




2017

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Abstract

This paper examines the replicability of the Program of All-Inclusive Care for the Elderly (PACE) in China. PACE is a community-based eldercare program that originated from San Francisco in the early 1970s and has been associated with compatibility to the Chinese value for eldercare in previous literatures. Through a synthesis of intensive literature review, site visits, and interviews with eldercare service providers and Chinese eldercare experts, this paper takes a closer look Beijing’s community-based eldercare service market, and identified the challenges of introducing PACE program into this market.

Keywords

aging, seniors, older adults, China, PACE, eldercare

Disciplines

Business | Medical Humanities | Public Health

**Evaluating the Replicability of the Program of All-Inclusive
Care for the Elderly (PACE) in China – An Analysis of
Beijing’s Community-Based Eldercare Service Market**

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ABSTRACT

This paper examines the replicability of the Program of All-Inclusive Care for the Elderly (PACE) in China. PACE is a community-based eldercare program that originated from San Francisco in the early 1970s and has been associated with compatibility to the Chinese value for eldercare in previous literatures. Through a synthesis of intensive literature review, site visits, and interviews with eldercare service providers and Chinese eldercare experts, this paper takes a closer look Beijing's community-based eldercare service market, and identified the challenges of introducing PACE program into this market.

KEY WORDS

Aging; seniors; older adults; China; PACE; eldercare.

INTRODUCTION

According to the United Nations, China is aging rapidly. By 2050, 27.5% of the country's population will be 65 or older, and China's dependency ratio for retirees will reach a high of 44%.

Aware of the urgent need to address this growth in older population, China has been issuing policies that will help better eldercare services, which are crucial to the quality of life for the country's senior citizens. Under the *Twelfth Five-Year Plan (2011-2015)* (China Direct 2011), which declared improving the nation's eldercare infrastructure in preparation for its rapidly-aging population as a prime objective, the State Council of the People's Republic of China issued a document that aimed to rule out plans to improve the quantity and quality of eldercare services in the next five years. The document, whose title roughly translates to "*Plans to Develop a Social Eldercare Service System*" (State Council of PRC 2010) issued, outlines China's vision for an ideal eldercare system. In this system, eldercare is classified into, in the order of importance, home care, community-based care, and institutional care.

As the second most crucial type of eldercare, community-based care is defined as a facility, situated within a community, that provides services to senior citizens during the day, both at the facility itself and in individual households within the community. Services provided can include but are not limited to coordination of entertainment and social events, assistance with activities of daily living (ADLs), assistance with housework, physical therapy, preventive care, meal deliveries and emotional support and counseling.

Among the three types of eldercare, separated by the setting of care, community-based care is the least developed type of care. Among the government, the eldercare service providers, and the families with older adults, there are many different expectations for and perceptions of community-based eldercare. Since the market is a lot less mature than the long-established home care and institutional care market, firms are eager to experiment with different service models and market positioning and growth strategies.

In this spirit of innovation and experimentation, this paper aims to examine Beijing's community-based eldercare service market, and evaluate the market's compatibility with the Program of All-Inclusive Care for the Elderly (PACE), a community-based long-term eldercare service model developed in the United States. In Spring semester of 2017, students from a graduate political science course (PSCI-598) lead by Dr. John Dilulio completed a research paper, which identified PACE as potential solution to the many social issues that have arisen or will arise from China's rapidly expanding older population. This paper has inspired me to conduct further evaluation of the feasibility of introducing PACE to China as a potential solution to the many challenges faced by China's eldercare industry. My paper will examine such feasibility through a case study on Beijing, as a major city with one of the most robust eldercare service markets in the nation.

METHODS

Between June and August of 2017, I conducted site visits to fifteen eldercare institutions in Beijing and interviewed the site managers and charge persons of these institutions. The fifteen

institutions are not only composed of community-based eldercare service centers, but also long term care facilities and home care agencies. Through site visits, especially to community-based and long term care facilities, I was able to collect information on pricing, details on service contents, general environment of the site, and develop relationships with my interviewees. I also conducted interviews with and attended presentations from eldercare experts from Tsinghua and Peking Universities who referred me to resources for literature review and potential future interviewees. I was then able to synthesize my findings from different sources and evaluate the suitability of PACE in the Chinese eldercare service market.

AN OVERVIEW OF PACE

History

The Program of All-Inclusive Care for the Elderly, known better by its abbreviated name "PACE", is a community-based long-term elderly care model that aims to prevent unnecessary hospital and nursing home care usage through effective care coordination.

The program first emerged from a Chinatown community of San Francisco in 1971, where Chinese cultural values held by the community deemed the traditional model of institutionalized care inappropriate. When local dentist Dr. William Gee and social worker Marie-Louise Ansak realized that many seniors wanted to live at home while receiving necessary care, and that nursing home care were not satisfying such needs for families and communities, they became

inspired by a British day hospital model and founded one of America's first senior day care center (Hirth, Baskins, and Dever-Bumba 2009). They named the center On Lok, which in Cantonese stands for "peaceful, happy home". As the prototype of the PACE model, On Lok started off providing only the most basic services to the community's seniors. Enrollees were then able to receive some basic health and social services during day time and return home in the evening to enjoy companionship from their families (On Lok Lifeways).

