

Optimising the Services Capacity Operation with Service Supply Chain and Option Theories for Elderly Healthcare Systems in China

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Keywords: Elderly Healthcare Services, Service Supply Chain, Community Governance, Government Purchase of Services, Option Contract.

Abstract: Traditional elderly healthcare service modes already can hardly meet the rapidly growing demand and high customer expectations. The community-based elderly service mode (CESM), as a new mode merging with the advantages of home-based and institution-based elderly service modes, is not yet widely applied in China. We first analyse the problems of CESM in terms of the government purchase of services (GPS) policy, governance theories and community elderly services coordination management. Then, we conclude the research in the fields of the GPS, community governance and service supply chain coordination, and study the experience of Hong Kong's community care services system. On the basis, we propose an innovative structure of community-based elderly healthcare service supply chain (EHSSC), and define the connotation of EHSSC and its operational processes. Further, we optimise the operational mode for the EHSSC by using the option contract and service voucher scheme, define the roles and functions of government, community elderly service integrators, community elderly service providers and the elderly in EHSSC. The operation processes of community elderly services capacity are illustrated to systematically address the issues of 'who participates in' and 'how to operate' in CESM and coordinate the services capacity between the upstream and downstream. Finally, we put forward some constructive suggestions for the implementation of EHSSC with the option contract and service vouchers.

1 INTRODUCTION

Aggravated by the increasing demand and higher customer expectations in China, the community-based elderly service mode (CESM) has become popular in China, providing new ideas to meet the elderly service needs (Lin, 2014). The CESM originated from the community care mode in the United Kingdom. As one part of the community works, the community care mode refers that professional community workers mobilise community resources and use formal and informal support networks to cooperate with governmental and non-governmental institutions, to help the needy in the community (Zhang, 2002, Akjiratkarl et al., 2007). In view of elderly healthcare service systems in developed countries, China puts forward a brand new CESM based on the government dominance, social organizations participation and market operation, to gradually establish a family-centred and community-based professional services system to provide life care, physical care, spiritual consolation,

culture and entertainment for the elderly in the community. The CESM can not only meet the elderly's emotional demand of family attachment living in their own familiar environment, but also let them enjoy specialised services in the community, which effectively integrates the family and society resources. However, the CESM in China has not taken satisfactory effects, there are still some issues needed to be overcome and improved in terms of the government purchase of services policy, governance theories and community elderly services coordination management.

To our knowledge, there is still not a unified definition of 'Government Purchase of Services (GPS)' in China and abroad (Song, 2013, Petersen et al., 2015). The means of GPS in China and abroad mainly include direct procurement, authority to purchase, contracting out, vouchers, government subsidies; and different countries may have different means because of different national circumstances. Some scholars reviewed the experience of GPS in China and summarised the main obstacles to the

development of GPS including the poor construction and organization ability, low efficiency, over-administration and undeveloped supervision (Nai, 2014). Others put forward different measures to improve the performance of GPS, such as the extension of services scope, consideration of service satisfaction, the elderly's economic levels, third-party assessment, trust-building, and independence of social service organizations (Wen, 2017). Currently, the implementation of CESM in China is mainly through direct government purchase of services (GPS) by which the government pays for some basic elderly services to meet the community elderly service demand. Services due to GPS mainly come from grass-root elderly service organisations, which are responsible for the final implementation and delivery. However, the CESM in China has not achieved the desired effects, major failings, amongst others, are summarised as follows: (i) Various government sectors/departments may not (or incapable of) reach any consensus on the elderly service demand and functions of community elderly service organisations; thus resulting in confusion in policy (Li and Dahl, 2015); (ii) There is not any specialised and standard legal basis for making GPS, thus leading to poor GPS decisions or even corruption (Ramesh et al., 2014, Nai, 2014); and (iii) Those grass-root service providers often pay lip service to relevant management advice from government as formality, and most elderly in communities can hardly enjoy the benefits from the policy of GPS (Xu, Wu, and Zeng, 2014). To improve the status quo in China, we study the case of Hong Kong community care service system, and analyse the advantages and disadvantages between the China and Hong Kong community elderly service systems.

