysis and Hebei ongoing real subprojects design analysis and modification, each one according to its current design stage.
- (iv) Permanent monitoring and advice availability through contact between experts and all the actors involved in the design process.
- (v) Documentation of the whole experience and activities process and results, to be used as a basis for a further critical review and progress.
- (vi) Support to the project team's other major's specialists in every aspect of their contribution related to design.

E. Dissemination

- (i) Presentation of findings and lessons learned in the improvement and implementation of EC technical design
- (ii) Presentation of international and national best practice and Exemplar case analysis.
- (iii) Presentation of general EC architectural design principles and key design considerations, including Q&A interactions

- (iv) Presentation of domestic procedures for EC building designs, and instruction for next design stages.
- (v) Workshop to discuss the findings and lessons learned during the design stage, clarify the missing and confusing information, and provide specific comments and suggestions.

III. INTERNATIONAL EXPERIENCE IN CONSTRUCTION FORELDERLY LIVING AND CARE

A. General Background

20. Traditionally, elderly care was to be the responsibility of family members - provided within the extended family home. However, starting in the West and followed by the Eastern countries, such as Japan and China, the radical changes in life style brought about by the processes of industrialization and urbanization meant the tradition of in-home family care decreased to a minimum. A reduction that may be owed, on the one hand, to the continuously growing percentage of women who opt for education and employment away from home as well as the geographical dispersion of families and their decrease in size. On the other hand, however, we see an increasing amount of educated, skilled elderly people who, for the first time, are paving the way into a new, and more financially and spiritually autonomous living arrangement away from the family home. In either situation, the way of elderly care has become not only a moral issue or a cultural difference, but also a social and economic affair that needs to be tackled at both the social and individual level.

21. The most developed countries used to address societal elderly care by means of increasing the quantity and scale of nursing homes oriented by medical-care models from the 1950s to 1970s. But since the 1980s, both social awareness and financial concerns impelled a big change of social welfare policies to promote assisted living, elderly housing and home care for the purpose of reducing unnecessary public expenditure while promoting the coverage and appropriateness of elderly care. More recently, in regard to maintaining the sustainability of pensions and social security systems and to cope with the relative shortage in professionally trained workforce for acute, primary and long-term health care, paid or unpaid informal care by the families, friends and communities has started to be incorporated into societal elderly care systems.

22. The latest researches show that the desire for remaining at home for as long as possible is common among most elderly people regardless of their ages, nationalities or economic status. However, implications of “ageing in place” are not necessarily limited to remain in one’s original home or community. Rather, the balance of affordability for maintaining a stable life quality, availability of an appropriate physical and social environment, and easy and flexible access to various levels of residential care and services, is crucial to validate any program of “Aging in Place” (Figure 1).



Figure 1: Community-based elderly care and service system

23. Moreover, the smooth transition from independent to dependent living might be more

significant for the elderly well-being than emphasis on independent living. In this sense, community-based care facilities with active and home-like environment and integrated social and medical care are indispensable components for “Aging in Place”. In short, “Ageing in Place” in modern society can only be realized through an intensive operation from the macro level of policy and management execution to the micro level of design and care service provision.

24. Presently, China is at a very initial stage in the process to achieve two basic tasks according to World Health Organization’s call for immediate action in the developing countries. One is the provision of state funded basic pensions adequate to protect older people against extreme poverty; and the other is the provision of basic primary health care and mechanisms to support the long term care of people with functional loss (WHO, 2012). However, since Chinese elderly are in more complicated and uncertain situations as they live under diverse social, cultural and economic conditions due to large regional and individual differences, how to undertake these tasks according to the national contexts, and what can be learned from the experiences of the developed countries in order to shorten this basic process are still the questions that need to be resolved.

B. Architectural Types and Program of Construction for Elderly Living and Care

25. Elderly care facilities have been indispensable components of the society modern welfare system since the mid-20th century, in which public services were regularly programmed for improving ordinary people’s well-being. Nursing homes were the first architectural prototypes with emphasis on the elderly people to replace the role of charity organizations and hospitals for healthcare and poor relief aid from the second half of the 20th century in Europe and North America. Along with the advance of elderly care notions and conditions, more architectural types for senior living such as various models of elderly housing and residential care facilities have emerged for both social and commercial purposes.

26. However, there are no globally established parameters, categories or definitions when it comes to senior living and care facilities. The difference among them is more likely a subject depending on the actual political and economic systems and adopted elderly care modality of each country. American expert in architectural design of elderly housings and care facilities Perkins Eastman defined eight major senior care building types in the American elderly care system: Geriatric Outpatient Clinic, Adult Day Care/Adult Day health, Nursing Homes/Long-Term Care, Assisted Living Residences, Dementia/Alzheimer’s Care, Independent/Residential Living Apartment/Congregate housing, Continuing Care Retirement Community (CCRC), Active Adult Communities (Perkins, 2003, p.3). In most European countries, the type of nursing home has been mostly substituted by that of residential assisted living facility with the aim of creating more homey environment for the elderly residents and users, and meanwhile, reducing unnecessary medical expenditures from both personal and governmental aspects. As such, Activity Centers for Senior Citizens, Day-Care Centers, Residential Care homes and specially equipped residences are common elderly care facilities in an existing living community, while Serviced Apartments and Retirement Complex/Resort are the options for migrated elderly people from more developed countries (Torres, et al., 2007).

27. It is evident from the lessons of international practices that once the commercial interests surpass the social interests in the development of elderly housings and care facilities, the functional composition and area proportion of different architectural types programmed into one development may cease to be able to respond to the whole set of local demands. The design will likely be used to attract the elderly customers with higher incomes by enhancing the visual appeal and stylish decoration, which will largely increase the cost at construction stage, but is not really helpful to increase the post-occupied efficiency in conducting self-care and long-term care from families or professional caregivers. **As the positioning of this development project of ADB is concerned, such a deviation must**

be avoided in the functional and area programming of each sub-project.

C. The Potential of Architectural Environment in Optimizing the Aging Process

28. As the provision of personal care either at home or in institutional care facilities becomes increasingly difficult because of general financial problems and care labor shortages along with the trend of global population aging, physical environment will play a more crucial role in helping the elderly to maintain their physically and mentally independent living as much and as long as possible, and will have also a potential role to promote their psychological well-being. Especially in the light of research findings and outcomes on psychological aging, we can find that whereas the irreversible decline in sensory and cognitive function may limit elderly people's independent living and social contact in both spatial and temporal dimensions, elderly people are, however, able to achieve their psychological well-being through emotional input.

29. This situation implies that an especially designed physical environment could largely improve elderly individual's life quality and psychological well-being on three levels. First, physical barrier-free and supportive installations are basic for moving and conducting activities of daily living. Second, it is necessary to provide clearer environmental orientation that could facilitate the process of perception and cognition through appropriate sensory and spatial settings. The third level refers to active communications and interactions between the elderly people and their living environment that could promote a positive emotional state by providing meeting points with other people and with natural and cultural stimuli. All these three levels of architectural interventions are correlated to approach the elderly psychological well-being by increasing positive emotional stimulants while reducing the negative impacts of the physical and/or mental disabilities in their everyday life.

30. Hence, a qualified architectural environment for elderly housing and care facilities would have multiple effects on prevention, protection, assistance, maintenance, and promotion regarding body and mental capacity changes that occur along with aging, and must achieve these multiple effects through efficient and economical architectural solutions orientated by the elderly people's psychological pattern.

D. International Case References

31. Serviced apartments for extending the independent living for the elderly people, community-based residential care facilities, and integrated medical and/or social care centers are three most popular types of the construction for both public and commercial interests; however, recognizing that the post-occupied performance and public perception of such types of construction could be very different because of design, stereotypical design and dogmatic standards are gradually replaced by more specific architectural solutions based on more concrete user/local context studies in the advanced EC design practice. Also there is another clear and strong international trend for a reduction of the capacity of EC facilities to a more humane scale, while increasing personal care in other ways.

32. Considering that most of the sub-projects of this ADB project are planning a kind of big-scaled complex including a wide range of EC related services, such as independent living apartment, residential care center, rehabilitation center, geriatric hospital, information and even telecare center in one suburban site, we would strongly suggest that all the sub-projects need to do a more complicated and synthetic social and marketing survey to support such a kind of positioning that is different from the international trend. At the meantime, we are aware of that there are no international cases which could be perfectly suitable for Chinese practice because many circumstances in relation to cultural traditions and construction context in China are unique; on the other hand, current constructions for EC in China are often unsuitable and unqualified copies from so-called internationally experienced design stereotypes.

33. We don't think that choosing exemplary cases on the basis of taken-for-granted similarity or vicinity between countries would be the right option; rather, the key point is their referable value for designing EC facilities in a more effective and efficient way. Also, North Europe projects presently hold the highest quality standards for EC facilities, and partial design aspects can be universally referred; however, as a whole project is concerned, none of them can be used as a whole concrete and detailed reference for the cost-effective purpose because their budget level and technology are far away from the sub-projects that we tackle in Hebei province. The cases of retirement resorts or CCRC developed in the real estate model are especially avoided as reference considering the priority of social commitment of this ADB project.

34. Then, in order to make international case references really meaningful for this ADB project, we select and analyze several architectural cases in the next sub-sections in accordance with the following criteria:

- (i) High similarity to the sub-projects in aspects of project budget, the social and economic positions of targeted elderly users, local people's idiosyncrasy, site conditions and construction technology standards.
- (ii) Highly cost-effective and environmentally friendly design solutions for both construction and operation processing.
- (iii) Positive objective evaluation from geriatric experts and subjective satisfaction from the elderly users on the performance of the architectural environment.
- (iv) The adequate response to the local cultural traditions and local people's life style is highly valued while the appropriate construction materials and techniques are employed.

1. Community-based residential care and day care facility - La Sagrera Retirement Home and Day-care Center, Spain

Project information:

Client: Social Welfare Department, Catalonia.
 Project Executer: GISA
 Architects: Bravo & Contepomi Studio
 Design and Construction Period: 2001-2004
 Location: Carrer Camp Ferro, 19-25, San Andreu, Barcelona
 Building area: 4,596m²
 Floor number: 4F
 Construction cost: €4,290,324.53
 Capacity: 96 residents+30 Day-care center users



Figure 2: Exterior view of the main entrance side.

(Resource of the drawings: Bravo & Contepomi Studio; Photos: Wang Qin)

35. This is an exemplary case of complying with all the legislative requirements in terms of architectural model for public residential care facilities while providing a humane and distinctive architecture design under the constraints of tight construction budget and land resource in the urban environment. Here we regard this case as a basic quality for all the Dis of this ADB project to achieve in their design.

36. The facility is located in San Andreu, a current living quarter transformed from the former industrial area of Barcelona. It is open to the permanent residents and day care users officially identified as the middle-severe dependent elderly and voluntarily enrolled. The combination of residential care and day care in one community-based EC facility is a typical solution to pursue high efficiency of employing professional EC care staff and equipment

while fully taking advantage of the existing living and entertainment facilities within the neighborhood.

37. Through the visual continuity and integration that exists between the access to the day care center on the ground floor, the residential section from the 1st to 3rd floor, and the public spaces of the city and the garden, a positive relationship with the life of the neighborhood is generated.

38. The rational and compact design as a whole responds not only to the standard economic and efficiency requirements, but also to the desire of obtaining a quality result in relation to the project's interaction with the environment, generating clear and unified spaces that are well oriented, with distant views and a high level of privacy.

39. The challenging orientations (east and west) are avoided in order to create a sufficient level of climate comfort without having to resort to artificial refrigeration systems. Moreover, the facade facing south overlooking the garden staggers toward the garden, forming terraces and outdoor spaces integrated into the common services with a design that provides natural lighting and ventilation to the whole of the ground floor.

40. As such, environmental quality is achieved - privacy, orientation, warmth of materials and ergonomics in the design - in relation to all the rooms of the residence with the outdoor spaces, terraces and garden.

41. Public spaces for the elderly: 1.Main entry & reception hall 2.Day-care center (multifunctional hall) 3.Occupational therapy room 4.Gymnasium 5.Physiotherapy room 6.Doctor 7.Beauty salon 8.Social works 9.Garden 10.Dining 11.Living space 12.Family meeting room 13.Roof terrace 14.Balcony



Figure 3: Triangle bay windows facing to the East and the sun shadings facing to the West.



Figure 4: Weather-protected terraces on the ground floor and 1st floor - transition between indoor and outdoor spaces to increase full season activities.



Figure 5: Reception also works as security control point in the lobby and the corridor of typical floor with natural light and color coding system.



Figure 6: Flexible use of public spaces: The day-care center is temporally transformed to the hall of collective activities of the whole facility and neighborhood.



Figure 7: Flexible use of public spaces: living space and the hall of activation activities.



Figure 8: Human-dimensional details of green fences, Railings and shading panels.

2. Town-based Residential Care Facility and Renovation Work- Flix Retirement Home, Spain

Project information:

Client: Social Welfare Department, Catalonia Autonomous Government.

Project Executer: GISA

Architects: Bravo & Contepomi Studio

Design and Construction Period: 2005-2009

Location: Carrer Escoles 30, Flix, Tarragona.

Land area: 5028.74m²

Building area: 4969.38m²

Floor number: 2-4F

Construction cost: €5,191,626.47

Capacity: 90 residents

(Resource of the drawings: Bravo & Contepomi Studio; Photos: Wang Qin)

Figure 3.4.2-1. Project's location and surrounding context.

This case was located in a town with much less construction density than the metropolis, and was developed based on a priority: the urbanized and topographic layout of the site, the existing vegetation and the views over the Ebro River.

The design was focused on creating an optimal spatial and physical relationship between the existing building – a former elementary school to be renovated and the new construction. Also, it is important to introduce a balanced natural light in all rooms by distributing the new volumes in a series of landscaped outdoor spaces with different characteristics according to their intended uses.

The historical and emblematic characters of the existing building have been emphasized in a manner that allowed for the creation of a reception area, administration center as well as a common day activities center for the elderly residents. At the same time, the new building has been developed as residential section fully equipped with service station for the staff, and common living and dining areas for the elderly residents.

With regards to the outdoor spaces, the existing vegetation is maintained, complemented and maximized so that the views can be enjoyed from the terraces arranged at all levels.


- 
- 1.Lobby
 - 2.Kitchen
 - 3.Storage
 - 4.Refrigerated room
 - 5.Changing rooms
 - 6.Service manager
 - 7.Laundry room
 - 8.Sewing and ironing room
 - 9.General clothing storage
 - 10.Workers' room
 - 11.Equipment room
 - 12.Workshop of maintenance
 - 13.General warehouse
 - 14.Garbage containers
 - 15.Garage
 - 16.Morgue
 - 17.Toilets
 - 18.Yard
 - 19.Garden
 - 20.Vertical core
 - 21.Administration, management and human resources

Figure 3.4.2-2. Ground floor plan

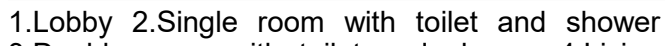
- 
- 1.Lobby
 - 2.Single room with toilet and shower
 - 3.Double room with toilet and shower
 - 4.Living room
 - 5.Dining room
 - 6.Visiting room
 - 7.Control unit
 - 8.Toilet
 - 9.Storage
 - 10.Daycare emergency room
 - 11.Workers' toilet
 - 12.Dining service
 - 13.Linen service
 - 14.Dirty linen collection
 - 15.Cleaning room
 - 16.Daycare wardrobe
 - 17.Vertical core
 - 18.Exterior terrace
 - 19.Personal attention
 - 20.Physiotherapy room
 - 21.Activity room

Figure 3.4.2-3. 1st floor plan



Figure 3.4.2-4. Facades made of pre-fabricated



materials and responsive to natural light adjustment.



Figure 3.4.2-5. Views of the reception, corridor and dining areas.



Figure 3.4.2-6. The application of distinctive color tones at each floor as the visual signs of orientation.



Figure 3.4.2-7. Sunny living room with the terrace and natural views.



Figure 3.4.2-8. Renovated building as administration center, therapy and activity rooms.