On Lok's success soon received attention from the state of California as well as the whole nation, which was reflected in the financial support they received both at a state and a federal level later in the decade: in 1973, On Lok received a grant from the state's Administration on Aging; in 1978, it was able to secure another demonstration grant from Health Care Financing Administration. With the funds available, On Lok added in-home support services in 1975, and 1978, it further expanded the model, including primary care services and case management of acute and chronic health services, which means that the center not only provided primary care in the facility, but also coordinated enrollees' care received from other providers. The center established contracts with specialist physicians, hospitals, and nursing homes as well as providers of ancillary services such lab tests, medication prescriptions, and X-ray service providers. Staff physicians, nurse practitioners and registered nurses worked in teams to manage each enrollee on a case-by-case basis.

The center was deemed a success by 1983: compared to the traditional fee-for-service nursing home care model, it incurred 15% less expenses per-participant (Eng, Pedulla, Eleazer, McCann, and Fox 2015). In 1983, On Lok obtained Medicare and Medicaid waivers, receiving a fixed

payment per enrollee each month, which was supposed to cover any healthcare expenses incurred by the enrollee. Despite bearing full financial risk, On Lok was able to place a 5% operational revenue in their risk reserve fund on a yearly basis, and was thus granted permanent Medicare and Medicaid waivers in 1986 (Shen and Iversen 1992), and had subsequently received grants from Robert Wood Johnson Foundation, the Retirement Research Foundation and John A. Hartford Foundation. With grants available and the authorization from the Congress, On Lok sought to replicate its model in five additional locations: Elder Service Plan of the East Boston Neighborhood Health Center; Providence ElderPlace in Portland, Oregon; Palmetto SeniorCare in Columbia, South Carolina; Community Care in Milwaukee, Wisconsin; and Total Long-Term Care in Denver, Colorado.

Since then, On Lok's service delivery and financing model is re-named as the Program of All-Inclusive Care for the Elderly, and the model has since then expanded to a nationwide community-based long-term care model. As of 2017, there are 233 PACE centers in 31 states, operated by 122 PACE programs. Currently, there are over 40,000 enrollees enjoying care provided by a nearby PACE center (National PACE Association).

Enrollee Profile

According to the laws put forward by the Centers for Medicare & Medicaid Services specified in the document CMS-4168-P, to be eligible to participate in PACE, an individual must: "(1) be 55 years of age or older; (2) determined by the State to need nursing home level of care; (3) reside

in the organization's service area; and (4) meet any additional program eligibility conditions set by the State."

By 2017, the average age of the over 40,000 current PACE enrollees is 76 years old, with 75% participants being female. Common diagnoses of PACE participants include many chronic diseases such as cardiovascular complications, diabetes, depressions, bipolar disorders and paranoia. Almost 47% enrollees have dementia. In addition, while over 90% of the enrollees live within their community, 7% reside in nursing homes as arranged by the PACE center they enrolled.

Service Delivery Features

According to [CMS-4168-P], a PACE program must provide a range of medical and social services for the enrollees. Some services must be provided on site at the PACE center; other services can be provided through contracting with external service providers per coordinated by PACE.

Services Provided at the PACE Centers

Each PACE Center must have an established interdisciplinary team (IDT). Composed of personnel with various area of expertise, the IDT is responsible for the initial and periodic assessment of the participant throughout his time at the center, as well as the design, the

implementation, and the evaluation of a plan of care specific to each enrollee, based on his or her assessment results. Table 1 summarizes the required IDT members and the assessments and services the team must provide at a PACE center.

Table 1. IDT Members and Assessments and Services the Team Provides at the PACE Center.

Required IDT Members	Assessment Provided	Service Provided
<ul style="list-style-type: none"> • Primary care physician; • Registered nurse; • Social worker; • Physical therapist; • Recreational therapist or activities coordinator; • Dietitian; • Home care coordinator. 	<ul style="list-style-type: none"> • Physical and cognitive function and ability • Medication use • Participant and caregiver preferences for care • Socialization and availability of family support • Current health status and treatment needs • Nutritional status • Home environment, including home access and egress • Participant behavior • Psychosocial status • Medical and dental status • Participant language 	<ul style="list-style-type: none"> • Primary care; • Therapeutic recreation; • Restorative therapies (PT and OT); • Personal care and supportive services; • Dining; • Nutritional counseling; • Focal point for coordination and provision of most PACE services.

Services with Contracted Providers

Some services do not have to be provided at the PACE Center, but still should be made available through contracts with external providers. A comprehensive list of such services is shown in Table 2 below.