In making GPS by the Chinese government, the control is mostly responsible by the authority and authorisations are given to departments hierarchically. The grass-root community elderly service institutions or providers are only responsible for implementation. Such over-administration by the government undermines the autonomy of community elderly service institutions (Liu et al., 2008, Wang and Salamon, 2010). Over time, this results in the complacency of the service providers, loss of enthusiasm of the stakeholders (especially the end users), and the generally low regard and approval rating of the CESM (Liu, 2006). Therefore, it is desired that some form of intermediate entity in the CESM, which can not only share the management responsibilities with the government, but can also enhance proactive management awareness and the efficient use of government resources for elderly

services. We consider the transformation of the government's role in the CESM by introducing the concepts polycentric governance and meta-governance. Briefly, the proponents of the former opine that the centre of power to manage the society is diverse, putting the government, the market and the society on the same position rather than that prescribed by the state-centred theory (McKieran et al, 2000). Polycentric uses cooperation and consultations to resolve disagreements and conflicts in the diverse and decentralised social environment. On the other hand, meta-governance pays more attention to the role of government in public service administration (Jessop, 2015). The government still plays the main role in the case of meta-governance, and it is regarded as 'the senior' in the social management network. However, the government does not assume the highest authority but bears the responsibilities of establishing common guidelines to govern social organisations and stabilising the general direction of the main players. For CESM, the designed way of a governance framework is mainly based on environmental factors, not least the specific social and political environments in which it operates (Meuleman, 2011).

With demand uncertainties due to market fluctuations or operation changes, the government is unable to adjust and update the purchasing decisions in time, resulting in the supply-demand information asymmetry and waste of community elderly services capacity (Guo et al., 2013, Nelson and Sen, 2014). In practice, this operational mechanism is lack of centralised management as well as the coordination between the demand and services capacity supply. The community elderly service institutions have no rights to supervise the elderly service providers (ESPs) who cooperate with the government by contracts, so they cannot directly coordinate price, costs, service capacity ordering quantity and relationships. Also, the performance evaluation made by the elderly for the ESP is not paid attention, so that the elderly services market is a lack of appropriate incentives and competition (Yang and Hwang, 2006). Gradually, the government-led community elderly institutions lose the risk aversion consciousness.

The tremendous development of the service industry has motivated the research in service supply chain (SSC); and the resulting SSC concepts and theories have been successfully applied to the fields of logistics, tourism, finance, healthcare (Akkermans and Vos, 2003; Hong et al, 2011; Huemer, 2012), amongst others. A more comprehensive definition of SSC is given by Song and Chen (2009), who describe SSC as a form of service-oriented integration supply

chain that, once the downstream customer has decided on the service demand, the service integrator, as the core manager, will devise a solution to satisfy the demand requirements. However, the study in SSC is still evolving. Few studies have so far sufficiently elaborated the features of services when developing the understanding of SSC. Furthermore, the study in the elderly service supply chain is still nascent. To address China's problems of its under-developed CESH and supply-demand mismatch, there exist enormous opportunities for exploring the organisational structure of CESH from the perspective of SSC. With regard to the coordination and optimization for the SSC, most scholars have proved the essence of SSC coordination was the complementation and cooperation of services capacity (Anderson and Morrice, 2000). And the supply contracts are effective tools in SSC, mainly including the quantity discounts and rebates, option contract, flexible quantity contract, buyback contract, compensation contract and so on. Many studies have illustrated that the option contract could effectively address the investment and risk-sharing issues on production capacity as well as the purchase of services capacity for the service integrator and the subcontractor. Therefore, this study identifies this research opportunity and aims at developing a CESH to address China's case. The proposed CESH will embody modern SSC concepts and its coordination mechanism will base on a set of option contracts. Based on this research, a set of new methods can be developed to obtain optimal solutions for elderly service capacity coordination for the CESH.