3. Complex of Senior Serviced Apartments and Public Facilities- Can Travi Elderly Home and Civic Center

Project information:

Client: Patronat Municipal de l'Habitatge

Architects: GRND82

Location: Carrer de Can Travi, 08035 Barcelona, Barcelona, Spain

Building area: 8925.0 m²

Floor number: 4-5F

Capacity: 85 apartments

Usable area of apartment unit: 40-45m²

Design and construction period: 2004-2009

Construction cost: €6,962,222.33

(Resource of all the drawings and Photos: GRND82)

We recognize the practical vision for IAs/EAs to get reasonable benefits from the independent elderly as well as from the dependent elderly residents, and thus keep the EC facility healthily running, but sub-projects didn't consider and match up with the different characters and demands for daily living of the elderly under or crossing these two statuses along with a dynamic process of aging. So, we introduce this case because we think it is necessary to distinguish the essential elderly housing for the social purpose of extending the safe independent living while decreasing care expenditure for the elderly from kind

Figure 3.4.3-1. Bird view of the project within urban context.



of real estate housing development to trap the elderly customers with high-incomings, and the collective living environment for the dependent elderly.

Different from the world-widely adopted stereotype of hotel-like serviced apartment and large retirement resorts for the independent elderly, some design practices during the latest decade in Spain have presented the best international notion and practice to embed the senior serviced apartments into the existing living communities, and combine it with other public facilities for all the residents, such as community library, cultural center, kindergarten, etc. As such, social integration and multi-generational interactions can be more naturally achieved in a homey environment.

As one type of social housings, this kind of projects are targeted to fulfill both solid social and economic requirements for three main elderly cohorts - 1) The elderly, whose original home and living community is not a non-barrier environment, and not possible to be renovated or upgraded and will find that their instrumental and functional daily activities will be largely limited if they continue to live at home; 2) those whose original homes are too big or too expensive to maintain; 3) those who live alone, and will find safer and more convenient to live in a new environment with close services and professional care staff. Hence, the scale of every apartment unit is limited to 40-45m², responsive to the economic living functions for a

single or a couple of elderly more than 65 years old and conforms to the other economic and social conditions for getting rental qualification.

The architectural design of Can Travi Senior serviced apartments is one of the best examples in terms of its outstanding functional performance, environmental qualities, aesthetic appeals, budget control, and some very unique characters. For example, taking advantage of the Mediterranean climate, each apartment unit is provided with a large terrace that organizes the program of the space, there are many other detailed settings to make daily life more enjoyable, such as dry garden, activity room, meeting points along corridors. Self-service laundry machines and public terraces for gardening and social activities are also basic components for extending independent living. It is a remarkable phenomenon that the input design intelligent makes such a social housing project more effective and attractive than real estate developments with much higher investment.

Figure 3.4.3-2. Massing design adapted to the existing topography of the site.

Figure 3.4.3-3. Functional combinations of elderly housing and civic center.

Figure 3.4.3-4. Facilities Floor plan

Figure 3.4.3-5. Ground Floor Plan

Figure 3.4.3-6. Attachment of semi-outdoor terrace to enrich the personal life style.

Figure 3.4.3-7. Landscaped public reception and resting areas.

4. Community-based Integrated Social and Medical Care Complex – Nakazawa Elderly Home, Japan

Project information:

Developer: Urban Renaissance Agency (UR)

Co-operators:

Community Network Corporation (Elderly housing + non-Medicare insurance short-term care)

Ten'okinakai (Clinic Nakazawa+ Outpatient care unit + Dementia care unit)

Location: Tama city, Tokyo, Japan

Land area: 3,511m²

Building area: 7,336m²

Floor number: 7F

Capacity: 56 long-term residential rooms, 10-20 medical care.

(Resource of the drawing: and photos: Community Network Corporation + Zhou Yanmin Studio)

This project integrates two main sections – elderly housing and community medical care center for community use– operated by two organizations. The elderly residents and users of care units share the public facilities (i.e. library, cantina, rehabilitation room, meeting room, living room, etc.) and medical services as needed.

The architectural design reasonably layouts all of the high-level care units together in the lower floors and next to the public facilities to facilitate the physical and social activities for the elderly with various disabilities, as well as to avoid long distance transition work for the care staff. At the meantime, the independent living units are relatively separated to give the residents more freedom and privacy to arrange their own life, including caring the roof garden, using the gym, etc. The external and internal service flows are clearly defined by giving their respective accesses, and a close and natural connectivity between the facility and community is achieved by at both service and spatial interface of the clinic.

Sufficient natural light, fresh air and good view are introduced into the building by the enlarged window belts. Interior design is functional and concise. Wood flooring and furniture create a warmth and Japanese home-feeling atmosphere. Nevertheless, the contrast with the white paintings is also important in the facility respective to the visual conditions of the elderly users.





Figure 3.4.4-1. General massing relationship and functional program.

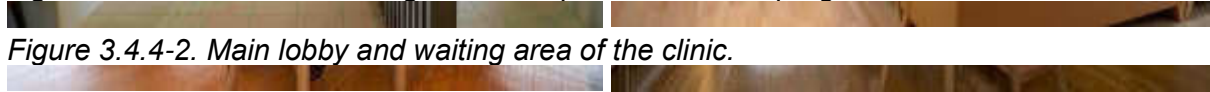


Figure 3.4.4-2. Main lobby and waiting area of the clinic.



Figure 3.4.4-3. Public facilities.



Figure 3.4.4-4. Dementia care unit.



Figure 3.4.4-5. Residential living unit.

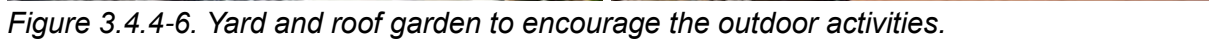


Figure 3.4.4-6. Yard and roof garden to encourage the outdoor activities.

5. Integrated medical and social care center – Shinjuen Nursing Home, Japan

Project information:

Operator: Social welfare corporation Shinjukai

Architects: KYODO Architects and Associates

Design and Construction Period: 1999-2002, reconstruction on a basis of 1977 nursing care facility.

Interior renovation of lounge area and cafeteria: 2012

Designer: Emmanuelle moureaux architecture + design

Location: 292-1 Aina Shinden, Kawagoe, Saitama

Prefecture 350-1173, Japan

Land area: 5,972m²

Building area: 6,106m²

Floor number: 3F

Capacity: 100 long-term residents, 20 short-term residents, and 40 day care users.

Ratio of elderly and staff: 1.8:1

(Resource of the drawings: KYODO; photos: Hisao Masuda photo office, except dancing bubble interior by Emmanuelle moureaux architecture + design)

This case is an example to adopt a promising European concept of Co-housings for elderly living, but must adapt to the high density of land use in Japan, so that several family scale living clusters (10-13 residents) equipped with living and dining area, toilet and bathing are attached into one building while sharing the use of public facilities on the ground floor. Similar to the European model, the day care center is located on the ground floor as well to fully take advantage of the public facilities.

This kind of arrangement is more suitable for the elderly with high level of dependence, including the dementia patients, whose autonomous movements are highly limited due to their health conditions, but meanwhile they more critically need personal care at the near distance. Environmental comfort is largely increased by the design of big windows to every rooms and common spaces, and weather protected terraces.

Nevertheless, different from European co-housings, this Asian model of co-housing cannot provide sufficient privacy to each resident, which normally cannot be accepted by more autonomous and active elderly, who prefer private suite, and a generally more open and free environment to live.



Figure 3.4.5-1. Exterior view from Semi-enclosed yard.



Figure 3.4.5-2. Floor plans

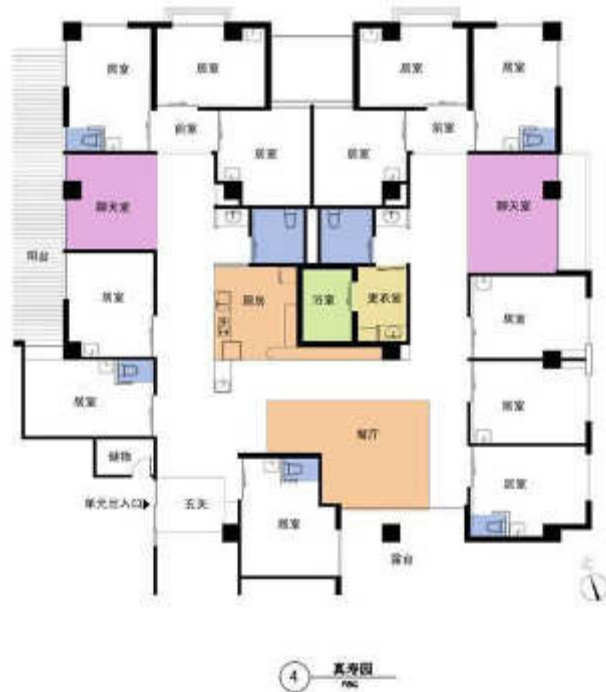


Figure 3.4.5-3. Living and care cluster layout.



Figure 3.4.5-3. Interior view of various public functional areas.



Figure 3.4.5-4. Roof garden and climate-adjustable terrace for the outdoor activities.

IV. National Case References

Architectural design for elderly care facility hasn't been well recognized in China until now, and only a few academic institutions and architectural school are conducting evidence-based practical researches in this field, but still are lack of time to transfer the research outcomes to the useful guidelines for the urgent practices. Many actual national design code, standard and album are lagging back from the latest warranted knowledge, and have apparent shortage in both scientific concepts and design details. There are also problematic trends of superficial copy of other developed countries' EC layout and aesthetic style for high-end customers, or dogmatically following their technical checklist manuals without reflecting the specific characters of Chinese EC practice. As a result, most of designed and constructed elderly care facilities in China are not suitable to Chinese social and market demands, and hardly contribute to improve the elderly care quality for the majority of Chinese people.

Hence, we selected several good national architectural design cases for elderly care here to show how to logically absorb appropriate international experiences while proposing appropriate architectural solutions respective to the practical purposes and conditions for developing Chinese elderly care facilities.

6. Regional Social Welfare Institution – Chengguan District Elderly Welfare Institution, Lhasa, Tibet

Project Information:

Client: Chengguan District Government, Lhasa

Architects: Zhou Yanmin Studio + Cheng Xiaoqing Studio

Design and construction period: 2009-2011

Location: Caigongtang Xiang, Chengguan District, Lhasa, Tibet.

Land area: 4206m²

Building area: 5395m²

Floor number: 1-3F

Room numbers: 71 single rooms+36 double rooms

Capacity: 137 beds (73 public+64 private)

Construction cost: RMB10,970,000 Yuan

(Resource of the drawing: and photos: Zhou Yanmin Studio)

This case is located in Lhasa, where local people hold distinctive cultural, social and religious identity and special habitual life style in some aspects. The architectural design fully considered reflecting all these specialties of

this project in the form of the building and courtyard gardens while coordinating with modern care model and construction technology to give better quality of elderly care.

The facility was programed to provide residential and care services to two different elderly groups in terms of that with social welfare protection and the other at their own expense. Correspondingly, the design set up two clusters in order to facilitate the operation. The public cluster is mainly equipped with single rooms – 15m² usable area, whereas the private cluster is equipped with double room – 24m² usable area – in order to achieve a lower cost per bed for the majority of elderly with very limited savings or incomings.

Connecting all the clusters by the skyways, the interior circulation becomes three interlinked and weather-protected loops. While such an arrangement is conducive to improving staff efficiency, the elderly residents also take the skyways as social and entertainment spaces.

Tibet is located in the plateau, the sun is the main source of heating, and has become an important part of the Tibetan elderly life. In the local dwellings, the windows are usually tall and large, and the windowsill is very low, people like to arrange beds along the windowsill to get warm bedding. So in this design, the windows are extended to facilitate the sun into the room; and a number of terraces and open corridors are set up for the residents to enjoy sunbath.

Chanting room and turning path around the facility are especially designed to adapt to the Tibetan elderly's daily prayer habits; and in each room, partial surface of the wall is left for the elderly put on their own Buddha statues.



Figure 3.5.1-1. Exterior view of the main entry.



The main public facilities are clinics, restaurants, bathrooms, sweet tea rooms, haircut rooms, sports sits and so on, which are also open to the villagers. This way not only can improve the social engagement for the elderly, but also increase the income for the institution. Nevertheless, these facilities are set up at the edge of the building layout, and all have independent accesses to the outside visitors, so that the internal management and routine operation of the institution will not be disturbed.



Figure 3.5.1-2. Birdview of the project



Figure 3.5.1-3. 1st floor plan



Figure 3.5.1-4. Multiple layers of outdoor activity spaces.



Figure 3.5.1-5. Interior cultural design details.

7. Integrated Continuing Care Community – U100 Senior Home, Zhangjiagang, Jiangsu Province

Project Information:

Client: Aoyang Group.

Operation consultant: Reeshealth Co., Ltd.

Architects: Zhou Yanmin Studio

Location: Nonglian Lu east, Zhangjiagang city, Jiangsu province.

Design and construction period: 2013-2015

Land area: 18,661m²

Building area: 46,575m²(above ground)

Capacity: Dependent care center – 66double and quadruple rooms

Independent living apartment – 348 units

(Resource of the drawing: and photos: Zhou Yanmin Studio)

This project takes the advanced concept of extending a normal everyday life style and quality as long as possible for the dependent and independent elderly with various health, frailty and disability problems as a starting point to design a non-institutionalized residential and care facility.

The design focused on the appropriate architectural solutions to essentially support elderly's living activities as well as professional care staff's working flows, which is differentiated from a real state housing development.

As the project is located in the New Economic Development Zone, and there is no convenient shopping and living facilities in the near surroundings, some leisure and shopping functions are especially added in form of mini indoor street facilities in the central elderly care facility.

The medical and rehabilitation center is also regarded as a social place for the elderly with chronic diseases, that will need regular medical treatment and physiotherapy, thus is designed as a more relaxed and appealing environment rather than normal hospitals or clinics considering the elderly's psychological satisfaction.

Independent living and dependent living are appropriately divided according to the elderly residents' physical characters and necessary care and service, but two groups can both achieve environmental comfort and psychological satisfaction by sharing the public facilities, and thus maximizing autonomous life and social interactions.



Figure 3.5.2-1. Master plan



Figure 3.5.2-2. 1st floor plan



Figure 3.5.2-3. 2nd floor plan



Figure 3.5.2-4. 3-5F floor plan



Figure 3.5.2-5. Social activity areas with the flexible furniture and multifunctional equipment.



Figure 3.5.2-6. Full-weather and seasonal outdoor activity spaces.

8. Community Elderly Service Station – Niujie Elderly Day Care and Service Station, Beijing

Project Information:

Developer: Xi Cheng District

Operator: Jing Tang Ji Group

Location: Niujie 15, Xicheng District, Beijing.

Building area: 630m²

Project year: 2015-2016

Design: Construction department of the District government

Capacity: 16 beds

Registered elderly users: 270 persons

Working staff: 5 persons

(Resource of the drawing: Jing Tang Ji Group; Photos: Wang Qin)



Figure.3.5.3-1. Entry from the main street.

This case is a suitable example of transforming the existing space for street shops to a community-based daycare center. The concise division of the different functional areas and the organization of no-barrier circulation with two-direction ramps achieve high efficiency and flexibility in the usage of spaces. The central service station with open view is appropriate for the control of the main public activity area.

Although the rest room equipped with beds currently appears not very useful since most of the users for now are independent elderly coming for the purpose of entertainment, the design have left the potential to provide care services to long-term or short-term residents as a small scale residential care facility, which is a preferred trend to better provide personal care near to the elderly's original home.

Natural light is limited as the project is subject to the conditions of the existing building, as a valid compensation, the applications of warm materials, colors, and lightings result in an appealing environment for stay. Moreover, the cultural form of Islam neighborhood is reflected in the design of the lobby to increase place identity.

Figure 3.5.3-2. Floor plan

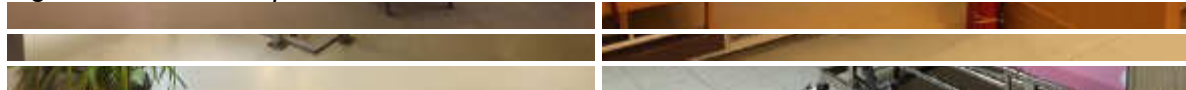


Figure 3.5.3-3. View of the functional areas – Reception and service station, gym area, living area, rest room, activity room, bathroom.