Table 2. Service Provided Through External Contracts

- Interdisciplinary assessment and treatment planning;
- Social work services;
- Transportation;
- Medical specialty services;
- Laboratory tests, x-rays and other diagnostic procedures;
- Drugs and biologicals;
- Prosthetics and other DME;
- Acute inpatient care;
- Nursing facility care;
- Other services determined necessary by the interdisciplinary team to improve and maintain a participant's overall health status;
- All Medicaid covered services, as specified in the State's Medicaid plan.

Payment

Payment for PACE Organizations are mostly from capitated, risk-adjusted payment from Medicare and Medicaid. Occasionally, private insurance can also be a source of funding for

people who are not dually eligible for Medicare and Medicaid. For instance, if the enrollee is only eligible for Medicare, he or she must self-finance the Medicaid payments.

Monthly capitation amount is calculated based individual enrollee's diagnostic and demographic characteristics. Specifically, three risk scores are utilized decide on the monthly payment rate for enrollees: an individual risk score, an organization frailty score, and a risk adjustment county rate. Initially, an individual risk score is calculated using the CMS's pre-ACA (Affordable Care Act) Hierarchical Conditions Category (CMS-HCC) community model. This model, also utilized in the Medicare Advantage Program, takes into account enrollees' diagnostic information submitted by PACE organizations. This risk score is added to an organization fragility score, and the sum is then multiplied by the risk adjustment county rate.

The aforementioned procedure is not generalizable for all PACE enrollees. In fact, the calculation of monthly payments is usually very complicated due to the variation of Medicare enrollment

Community-based frail, risk adjustment scores are based on both the current diagnosis and recent acute care use (diagnostic score) of each individual enrollee and the functional “plan” score (frailty score). The frailty adjuster, or plan score, is intended to account for Medicare expenditures that may not be accounted for in the diagnostic risk adjustment for individuals who are functionally dependent for activities of daily living. Each risk adjustment score (diagnostic and frailty) is added together to provide the total risk adjustment calculation for each individual enrollee. The plan score requires survey data to be collected from PACE enrollees via the Health

Outcome Survey- Modified (HOS-M). Beginning in 2008, all PACE programs are paid under the risk adjustment methodology. If implemented as CMS has indicated, the changes result in an average reduction of the Medicare-capitated payment of approximately 17% to PACE programs.

AN OVERVIEW OF BEIJING'S COMMUNITY-BASED ELDERCARE

The next section of this paper will serve to sketch a profile for the robust community-based eldercare service market in Beijing, an example of a major city in China in which the local government has announced policies and created financial incentives to encourage interested businesses to enter the market.

Background

There are two types of community-based eldercare center operators: eldercare service providers and Community Health Centers (CHCs). Eldercare service providers, whether private-owned or state-owned, for-profit or non-profit, are firms that specializes in the operation of eldercare service facilities. Most of them operate not only community-based eldercare centers, but also long term care facilities and home care agencies. CHCs are medical clinics located within a community that choose to open a separate center that provides eldercare services to its existing patient population.

Eldercare Service Providers

The document *Plans to Develop a Social Eldercare Service System* has largely, in the past few years, served as a primary driver for investors and entrepreneurs around the country to step into the eldercare service industry. Many newcomers in this industry had their eyes on community-based care. This is for two reasons: compared to the home care and the institutional care markets, the community-based service market is relatively new and thus less saturated; in addition, in major cities, local governments have been providing many financial and technical subsidies for businesses that show interests and capabilities in running community-based eldercare facilities.

Based on the type of business ownerships, eldercare service providers can be further divided into state-owned, private-owned non-profit and private-owned for-profit. Stemming from the different types of business ownerships are the drastically different firm strategies, including targeted customer segments and trajectories to profitability and growth. In the following section, we will investigate such differences by closely examining three firms with the aforementioned types of business ownerships.

Beijing Cheng He Jing Investment Ltd: a Closer Look at State-Owned Eldercare Service Provider

Beijing Cheng He Jing Investment Co., Ltd (CHJ) is a subsidiary of Beijing State-Owned Assets Management Co., Ltd (BSAM). The firm was established in August 2012 with an authorized capital of one billion Yuan (around 156 million US dollars).

In the past few years, CHJ has been able to and maintain itself at frontier of Beijing's eldercare service innovation. Specifically, they were able to:

- Open 86 community-based eldercare service centers and 4 medium to large scale long term care institutions around Beijing;
- Acquire Intech Rehabilitation Investment Management Ltd., a nationwide leader in rehabilitation services;
- Invest in many early-stage eldercare service startups;
- Enter a collaborative partnership with Japanese and American eldercare service providers;
- Establish Cheng He Jing Eldercare Institute, which serves to provide training and educational programs for aspiring leaders in the eldercare space.