2 CASE STUDY OF HONG KONG'S COMMUNITY CARE SERVICES SYSTEM

The CESH in Hong Kong is called the 'community care services' (CCS), which is one important part of Hong Kong's developed elderly healthcare services system with outstanding performance. The CCS system in Hong Kong is more similar to the CESH promoted in mainland China. Thus, the experience of Hong Kong's CCS is more valuable for us to learn.

2.1 Diversified and Integrated Community Care Services for the Elderly

The CCS in Hong Kong is mainly classified into two categories based on the elderly's physical and mental

status, including the 'Day Care services for the Elderly' and 'Enhanced Home and Community Care Services'. The two types of CCS are designed according to the elderly's demand with a series of all-round surveys. And the CCS centre, as the service manager and implementer, carries out the case management to track and update the elderly's healthcare information. Generally, all the care services are provided by the third party that are the non-governmental institutions and non-profit institutions.

2.2 The Tripartite Cooperation of Services Supply with Contracts

The supply of community care services capacity has formed a tripartite cooperation mechanism among the government, the business and the third party institutions with contracts. The government refers to the Hong Kong social welfare department and related welfare sectors, the business includes the private service institutions and philanthropists, and the third party institutions involve the non-governmental institutions and non-profit institutions.

The government plays the purchase of services, fund-supporting, policy-making, supervision and guidance roles in the services capacity supply. The business works as an indispensable contributor to make up for the capacity limitations of the government and non-profit institutions and bring a huge boost in sponsoring different charity organizations. The third party institutions are the executor of policies and services, to some extent sharing the burden of the government and private institutions.

2.3 The Pilot Scheme on Community Care Service Voucher for the Elderly in Hong Kong

Recently, the mode of community care service voucher (CCSV) in Hong Kong has aroused widespread concern (Social Welfare Department of Hong Kong SAR, 2016b). The pilot scheme on CCSV for the elderly launched by the Hong Kong Social Welfare Department in 2013 aimed to provide service vouchers of about six thousand and five hundred-dollar monthly value for each elderly with moderately impaired physical status to subsidise them to freely select and use suitable care services or service portfolios. Moreover, the pilot scheme employs the 'money-follows-the-user' means, whereby the government provides subsidy directly to the elderly (instead of service providers) in the form of service

vouchers. Monthly, the government would pay the ESP for voucher amounts which the ESP receives from the elderly. During the implementation of the first-phase CCSV scheme, the performance resulted well, and now the second phase is in progress.

The CCSV mode is designed to change the traditional care services capacity operational mode of ‘Government—Care Service Institutions’ into the customer-centred resource flowing mode of ‘Government—the Elderly—Care Service Institutions’. It is helpful to promote the public-private partnership by offering the elderly more choices of selecting private care services to relieve pressure on the public care system. Thus, the CCSV scheme can not only enable the elderly to become sovereign consumers with government subsidies and choose care services with freedom, but also stimulate care institutions to improve their service levels for competition, contributing to strengthening the contacts among the elderly and social service institutions.

2.4 Comparisons and Implications based on the Practices in China and Hong Kong

In China, the current services capacity supply and demand model in the CESM works under an uncoordinated circumstance without core operators, where the services capacity flow, information flow and capital flow can hardly be controlled centrally. The government works as the policy-maker, capital-supporter and services buyer, while the community service institutions mainly serve as the subsidiary of our government actually without autonomous operation. Thus, the elderly services capacity providers work independently for their own profits. See Figure 1.

However, considering the typical cases of CESM in China and Hong Kong, we can find that even though the CESM may be different externally due to the local governance, they can be mainly classified into two types based on the means of GPS, in which one type (Type I) is that the government authorises the community centres to purchase elderly services capacity, such as the Beijing Xuanwu District mode, Nanjing Gulou District mode and Guangzhou Feng Yuan Street mode (Lin, 2016); the other type (Type II) is the government directly purchases elderly services capacity from the ESP, such as the Hefei mode (Zhao, 2016) and Hong Kong mode (Social Welfare Department of Hong Kong SAR, 2016a). See Figure 2.