V. Appropriate Typology of Living Unit Layout for Optimizing Continuing Care Model

TYPE 1 - Economic dependent living unit

Minimum usable area for single room – 16m², toilet shared by two residents.

Minimum usable area for double room – 21m², toilet shared by four residents.

TYPE 2 - Upgraded dependent living unit

Usable area for single room – 18m², toilet shared by two residents, more privacy and personal storage spaces, potential to change to double room.



Figure 3.6-1. Typical double and single rooms for dependent living.

TYPE 3 – Convertible living unit from independent to dependent care

Minimum usable area is from 25 to 35m² for one or two elderly residents. Terrace is recommended for drying clothes and doing semi-outdoor activities. Reserve electric and mechanical systems for the functional transformation from independent living unit to dependent care unit, or reverse. The residents generally use the public facilities within the same building for daily life, such as cantina, entertainment, therapy, laundry, cleaning, medical care, etc.



Figure 3.6-2. Homey living environment.

TYPE 4 - Economic full-equipped independent living unit

Minimum usable area is from 40 to 45m² for a single or a couple of elderly living alone from other family members, equipped with electric kitchen and no barrier bathroom, supported by home-delivery care services and public facilities in the whole apartment building, such as self-serviced laundry machine, activity room, garden, etc.



Figure 2.4.5-2. Full range of domestic life in an open and flexible architectural environment.

9. GENERAL DESIGN PRINCIPLES OF THE BEST INTERNATIONAL PRACTICE

VI. Community-based Planning and Design Principle

Moving from a rather autonomous home living situation to a totally new environment often brings the difficulty in finding personal identity and social engagement for the elderly, while a naturally engaged living environment with rich leisure activities, multi-generational contacts, public spaces and services always has advantage to avoid the possible negative byproducts of social isolation and exclusion from moving into an elderly care facility. Hence, community-based elderly living and care facilities will play an irreplaceable role in keeping both social integration and physical connectivity for their normal life, and facilitating their adaption to the new architectural environment of living and care facilities.

A mutually beneficial situation will be accomplished when elderly users can benefit from easy access to existing public spaces and resources and enjoy optional ways of care and facilities nearby at a cost as low as possible. In turn, some parts of elderly care facilities, such as multi-purpose rooms, health therapies, cafeteria, etc., can be shared with people from the surrounding neighborhoods.

Community-based planning and design of an elderly care facility can be portrayed as follows:

- 1) Location inside or near a consolidated living community with convenient public traffic connections and complete everyday life services.
- 2) Implementation of features and services in the facility for daytime activities (health care, culture, amusement, etc.) open daily to non-resident seniors as well.
- 3) Common services that can be shared with all the people in the surrounding neighborhoods should be placed on lower floors making them accessible and minimizing obstacles such as stairs, elevators and doorways.
- 4) Easy and no-barrier pedestrian access to the shared public spaces and services of the community.
- 5) Concise inner traffic circulation and fluid connection to the public traffic network.
- 6) The public space and environment of community inside and outside the site in every case must be improved in quality and amount after any new project is opened.

VII. User-Centered Design Principle

The user-centered design principle requires an in-depth study on the specific characteristics and essential needs of end-users of each particular case at the pre-design stage, so such comprehensive and relatively objective understandings can be taken as evidences to initiate the master planning and architectural design as opposed to the usual vague assumptions about this matter. In particular for elderly care facility design, both elderly people and (formal or informal) caregivers are the main end-user groups for evaluating the design effectiveness on the improvement of living and working experience in such kinds of purposely-built environments.

A user-centered design of elderly care facility can be portrayed as follows:

- 1) The overall design significance must stress psychological and physical support by all means to validate and extend the autonomy, independence and privacy of every resident in everyday life. When cost balance allows, single and double rooms are preferred to big dorms shared by three or more people.
- 2) The overall design methodology must focus on environmentally positive interventions (i.e. prevention, support and stimulation) with the aim to maintain and enhance their remaining abilities and emotional regulation, other than medical treatment and assistance on daily living activities.
- 3) The design concept must be considered as an objective to achieve as well as a leading reference guide to control the design choices regarding the kind of desired spatial experience and atmosphere we want to convey with the end-users in each particular case. A cozy home, a civil center, socializing spot or any combination of those - where they can live, work, learn, play and relax in an active way.
- 4) Functional and aesthetic design of elderly care facilities must adapt to elderly users' living traditions and cultural background and level, whereas the choice of design must look for a better balance between living comfort and stimulation-achieved by combining familiar elements and innovative compositions - at mental, physical and social levels.
- 5) The design must avoid as much as possible applying features (i.e., colors, materials,

layout, equipment, appliances, light, sound, and smell, etc.) that are psychologically irrelevant or may evoke indifference, exclusion and isolation feelings.

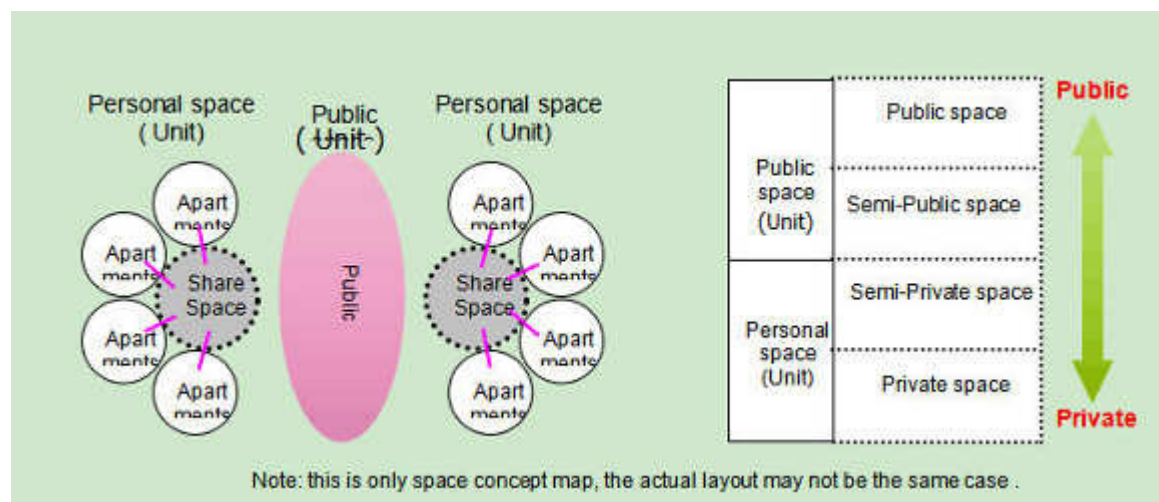
6) Autonomous living and personal privacy become more sensible issues to address in institutional care facilities where a collective life style is predominant: thus the proportion and transition between public and private spaces needs to be carefully set to avoid unexpected disturb (Figure 4.2-1).

VIII. Working Efficiency Principle

As China has entered in an accelerated aging trend, shortage in elderly care labor resources as well as financing problem will become a big challenge and so needs to consider how to support the older population's life in a global society. While evidence-based professional training is believed to increase care workers' personal and collective working capability and efficiency, only a reasonably designed physical environment of elderly care facility can make it possible for that staff to provide high quality, professional, effective care for elderly users. Moreover, the physical environment of an elderly care facility is also an emotionally testing place for care workers, so it is a crucial issue to provide them relief from high working stress at both psychological and physical levels through architectural design.

For these purposes, the layout of functional spaces and movement circulation within an elderly care facility must be in accordance with a suitable organizational structure and working procedure. It must be noted that each elderly care facility providing for dependent or independent living will be very different in applied human resources and workflows in routine operation and so require different design configurations and layouts of public and private spaces, contents of functional programs, functional areas proportion, logic of connections,

Figure 4.2-1. Public-Private space transition



and so on.

In a high dependence degree situation where 24 hours care is mandatory and assisted mobility with wheel chair or other walking aids is commonplace – although the availability of human resources might differ in each particular case- a person centered care model led by a core technical care team -which includes psychotherapists, physiotherapists, geriatric nurses and social workers for animation-will be highly recommended as an efficient care model for the physical environment to coordinate from a long-term perspective. Correspondingly, the design that will support high working efficiency for this kind of elderly care facility can be portrayed as follows:

- 1) The middle (50-200 beds) and small (<50 beds) scale are suggested, while the larger ones should be divided to smaller care units of no more than 30 beds for each to guarantee personal attention and that care can be correctly delivered to every elderly individual.
- 2) The layout of each care unit must be especially designed to optimize a shortest path system, easy and no-barrier access to all spots, sufficient capacity and smooth connections in both vertical (i.e., ramps, elevators) and horizontal (i.e., corridors, openings) circulations.
- 3) Common living and/or dining spaces adjacent to a care station for all residents in one care unit is advisable in order to reduce unnecessary or irregular visits of staff to every individual

room; at the same time, it is highly beneficial for the elderly to mostly stay under watch of care staff to avoid accidents, and improve their social interactions with each other for fun as well.

4) For small elderly care facilities, it is necessary to provide at least a separated and comfort room for the caregivers to have a break; in larger ones, it is recommended to provide a multi-functional space with enough capacity for the whole personnel to assemble for eating, training, resting, and holding other collective activities.

5) An appealing living environment for the elderly will be an appealing working environment for the working staff as well.

In regard to the serviced apartments for independent living, concise and no-barrier circulation is equally important, while self-care facilities (i.e., laundry, canteen, social activity room, etc.) plus a home-delivery service platform (i.e., house cleaning, personal care, medical care and emergency, etc.) for call are the necessary elements that the design must provide and properly coordinate.

IX. Inclusive Design Principle

Inclusive design holds an ethical notion of design for all, regardless of their age, ability, or status in life, and technically pursues an integration of usability, accessibility and affordability in a designed product. The application of the inclusive design principle in design for an elderly care facility will essentially improve the cost-effectiveness of use of an elder care facility and contribute to create an age-friendly environment from building to city.

The inclusive design of an elderly care facility can be portrayed as follows:

1) Diminish all the physical barriers (thresholds, steps, narrow door openings, etc.) that could hinder easy and safe horizontal and vertical movement for the elderly people with physical and/or cognitive frailty and disability.

2) Diminish all the cognitive barriers for interior and exterior space orientation either with an easily perceptible and understandable sign system (graphic design - font, size, color, layout of letters and icons, material, texture and color of background base) or with spatial and finishing attributes (material, color, texture, light and lighting, scenery composition, etc.).

3) Select or produce furniture (bed, table, chair, cabinets, etc.), fixtures (ramps, railings, handicapped bathroom, etc.), and architectural hardware fittings (door and furniture handles and locks, faucets, etc.) with ergonomic aesthetics, easy and appealing for use, light to move, and easy to clean.

4) The application of assistive ICTs (information and communication technologies) is also in the scope of inclusive design, such as VR (virtual reality), AR (augmented reality) technologies realized through Internet/intranet devices for daily communication, learning, entertainment, professional exercise and therapy of restoration and rehabilitation.

X. Non-Institutional Design Principle

The elderly care facility is programmed as a series of supportive living environments (i.e., senior apartments, assisted living and nursing home) with alternative choices of professional care and service for the elderly people to continue and optimize a normal life once independently living at family home is at risk or impossible any more due to disability or social problems. The aim of the design should be to contribute by all possible means to psychological comfort as much as healthcare and spiritual growth. All the sensory, formal, expressive, technical elements and their composition in architectural design must consciously point at this aim.

In this regard, although elderly care facility is a category of professional institution under a special management regulation, its physical configuration and appearance shall be designed as an appealing and relaxing residential environment in order to pursue an environment with a home-like feeling. Its overall shape and applied materials, textures, colors, scale and size, all must point to the purpose of a friendly dialog and integration with the architecture and landscape of the surrounding areas. Institutional grandiloquence is as undesirable as sordid uniformity. Hence, neither a hospital-like environment mostly focusing on the effectiveness and efficiency of executing medical treatments, nor an institutional prototype of a governmental or corporate building is an appropriate direction for designing an elderly care facility.

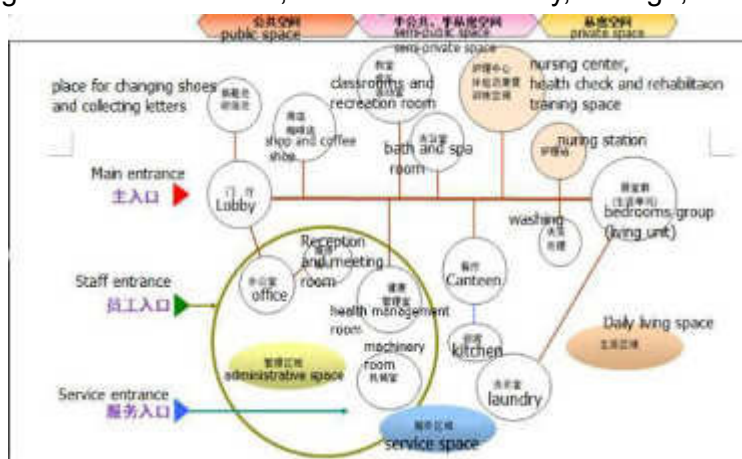
Even within the design choices for a residential environment, given the distinctive physiological and psychological characters of elderly people, the configuration and appearance of an elderly living and care facility will be different to some extent from those of a hotel, a vacation resort, a residence for inter-generational families, or a collective dormitory for young people (Figure 4.5-1). Along with a general trend from independent living to various levels of dependent living, the range of activities for the elderly would shift from physical mobility to sensory comfort and emotional appeal. The problem of affordability is another big concern that the majority of the elderly has to solve: Saving the cost for purchasing and/or maintaining a living place for paying the predictably increasing long-term care.

So, in order to more precisely meet elderly peoples' essential needs for a satisfying later life, the design for an elderly care facility not only concerns specific aesthetic issues of comfort, familiarity, inspiring feelings and budget control (mostly realized through increasing the efficiency ratio of building and avoiding unnecessary decoration), but also a basic functional efficiency in terms of program and area distribution of public service, entertainment facilities, public area and private room layout, environmental qualities of all the usable space, etc.

More concretely, an appropriate residential environment of elderly care facility can be portrayed as follows:

- 1) Close contact with nature must be ensured in all the possible and suitable ways within a safe and comfortable environment, i.e., providing accessible and landscaped yards, gardens, roof terraces, etc. for leisure walk, physical exercise, game, gardening, interaction with sensory-therapeutic plants and traditionally symbolic animals such as fish, birds, etc.
- 2) Considering the use of a traditional courtyard system in layout, sunlight distance must be carefully calculated to guarantee the yard space is suitable for elderly outdoor activities all year around.
- 3) Prolific use of water features in both interior and exterior environment as therapeutic sensory stimulants.
- 4) Generous use of windows and glass doors in terms of location, shape and different effects of transparency to enhance interesting visual contact with nature for the purpose of framing nice views and assuring the yard or the garden is visually incorporated to the interior space.
- 5) Apply domestic finishing, furniture, fixtures and hardware fittings (material and color of wall, ceiling and flooring, lighting fixtures and effects, bathroom accessory, storage, etc.) in the public spaces (i.e., living, dining, leisure activity, therapeutic room) and private rooms for the elderly users.
- 6) Design of well oriented outdoor spaces with light structure protection or weatherproof veranda or gallery that can be opened for summer use and closed like a greenhouse for winter use is advisable for supporting the organization of all year around activities while avoiding physical stress from too hot or cold weather.

Figure 4.5-1. Exemplary configuration of residential environment for elderly living and care facilities.



XI. Sustainable Design Principle

Sustainable architecture provide people a comfortable environment to live, work and play while reducing the collective environmental impact in terms of both energy consumption and pollution emissions during the production of building components, during the construction process, as well as during the lifecycle of the building (heating and cooling system, electricity use, maintenance of cleaning, equipment, etc.).

In particular, as a part of social welfare program, sustainable design for elderly care facility not only refers to the application of technical measures for environmental sustainability, but also encompasses all the possible solutions for economic and social sustainability. Therefore, a good design of elderly care facility in China will result from a synthetic balance among the following three sustainability dimensions to produce a positive cost-effective related architecture.