CHJ as a state-owned enterprise CHJ's status as a state-owned enterprise (SOE) plays a vital role in the firm's rapid growth and development. First and foremost, this status brings them almost unlimited financial support. As a Bloomberg article stated, "...China's banking industry, which is itself almost exclusively state-owned, channels loans to SOEs in the expectation that they'll have an implicit government guarantee." As a result, while responsible for only 16% of China's jobs, SOEs receive 30% of all loans. Under this background, it is no surprise that BSAM, the parent company of CHJ and a state-owned asset management firm that invests on behalf of the government, has been able to pour abundant funds into its subsidiary SOEs.

As a result of its strong financial support, whenever CHJ starts a new project or devise a new growth strategy, they do not have to be as concerned about profitability. A great example is their

community-based eldercare service center project, which has been unprofitable since launch. According to a manager at one of the service centers, CHJ has been providing mostly free services to seniors in the community and only charges a minimum amount for services such as meal delivery, physical therapies, and massages.

“The financing of this service center is not of our concern”, the manager stated, “I’m not sure if we’ll ever be able to make profits off of this project because most of the services here are free.”

Shuaiyi Zhang, the executive director of CHJ’s community-based eldercare service center project, echoed this statement at an eldercare conference hosted in Beijing. He clarified that it has been part of the company’s strategy to prioritize acquiring customers over profitability. According to Zhang, the eldercare industry is not yet fully developed and consumers have not realized the value of eldercare services. Consequently, the willingness to pay is now extremely low. However, as society’s aging process accelerates in the next few years, willingness to pay will rise eventually, and by the time, it will have been too late to enter the market. Therefore, it is important to enter the market early and start acquiring customers, whose values will eventually be realized as market matures.

However, Zhang also recognized that such strategy can be difficult to implement for firms without adequate financial resources. He noted that CHJ, as a subsidiary of BSAM, does have better financial support than other players in the market, which enabled them to prioritize customer acquisition over short term profitability. Private organizations can hardly bear the

financial risk of building 86 service centers in some of the best and most expensive residential areas in Beijing without seeing a definite break-even point in the next few years.

CHJ's status as a SOE also brings the firm political advantage, which can be useful in many circumstances. For instance, in order to open an eldercare service center, organizations and businesses have to apply for an eldercare service permit from local government. Sometimes, it can take private organizations over a year to obtain this permit; for CHJ, it may only take around two months, because the government tend to simplify the application process for SOEs.

In addition to an expedited permit application process, CHJ is more able to set up service centers in the high-income, heavily trafficked communities around Beijing thanks to the political advantages brought about by its SOE status. Oftentimes, when community leaders decide that the community needs an eldercare service center, they will initiate a bid. While several eldercare service provider firms and operators of eldercare service centers may opt to enter the bid, CHJ tends to win such bids: its SOE status is almost seen as a flag of high quality. Winning such bids means that CHJ is able to gain support from leaders of communities with the most desirable senior customers – such support can often be in the form of land grants (meaning that CHJ use the space free of charge to open a service center) and powerful assistance in their marketing efforts.

With the financial and political advantages brought by its SOE status, CHJ has had significant growth since 2012. In fact, it has the largest market share among the community-based eldercare service providers.

Zooming in on CHJ's community-based eldercare service centers Zong Zhuang Community

Eldercare Service Center is one of CHJ's first eldercare service center in Chaoyang District, Beijing. The center is around 100 m² large, heavily trafficked, with over a hundred visits every day from seniors living within the community. Throughout the day, the center hosts many activities for its visitors: classes on calligraphy, educational presentations on hypertension, diabetes and other chronic diseases, movies, chess, newspaper reading, and many more. A more detailed schedule can be found in Table 3 below. An older adult can simply register for a free membership, and participate in any of these activities.

Table 3. CHJ Eldercare Service Center Daily Schedule

Time	Activity
9:00 – 9:30	Vital sign measurement.
9:30 – 10:00	Exercise routines.
10:00 – 10:20	Water and bathroom break.
10:20 – 10:50	Various entertainment (calligraphy, chess, newspaper, classes on smartphones, presentations on chronic illness management).
10:50 – 11:00	Getting ready for lunch.
11:30 – 12:30	Lunch, medication administration (only PO medications), and oral hygiene.
13:00 – 14:00	Nap.
14:00 – 14:30	Wake up from nap, take water and use bathroom.

14:30 – 15:30	Various entertainment (chess, movie, DIY art projects).
15:30 – 16:00	Afternoon tea.
16:00 – 16:30	Outdoor activities.
17:00 – 18:00	Dinner

In addition to the free services, the center also provides physical therapy services and massages at a reasonable cost. Each session costs 50 – 100 Yuan (\$7.81 – \$15.63), and can be reimbursed through China’s national public insurance program. These sessions are conducted by highly-trained personnel from Inech Rehabilitation, China’s leading rehabilitation hospital acquired by CHJ in 2015.

In addition to running its own services, the center also displays advertisement from other companies and businesses, as shown by Images 1 and 2. Advertisement are typically on medical devices such as blood pressure or blood glucose measurement devices, nutrition supplement products, traditional Chinese medicine doctor appointments, and cleaning services. Displaying advertisement and entering partnerships with other service providers has become an important source of income for CHJ’s various eldercare service centers.