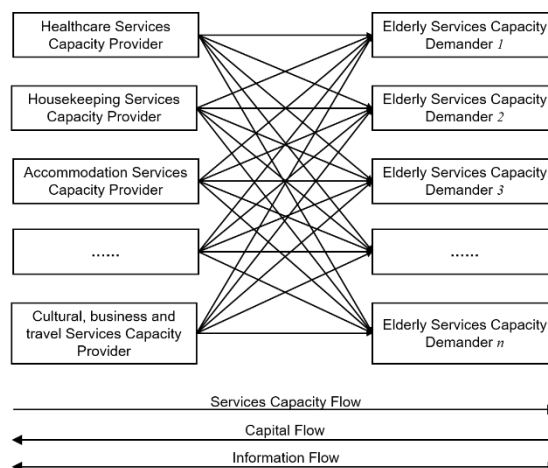
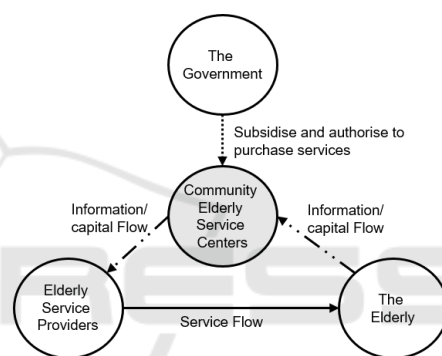
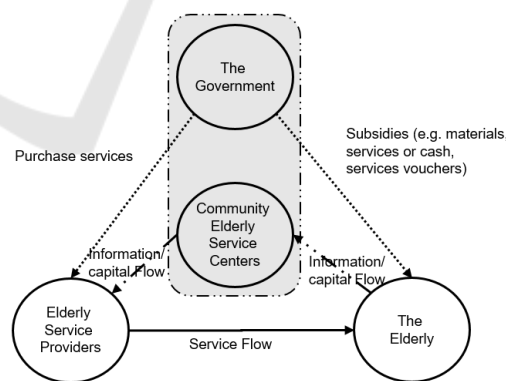


Figure 1: The current services capacity supply and demand in China’s CESM.



Type I GPS: Means of Authority to Purchase Elderly Services Capacity



Type II GPS: Means of the Government Directly Purchase of Elderly Services Capacity

Figure 2: Two types of CESM based on the GPS modes in China and Hong Kong.

Hong Kong’s CCS system has taken significant effect on the social welfare (Social Welfare Department of Hong Kong SAR, 2016a), which is extremely instructive for the development of CESM that we are currently implementing in mainland

China. First, the responsibilities of the core manager (e.g. the community elderly services centres) in elderly services should be highlighted with a dominant role in the execution and coordination of care services capacity, helping alleviate the government’s burden. Second, the cooperation among the government, the community service centre (i.e. the elderly service integrator, namely ESI) and the ESP can be reinforced by contracts and supervision mechanisms. Also, we should encourage the qualified ESP to participate in community-based elderly services supply scheme, and introduce competition mechanism to stimulate the ESP to improve their service quality and efficiency. Third, the role of government in elderly services cannot be ignored, furthermore, we should improve the government’s abilities on fund-supporting, planning, supervision and guidance in the whole social elderly services market, and advocate the government to purchase elderly services. Finally, it is a creative measure to offer more rights for the elderly to select services and to make the elderly as the third party to help regulate the service provides. However, the CCSV is now limited to the specific group of aged people in Hong Kong, and cannot be distributed to all the elderly as a general welfare. Therefore, it is also the starting point of this paper to explore how to overcome the drawbacks of the CCSV mode, perform the service voucher’s effect of promoting competition, optimise service capacity allocation and render the elderly the right to vote for suitable providers in China.

