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ORIGINAL RESEARCH

Elderly healthcare service at the community health centers in the Pearl River Delta region, China

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Abstract

Objective: The recent population census showed China had officially become a graying society. In the meantime, China also faces a growing burden of non-communicable diseases. Since 2009, a series of policies have been implemented to enhance primary care at the community level. This study describes the elderly care services provided in the differently organized community health centers (CHCs).

Methods: It covered 13 CHCs of six cities located within the Pearl River Delta (PRD) region. In-depth interviews were conducted with a total of 59 health administrators, CHC managers, and CHC doctors regarding elderly care.

Results: The study found that accessibility of healthcare for elders has been improved due to the development of health insurance schemes as well as preferential policy to encourage the CHC utilization by the elderly. All the CHCs provide health examinations and chronic disease management to the permanent elderly within their catchment district. However, some preventative care such as fall prevention, immunization and mental health management are not provided.

Conclusion: Key barriers include low capacity of health service providers in the CHCs, and a lack of government investment in CHCs. Our report provides an empirical evidence for the health care reform in China.

Keywords: Elderly care, Community health center, China

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Introduction

The healthcare provision for the elderly is an inevitable problem facing China because of the rapidly growing elderly population. Health needs of the elderly are particularly higher compared to other subgroups of populations because they are more likely to suffer from more than one kind of concurrent chronic disease [1]. Primary care is meant to provide whole person oriented, comprehensive services as its basic function and thus it is supposed to play a leading role in chronic disease management [2]. Additionally, it is an effective way to address chronic diseases in the primary care system [3].

China has recognized the fundamental role of primary care in its recent comprehensive reform plans [4]. The service model of using community health centers (CHCs) has contributed to healthier population outcomes in the community in the United States [3]. In China,

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CHCs are responsible to provide primary care for a comprehensive curative and preventative care for the community [5]. The elderly is a priority group of the targeted populations of CHCs of the government investment to improve equity. Within the government funding of public health service package, CHCs are responsible to provide health assessments and health promotion to elders living in the community.

Guangdong Province is one of the earliest areas to develop primary care in China. It is the most populous province in China containing a population of seven million people aged 65 and above [6]. Nearly half of the population in Guangdong Province live in the Pearl River Delta (PRD) region [7]. PRD region refers to the network of cities that covers Guangzhou, Shenzhen, Zhuhai, Dongguan, Zhongshan and Foshan. It is one of the most developed areas with dynamic economy in China. Networks of CHCs have been set up in urban areas of PRD region to cover 95% of the entire population [8]. There were a total of 1,752 community health facilities in 2009 at the six PRD cities [9].

Studies have described primary care development in China from a macro view [10,11] and regarding social care for the elderly [12], but few studies have specifically targeted elderly services at the primary care level. This paper aims to describe and highlight the elderly healthcare service delivery by the CHCs in the PRD region thus identifying the main barriers to the implementation of elderly healthcare provision. Policy recommendations are also provided to improve elder care in the PR cities.

Methods

The present study is a part of a larger project entitled "A Study of Comparing Primary care Services among Six Cities in the Pearl River Delta (PRD)", conducted by the Chinese University of Hong Kong, with elderly healthcare services as one of the main research components. Qualitative data were collected by in-depth interviews with health administrators and providers at the CHCs in the PRD. Interview guides were pilot-tested and validated before used in all cities. The following aspects were addressed in the interview regarding elderly health care: healthcare service provision, management and organizational structures, financing, human resources and regulation.

Data collection

The study was carried out from May to June 2011. Two or three CHCs from different districts were selected according to the local economic status. A total of 13 CHCs were investigated in this study. Officers from the local health authorities in charge of community health services were interviewed regarding elderly healthcare management. The directors of the CHCs were interviewed regarding the overall situation of the CHC. One clinical doctor and one nurse were selected to carry out the interviews. In total, 59 in-depth interviews were conducted with 12 officers from health authorities, 13 directors of CHCs, 20 clinical doctors and 14 public health doctors (Table 1). Interviews were conducted in Mandarin Chinese and were between 60 and 90 minutes in length. Interviews were audio recorded and then transcribed verbatim into Microsoft Word files. Ethics approval was obtained from the Joint Chinese University of Hong Kong - New Territories East Cluster Clinical Research Ethics Committee and the reference no. was CRE-2010.441.