The site is run by a team of three to five staff, none of whom are medically trained. Most of the staff members would have graduated with an Associate’s Degree in Eldercare Social Work, and are only trained to take vital signs and give oral medications. Therefore, the center is not capable of providing care to severely ill individuals or individuals with dementia.

Jing Tang Ji Eldercare Service., Ltd. and KangYi China Co., Ltd: a Closer Look at Private-Owned Eldercare Service Provider

KangYi China Co., Ltd (KangYi), established in 2016, is a private-owned non-profit startup that is currently preparing to open its first community-based eldercare service center. Jing Tang Ji Eldercare Service., Ltd. (JTJ) is a private-owned for-profit eldercare service provider that currently operates two community-based eldercare service centers, two long term care institutions, and four home care agencies.

Compared to CHJ, their state-owned competitor, KangYi and JTJ have much smaller market share, and are much more discrete with their growth strategies. Their lack of unlimited financial resources, which leads to a greater emphasis on short-term profitability, means that they are much more careful when selecting their target customer segments.

KangYi has decided to target high-income individuals from day one. Compared to CHJ and JTJ, which does not tend to discriminate lower-income individuals with its affordable services, KangYi has priced their services much higher, and has attempted to shed a high-end light to their first eldercare service center located in De Sheng Community, an area with mostly higher middle class family. For instance, they have a big-data-driven chronic disease management service, and have decided to hire a much more medically-prepared team of staff members with five to seven nurses and one primary care physician. In addition, the center is much more spacious (around 400 m²), and has fashionable and luxurious interior design that aim to attract wealthier older

adults. All of KangYi's service and center environment features contribute to a high full membership fee of around 1,000 Yuan (\$156.26). If the customer does not wish to have full membership, they can choose from other cheaper membership plans, which cover roughly the same services as those offered at a CHJ eldercare center. However, there will be no "free services" after the initial promotion period.

Zhen Xia, the Chief Operating Officer of KangYi summarizes the rationale behind the company's strategy as "a positioning away from other players". In the interview, he said that KangYi is aware of CHJ's ambition to be the biggest player in the community-based eldercare service market, and understands its many advantages as an SOE. Therefore, KangYi has been trying to target premium customers, rather than directly competing against CHJ. Another advantage of such positioning, Xia explains, is that the target customer segment's high willingness to pay may help KangYi achieve break-even point much sooner. However, with the chosen positioning strategy, Xia is less optimistic about the number of members they will be able to acquire initially:

"People do not understand the importance of chronic disease management and big data," said he, "and we are expecting losses in at least the first three years. I would be happy with even three full membership contracts in the first year."

JTJ, on the other hand, is still experimenting with its market positioning. It currently owns two community-based eldercare center: Xi Li No.2 Community Eldercare Service Center in Xi Cheng District, and Gao Jing Community Eldercare Service Center in Xin Jie Kou Area. The

types of services provided at both centers are roughly the same as those at CHJ but much more elaborate thanks to their much larger size of 250 m². For instance, while CHJ service center typically only has two beds available for visitors to rest up during the day, the JTJ service centers hold ten and sixteen beds, providing a much more larger space for relaxation and power naps during the day. The interior design is also much more high-end side compared to CHJ, although not as elaborate as those at KangYi.

Service provided at JTJ's service centers resemble those provided by CHJ. They host free activities (singing contests, presentations on chronic illnesses, free movie events) and provide some moderately priced services (massages, traditional Chinese medicine consult, physical therapies). However, JTJ's centers are differentiated by its capability of providing care to Alzheimer's patients – although none of the staff holds professional medical or nursing degrees, but are specially trained for dementia care.

To be a member at the center, one has to pay 5000 Yuan (\$778.23) security deposit, which contributes to a risk pool of fund that becomes useful in case of medical emergency. Members are typically expected to spend whole days at the center, following specialized, sometimes personalized schedules. Upon registration, staff will conduct a physical examination and holistic health evaluation on the new members, and decide the level of care needed by the new member. Members with dementia can be charged up to 200 Yuan per day (\$37.13), while the most healthy members are charged 90 Yuan per day (\$14.01). Members with disability can also opt for a 20 Yuan (\$3.11) per day pickup service if they live nearby – they will be transported to the center in the morning and dropped off to their home at night securely and efficiently.

However, according to managers at Gao Jing Community Eldercare Service Center, they have under ten members registered currently. Most of the center's visitors participate in free activities at the center and some opt in for the center's affordable program. However, they seldomly take in dementia patients – there are only two members with early-stage Alzheimer's disease.

“The center is barely signing any new membership contract,” said the manager, “and the company is worried that this may not be a fully profitable model of eldercare care service. We are still exploring.”