3 THE OPERATION MECHANISM OF CESM WITH THE OPTION CONTRACT BASED ON THE SSC

3.1 The Innovative Mode of Community-based Elderly Healthcare Service Supply Chain

Based on the above theoretical and practical analysis, we propose a brand new system for the CESM based on the SSC and governance theories. Zhang et al. (2011) first studied the elderly service supply chain (ESSC), and defined it as a type of functional chain structure, which was oriented towards the requirements of the elderly. Based on the study, Zhang et al. (2013) completed a survey and evaluation about the ESSC’s performance by applying the ESSC mode into the Guangzhou Feng

Yuan Street community, and they demonstrated its remarkable effect on improving the CESM. However, they did not uncover the specific structure of ESSC and studied further its operation. Considering their research, we focus on the elderly services in communities, propose and define that the community-based elderly healthcare service supply chain (EHSSC) is a community-centred ESSC in which the government, the ESP and the elderly service integrator (the ESI) work collaboratively and interdependently by a series of contracts to provide diversified elderly services including physical care, housekeeping, accommodation, culture, business, travel, finance and so on, to realize the centralised management of service flow, capital flow and information flow.

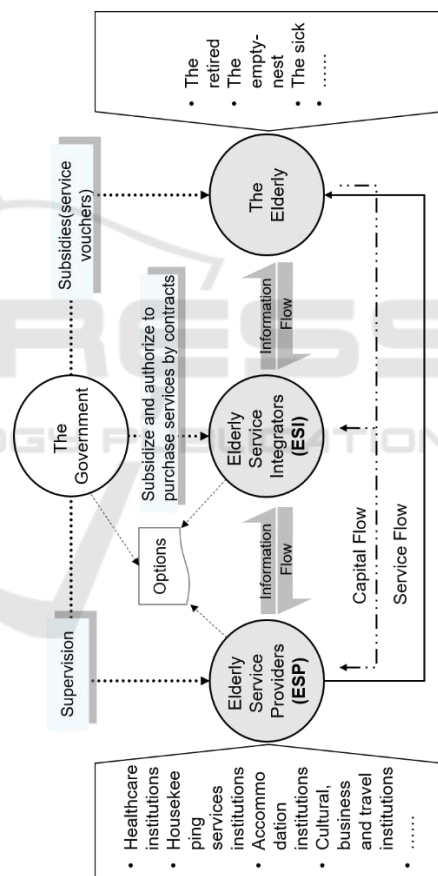


Figure 3: The mode of community-based EHSSC.

Specifically, the ESI serves as the core institution in the EHSSC, such as the community elderly service centre and the community information service centre, to purchasing the elderly services capacity, coordinate the supply-demand between the upstream and the downstream and control the service quality and risks. The ESPs, including the healthcare

institutions, housekeeping services institutions, accommodation and culture institutions and so on, directly provide services to the elderly based on the service solutions made by the ESI. The government plays an indispensably important role in funding, supervising the supply chain contracts, promoting efficient operation and providing related supports. See Figure 3.

3.2 The Operation Mechanism of EHSSC with the Option Contract and Service Vouchers

Considering the drawbacks of CCSV mode, we design a kind of universal service voucher for all the elderly in communities, and propose the contract governance mode aiming to unify the four parties including the government, the community ESI, the ESP and the elderly.

Combing the advantages of CESM in China and Hong Kong, we design a community-based elderly services capacity operation framework with the option contract and service vouchers, in which the option contract is the agreement between the ESI and the ESP, and the service vouchers are also one kind of contract between the government and the elderly. The service vouchers are designed with the consideration of the elderly's physical and economic conditions, and the elderly may afford part of the services fee by themselves. Thus, the service vouchers can not only stimulate the elderly to use the community care services, but also introduce the competition and voting mechanism.

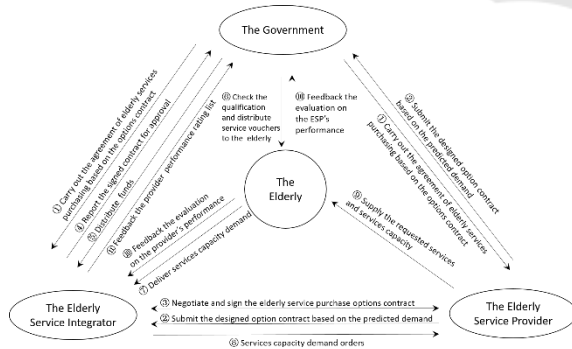


Figure 4: The operational mode of community-based elderly services capacity supply-demand.