Sustainable design of an elderly care facility can be portrayed as follows:

- 1) Use environmentally and culturally approved Feng Shui principles in the site's layout, building orientation, access location, circulation arrangement, and both exterior and interior material application.
- 2) Apply green technologies as permitted in accordance with budgetary and investment payback considerations: e.g., solar and photovoltaic panels, water recycling, geothermic energy and any local advantages that exist (hot water springs, local stone, etc.). Use automation technology in control of energy supply and consumption, mechanical devices and appliances, etc. However, any eco-technology with a high cost of application or that will significantly increase construction cost must be avoided.
- 3) Sufficient natural light and fresh air ventilation must be introduced in buildings not only as passive energy saving measures, but also considering the specific need for the elderly people's physical and psychological health and comfort; enclosed environment with constant temperature and humidity controlled by the mechanical system is neither necessary nor appropriate at all because the health of the elderly residents living in such kind of environment will become more fragile as their physiological functioning of self-adaption to the change of weather and seasons decreases.
- 4) Establish rainwater collection and reuse systems in landscape design (i.e. in combination with permeable paving, water features and water harvesting for gardening).
- 5) Make full use of passive energy-saving designs for facade, such as sunlight orientation, double-layered windows or curtain walls, various types of window shutters or shadings, cantilevering components, and shaded areas using trees and vegetation.
- 6) The design of plant conservatory like architecture adjacent to exterior facades must be considered as it acts as a cushion gap between inner and outer spaces providing both great energy -and maintenance cost-saving efficiency and a quite lively and comfortable space which can easily adapt to every climate, orientation and station.
- 7) Consider the whole manufacturing, transport, construction and recycling process when choosing the materials to use. Employ locally available construction materials and techniques according to the particular circumstances of each sub-project, and use prefabricated building techniques as much as possible to reduce the construction cost and increase the environmental friendly value.

XII. Design Principles Summary Table

Design Principles	Requirements	Design Features
Community-based Planning and Design	<ul style="list-style-type: none"> • Location inside or near a consolidated living community with convenient public traffic connections and complete everyday life services. • Implementation of features and services in the facility for daytime activities (health care, culture, amusement, etc.) open daily to non-resident seniors as well. • Common services that can be shared with all the people in the surrounding neighborhoods should be placed on lower floors making them accessible and minimizing obstacles such as stairs, elevators and doorways. • Easy and no-barrier 	

	<p>pedestrian access to the shared public spaces and services of the community.</p> <ul style="list-style-type: none"> • Concise inner traffic circulation and fluid connection to the public traffic network. • The public space and environment of community inside and outside of the site in every case must be improved in quality and amount after any new project is opened. 	
User-Centered	<ul style="list-style-type: none"> • The overall design significance must stress psychological and physical support by all means to validate and extend the autonomy, independence and privacy of every resident in everyday life. • The overall design methodology must focus on environmentally positive interventions (i.e. prevention, support and stimulation) with the aim to maintain and enhance their remaining abilities and emotional regulation, other than medical treatment and assistance on daily living activities. • The design concept must be considered as an objective to achieve as well as a leading reference guide to control the design choices regarding the kind of desired spatial experience and atmosphere we want to convey with the end-users in each particular case, and relax in an active way. • Functional and aesthetic design of elderly care facilities must adapt to elderly users' living traditions and cultural background and level, whereas the choice of design must look for a better balance between living comfort and stimulation-achieved by combining familiar elements and innovative compositions - at mental, physical and social levels. • The design must avoid as much as possible applying features (i.e., colors, materials, lay-out, equipment, appliances, light, sound, and smell, etc.) that are psychologically irrelevant or may evoke indifference, exclusion and isolation feelings. • Autonomous living and personal privacy become more sensible issues to address in institutional care facilities where a 	<ul style="list-style-type: none"> • A cozy home, a civil center, socializing spot or any combination of those - where they can live, work, learn, play

	collective life style is predominant: thus the proportion and transition between public and private spaces needs to be carefully set to avoid unexpected disturb	
Working Efficiency	<ul style="list-style-type: none"> • Select appropriate facility size to guarantee personal attention and that care can be correctly delivered to every elderly individual. • The layout of each care unit must be especially designed to optimize a shortest path system, easy and no-barrier access to all spots, sufficient capacity and smooth connections in both vertical (i.e., ramps, elevators) and horizontal (i.e., corridors, openings) circulations. • The layout of each care unit must be especially designed to reduce unnecessary or irregular visits of staff to every individual room; and to ensure that the elderly mostly stay under watch of care staff to avoid accidents. • Provide enough resting and activity space for the working staff. • An appealing living environment for the elderly will be an appealing working environment for the working staff as well. 	<ul style="list-style-type: none"> • Middle (50-200 beds) and small (<50 beds) scale are suggested • Larger ones should be divided to smaller care units of no more than 30 beds for each • Common living and/or dining spaces adjacent to a care station for all residents in one care unit • For small elderly care facilities, it is necessary to provide at least a separated and comfort room for the caregivers to have a break; • Provide a multi-functional space in larger ones for the whole personnel to assemble for eating, training, resting, and holding other collective activities
Inclusive Design	<ul style="list-style-type: none"> • Diminish all the physical barriers (thresholds, steps, narrow door openings, etc.) that could hinder easy and safe horizontal and vertical movement for the elderly people with physical and/or cognitive frailty and disability. • Diminish all the cognitive barriers for interior and exterior space orientation • Select or produce furniture (bed, table, chair, cabinets, etc.), fixtures (ramps, railings, handicapped 	<ul style="list-style-type: none"> • An easily perceptible and understandable sign system (graphic design - font, size, color, layout of letters and icons, material, texture and color of background base) • Spatial and finishing attributes (material, color, texture, light and lighting, scenery composition, etc.).

	<p>bathroom, etc.), and architectural hardware fittings (door and furniture handles and locks, faucets, etc.) with ergonomic aesthetics, easy and appealing for use, light to move, and easy to clean.</p> <ul style="list-style-type: none"> • The application of assistive ICTs (information and communication technologies) is also in the scope of inclusive design, such as VR (virtual reality), AR (augmented reality) technologies realized through Internet/intranet devices for daily communication, learning, entertainment, professional exercise and therapy of restoration and rehabilitation. 	
Non-Institutional Design	<ul style="list-style-type: none"> • Close contact with nature must be ensured in all the possible and suitable ways within a safe and comfortable environment. • Apply domestic finishing, furniture, fixtures and hardware fittings (material and color of wall, ceiling and flooring, lighting fixtures and effects, bathroom accessory, storage, etc.) in the public spaces (i.e., living, dining, leisure activity, therapeutic room) and private rooms for the elderly users. • Design of well oriented outdoor spaces with light structure protection or weatherproof veranda or gallery that can be opened for summer use and closed like a greenhouse for winter use is advisable for supporting the organization of all year around activities while avoiding physical 	<ul style="list-style-type: none"> • Providing accessible and landscaped yards, gardens, roof terraces, etc. for leisure walk, physical exercise, game, gardening • Interaction with sensory-therapeutic plants and traditionally symbolic animals such as fish, birds, etc. • Use of a traditional courtyard system in layout, sunlight distance must be carefully calculated to guarantee the yard space is suitable for elderly outdoor activities all year around. • Prolific use of water features in both interior and exterior environment as therapeutic sensory stimulants. • Generous use of windows and glass doors in terms of location, shape and different effects of transparency to enhance interesting visual contact with nature for the purpose of framing nice views and assuring the yard or the garden is visually incorporated to the interior space.

	stress from too hot or cold weather.	
Sustainable Design Principle	<ul style="list-style-type: none"> • Make full use of passive energy-saving designs for site planning, building layout, façade and material. • Make use of any local advantages that exist (hot water springs, local stone, etc.) • Apply green technologies as permitted in accordance with budgetary and investment payback considerations. • The design of plant conservatory like architecture adjacent to exterior facades must be considered as it acts as a cushion gap between inner and outer spaces providing both great energy -and maintenance cost-saving efficiency and a quite lively and comfortable space which can easily adapt to every climate, orientation and station. • Consider the whole manufacturing, transport, construction and recycling process when choosing the materials to reduce construction cost and production of construction waste at demolition. 	<ul style="list-style-type: none"> • Use environmentally and culturally approved Feng Shui principles in the site's layout, building orientation, • Sufficient natural light and fresh air ventilation • Sunlight orientation, • Double-layered windows or curtain walls, • Window shutters or shadings • Cantilevering components • Shaded areas using trees and vegetation. • Solar and photo voltaic panels, water recycling • Establish rainwater collection and reuse systems in landscape design (i.e., in combination with permeable paving, water features and water harvesting for gardening). • Use automation technology in control of energy supply and consumption, mechanical devices and appliances, etc. • Employ locally available construction materials and techniques according to the particular circumstances of each sub-project • Use prefabricated building techniques as much as possible to reduce the construction cost and increase the environmental friendly value.

10. GUIDANCE TO ADDRESS THE PARTICULAR TECHNICAL DESIGN ISSUES

XIII. Applied Design Codes and regulations

Basically, all the EC facilities need to be designed according to, but not limited to, PRC national and regional standards as follows:

"Code for Design of Building Fire Protection and Prevention" GB 50016-2014.

"Code for Seismic Design of Buildings" GB 50011-2010(revised version 2016).

"Standard for Classification of Seismic Protection of Building Constructions" GB 50223-2008.

"Codes for Accessibility Design" GB 50763-2012.

"Design Code for Buildings of Elderly Care Facilities" GB50867-2013.

"Assessment Standard for Green Building" GB/T 50378-2014.

"Standard Design Album for Community Elderly Day Care Center" 14J819.

Beijing Civil Affairs Bureau: "Community elderly service station facilities design and service standards (Trial)" (From October, 2016).

"Code for Deformation Measurement of Building and Structure" GB/T50033-2013

"Code for Design Electric Power Supply Systems"2009.8.27

"Code for Design for Video Monitoring System" CAD PRC (2010)

"Code for Design of 20kV and below Substation"CECS07:2004

"Code for Design of Automatic Fire Alarm System" DB13(J)/T132-2012

"Code for Design of Building Foundation"DB13 (J) 81-2009

"Code for Design of Building Water Supply and Drainage" GB 50016-2014

"Code for Design of Buildings for Elderly Persons" GB 50052-2009

"Code for Design of Civil Buildings" GB 50053-2013

"Code for Design of Concrete Structures" GB 50054-2011

"Code for Design of Electrical Distribution of General-Purpose Utilization Equipment" GB 50057-2010

"Code for Design of Fire Distinguisher Distribution in Buildings" GB 50200-94

"Code for Design of Hospital Sewage Treatment" GB 50311-2007

"Code for Design of Low Voltage Electrical Installations" GB/T 50395-2007

"Code for Design of Outdoor Wastewater Engineering" GB/T28001-2001

"Code for Design of Relaying Protection and Automatic Device of Electric Power Installations" GB/T50340-2003

"Code for Design of residential building for the aged" GB/T50378-2014

"Code for Design protection of structures against lightning"GB11516-11532—1989

"Code for Electrical Design of Civil Buildings"GB18306-2015

"Code for Engineering Design of Generic Cabling System"GB50007-2011

"Code for Fire Prevention in Design of Interior Decoration of Buildings"GB50009-2012

"Code for Fire Protection Design of Buildings"GB50010-2010

"Code for Fire Protection Design of Buildings"GB50011-2010

"Code for Fire Protection Design of Garage, Motor-repair-shop and Parking-area"GB50014-2006 (version 2014)

"Code for Green Design of Civil Buildings "GB50015-2003 (version 2009)

"Code for Seismic Design of Buildings"GB50016-2014

"Code of City and Town Facilities for the Aged"GB50034-2013

"Code of Design for Sprinkler Systems"GB50055-2011

"Construction Standards of Elderly Day Care Centers in Communities"GB50062-2008

"Design Code for Buildings of Elderly Facilities"GB50067-2014

"Design Code for Heating Ventilation and Air Conditioning of Civil Buildings"GB50068-2001

"Design Standard for Energy Efficiency of Public Buildings" GB 50084-2001 (version 2005)

"Design Standard for Energy Efficiency of Public Buildings"GB50116-2013

"Graduations and Methods of Permeability, Water tightness, Wind Load Resistance Performance for Building External Windows and Doors"GB50176-93

"Integrated Wastewater Discharge Standard"GB50189-2015

"Labor and HygieneStandards"GB50222-95 (version 2001)

"Load Code for the Design of Building Structures"GB50348-2004

"Occupational Health and Safety Management Systems Specification"GB50352-2005

"Safety Production Law of PRC (latest version) "GB50364-2005

"Seismic Ground Motion Parameters Zonation Map of China"GB50437-2007
 "Standard for Day-lighting Design of Buildings" GB 50526-2010
 "Standard for Lighting Design of Buildings"GB50555-2010
 "Standard for Water Saving Design in Civil Building"GB50736-2012
 "Technical Code for Engineering of Security and Protection System"GB50867-2013
 "Technical Code for Fire Protection Water Supply and Hydrant Systems"GB50974-2014
 "Technical Code for Ground Treatment of Buildings"GB7106-2008
 "Technical Code for Public Address System Engineering"GB8978-1996
 "Technical Code for Regulation of CATV System" JGJ 16-2008
 "Technical Code for Solar Water Heating System of Civil Buildings" JGJ/T229-2010
 "Technical Standard for Green Buildings"JGJ122-99
 "Thermal Design Code for Civil Building"JGJ79-2012
 "Unified Standard for Reliability Design of Building Structures"JGJ8-2007

However, the different functional components of each sub-project may have both general and specific technical issues to consider according to the characteristics of the users, their average age, and especially their dependence and assistance degree. A special design for elderly residents and users' living safety, comfort and convenience of transportation must be produced in response to each project rather than the dogmatic adoption of general standard design codes and regulations.

XIV. Safety Design

The safety of elderly residents and users in elderly care facilities is critical because they might need more time and help from others to prevent or escape from dangerous situations (i.e., fire, fall, disorientation, natural disasters such as earthquake, flood, etc.) due to the physical frailty and disabilities, and/or cognitive problems. So, special measures as indicated in the following sub-sections must be taken to compensate their disadvantages that go beyond the general design codes and regulations concerned with building user safety.

11. Fire Protection, Prevention and Design Response

The location of EC facility needs to have a safe fire separation distance (convenient for firefighting and rescue within a certain maximum timescale) not only from the adjacent buildings, but also any combustible surroundings **either in an urban or rural area.**

The whole facility must be divided into secured sectors (i.e., fire compartments and smoke compartments) either horizontally or vertically. These sectors will be automatically isolated from each other in case of fire. **Direct access and short evacuation paths to outdoor safe zones are preferable.**

Fire and smoke detection and alarm system must cover the whole building area. **Fireproof walls, doors and windows between different functional zones are advisable. Security evacuation time shall be calculated in function of the evacuation operation efficiency.** At the meantime, considering that lifts in the affected sector cannot be used in case of emergency and given the residents' limitations in case of high dependency, the proportional amount of trained staff human resources are especially important to successfully perform the evacuation.

Emergency lights and evacuation route signs must be visible and recognizable according to the visual and cognitive abilities of the elderly. Fire protected staircases (i.e., enclosed staircases, including enlarged enclosed staircases on the first floor or outdoor evacuation stairs) must be located, in the layout, at a distance from each other which ensures the evacuation of the residents in a time lapse related to the risk of collapse of the building (that depends on many factors such as height, construction materials, structure protection, fire protection systems, etc.). **According to the practical situation in terms of the elderly users' limitations (aged, ill, handicaps) and the human resources available for assistance, such a distance to fire protected staircases is highly recommended to be shorter than that indicated in the general fire design codes for the low/mid-rise and high-rise building.**

12. Accident Prevention and Design Response

The height and consistency of selected beds must facilitate the actions of standing up and lying down while preventing from falling down by the use of removable security rails. All sitting furniture, i.e., armchairs, benches, sofas and chaise longue must be ergonomic products that especially allow easy and safe use for elderly people.

In order to protect from falls and consequential harm, all kind of slippery floor finishing under either dry or wet conditions, as well as any physical obstacle, must be avoided around the whole facility; wall and staircases handrail must be installed at two height levels (normal and wheel chair) in all the accessible areas for the elderly either walking or moving on wheelchair. The level changes at the staircases, steps and ramps must be highlighted by means of applying adequate illumination and tactile warning paving for the elderly with severe visual problems. Indoor and outdoor motion-sensing LED nightlight is recommended for the safety of the elderly when moving around their living areas in the night. Sharp corners must be avoided in design and selection of furniture and fixtures. Full-height transparent glass partitions without frames are not appropriate because of the risk of collision, even if warning signage has been pasted on.