As can be seen from JTJ and KangYi, for private-owned eldercare service providers that place a greater emphasis on profitability and early break-even, it is important to provide services not available at SOE providers such as CHJ. However, the challenge is to answer the question of what the point of differentiation should be, because potential customers may not see the value of that specialized service. For KangYi, the challenge is having customers realize the importance of chronic disease management and big data; for JTJ, the challenge is having customers realize that dementia patients can also thrive with community-based eldercare, and that institutional care may not be the only option.

Chinese Community Health Centers (CHC)

In recent years, due to China's efforts of healthcare reform, CHCs are playing an increasingly crucial role in the healthcare system.

In China, hospitals and healthcare facilities are divided into primary hospitals/community clinics, secondary hospitals and tertiary hospitals. Tertiary acute-care hospitals, with the best staff and environment, tended to attract a disproportionate amount of patients: prior to healthcare reform, tertiary hospitals are where almost 80% of all healthcare takes place. This is because patients are charged virtually the same at primary, secondary and tertiary hospitals, and therefore there is no incentive for them to visit the lower-rated facilities.

In the past few years, local governments have continuously experimented with new pricing policies to combat this tertiary-hospital-focused system. For instance, since 2017, Beijing has made a new attempt to introduce price differentiation. A doctor's appointment at tertiary hospital costs a flat fee of 50 RMB (around 7.83 US dollars), which is significantly higher than 30 RMB (around 4.70 US dollars) charged by secondary hospitals and 20 RMB (around 3.13 US dollars) charged by primary hospitals and community clinics (Yu 2017).

Under the influence of such reform efforts, primary hospitals and CHCs in Beijing has seen an almost 20% increase in patients in the first eight months. There is also a drastic increase in the number of family doctor contracts – in some of the districts, more than 40% of the overall population and around 90% of elderly patients have signed their contracts with a family doctor, most of whom work at the CHCs.

With a dramatic increase in financial resources, CHCs have been much more innovative with its service programs. In 2017, Pan Jia Yuan No. 2 Community Health Service Center became the very first CHC operating an community-based eldercare service center. The 380 m²-large Song Yu Li Community Eldercare Service Center provides basic services outlined by the government in its definition of community-based care. It organizes and hosts leisure activities, provides assistance with activities of daily living such as eating and bathing, serves as a dining facility, and offers physical therapy and Traditional Chinese Medicine (TCM) services.

The Center's target customer segment is the physically-independent seniors within the community. It does not accept patients with dementia and severe disability.

In addition to physical-independence, the senior customers should be relatively financially well-off to afford the membership fees, which can seem expensive when compared to other eldercare centers that provide the same services free of charge. An interview with the charge person provided me with more insights into the pricing of these services:

- The center opens from 7am to 7pm, and provides three meals per day; each meal costs 15 Yuan (\$2.35), and a meal membership costs 300 Yuan per month.
- Each discrete service item, such as a massage appointment, costs around 20-30 Yuan (\$3.14 - \$4.71).
- Full membership costs 1880 Yuan (\$295.10) per month. Membership privileges include unlimited access to all the discrete service items. They also get to stay for the whole day at the center, which is closely monitored by two nurses and primary care doctors from its

parent health clinic, preventing the occurrence of medical emergencies. The Center currently has four full membership contracts.

A community-based eldercare service centers operated by a CHC have three definite advantages: one, it shares the abundant medical resources from its parent CHC; two, it has established relationships within the community, and is seen as a trusted agency by members of its community; three, with established patient databases and profiles, it can ensure that the elderly patient gets the best personalized care that perhaps comes from the patient's family doctor.

With these advantages, Song Yu Li Community Eldercare Service Center receives an average of 50 visits every day. According to the charge person, however, a great challenge is the willingness to pay. The path to profitability seen by the management is to dramatically increase the number of full membership contracts. However, as we can see, with only four full membership contracts, the conversion rate under this freemium model is not exactly ideal.

CHALLENGES OF IMPLEMENTING PACE IN CHINA

The concept of community-based eldercare is not new to the Chinese eldercare industry. As we can see in the overview of Beijing's community-based eldercare providers, many companies are now seeing the potential in the market and are experimenting with the best corporate strategy and service model.

However, China's current understanding of community-based eldercare is drastically different from the type of care provided by PACE. As discussed in the overview of PACE program, only those that are "determined by the State to need nursing home level of care", or in other words, only those who are extremely ill and frail are eligible to be a PACE enrollee. In China however, community-based eldercare is still perceived as care for healthier older adults with capabilities of carrying out all ADLs.

This value is evident on the supply side of the market: CHJ, KangYi and Song Yu Li simply do not accept patients with dementia and severe disability. On the other hand, on the demand side, consumers, even when community-based eldercare services for individuals with dementia and disability are available, choose to send the seniors to institutional care, hence the unpopularity of JJJ's day care program.