Data analysis

Interviews were analyzed using a thematic framework. Two trained researchers independently read through all the transcriptions, and listed recurring viewpoints relevant to questions of the interview guidelines. The transcriptions were indexed into a thematic system. The coded thematic charts were labeled with interpretations. Codes were then merged into larger categories based on the relevance of their interpretations, and major themes were formed. During the analysis, two researchers analyzed independently and then discussed intensively to get an agreement to move forward. All data analysis was conducted in Chinese to keep information consistent. Final results of the major themes and verbatim quotes were then translated into English.

Results

Accessibility for the services

In general, access to health services can be defined as the ease with which health care is obtained. We explored the geographical, financial and temporal accessibility for elder care of the CHCs. The open hours for the CHCs varied in the six cities. In Dongguan, Zhongshan, Foshan, the CHCs open for 24 hours. While in Shenzhen and Zhuhai, services

Table 1. In-depth interviews conducted in the 6 PRD cities between May to June in 2011

In-depth interview	Guang zhou	Shen zhen	Zhong shan	Fo shan	Dong guan	Zhu hai	Total
Officials	0	1	2	4	2	3	12
Directors of CHC	3	2	2	2	2	2	13
Clinical doctors	5	4	4	3	2	2	20
Public health doctors	4	2	2	2	2	2	14
Total	12	9	10	11	8	9	59

for the elderly are available from around 8am to 10pm. The Guangzhou CHCs close at 5pm. All the CHCs can be accessed during public holidays.

All CHCs under investigation were recognized by the social insurance scheme which promotes the utilization of CHC services by the elderly. Since 2008, the six cities in PRD region have all set up the outpatient insurance scheme which was integrated into the Urban Basic Medical Insurance Scheme. The elderly, regardless of their employment status, can benefit from reimbursements for the outpatient drug costs at the self-selected community health organizations. Chronic diseases, such as hypertension and diabetes, are covered for drug costs and enjoy free consultation in the CHCs.

"We have included the twenty-three kinds of chronic diseases, such as hypertension, diabetes, etc. into the special outpatient insurance scheme. The insurer can enjoy a reimbursement of 4,500RMB every year with premium of only 400RMB. Most insurers are the elderly."

---Officer, Foshan

"After implementation of the health insurance, the outpatient visits increased. The local residents benefit most, especially elders as they would come to test blood sugar"

---Director, CHC in Shenzhen

The preferential policy supports a waived consultation fee and provides annual free body checkups for elders in the CHCs. For other acute services, the price in CHCs is approximately 70% of that of tertiary hospitals [29].

"The consultation fee was waived for all the elderly aged 60 and above, including migrant elders."

----Director, CHC in Shenzhen

Content of elderly healthcare services

Elderly healthcare services available at the CHCs included acute medical care and preventive care (Table 2).

As reported, common disease consultation and treatment lasts for about 10 minutes typically. Blood pressure is tested to screen for hypertension during the first visit and the patient's health record is established. Many elders visit the doctors in CHCs for refill of their prescriptions and medications, in which case a consultation lasts for 3 minutes.

CHCs provide health education using brochures, bulletin boards and health lectures. Health lectures are required to be given at least one to two times every year on nutritious diets, chronic disease control and healthy lifestyle.

Free physical examination should be provided annually for the elderly population over 60 or 65 depending on different cities. Most CHCs reported that free body checkups may be not sustainable due to lack of government funding.