Especially in the public or private bathroom, special waterproof tiles, railing systems and other necessary assisting appliances, such as bath chairs, bath fittings, toilets, etc. must be correctly selected and installed for the safety of the elderly's performance either on their own or with a caregiver's help.

In case of serviced apartments or care homes where the residents are allowed to cook, electric cooking devices are preferable to ones that use gas as energy in order to avoid fire. The design of the cooking devices must allow safe and easy operation, and entails the function of automatic turn off in case of distraction and a visual heat alert during and after use to avoid scald.

All the personal spaces, especially the bedroom and bathroom, must be covered by an emergency alert system, and the selected device of transmitter must be easily reachable, operable, and clearly spotted considering the elderly's declined mobility and visual functioning (e.g., the limitations of hand and finger movements because of arthritis, users staying in-bed, or moving around with the help of wheelchair or other assistive devices, etc.)

13. Disorientation Prevention and Design Response

The design must meet the need for easy orientation and location under common circumstances, as well as the elderly with various levels of sensory and cognitive problems. It is even more critical to design for housing Alzheimer patients, who have more difficulties to handle their routine life due to sharply declined sensory sensibility, memory loss and disorientation. It must consider the fact that they could easily get lost even in a familiar environment, not to mention that moving into a new elderly care facility will surely require a specific adaptation process.

Therefore, the physical sign system is an indispensable part of design to provide instant reminders of time and place when the elderly wander around the facility on their own. When it comes to indicate the meaning of the places, images and photos are normally more easily perceptible and understandable than lettering. The signaling for staff spaces and accesses must be clearly distinctive from those of the users in all features.

Moreover, the application of colors in any form of spots, lines, surfaces, etc. for the whole facility can be used as a coding system for orientation, which can help to identify the location of different floors, functional zoning, available walking routes and emotional atmosphere of some specific functional rooms. The design of special scenic spots or openings, which provide views from the interior to the outside, will be of great help to natural orientation in the facility.

Although free and smooth moving shall be highly supported and encouraged within the facility, specific design measures must be taken for the control of ways in and exits in the main entrance to prevent any resident from accidental lost and the reception counter must be strategically located in accordance to this purpose. When it comes to the use of control, monitor and security cameras, privacy right in personal areas must be respected.

XV. Physical Environment Design

Advancing adult ageing means systematic reductions in sensory faculties and the ability to cope with the environment. In the sub-field of sensory aging, gerontologists generally share a consensus on the physiological and psychological effects of sensory aging. There are currently ongoing research projects exploring the possible effective environmental and human interventions, which can help the elderly overcome their sensory barriers without suffering any psychological impact.

Physical environment design for elderly care facilities must, then, meet distinctive

requirements in terms of environmental qualities in all its living areas, so as to compensate sensory declines, maintain physiological comfort and vitality and enhance psychological health.

14. Lighting

Normal age-related changes in vision include a decrease in visual acuity, ability to focus on objects, color discrimination, function in low light levels, adaption to dark and glare, judgment of distance (which also comes to mobility problems), orientation and psychological frightening. Four types of eye diseases are also common after 65 years old: cataracts, glaucoma, macular degeneration and diabetic retinopathy. The warranted research concludes that the major environmental interventions to enhance visual function in elderly individuals include increased levels and better distribution of illumination, control of glare, increased stimulus contrast, and reductions in visual “clutter” by using predictable and simply structured formats (Fozard et al., 1993). Particularly about the older person's color vision, significant reductions in the strength of the chromatic component of their perceptual experience have been consistently reported especially at lower lightness levels. However, color constancy mechanisms contribute to the maintenance of robust color perception in old age. This implies that the application of colors in the living environment to enhance the elderly's visual perception is not an isolated problem about color, but needs to be considered synthetically with the whole light environment (Schieber, 2006).

The following design methods (whilst not exclusive solutions) are recommended to improve light environmental qualities of elderly care facility:

- 1) Full use of natural light (i.e., sunlight, shades and shadow) to illuminate indoor spaces during daytime to remind healthy circadian cycle of sleep and wakefulness.
- 2) Install different light bulbs for night time and daytime, light bulbs which can change in color and intensity or formulate an arrangement of other light sources which can provide a pattern of blue, intense light in the morning and amber, dimmer light in the evening -a formula critical in ensuring the right functioning of the circadian rhythm, promoting overall hormonal and cellular soundness and healthy brain function.
- 3) Light compensation: Increase luminosity in the main activity areas and avoid uneven natural light and lighting distribution to get glare control.
- 4) Provide transition areas (entry hall, portico, etc.) for the elderly to adapt the change of light intensity from outside to inside.
- 5) Consider the most beneficial artificial light (i.e., color, intensity, atmosphere effects, etc.) for matching up with different activities including general background light and spot light for reading, table work, etc.
- 6) Use intensity regulators in lighting, and avoid vibration and radiation of the electric light and electronic devices.
- 7) Use filters and radiation absorbent items in all screens and electronic devices.

15. Acoustical qualities

Hearing loss brings up difficulty to understand and communicate. Approximately 30 to 50% of people over 65 years old are affected by a significant hearing loss that hinders their ability to communicate and their social relationships with the potential consequence of social isolation, paranoia, fatigue and depression. Apart from hearing aid devices, artificial help with communication and plenty of visual information in their living environment compensating for hearing impairment, it is a gerontologist suggestion to work on reducing background noise and reverberation

The following design methods (whilst not exclusive solutions) are recommended to improve the acoustic qualities of elderly care facilities:

- 1) Exterior noise control: Choose a location away from sources of unwanted noise, such as heavy traffic roads, city infrastructures, industrial factories, etc. Use technically checked sound insulation materials to preserve interior comfort (insulation between spaces and reverberation control) and avoid noise stress.
- 2) Interior noise control: Appropriate application of materials and ceiling structures, room partitions, acoustic ceiling panels (such as wood dropped ceiling panels), doors, windows, flanking, ducting and other penetrations to reduce noises by steps, air and water flow vibrations and mechanical equipment (such as air conditioning and mechanical ventilation systems, elevators, electrical generators positioned within or attached to the building), avoid

use of common high vibration fluorescent lamps, etc.

3) Interior space acoustics: Appropriate forms and size in the application of materials and finishes of the room's surfaces regarding sound absorption and specific frequency reflection properties with the aim of achieving good speech intelligibility.

16. Temperature

Touch sensitivity and the ability to detect pain decreases with age. Some seniors find it difficult to distinguish textures and objects on the basis of touch alone. Some may experience a delayed reaction to being touched. In this case, preventive measures in their living environment should be taken to protect them from danger. Additionally, older people can experience cold abnormally frequently due to medication and poor health such as thyroid, heart, diabetes or circulation issues.

The following design methods (whilst not exclusive solutions) are recommended to improve temperature qualities of an elderly care facility:

1) As for climatic stress, detrimental physical effects aroused by extreme heat or cold must be avoided. Prior use of passive energies such as sunlight and natural air ventilation is recommended for temperature adjustment in regard to the maintenance of physical adaption ability.

2) It is recommended to use different heating and air conditioning systems for staff and resident areas. The type and location of heat sources must be carefully controlled to protect the elderly residents from burns or scalds.

17. Air quality

Air quality has a remarkable effect on the health of the elderly given their higher vulnerability to all infectious, respiratory and degenerative diseases related to it. Considering that the air quality in the Hebei province is one of the worst in the country and that the threat is especially heightened for the elderly, some extra technical measures in terms of design and air-purification equipment need to be especially considered.

1) Look for a site not facing the direction of the zone's most polluted air. Make use, for this purpose, of the building's shape and orientation, the protection afforded by topography, vegetation, proximity with nearby natural elements like bodies of water, natural parks, etc. so to benefit the site's air quality.. Even in the most polluted places, the quality of the air varies according to specific location and moment in time. While not all those features can be changed in the present Hebei projects, air quality still can be improved through the correct management of ventilation and air conditioning equipment.

2) Given the vulnerable health of senior residents, special care should be invested into ensuring the maintenance and cleanliness of all air conditioning and ventilation systems, especially their ducts and filters. Daily air renovation must always be carried at the time of day the air reaches its top quality.

Since these measures suppose no extra equipment, they should not increase the cost of construction or maintenance. This is of great importance as it doesn't have great incidence in many of the smaller particles of pollution but a direct effect on various of the triggers of respiratory and infectious conditions that the elderly are more vulnerable to, such as air humidity, toxic mold and dust.

3) There are different air-cleaning devices based on the use of different kinds of filters or other strategies like centrifugal collectors, electrostatic precipitators or wet scrubber collectors; the best option depends on the kind of pollution we tackle, so we first need to analyze the air or ask for information to the local authorities or services. In any case a specific complementary project would be needed, so the engineering firm in charge should take care of it all.

It shall be noted that an extra specific equipment to be added to the architectural design will increase the project budget to some extent; hence the selection and application must be especially evaluated according to the concrete situation of each project.

XVI. Specific Considerations for Community Center Design

Though all EC facilities need to be strongly integrated with their urban surroundings, community centres are mainly neighbourhood facilities and so need to respond to a very specific population's sector requirements. This specificity must be considered when deciding the kind of activities to be included in the functional program; this means taking into account users features like social status, ethnic background and culture, average age, physical

condition, etc.

The centre image must adjust to the non-institutional design principle -see chapter four for a deeper approach- although remaining visually strong enough so announcing its presence. Integration with both public and private transport is a key issue.

Community centres combine varied socializing, entertaining, cultural and learning activities, with different kinds of services as consultant and advice, psychologist, healthcare in such different options as well-being, beauty, nutrition, medicine, rehabilitation, prevention, self-care and meals, all these must be specifically adapted to the concrete characteristics of seniors. Once the functional program is concreted according to a specific community, a series of spaces will appear according to the activities scheduled and the group size. These spaces can include -depending on each specific program- accesses and reception areas, administration, equipment, storage, restrooms, day bedroom for rest, kitchen, living room, dining areas, library, protected outdoors areas allowing to enjoy nature contact, and a series of spaces for the different programmed services.

Many of the group activities like different performances, arts and crafts, music, chorus, dance, yoga, gymnastics and assembly, will take place in a big multipurpose space. The design of this place is especially important. It should preferably be flexible and modular in a way that allows it to be used either as a big unit or to be divided in smaller pieces too be simultaneously employed for different purposes. Sliding doors, movable panels, curtains or the same layout shaping can be used for this purpose; should be preferably connected with exterior garden, and able either to use natural light or darken for other kind of performance. The size of that space is directly related to that of the whole group considering the possibility of performing a meeting including everybody (users, families and staff). When assembling wheelchair audience in rows, 105 cm, back to back is the reasonable standard to calculate the necessary surface needed for this space.

Centre size varies from a minimum of about thirty members to three, four or even five hundred. Repeating a size around one to two hundred -depending on the neighbourhood density- is preferable to concentrating in bigger ones because this option allows the place to remain closer and integrated with the broader community around.

A common project situation is to combine a community centre with an elderly residential facility, which is beneficial for both sides as it provides some services for the non-residents while enhancing relations -through day time open activities- between residents and the district surrounding community. To move on from this point, we should address to chapters four and five ("General Design Principles" and "Guidance to Address the Technical Design Issues" about residential facilities design) for a more detailed design considerations. Most of the contents there are totally shared with community centers. Only those contents about the residents' private areas (bedrooms and adjacent spaces), we -here- are not concerned with. In middle -about 100 users- and especially in big size facilities, a sound system allowing the change to a big audience is advisable. These items should not be under a minimum quality so avoiding distortion. Although it could seem a paradox to us, senior people combine acoustical sensory loss with increase of vulnerability to bothersome noise coming from improper equipment.

XVII. Specific Considerations for Renovation of Existing Buildings

It is no possible to set forth a series of universal design recommendations about how to deal with the conversion of existing buildings into EC facilities, because the strategies would be as many as different types of constructions we can step into, that is to say, endless alternatives: we can face the conversion of school buildings, storehouses, housing buildings, factories, office buildings, etc. all of them with some specific features which allow them to be re-used and successfully adapted for EC purposes. Anyway, there are some recurrent deficiencies that we need to fix when adapting and updating those old architectures to present day standards and regulations (see: PRC national standards regulations in Section 5.1) and when it comes to issues such as Security, fire prevention, emergency evacuations, and dimensional standards in horizontal and vertical circulation (number of staircases, fire isolation, elevator dimensions and load capacity, etc. EC facilities should meet the same requirements as hospitals. The following are frequent situations to tackle:

- Check and sometimes reinforce bearing structure and foundations to meet present load and effort requirements.

- Increase insulation, Sun light and heat control and improve equipment efficiency for a green energy saving approach.
- Barrier free design adaptation needed considering the use of wheel chair, i.e. Substitution of the steps with accessible ramps. It is often quite difficult to find a place for the necessary elevator additions or it can seriously the floor bearing structure. In that case the option of placing the new elevators or staircases outdoors can also be considered.
- About more specific EC design desirable features, most of the buildings to convert are administrative or office buildings, basically consisting of a rectangular or square plan layout regular structural grid and an enclosing perimeter of repeated middle sized windows. When designing the new plan layout, taking full advantage of sunlight and views in major living spaces is preferable to the apparently easier choice of settling different specialized rooms around a big multipurpose hall, which depends on artificial lighting all day long for regular operation.
- Contact with nature must be achieved by any available means. The options, often not being considered, are:
 - a. Opening new inner yards and gardens, in case of low rise building (see "elevation and cross section design" in Chapter 5).
 - b. Perform a similar solution in the higher plants of middle and high-rise buildings. Adapting the roof as a wind and Sun protected garden (according to season).
 - c. Consider the opening of new skylights to get large natural illuminated common spaces when in a low-rise building or the higher floors in a middle and high one.
 - d. Consider any strategies to link natural views to the places where users remain for a long time. Strategies include framing selected views, planting trees or vegetation around the building, designing inner gardens, pointing views to selected landscape targets, etc. The superior healing and health keeping capacity of natural views (fractal structured living issues like vegetation, cloudy sky, lakes, sea, rivers and landscape, when compared to that of common building materials has been recently tested (see Bibliography E. M. Sternberg, London 2009).

Small size community care developments often need to be settled in existing spaces which need to be restored and adapted to their new functional program. In larger community centres and even in residential care facilities, the re/use, restoration and conversion of existing buildings is sometimes an option. In order to take the right decision about it being worth it or not, we must not only consider the cost of adaptation according to best design principles and compare it to a brand new design, there are also another arguments to take into account, such as:

- The process including demolition and building anew, even when having a lower economic cost, should be evaluated also from the environmental impact point of view, which use to be quite lower in the case of restoring and adapting the old one.
- Sometimes the building has no architectural value nor is its condition good enough to re-use when comparing costs to a new one, but is an important reference for the local inhabitants from the historical memory and emotional point of view. In that case, rehab could be a good option even for a reasonably higher cost, considering environmental impact advantages as well. (This happened, for example, in Spanish case study 2, EC facility in Flix, where the Village Old School building was restored and integrated in the new facility because of its emotional memory value for the local seniors)

When dealing with old architecture restoration, dimensional and functional standards need to be flexible, and the surface ratio per resident use to be slightly increased because of the obvious design limitations of departing from an existing construction. Another common issue is to deal with high ceilings (case of storehouses and some old official buildings), which could result in a high-energy cost to heat. In that case, the use of radiant floor can be advised for it keeps users thermal comfort at a reasonable rate without the need for maintaining a high tempered inner atmosphere.

Obviously, when the building has any proved historic, artistic or architectural relevance, it should be adapted and restored, although additional specific restoration funding -limited to this aspect- should be provided by the corresponding official department.