Specifically, the new mode works as follows (see Figure 4). The government is responsible for organizing the community ESI and the ESP, and enacts the negotiation framework of elderly service capacity option contracts and service voucher scheme. Then, the ESP submits their service capacity

option contracts to the government and community ESI. After the first examination and approval by the government, the community ESI begins to evaluate the potential ESPs and sign the community-based elderly service capacity option contracts with the candidate ESPs. Once the ESP accepts the service option premium, they should provide requested elderly services and services capacity with the agreed price. When the option contract takes effect, the community ESI would feedback the services capacity pricing to the government. Then, the government takes charge of approving and archiving the contracts, subsequently authorises and funds the ESI to purchase services capacity and pay related expenditure. After launching the service voucher scheme, the government will deliver different valued service vouchers to the elderly based on the service capacity pricing and the elderly's conditions. The elderly can use the service vouchers to buy favourite services. Those ESPs, who receive the vouchers, can redeem equal-valued cash from the government. In summary, the four parties in the contract governance mode have the independent operating autonomy, which means they are interdependent with each other and share a common interest. All of them have the resources which are necessary for others to achieve mutual benefits, but they are also independent to control the resources, that is, the government holds the capital, the elderly have the vouchers, the ESPs have the services capacity, and the ESI has the responsibilities to coordinate the demand and service capacity. The participation of four governance parties in the operational mode promotes the coordination and cooperation among all stakeholders.

4 SUGGESTIONS ON THE IMPLEMENTATION OF EHSSC WITH THE OPTION CONTRACT AND SERVICE VOUCHER SCHEME

Thus, it should be a forward-looking method to build up the CESM with option contract and SSC under the policy of GPS. There are some suggestions needed to be adopted to further improve the implementation of EHSSC with the option contract and service voucher scheme in practice.

First, it is a must for the government and the ESI to change their behaviour means in order to implement the EHSSC with the option contract. With the transformation of government functions, the relationships among the government, market and

society should be reframed objectively. Specifically, the responsibilities undertaken by the government are turned over to the community ESI and the ESP in form of contracts, building up a three-level cooperation framework within an option contract system.

Second, it is a need to further improve the construction of related regulations for the implementation of EHSSC with the option contract and service vouchers. The EHSSC with option contract is a new governance mode to purchase community-based elderly services capacity and collaborate the upstream and downstream of SSC, which is completely different from the traditional government-led CESM. A new set of regulations and corresponding measures, undoubtedly are need to be worked out, such as the specification of funding and policy support, standards of GPS and rules of community ESP introduction.

Finally, it is significant to strengthen supervision for EHSSC. As the executive of the community elderly services capacity option contract and the core enterprise in SSC, the community ESI needs to accept the supervision from the government and the elderly, in order to ensure the elderly services quality and the overall interests of the EHSSC. The community ESP, as the key carrier of the option contract, needs to be supervised by ESI and the elderly, to unify the overall goal of EHSSC and facilitate the standard and sustainable operation.

5 CONCLUSIONS

Based on the current situation and problems on the CESM, we optimise the CESM systematically from the perspective of community governance theories, SSC and option contracts. First, we introduce the polymeric governance and Meta governance to reframe and define the relationships and functions among the government, community ESI and the elderly. Second, we apply the concept of SSC to put forward an innovative community elderly services operation structure—EHSSC, and define the connotation of EHSSC and its operational processes. The new mode highlights the core role of ESI, who strengthens the coordination between the upstream and downstream, integrates services capacity from various ESPs, and provides personalized and diverse service solutions for the elderly. Furthermore, we use the option contracts and service voucher scheme to build up the four-dimensional supervision and cooperation mechanism framework among the government, the ESI, the ESP and the elderly, and

further propose the operational mode of EHSSC with the option contract. Finally, we propose some suggestions for the implementation of EHSSC with the option contract and service vouchers in terms of the behavioural changes of the government and ESI, regulations for the EHSSC and its supervision system, to provide guidance for the development of EHSSC.

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