In other words, the idea that someone who is severely ill or frail can still "age in place" in the community setting is beyond the imagination of Chinese families and service providers. Even the government fails to acknowledge such potential of community-based eldercare: in their definition of home care and institutional care, the government emphasized the importance of taking care of individuals with severe dementia and disabilities, which is not mentioned in the definition of community-based care at all. Therefore, whenever elderly members of the family become very ill, to the extent that informal care provided by other family members will no longer suffice, families either hire a home care aid or send the patient into long term care facilities. Since hiring home care aids are extremely expensive, long term care facilities located within or close to the communities are the go-to compromise for many families. These are small

nursing homes with 15-30 residents, who usually have end-stage dementia or have lost their abilities to carry out all ADLs. The demand for such care is usually inelastic – the ill older adult has to be taken care of at an affordable price after all – which means, these nursing homes can charge 6,000 – 10,000 Yuan (\$934.65 - \$1557.75) monthly fees without providing the most professional high-quality care.

Currently, it seems that the only way to bridge the gap in the understanding of the potential of community-based eldercare is for a few service providers with the determination and the means for innovation to simply start providing such services. While demand may not catch up after a while, it is important for families to realize that community-based care for the frailest older adults is not only an available option, but might also be the best and most affordable option.

The few next sections of this paper will outline some of the challenges of implementing the PACE model in Beijing and identify potential solutions to these challenges.

Affordability

Families, as payers for eldercare services, can struggle to pay for PACE out-of-pocket due to the lack of support from public insurance programs.

The PACE program can be quite expensive for the average Chinese family. Currently, the only community-based eldercare service center providing care for patients with severe dementia and disability are the JTJ service centers. For a patient with severe dementia who needs the highest

level care at the JTJ service center, it costs the family 200 Yuan per day (\$37.13) for a day of care at the center, and 20 Yuan (\$3.11) for a day of transportation to and from the center.

Combined, it costs the family the 220 Yuan per day (\$40.24), 6,600 Yuan (\$1,207.2) per month, which can be a huge burden on middle to low income Chinese families.

The US PACE model is funded national insurance programs Medicare and Medicaid. Although enrollees without Medicaid eligibility do have to pay for the Medicaid portion of the expenses, the financial responsibility is kept to a minimal level.

In China, however, the Social Insurance Program provide five types of insurance (basic pension, basic medical insurance, work-related injury insurance, unemployment compensation and maternity insurance). Among them, basic pension and basic medical injury would be most relevant to eldercare. However, neither supports long term care or nursing home care, meaning that families have to pay out-of-pocket for programs like PACE. However, as Dr. Chengcheng Chen, a post-doctoral fellow Tsinghua University's School of Public Policy & Management, pointed out, recently, some cities have initiated pilot of Social Long Term Care Insurance.

Unfortunately, these piloted insurance programs only reimburse a minimum amount for each bed every month (around \$3 of monthly reimbursement). China is therefore encouraging the development of new commercial long term care insurance products, but so far only two insurers have taken attempts on that, and the products are not necessarily making eldercare more affordable for families.

While the Chinese PACE's financial viability may not be achieved in the short term, eldercare providers can start providing PACE-like services to high-income communities. In the US, PACE is a program for the poorest and sickest senior population, while in China, PACE might have to, at least initially, target wealthier patients with similar health status to ensure that the payers can afford to enroll.

The Inability to Form and Maintain an Interdisciplinary Team

In the US, PACE defines an IDT as comprising of at least the following: primary care physician, registered nurse, social worker, physical therapist; occupational therapist, recreational therapist or activities coordinator, dietitian, PACE center manager, home care coordinator, personal care attendants or their representative, and drivers or their representative.

In China however, it can be much more challenging to form and maintain an IDT. There is a limited number of physical therapists and registered nurses willing to work in eldercare facilities. Among graduates from China's top nursing and physical therapy programs, the majority prefer working at large tertiary public hospitals, which provides better salary and along with other employee benefits.

As pointed out by Yanling Wang, the Vice Dean of Nursing at Capital Medical University School, 98% of all nursing school graduates are recruited into tertiary public hospitals. "We generally do not recommend students go into long term care institutions," she said, "the work in

nursing homes are perceived to be much less exciting, and is generally not in the radar of our graduates.”

According to Vice Dean Wang, even the best nursing homes struggle to compete with hospitals for top nursing graduates. It is not just about the salary, it is also a sense of security associated with state-owned hospitals – there is less chance to lose your job once you get recruited.

The same rule applies to other medical professions in the interdisciplinary team. Tian Gong Yuan Eldercare Institution (TGY), a long term care facility, and Inetree Care Group, a home health and rehabilitation service provider, are examples of eldercare institutions that have been able to form and maintain their interdisciplinary teams. According to Sujuan Zhou, Director of TGY, and Yanni Wang, CEO of Inetree, the key when it comes to competing with public hospitals over top medical professionals is high salary and promise of promotions. While promise of promotions is an easily-implemented tactic, eldercare service companies are not always financially viable to provide competitive salaries.