XVIII. Key Technical Design Issues Summary Table

Design	Requirements	Desirable features
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Issues		
Safety. Fire prevention. Emergency Evacuation.	<ul style="list-style-type: none"> Preventive design must provide enough time for a complete emergency evacuation considering residents physical and cognitive limitations. In respect to Emergency evacuation and fire prevention, EC facilities need to match the same requirements as hospitals 	<p>Design must be according to the standards of national and local building regulations about fire prevention and emergency evacuation for these kinds of institutions. Outstanding features to consider are: fire zone division (to divide the facility in fire insulated sectors that can resist fire as long as necessary to be evacuated), all emergency circulation dimensions according to the expectable traffic, sectorial emergency exits (secure staircase, outdoors exit, secure sector) distance to every spot lower than 25 m, corridors minimum width 180 cm, all itineraries must be barrier free.</p>
Accident Prevention	<ul style="list-style-type: none"> Especially ergonomic furniture in accordance to elderly limitations. Safe movement itineraries covering the whole facility. 	<ul style="list-style-type: none"> High and consistent beds to facilitate actions of lying and standing up, with removable security rails. Sitting furniture shape and consistency control to allow easy and safe use by the elderly. Avoid all kind of slippery floor finishing under either dry or wet conditions, as well as any physical obstacle. Install easy grasping handrails along all itineraries. Recommended diameter: 4 cm. Top high: 90 cm. Distance to the wall surface: 4 cm. Any level changes along itineraries must be highlighted by adequate illumination and tactile warning pavement. Indoor and outdoor motion sensing led nightlight is recommended in living areas. All kind of sharp corners must be avoided in furniture and fixtures. Full height unframed transparent glass partitions must be avoided because of collision risk. Autonomous living and personal privacy become more sensible issues to address in institutional care facilities where a collective life style is predominant:

		<p>thus the proportion and transition between public and private spaces needs to be carefully set to avoid unexpected disturb</p> <ul style="list-style-type: none"> • All bathrooms must be able to include a second assistant person. All fixtures accessible from a wheel chair. Use either sliding or out-swinging doors. Grab bars system accessible from wheel chair around the bathroom and enough space for wheelchair maneuvering. A free circular space 150 cm diameter must be left. • Temperature limiting controls in hot water and adjustable showers both in height and water stream pressure.
Disorientation prevention	<ul style="list-style-type: none"> • Provide easy orientation and location even for sensory and cognitively impaired users like those affected by Alzheimer and Dementia in general. 	<ul style="list-style-type: none"> • Signs should use strong color contrast to the background and large letters. Signs and directories must avoid reflections and glare. The use of images and photos instead of letters is advise when is possible. Signaling code system for staff must be clearly distinct from that of users. • Design must provide control of exit and entrance, to avoid accidental misplacement or loss.
Physical Environment	<ul style="list-style-type: none"> • Lighting. Need to provide a higher illumination level compared to a normal (not senior) user. Lighting, both natural and artificial must compensate lack of visual acuity, difficulty to adapt to changes in illumination level, sensitivity to glare and limitations in color distinction and perception. Consider the need to adapt the illumination to the right functioning of the circadian rhythm to produce therapeutic effects on brain function and hormonal system. Adapt luminosity to the different areas and activities. • Acoustics 	<ul style="list-style-type: none"> • Full use of natural light. Avoid plan layouts with large surface away from the windows. Use of interior yards and gardens. Use of skylights. Provide screens and shades to regulate light intensity and glare. • Install different light bulbs for night time and day time or bulbs that can change in color and intensity, or formulate any other kind of arrangement of blue hued intense light in the morning and amber hued, dimmer light in the evening. • Indirect lighting should be used whenever is possible. • Provide special task lighting for close work activities (arts and crafts, reading, writing, preparing food or eating). • Provide task lighting fixtures that can be regulated in

	<p>Exterior Noise Control</p> <p>Interior Noise Control</p> <p>Interior Space Acoustic Quality: control of reverberation, background noise and lower frequencies.</p> <ul style="list-style-type: none"> • Temperature Avoid extreme temperatures. Provide a heating capacity higher than usual to prevent the risk of hypothermia. Avoid high temperature changes throughout the facility. Prevent AC equipment mechanical breakdowns. • Air Quality Proper site, layout and plan design according to the main flows. Strict maintenance, supervision and quality control. Appropriate ventilation. 	<p>intensity and direction for those activities above.</p> <ul style="list-style-type: none"> • Choose a location away or protected from sources of unwanted noise (heavy traffic, factories, infrastructures, equipment etc.). • Create or enhance natural or built soundproof barriers like vegetation, topography, walls, etc. • Use heavy and dense materials when a high isolation degree is needed. • Appropriate isolating materials in ceiling structures and room partitions, doors, windows, ducting and other penetrations to reduce noises by steps, air and water flow vibrations and mechanical equipment. • Avoid use of common fluorescent lamps. • Use of absorbent materials in sufficient amount to provide enough sound absorption in collective spaces. Combine different absorbent finishing materials in walls, floors, ceilings, curtains and carpets. • Provide a design heating capacity for a constant temperature of 24 ° C. • Design different climatic zones for staff (normal) and residents (higher temp). • When placing conditioners or fan-coils avoid direct incidence of air flow on residents usual positions like bed or working place. • Provide especially reliable equipment and preventive maintenance. • Consider usual polluted airflows when choosing project site and at layout design stage and protect the facility by using the proper shape and orientation. • In case of high pollution levels, consider the inclusion of additional investment for especially effective extra equipment regarding air exhaustion, indoor air renovation
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		<p>frequency, equipment periodical maintenance and filter cleaning.</p> <ul style="list-style-type: none"> • In normal living areas provide of two air renovations per hour. • In especially affected areas like toilets, provide 8 to 10 air changes per hour, including 2 to 3 of outdoor air.
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18. DESIGN TASK & PROCESS CHECKLIST

A: Site Analysis - Location & Rationale of choosing the site.

Items	Remarks
Neighborhood	Potential for a high integration degree with the nearby neighborhood community: easy access both pedestrian and transport, public and private, visibility of the building, possibility of synergies and complementation with other nearby community existing services.
Traffic effects	<ul style="list-style-type: none"> - Connectivity of Public Transportation - Parking area & capacity - Air quality - Noises - Views
Orientation	<ul style="list-style-type: none"> - Sunlight incidence (desirable degree according to climatic zone) - Wind exposure
Views	Possibility of taking advantage of views to natural elements either close or faraway. If not, possibility of designing a green environment around to improve views through the windows.
Topography	<ul style="list-style-type: none"> - Remained Vegetation - Minimized Excavation and Fill Amount
Population	
Privacy	
Environment Acoustic Level	Possibility of quietness and acoustic comfort
Re-utilization of existing buildings	<p>Sometimes, the option for adapting -with or without new surface addition- and using an existing construction appears. To take a decision about whether the restoration and re-use of an existing building in the site is worthwhile, the following are some positive old building's features to consider, just in case:</p> <ul style="list-style-type: none"> - Community historical memory value: when some kind of building's capacity to evoke significant remembrances exists, even if its conservation condition is not especially good, neither is its architectural value. - Architectural or artistic value. - Flexibility of structure and layout, which allows easily matching program requirements. - Conservation condition and estimated rehabilitation cost. <p>At this point, we must highlight the fact that when comparing the cost of rehabilitation to building all anew, proper attention due to sustainability concerns -environmental impact of demolishing and rebuilding process- may advise us to take the refurbishing option, even if the construction cost of this choice is relatively higher.</p>

B: Master Planning

Items	
Location of the building	
Outdoor spaces	<ul style="list-style-type: none"> - Patios - Terraces - Garden - Playground - Porches-Veranda - Conservatory like spaces - Parking
Circulations	<ul style="list-style-type: none"> - Emergency - Pedestrian - Residents - Services (deliver, waste collection, maintenance) - Working staff - Visitors
Gardening	<ul style="list-style-type: none"> - Plants - Water figures - Installations
Lighting Fixture	
Outdoor Furniture	
Water supply and sewage	
Rain collection	
Water Recycling	

C: Functional Layout of the Building

Areas	Spaces
Accesses	<ul style="list-style-type: none"> - Main Entrance - Control - Service Entrance - Visitors, Staff, Residents - Emergency Exits - Waiting Lounge
Lobby-Reception	<ul style="list-style-type: none"> - Directory - Concierge - Front Desk - Waiting Lounge - Restrooms - Storage. Wheelchair Storage
Administrative Area	<ul style="list-style-type: none"> - Manager's office - Meeting room - Office area - Social services - Nursing services - Security
Housekeeping	<ul style="list-style-type: none"> - Laundry - Linen - Sewing and Iron - Maintenance - Storage

	-	Waste
Interior Transportation and Circulation	-	Staircases
	-	Ramps
	-	Elevators & Elevator lobbies
Meals Service	-	Kitchen
	-	Office
	-	Pantries
	-	Refrigerators
	-	Employee Lockers
	-	Employee Restrooms
	-	Dietitian
	-	Storage
	-	Trash
	-	Vending
Activity Areas and Multipurpose Hall (Performable Activities)	-	Arts and Crafts Classroom
	-	Exercise
	-	Fitness
	-	Games
	-	Green Houses
	-	Lounges
	-	Reading
	-	Skylights
	-	TV watching
	-	Sun Rooms
Living Services for Elderly Users	-	Hairdresser & Beauty & Barber
	-	Social advice
	-	Massage & Chiropody
	-	Grocery
Healthcare Services for Elderly Users	-	Consult & Examination & Treatment
	-	Pharmacy
	-	Assisted Hydrotherapy Room
	-	Physical Therapies Room
	-	Psychological Therapies Room (Sensory stimulation room)
Residential Area	-	Control-Reception Desk & Office & Nursing Station
	-	Residents Day Sitting - Dining Area
	-	Staff Lounge & Restroom
	-	Security Alarm System
	-	Visits Room
	-	Attended Shower
	-	Attended Toilet
	-	Equipment & Storage & Fixtures
	-	Clean and Soiled Utility & Linen
	-	Medication Room
	-	Single Bedrooms
	-	Double Bedrooms
Mechanical and Technical Service Equipment	-	Air conditioning
	-	Electricity
	-	Fire Protection and Prevention
	-	Plumbing & Water
	-	Security & Communication Systems & Alarms
	-	Computing & Voice & Data System
	-	Maintenance workshop
Mortuary (Optional)	-	Sitting room.
	-	Mortuary

Remarks:

a) Ground Floor

Daycare center, that part of the facility which is shared with neighborhood users who are not residents, must be implemented in the ground floor; therefore, ground floor plan will include, basically, spaces for: reception lobby, front desk, plan control desk and room, administration office, direction, meeting room, service rooms, manual activities classroom, motor skills practice room, sanitary attention, geriatric bath room, social care assistance, hairdressing, and chiropody, dining room and office, sitting room, locker rooms and rest rooms, kitchen and office, storage, pantry, refrigerators, laundry, sewing and iron room, equipment rooms (electricity, gas, water, air conditioning), maintenance room, laundry general storage, cleaning stuff room, waste store, mortuary.

Layout zoning design must distinguish between residents' accessible areas and staff and service ones, including a specific service vehicle and pedestrian access.

General layout pattern organization and shaping must create exterior weather-protected spaces. This could be achieved by organizing the plan around interior yard and garden spaces and porches or by using U, C, L, E, "comb" or similar shapes for the layout, always responding to the main physical features of the site context (orientation, winds, green views, noise, etc.). This yard area must double, at least, that of the multipurpose room. Complex curve shaped layouts can produce disorientation.

In harsh climate locations like Hebei, a part of this porch or veranda space adjacent to the building should be enclosed with easily operated glassed elements; the resulting intermediate room area acts as a thermal cushion, regulating losses, providing comfort and spatial psychological quality.

Facility efficient running operation and optimizing cost, suggest employing the most compact possible layout design; nevertheless, in all dimensional and functional regards, design must consider users mobility limitations and the use of wheelchairs and the need for an easy nursing staff interaction with residents in all areas of the building, which only in this regard and for emergency evacuation and fire protection purposes -staircase and corridor dimensions- must have the same consideration and treatment -staircase and corridor dimensions- as any current hospital facility design.

Circulation area must remain around 20 or 25 % of the total.

Multi-functional rooms need to be designed in a totally flexible modular way, that's to say they should be broad open areas, accepting a wide variety of activities, and which can be used as a whole -where, for example, all residents and their families could assemble together- or divided in a few smaller units by an easy operating sliding or foldable panels or curtains system.

Multi-functional room surface moves in a range between 1.5 and 2.0 m² per resident (that doesn't include each residents unit's dining and sitting areas, which must all be placed as near as possible to their own bed-rooms, and always in the same floor level).

Residents private areas -bed rooms zone- should be divided in units including each one no more than 30 to 35 residents if possible, -60 at most, in case of big scale facilities- each one with its own dining and living room, control center and complementary services placed in the same floor and as close as possible to the residents rooms.

A number of 90 to 100 individual or double rooms is optimum, as it balances cost effectiveness, proximity and proper human scale. When bigger size is necessary, 200 to 300 maximum in any case is recommended. Higher concentrations could encourage isolation from the nearby community and negatively influence the neighborhood development.

b) Typical Floor - *Public and private zoning, residential unit layout*

Each floor can be composed by one or several units, each unit, as we said, having its own dining and living room, access, control center and all complementary services placed in the same floor and as close as possible to the residents rooms; to avoid long corridors, comb and fractal-tree shaped plan designs are advised. So, in case of big units, common rooms and control should be placed the more equidistant as possible from all rooms. Control center must have visual control of the whole unit. A corridor with rooms at both sides is the most compact option.

D: Elevation and Cross Section Design

For multiple reasons we have treated before -when the land plot surface is suitable enough- the project layout should deploy in low rise, as close and integrated to the terrain as possible

(one to three floors high).

Inner and outer elevations heights must not compromise sunlight incidence in the garden, yard or any exterior usable space; building heights, roof shapes and slope and shadow impact in cold season must be checked in relation to this concept. The use of different building heights according to orientation and/or terraced volume is advised.

Facade composition and materials must avoid grandiloquence and heavy Institutional appearance. The reference should be a light appearance and updated living design, with strong presence of organic warm perception materials like brick, stucco or wood.

Facade must be thermally isolated by an outer layer, and all openings properly protected from the incidence of summer sun. Sunlight must be taking advantage of, but using regulation devices and seasonal control.

E: Supporting Structure

Besides matching local regulations about safety, and budget requirements, supporting structure should also answer to a big picture sustainable design conception. Using as many prefabricated elements as possible, will not only shorten the construction period and increase the quality control degree, but also significantly lower the environmental impact. The structure grid must regular and clear, providing flexibility to allow future changes in the layout and functional program.

F: Interior Design - Materials, Psychological approaches, Interior environment quality & safety.

Furniture and interior design features must fulfill all requirements in relation to the elderly ergonomic limitations (space dimensions, full non-barrier design all over, hand-railings on the walls, easy operated items) and safety.

Materials, textures and colors must evoke home warm comfort feelings, rather than a cold institutional atmosphere. Wood, textiles, bright organic and natural tones are preferable to metal and plastic.

All the possible ways of connection and interaction with nature, from garden, trees or landscape visual contact - especially important to get from the bedroom - to directly enjoying orchard or garden activities to be maximized; plants and vegetable decks 80 cm above ground floor.

Appropriate lighting intensity and quality according to activities and time; maximized use of natural light; warmer tones and indirect light fixtures to facilitate sleeping and rest in the evening and at night.

Air quality control: temperature, cleanness and humidity. Set higher temperature (+2 to 3 degree C) in resident's zones; avoid direct incidence of conditioned air on persons; zone differentiated heating and air conditioning systems are preferable.

Acoustic isolation from exterior noises and interior reverberation control in public common spaces must be considered.

Isolate fire sectors division; distribution of secure staircases and exits; smoke detection system and all necessary equipment according to current regulations

19. SUMMARY AND EVALUATION OF PROPOSED SUB-PROJECT DESIGN

Through communication with representatives from Asian Development Bank and the consulting expert's team, it was commonly identified that it is relatively hard for each sub-project to achieve the desired depth of schematic design in the current stage of PPTA. The involvement of the design team is still quite limited. Hence, the IAs were encouraged by ADB to submit only a general master plan of the site and main floors' layout as a very primary design concept for the current stage. At this point of the project review, coherence between FSR and design concept is minimally required. The common and specific problems in the proposed design that will fundamentally influence the effectiveness and efficiency of building development and performance have been highlighted in the following sub-sections, and should be corrected in the next stage of development design according to the design principles and technical design issues mentioned in the previous sections of this report.

XIX. Updated Information of the Sub-Projects

According to the newly submitted FSRs and design documents during the LFF mission in October 2016, the general project data of each sub-project is summarized in the following table.

Table 7.1 General data of the sub-projects

Project name	Project type	Functional Components	Building area (m ²)	Capacity (Bed)	Investment (10,000 Yuan)	Remarks
1.Xinji Parent's Paradise	EC Institution and Medical Rehabilitation Center	Dependent care area, hospital and rehabilitation center	13926	150+60		Including 10 beds for hospice
		Semi-dependent and day care areas	16215	208+20		
		Dining room and elderly entertainment center	950	—		
		Other buildings	150	—		
		Underground construction	7060	—		
		Subtotal	38301	438		
	Community Care Services	Five branches in three communities	7900	130		Purchased and leased areas
		Total		568	26635.71	
2.Chengde Shuangluan District Haoren Health &Elderly Care Center	EC Center	Semi-dependent and independent elderly	5517.21	144+46		46 beds for Three-no's (no ability to work, no resource of income, no dependents) elderly
		Dependent elderly	4521.93	140		

		Complex service zone	5735.63	—		
		EC service information center	248.72	—		
		Subtotal	16023.49	330		
	Medical rehabilitation center	Above-ground building	7820.15	100		According to the standard of second-level rehabilitation hospital
		Underground building	1165.08	—		
		Subtotal	8985.23	100		
	Community Care services	25 branches	7400			
		Total	32408.72	430	24862.76	
3.Li County Complex EC Center	Multi-functional EC center	Information service center, dependent care center, rehabilitation & healthcare center, health check center, entertainment center, special care, other auxiliary buildings	31169.89	425		No underground
	Community day care centers	10 branches	7285.9	400		New construction or renovation
		Total	38455.79	825	23544.04	
4.She County Binhe and Rehabilitation Center	Runqinyuan Care Home	Assisted living home	9592.15	222		Including 24beds for dementia
		Nursing home	10007.83	138		Including 18beds for hospice
		Underground area	6249.90	—		
		Subtotal	25849.88	360		
	Community	3 branches	3100	80		

	day care centers					
		Total	28949.88	440	16884.81	
5.Julu health and elderly care and services center	Health and elderly care comprehensive service	Including day care center, hospice, dementia, dependent and semi-dependent area	20945	403		
	Community EC services	Renovation of 4 township EC institutions	3384	110		
		Total	24329	513	11870	
6.Yanshan University project	North Building	Training	5469.81			
		Research	3671.74			
	South Building	Practical and simulation training	4818.45			
	Student dormitory		6000			
		Total	19960		13395.23	

XX. Common Status

1) Functional layout: All the sub-projects tend to house an integrated medical and social care model through a combination of elderly care residence, geriatric hospital and/or medical rehabilitation center and platform for home-delivery care services. However, the corresponding proportion, distribution and connection of public and private spaces are still problematic, since the operational correlation of different service sections has not yet been clearly recognized and distinguished. The organization of moving lines for the elderly, their relatives, staff and visitors has not been well defined in a reasonable and efficient way. Some equipment rooms and auxiliary spaces still need to be optimized in the detailed design: the air conditioner room, electrical machine room, fire control room, pump room, piping shaft, staff room, etc. These are issues, which may bring severe problems in future operation and negatively impact both the economic and social benefit of the development.

2) Architectural form: The submitted design is observed to be generally lacking in local cultural identity and inherent connection with the existing natural and social context. The heavy and indifferent institutional appearance does not embody the humane factors of EC facilities: a residential and home-like, long-term care environment. Moreover, no necessary technical applications, e.g., shutter window, sun shading, air conditioners, etc., have been considered as a whole in elevation design. The formal and material selection shall be suitable with the people's dimension and elderly users' aesthetic preference for achieving more cordial and warmer psychological effect.

3) Structure and anti-seismic properties: Basically, all the sub-projects choose to use a reinforced concrete frame structure. This is good for the open and flexible use of big spaces. However, the intensity of seismic fortification of some of the sub-projects reaches 7 degrees and up to 8 degrees in some cases. In this regard, structure capacity needs to be further confirmed in order to guarantee the safety of the building. Every functional space shall use the standard value of load and shall be further deliberated. The necessary zones shall be

guaranteed and the unnecessary zones shall not be wasted. According to the green architectural concept, the use of steel and concrete shall be reduced as much as possible while ensuring safety.

4) Heating, ventilating and air conditioning: The standard indoor design temperature in winter according to a regular 18-22° C would be considered low, given the lower body energy of the average senior person. Taking into account their higher sensitivity to low temperatures, the winter indoor design temperature for some of the projects must be 20° C and, more specifically, design temperature in the living room and daily activity zones must be 22° C or 24° C. It is suggested to apply the ground source hot pump, floor heating, ceiling radiation heating, full-replacement type fresh air system, non-air sensing air conditioner and avoid energy-saving heat pump systems, cold and hot bridges and other technical methods, thus reducing the cost of green architecture while improving the comfort and quality of life of the residents.

5) Lighting and illumination: The design needs to enhance the use of natural light and ventilation and reduce the use of artificial lighting in daytime. The illumination of the living room of the aged shall be higher than the indoor lighting of regular architecture and dazzle shall be avoided. Blue lighting shall be avoided in the evening - where not intense, amber toned lighting shall be used, in order to maintain circadian and brain health. The risk of falling-down accidents of the aged at the toilet during the night is high and shall be considered in design. Heights of socket and switch shall facilitate the use both of the users and the staff; several loops of the lighting system shall be provided according to every function subarea, and all these must be reflected in posterior detailed design.

6) Green Building Measures: How to reduce operation cost and improve the living quality of the elderly is the main target of elderly living and care project design, and it can be effectively achieved by introducing the concept of green building energy efficiency, low-carbon environment-friendly into the primary design stage. Although the chapter about energy efficiency and green architecture has mostly been included in FSR of the sub-projects, many of them are only about formal statements instead of proposing specific measures to reduce operational costs while improving the quality of life of the elderly. Through negotiation with responsible team of the Asian Development Bank, the target level of the designed green building is uniformly set as two-stars level as required, thus the incremental cost will be slightly increased about 80-100 Yuan RMB per square meter, but the operation cost in later period will be saved, and the living comfort level will be improved, besides, it is good for the sustainable development of the project. Every subproject shall independently determine if the building will apply for the star level after completion.

With a good design and consultant team, the extra investment involved in green architecture, as opposed to conventional architecture, can be successfully controlled to attain a balanced result of comfort levels and energy-saving effects. Data of some cases in actual practice particularly states that the silver-level certification in WELL certification (the first certification taking people's health as the first element) is 80 Yuan RMB increased per square meter, and the gold-level certification is 110 Yuan RMB increased per square meter; LEED certification is 90-100 RMB Yuan increased per square meter. Initial investment of the LEED gold-level certification project is 3% increased, being the property value of the building generally increasing by 5-10%. The operation's cost can reduce the return period of the increased initial investment to 3 years or even to a shorter one. The most expensive incremental cost of the winning project is 500 Yuan RMB per square meters.

Hence, DIs that IAs and EAs select must hold the capacity and certification of green building design: otherwise, an extra green building design consultant would be needed to guarantee that their design outcomes will achieve the required standard when checked by the authority of National Green Building Standard.

We also call for a special attention to preferably employ passive energy saving and environmental comfort measures, which are far more appropriate than high dependence on any kind of mechanical system for improving the elderly's health status as well as save unnecessary costs. Even systematic mechanical control of constant temperature and humidity would be wrong, since such kind of physical environment would block the contact to natural light and air, weaken users body's vitality and adaption ability to climatic changes, and raise the risk of falling ill as a result of outdoor activities.

7) Disaster prevention: No risk identification, detection and prevention respective to fire disaster, earthquake, accident and other emergencies have been sufficiently clarified either in FSR or in design drawings yet.

8) Design effectiveness: Design effectiveness cannot yet be properly evaluated at this stage: The current design has not yet reached the level where it concretely matches, firstly, the physiological and psychological demands of elderly and, secondly, the demand of operation management and the staff's care workflow.

The integration of design considerations in terms of safety, convenience, economical efficiency, flexibility and proper comfort level, etc. is believed to be crucial in the further development of site planning, architectural design, landscaping design and, particularly, interior design. The texture, anti-biosis, deodorization, non-slippery floors, colors, patterns, installing position and others regarding the finishing materials may impact their daily use by the residents and must therefore be selected in accordance to the intensity and functional use of every space.

9) Design considerations respective to the possible phasing operation: Given that most of the sub-projects have planned a big scale multi-functional elderly care and service center outside the central city area as their main construction, and their residential sections all include a relatively large number of beds, a higher risk of suffering from the low occupancy or taking much longer time to reach the profitable occupied rate must be considered from the following perspectives of design.

- Provide more optional residential products including shared room, private single room, double room, and mini-adaptive apartment to cover a wide range of social demands and the majority of potential elderly customers.
- Adopt flexible frame structure.
- All the MEP systems (i.e. AC system, lighting, must be able to be separately controlled according to the functional zonings and the possible phasing operation.
- Leave the MEP conditions in the guest rooms for easy conversion among the dependent and independent living units or clusters.

XXI. Specific Problems of the Sub-Projects

20. Xinji Parents' Paradise Elderly Care Community Center

According to the revised general design specification and plan of the Xinji sub-project on November 9th, and further improvement of design is undertaking by a newly hired experienced DI. The latest economic technical index table is summarized as below:

Table 7.3.1-1: Economic and technical index of rehabilitation hospital and elderly care center

Item	No. of floors	Function	No. of beds	Building area (m ²)
Building 1# Rehabilitation hospital	Roof	Elevator machine rooms, water tank rooms		407
	9 th floor	Dementia care rooms and staff dorms	10	1128
	8 th floor	Dementia care rooms and staff dorms	10	1128
	3-7 th floor	Dependent elderly care rooms	130	5640
	2 nd floor	Medical rehabilitation care rooms, including hospice	60	1411
	1 st floor	Medical rehabilitation center (hospital)		3633
	Sub-total		210	13347
Building 2# Semi-dependent EC center	Roof	Elevator machine rooms, water tank rooms		410
	3-9 th floor	Semi-dependent elderly care rooms	208	7896
	2 nd floor	Administration offices, call center and training center		1128
	1 st floor	Day care center	20	1128

Item	No. of floors	Function	No. of beds	Building area (m ²)
	Sub-total		228	10562
Multi-Function Hall	1 st floor	Multi-function rooms		360
Basement	B1 floor	Garage, equipment rooms and kitchens		5964
Total			438	30233

Identified design problems:

- 1) Rooms at the corner in 3-8th floor in Building 1# and 3-9th floor in Building 2# shall be removed but keep the total amount of beds unchanged. The remained area could be set as a part of activity rooms.
- 2) Toilet doors open in the wrong direction, shall be more considered the two-way open. In addition, the location of staff toilets needs to be further considered. Not reasonable that only the elderly rooms have bathrooms.
- 3) The 8 and 9 floors in Building 1# also need to be deepened considered with more in line with the demand needs. Staff dorms do not need such comfortable condition but shall be arranged as more beds as reasonable.
- 4) The moving line of dementia care area in 9th floor in Building 1# is not reasonable enough. Staff out from the elevator needs to pass through the activity area and then enter to the dementia care area. Please re-consider a more rational layout during the deepen design phase.
- 5) The location of the catering in 3-7th floor in Building 1# is not reasonable enough. Please re-examine the moving line and the reasonable location of catering.
- 6) The bathrooms in Building 2# can consider to use shower rooms, as the semi-dependent elderly cannot take the public bath. The public bathrooms can only solve some of the elderly who needs assistance with bathing.
- 7) Building 2# used as a semi-dependent elderly care building is unnecessary to establish public laundry rooms in each floor. Small washing machines can be considered to be set in each in-room toilet. It needs to be reconsidered during the detailed design phase.
- 8) The location and moving line of functional rooms in both Building 1# and 2# also need to be further deepened in the detailed design.

21. Chengde Shuangluan District - Haoren Health and Elderly Care Service Center Project

According to the general design specification and plan of the Chengde Shuangluan District sub-project on October 18th, this project has been basically in accordance with requirement, and the main economic and technical index is summarized as below:

Table 7.3.2-1: Index of building area of EC center (6F)

Total	16023.49 m ²	Note: there are 330 beds in total, including 46 beds for the self-cared elderly, 144 beds for semi-dependent elderly, and 140 beds for the dependent elderly
1 st floor building area	3261.94 m ²	
2 nd floor building area	2722.41 m ²	
3 rd floor building area	2439.05 m ²	
Standard floor building area (4F-6F)	2439.05 m ²	
Roof building area	282.94 m ²	

Table 7.3.2-2: Usable area of functional rooms in EC center (m²/bed)

Functional room		Type of room	Area (m ²)	m ² /bed
Nursing building : 330 beds	Check-in service room	Reception service hall	362.40	1.10
		Check-in registration room	43.13	0.13
		Health evaluation	43.87	0.13

		room		
		Duty room	48.71	0.15
		Relative reception service	86.27	0.26
		Total	584.38	1.77
	Living room	Living room	4529.83	13.73
		Bath room	192.92	0.58
		Observing room	140.09	0.42
		Restaurant of nursing zone	676.34	2.05
		Chatting room	826.32	2.50
		Nursing duty room	226.8	0.69
		Total	6592.30	19.98
	Entertainment room	Activity room	579.32	1.76
	Social and working room	Multifunctional hall	784.74	2.38
	Administrative and working room	Staff room	295.82	0.90
		Home-based care center	224.94	0.68
		Information service center	265.63	0.80
		Business center	56.03	0.17
		Total	842.42	2.55
	Accessory room	Kitchen	880.9	2.67
		Restaurant	762.57	2.31
		Public washhouse	274.12	0.83
		Public toilet	527.13	1.60
		Equipment room	163.12	0.49
		Rubbish room	201.39	0.61
		Fire control room	90.57	0.27
		Total	2899.8	8.79
	Traffic area	Vertical traffic	1891.06	5.73
		Horizontal traffic	1849.47	5.60
		Total	3740.53	11.33
	Total		16023.49	48.56

Table 7.3.2-3: Index of building area of medical treatment and rehabilitation center (5 floors above the ground and 1 floor underground)

Total	8985.23 m ²	Notes: 1. There are 100 beds in total, including 32 beds at three floors, and 34 beds at standard floors (4 th and 5 th floors); 2. The total building area on the ground is 7820.15 m ² , the total building area under the ground is 1165.08 m ²
1 st floor building area	1921.94 m ²	
2 nd floor building area	1917.87 m ²	
3 floor building area	1270.77 m ²	
Standard floor building area (4F-5F)	1270.77 m ²	
Building area of 1 st underground floor	1165.08 m ²	
Roof building area	168.03 m ²	

Table 7.3.2-4: Usable area of functional rooms in medical treatment rehabilitation center (m²/bed)

Functional room		Type of room	Area m ²	m ² /bed
Medical rehabilitation center 100 beds	Living room	Living room	1915.8 7	19.16
		Chatting room	42.02	0.42
		Hall	248.83	2.49
		Duty room of nursing assistant	103.83	1.04
		Observing room	103.83	1.04
		Total	2414.3 8	24.14
	Room for health care	Medical laboratory	267.04	2.67
		Clinical departments	320.16	3.20
		Rescue room	81.24	0.81
		Drugstore	109.24	1.09
		Office for medical care staff	215.67	2.16
		Registration room	39.01	0.39
		ICU	40.02	0.40
		Reception hall	362.43	3.62
		Total	1434.8 1	14.35
	Rehabilitation room	Rehabilitation training hall	446.94	4.47
		Treatment section	162.74	1.63
		Assessment section	266.62	2.67
		Total	876.3	8.76
	Accessory room	Kitchen	415.42	4.1542
		Dining room	456.06	4.56
		Public wash room	79.9	0.80
		Public toilet	432.67	4.33
		Equipment room	287.46	2.87
		Mortuary	93.28	0.93
		Rubbish room	72.03	0.72
		Total	1836.8 2	18.37
	Traffic area	Vertical traffic	1035.3 3	10.35
		Horizontal traffic	1387.5 9	13.88
		Sub-Total	2422.9 2	24.23
	Total		8985.2 3	89.85

Identified Design Problems:

1) The entrances issue of EC center has been corrected. While only one main entrance is set, the others are secondary entrances or staff entrances in order to disordered management. However, the system of the moving lines is still not good for effective use of spaces, and needs to be appropriately organized according to the daily operation of the facility.