Transportation

For those with disabilities or frailties, PACE would provide pick-up and drop-off services at the enrollees' front doors. In China, especially major cities like Beijing, transportation is not as manageable. KangYi's COO Zhen Xia that the company did consider including transportation services in their full membership service package, but had to reject the proposal because of the unpredictability of Beijing's traffic. He said:

“It is impossible to provide transportation services in a city like Beijing, where traffic can cause the biggest headache. For instance, if the bus driver promises to pick the enrollees up at 8 o' clock. On a good day, the driver may be able to keep this promise; however, on a bad day, the driver may not be able to arrive until 10 o' clock.”

In addition, Xia also pointed out that people in Beijing live in very high apartment buildings, and in order for the sickest seniors to exit the building, elevators would be essential. However, with only three elevators for over 250 families in the building, the elevator traffic may not look optimistic in the morning, and this can significantly complicate and prolong the transportation services.

A potential solution to combat Beijing's traffic is to radiate a smaller service areas. When apartment buildings are extremely tall, they contain more residents. Therefore, the Chinese version of PACE can provide services to only the most proximal residential communities and still have an adequate number of enrollees. This way, the traffic will be much less unpredictable.

With smaller service areas, rather than hiring drivers to provide transportation services, service providers might be able to collaborate with Community Committees (Ju Wei Hui), formed by elderly residents in the residential communities. These committees may be able to dispatch their volunteers to help transporting senior to the PACE center free of charge or at minimum costs.

Long and Complicated Legal Process

In China, in order to open an eldercare business, especially one that involves the use of medications, entrepreneurs need to apply for licenses and permits. The applications take a very long time, and sometimes, might be dependent upon networking – without "Guan Xi", a Chinese term that stands for social networks, the application process might take more than one year.

While this may not be an issue for SOEs like CHJ due to their political advantages, it may be a significant challenge for private-owned service providers starting a PACE center.

CONCLUSION

PACE is a program that emphasizes the importance of family and community, which coincides with China's value for eldercare as part of the nation's traditional concept of filial piety. The US version of PACE enrolls the sickest and the poorest of all older adults, and provide them with high quality care. In China, the idea that nursing home level of care can be provided within the community setting is not yet heard of, and this makes PACE a valuable model to be introduced to the Chinese market. Although service providers will be faced with many challenges as they bring PACE to China, it is still worth a try: if successful, PACE might be an option that is cheaper than home care but more socially compatible with the Chinese value for family than institutional care. Such value in the market has not been captured by the current community-based eldercare service providers.

This study is extremely limited in its scope – by no means is Beijing the most representative city when it comes to eldercare. In fact, there are many innovations in other cities and provinces of China. The unique cultures and policies in all areas of China have made it impossible to conduct a comprehensive review of the Chinese community-based eldercare service market. In future projects, time should be spent on investigating the eldercare scenes in other areas, especially those that are less economically developed. An interesting study might be on the comparison of eldercare markets in urban and rural areas of China.

REFERENCES

China Power Team. 2017. "Does China have an aging problem?" China Power. Accessed Sep 30, 2017. <https://chinapower.csis.org/aging-problem/>

China Direct. 2010. China's Twelfth Five Year Plan (2011-2015) – the Full English Version.

China Direct. Accessed July 20, 2017. http://cbi.typepad.com/china_direct/2011/05/chinas-twelfth-five-new-plan-the-full-english-version.html

Eng, C., Pedulla, J., Eleazer, P., McCann, R., Fox, N. 2015. Program of All-Inclusive Care for the Elderly (PACE): An Innovative Model of Integrated Geriatric Care and Financing. *Journal of the American Geriatric Society*. 45 (2): 223-32

Hirth, V., Baskins, J., Dever-Bumba, D. 2009. Program of All-Inclusive Care (PACE): Past, Present, and Future. *Journal of the American Medical Directors Association*. 10 (3): 155-60.

National PACE Association. Find a PACE Program in Your Neighborhood. National PACE Association. Accessed September 30, 2017. <http://www.npaonline.org/pace-you/find-pace-program-your-neighborhood>

On Lok Lifeways. History of PACE and On Lok. On Lok Lifeways. Accessed August 8, 2017.

<https://onloklifeways.org/history/>

Shen, J., Iversen, A. 1992. PACE: A capitated model towards long-term care. *Henry Ford Hospital Medical Journal*. 40 (1/2): 41-44.

State Council of PRC. 2011. 国务院关于印发“十二五”国家老龄事业发展和养老体系建设规划的通知 [Plans to Develop a Social Eldercare Service System]. State Council of PRC.

Accessed July 20, 2017. http://www.gov.cn/zhengce/content/2017-03/06/content_5173930.htm

Yu, W. 2017. 北京分级诊疗成绩单：基层诊疗量增长 15% 以上 [Transcript for Beijing's Price Differentiation Policy: Primary Care Utilization Increases Over 15%]. CN-Healthcare.com.

Accessed December 9, 2017. <https://www.cn-healthcare.com/article/20171209/content-498070.html>