2) Although currently the second-level rehabilitation hospital was proposed in the design specification, the concrete service scope and grade of the medical treatment and rehabilitation center shall be further testified and clarified to guide and impact the development design.

3) The EC center and the medical rehabilitation center is suggested to connect each other through a corridor or other controllable ways to integrate social and medical care for the elderly residents.

4) Auxiliary service rooms and staff rooms shall be further detailed by combining with the operation requirements in the next design stage so as to guarantee the working space is sufficient for use without any waste.

5) Area distribution respective to the standard per bed shown in the list is basically reasonable; the use efficiency of the public space has been improved as much as possible, and unnecessary waste has been reduced.

6) The location and shape of greenhouse need to be further testified to become more usable. The interaction between indoor and outdoor environments shall be considered to facilitate various activities for the elderly, including the self-relaxation, hobby of gardening, and therapeutic garden treatments, etc.

22. Li County Elderly Care Comprehensive Service Center

According to the general design specification and plan of Baoding Li County subproject on October 15th, the project has been basically in accordance with requirement, and the main economic and technical index table is as below:

Table 7.3.3-1: Technical and economic index of EC service center building

Master planning		Number	Remarks
Total planning land area		50000m ²	
Total building area		31169.89m ²	
Building land area		11967.9m ²	
Building density		23.9%	
Plot rate		0.60	
Greening rate		50%	
Type of room		Building area (m ²)	Remarks
Check-in service room	Duty room	693.73	
	Check-in registration room		
	Reception room		
Health detection	Dispensary	871.89	
	Observation room		
	Treatment room		
	Drug machine room		
Rehabilitation and health care	Rehabilitation room	1613.36	
	Health-care room		
	Psychological counseling room		
Living room	Living room	15526.84	Area of single bed: 36.53 m ²
	Assistant room for living		
	Living service room		
Accessory room	Kitchen and restaurant	4372.19	
	Wash room		
	Staff dormitory		
	Public bathing room		
Entertainment	Chess and card room	4338.57	

room	Ball room		
	Multifunctional activity hall		
Information service center		408.56	
Administration and office working		1329.6	
Key care		1030.97	
Basement equipment room		984.18	

Table 7.3.3-2: Technical and economic index of 10community daycare centers

	Area (m ²)	floors	Remark
Total planning land area	—		10 places totally
Total building area	7285.9		10 places totally
4 places at urban area (listed as different locations)			
Day care center of JunpengShangping	585.6	2F	Reconstruct the second floor of the existed 2 nd -floor building
Daycare center at north side of Wenliu of Liwu Town	752.8	2F	
Day care center of Junpeng garden of Liwu Town	576.3	2F	Reconstruct the existed building and build sunshine shed
Day care center of Dongnan Street of Liwu Town	752	3F	
Day care center of Baoxu village	720	3F	
Day care center of Liushi Town	1176	2F	Reconstruct
Daycare center of Xinji town	432	3F	
Daycare center of Nanzhuang Town	800	2F	
Daycare center of North Guodan Town	723.2	2F	
Daycare center of New Village	768	1F	Reconstruct

Identified Design Problems:

- 1) The design specification has not fully responded to the considerations on the cost control and operation model.
- 2) The layouts of floor plans are remarkably improved in functional configuration after modification. However, the large ratio of public space area will cause space waste respective to practical use and energy loss in operation.
- 3) The connection and transition between inside and outside environments needs to be especially considered to form a reasonable and integrated living environment.

23. She County Binhe Elderly Care and Rehabilitation Center

According to the general design specification and plan of She County subproject on October 24th, the project has been in accordance with requirement, and the main economic and technical index is summarized in the following table:

Table 7.3.4-1: Economic and technical index of elderly care and rehabilitation center

Items			Area (m ²)
Land area			16000.00
Total building area			25849.88
Including	Building area above ground		19599.98
	Including	Rehabilitation home	9592.15
		Living room area	4366.72
		Public architecture supporting	3033.53
		Check-in service	154.56
		Assistant traffic	2037.34
	Nursing home		10007.83
	Including	Living room area	2744.18

			Public architecture supporting	2616.04
			Office management	217.74
			Rehabilitation and health care	362.30
			Nutrition center	408.12
			Multifunctional hall	358.15
			Assistant traffic	3301.30
	Underground building area			6249.90
	Including	Staff supporting		207.66
		Public architecture supporting		1039.32
		Nutrition center		693.95
		Assistant traffic		680.92
		Equipment room		556.56
Underground garage		3071.49		
Capacity			(Bed)	
Total			360.00	
Including	Rehabilitation area		222.00	
	Including	Bed for nursing	198.00	
		Bed for dementia	24.00	
	Nursing area		138.00	
	Including	Bed for nursing	120.00	
		Bed for hospice	18.00	
Area per bed			19.75 m²/bed	
Ratio of single bed			0.28%	
Building substrate area			5346.71 m²	
Greenland area			5600.00	
Building density			33.42%	
Plot rate			1.22	
Greenland rate			35.00%	
Total parking lots			110.00	
Above ground			31.00	
Under ground			79.00	
Community leasing area			3100.00	

Identified Design Problems:

1) The general design specification has been more clearly defined than the previous submission, which can be used as a good base for further developing the detailed design. However, there is a notable change on area distribution, which needs to be testified, such as, the area of the rehabilitation center is reduced in comparison to the former plan but the bed number is increased with 17 beds; the building area of the nursing home is added, but the bed number is reduced with 2 beds.

2) The layouts of floor plans are relatively matured. The functional areas and moving lines have been generally set up, but still lack of smooth transitions among all these components, and it needs to especially notice the requirements of introducing the sun light into the building and fire control issues.

24. Julu Health and Elderly Care Services Center

According to the general design specification and plan of Julu sub-project on October 16th, the project has been basically in accordance with the requirements; the main economic and technical index of the project is summarized in the following table:

Table 7.3.5-1: Index of building area of health and elderly care services center

Items		Unit	Number	Remarks
I	Total planning land	m ²	18423.91	27.64 mu

II	Total building area	m ²	20945	
1	Daytime care center	m ²	555	There are 40 beds, including 24 fixed beds and 16 rest chairs
2	Health care center	m ²	780	
3	Palliative care	m ²	130	Suite, bed number: 1 (excluding accompanying bed)
4	Nutrition restaurant	m ²	950	Including operation room, etc.
5	Rehabilitation center	m ²	1675	Including accessory room
6	Culture center for the elderly	m ²	1170	
7	Duty dormitory	m ²	400	Including bath room, toilet and other accessory rooms
8	Information center, comprehensive office zone	m ²	640	
9	Nursing unit for the disabled	m ²	1680	Bed number: 32 Area includes nursing station, bathing, washing and other accessory spaces
10	Nursing unit for the disability	m ²	3740.64	Bed number: 120 Area ratio of single bed: 31.17 m ² Area includes nursing station, bathing, washing and other accessory spaces
11	Nursing unit for the half-disability	m ²	6434.36	Bed number: 210 Area ratio of single bed: 30.64 m ² Area includes nursing station, bathing, washing and other accessory spaces
12	Multifunctional hall	m ²	410	
13	Equipment room	m ²	388	
14	Reception, corridor and other public spaces	m ²	1992	Including pick-up garage
III	Building substrate area	m ²	6353.26	
IV	Greenland area	m ²	6448.37	
V	Road square area	m ²	3473.29	
VI	Indoor pick-up parking space	Pcs	5	

Identified Design Problems:

1) Julu project was involved into ADB project later behind the other sub-projects. However, hitherto its design has been basically qualified through several times' special instructions and modifications. The completion degree appears relatively high.

2) As the project site is adjacent to an existing hospital, we suggested that the EC center shall not set up too much overlapping functions of hospital, rather, shall stress on rehabilitation by sharing the resources of the hospital, and thus to establish an mutually supplement conditions. After adjusting, the functional program has been basically suitable whereas the actual requirements of every functional space need be further discussed.

3) The layout of dementia care zone shall be especially further detailed and adjusted according to the evolving situations of the elderly patients with cognitive diseases; single room or double room shall be applied as much as possible rather than multiple-person dormitory. Dark room must be totally avoided for the elderly patients' daily activities; moreover, sufficient and appropriately adjusted natural light, artificial illumination and fresh

air ventilation are critical to alleviate the behavioral and psychological symptoms of dementia (BPSD).

4) The functional area distribution and area standard per single bed shown in the list are reasonably set, and the ratio between public space and private living units is basically controlled within 4: 6 and 3: 7, which is matched with the positioning of the feasibility report. However, the configuration of the plans still need much more detailed design to match up the preliminary program.

25. Yanshan University Project

According to the general design specification and plan of Yanshan University sub-project on October 26th, the project has three main buildings as EC Training Center-South Building, EC Training Center-North Building, and student dormitory with the total building area of 19,960m². The main economic and technical index of the project is summarized in the following table:

Table 7.3.6-1: Table of main economic and technical index

No.	Item	Unit	Number
1	Total building area	m ²	19960
2	Building substrate area	m ²	4240
3	Square area	m ²	5000
4	Greenland area	m ²	2500

Table 7.3.6-2: Index of building area of Training Center

Function of Rooms		Name of Rooms	Building area (m ²)
North Building	Training	Classroom	3516.34
		Auxiliary room	426.30
		Vertical traffic	641.63
		Horizontal traffic	885.54
		Sub-total	5469.81
	Research	Research Laboratory	2554.38
		Auxiliary room	136.95
		Vertical traffic	427.76
		Horizontal traffic	552.65
		Sub-total	3671.74
Sub-total		9141.55	
South Building	Practical and simulation training	Display area	837.72
		Simulation classroom	2105.85
		Auxiliary equipment practice area	243.36
		EC rehabilitation experience room	292.31
		Training room for 200 people	243.36
		Auxiliary room	286.24
		Vertical traffic	443.45
		Horizontal traffic	366.16
	Sub-total		4818.45
	Student dormitory	Dormitory	4879.92
		Laundry room	336
		Vertical traffic	162
		Horizontal traffic	622.08
	Sub-total		6000
Total			19960

Identified Design Problems:

1) Yanshan subproject was involved into ADB project later behind the other sub-projects as a special component. However, its design still needs further improvement during the detailed design period for optimizing the functions.

2) Three common problems: the distribution of column spacing is not reasonable enough

and increased the row of columns will cause higher construction investment. It is advisable to consult with the structural engineer to reduce the number of frame columns to make the structure more reasonable. Staircase and the location and size of the bathroom need to be carefully recalculated and rearranged in the detailed design.

No compass on the floor plan, so do not know the orientation of the building.

Combined with the orientation and structure layout will be a reasonable layout for further improving the building function.

3) The South Building of Training center needs to be deepened improved combining with the use of functional and teaching needs. The current layout is too formatted.

4) Besides the column spacing, staircase and bathroom these common problems, the space of the hall in North Building of Training center with a three-storey high is too narrow. The right side bathrooms at 4th and 5th floors are deleted, which causes the too long distance, needs to be recalculated based on the use needs and number of users. The width of the stairway also needs to be considered again.

5) The minimum column spacing of student dormitory is only 2.4 meters, which is not enough. The total number of dormitory room is 168 from drawings, which shall consist with the number of 200 in the FSR. From the use of point of view, even if 4 people per room, a total number of 672 people can stay in the 168 rooms with a total amount of 674 students. Does it match increase number over the next four years with the total trainees of 1210 people? At the same time need to stay in the number of beds? Dormitory management how to consider? The public toilet and bathroom, administrating rooms shall also be added during the detailed design.

6) Recommendation: continue to demonstrate, combine with the function and reasonable division of space and effective use. Integrating with the mature majors as mechanical, electrical, information technology advantages, research and development of rehabilitation apparatus, aids application, and suitable for aging products in Yanshan Univiersity will be a huge market prospects.

The project implementation plan in FSR is only 12 months of construction, which is not reasonable enough. Please scientifically and reasonably reconsider for achieving the integrity and reliability of project implementation.

26. CAPACITY BUILDING ISSUES

From the FSRs and design drawing submitted by each project and completion process, it is easy to see that there is a serious lack of experience in the development of the construction process - in particular regarding the construction of the EC project and the service systems.

The architectural engineering investment on the new projects is the highest part: most of them are 70% above the total investment. The design construction quality may influence the cost expenditure of the following sustainable operation. Therefore, the capacity building during the designing and manufacturing processes shall not be ignored.

We insist on the need for a full cycle management and overall design method to apply to the projects, so that most of the improvements which lack in the first stage design can be implemented in their subsequent stages- including further detail design and budget settings, construction, interior design and facility equipment.

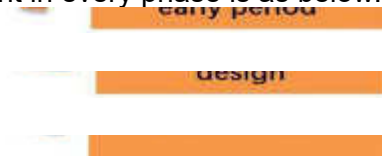
Project construction cycle includes seven parts of which we currently are at the first: decision-making and project approval stage. Every part places its emphasis on different aspects and continuously deepens in concretion and detail, thus implementing the concepts and objectives settled at the first stage.

We always stress on the full-cycle management and overall design method of the elderly care projects and can help to solve this difficulty. I hope that it can be implemented and realized in subsequent deepening design, bidding, construction preparation and installation.

XXII. Full-cycle management

Project construction cycle includes seven parts of which we currently are at the first: decision-making and project approval stage. Every part places its emphasis on different aspects and continuously deepens in concretion and detail, thus implementing the concepts and objectives settled at the first stage.

The main working content in every phase is as below:



After completing the work in the decision-making phase, the implementing phase with the longest cycle is concerned with carrying out the decisions in the specific work. Every part is extremely important and needs to be detailed and deepened step by step. Phases in the full cycle include: startup plan, practice, control and close out. Every process has relevant resources and activities from inputs to outputs.

The specific working flow and working content related to the investment in every phase are shown in the Figure below.



Every project must learn about these contents, implement the full-cycle management of the elderly care project, cost control, time and quality and guarantee the smooth completion of the project as planned.

XXIII. Overall design methods

Applying a correct method is important to the smooth completion of a project. In the early phase of the Asian Development Bank Loan, the overall design method has been applied and experts in every field have participated, thus establishing a good system.

Experts in every aspect shall still be engaged in the next phase and provide diverse opinions and suggestions. Decision content may be implemented to the specific technology level of the project, such as the selection of materials and equipment models. The inactive relationship of every process chain link shall be correct; otherwise, it may bring extremely big risks to the investment and the following operation management.

At present, the FSR of each sub-project has basically provided investigation on domestic and international cases, which is helpful for capacity building. However, it needs to be

especially noticed that we shall really learn as much as possible about its essential pros and cons and specify the application of knowledge into each sub-project, instead of that which is merely concerning with their superficial formal appearance.

The traditional design method is flattening (see Figure below). It is hard to implement a good practice in elderly-care project, because of being limited in the respective major specialties. However, the existing or inertial design method in China is a deeply traditional one: some kind of break-through is fundamentally needed.

XXIV. Key points in design process:

Firstly, planning orientation, decision-making is the key. The major direction shall be confirmed in the early decision-making phase; then the following matters can be possibly improved.

Secondly, the key in the design deepening stage is early intervention. Every major specialty and every link of the chain must be intervened as early as possible. This must be done without hoping to fix all the previous mistakes through interior decoration, when the layout is already completed and cannot be changed. The interior decoration is just another stage and it cannot fix all shortcomings and previous mistakes.

Thirdly the key in the interior design phase is detail control. This includes an elderly resident oriented design, color matching, adequate use of materials, etc.

Fourthly the key at the electromechanical integration phase is ability. At present, the electromechanical design ability at home is weak and the application to green energy saving is not wide enough. In sight if this we put forward the concept of combining the aged-care facility and green architecture, realizing it through management control in a full process and reflecting its real advantages.

In the following practice stages, we expect to attain good control over the aforementioned key points and build up successful low-cost, high quality elderly-care facilities.

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