"We did the free body checkup the year before last year because we got a sum of funding special for that, but last

Table 2. Healthcare service provided for elders in the CHCs in PRD region

Content	Item	Notes
Medical care	Common disease consultation and treatment	Insured
	Home-based care	Insured
Preventive care	Health education (health prescription, health lecture)	Free
	Health record establishment	Free
	Body examination	Free
	Hypertension and diabetes screening	Partially free
	Follow-up of hypertension, diabetes, serious mental diseases and cardiovascular diseases	Free

year we didn't do that. The public health services package funding from the government cannot even cover the cost of the body checkup."

----Director, CHC in Zhongshan

The screening and control for common chronic diseases constitute the main contents of the elderly public health services. The two most common chronic diseases addressed by the CHCs were hypertension and diabetes. Apart from these two, patients with cancer in Zhongshan, with stroke in Foshan, and with coronary heart disease in Guangzhou were also under management.

Regular follow-up is the main task identified for chronic disease management. Follow-ups are conducted according to the severity levels of the disease. Taking hypertension as an example, patients with modest levels of risk can be followed up for every three months while those with higher levels need to be followed up monthly. Follow-ups are usually conducted through outpatient visits or telephone calls but seldom by home visits.

"We don't have that time to do home visits. The workload is too high to visit the patients in their houses."

--- Director, CHC in Shenzhen

"There are geriatric service provision in our CHC including in-home care and drug delivery. These services are charged as regulated. Regarding the elderly follow-up, it's usually done by calls rather than house visits."

----Public health doctor, CHC in Zhuhai

Besides the services mentioned above, each city has its own specialized services according to their own strengths and local Health Authority's regulation. In Shenzhen, for those seniors aged 75 or above, healthcare such as intravenous injection can be administered at home. While in Guangzhou, the "Safety bell" service was provided to the elderly living in the community. The bell is a mechanism installed in an elderly person's bedroom to facilitate calling the CHC staff in case emergency care is needed.

Privately owned CHCs in Zhuhai and Guangzhou needed to obtain the permit of health authorities to provide public health services.

"We authorized thirty CHCs to carry out this work (chronic disease management). There are a total of 2100 patients with hypertension under management. We allocated the special funding to the CHCs by 50 RMB per head."

---Officer, Zhuhai

The providers

It was commonly reflected by the health workers interviewed that the workload was high while the manpower was dramatically insufficient. Chronic disease management and follow-up is time consuming. The public CHCs conduct most follow-ups via telephone.

"We are in great shortage of the public health doctors or nurses so the follow-up job was taken by the physicians at the community health stations."

---Public health doctor, CHC in Dongguan

"We don't have enough hands to reach the elderly in the community. Some elders don't want us to go to their homes."

---Director, CHC in Shenzhen

"Regarding the (chronic disease) management, we would visit their houses to measure the blood pressure. But now, because we manage too many cases, like two persons are managing more than 300 patients with hypertension at one village. Therefore, we can only do the follow-ups by calling them."

---Public health doctor, CHC in Zhongshan

The end result is that the quality of the public health care may be suboptimal. CHC staff tended to avoid migrant elders as they are a difficult population to reach.

"The prevalence of hypertension was 18.8% in 2008; however, we actually managed a very small proportion of all hypertensive patients due to lack of hands."

---Director, CHC in Shenzhen

"We have the scheme of diabetes management which required four times follow-up every year. But the operation is not up to the standard. With regard to the hypertension, we do nothing apart from the follow-up."

-- Officer, Foshan

"The requirement for the management of hypertension or diabetes was 50%-60% of the population. We usually chose local rich elders because they have a better compliance. That's easier for us to

complete."

---Public health doctor, CHC in Shenzhen

Due to a shortage of nurses, most chronic disease management was carried out by the clinical doctors. Roles of the health workers within the CHCs had not been clearly defined.

"I graduated as a medical student and then got the qualification of general practitioner. Now I am working as a full time nurse. "

---Clinical doctor, CHC in Foshan

"General practitioners are also involved in the chronic disease management, like setting up the health record. Doctors or nurses will call the patient to follow up their conditions and ask them to come over to measure blood pressure. "

---Clinical doctor, CHC in Shenzhen

Public health service package funding support

The government granted funding for public health service package (FPHSP) to all types of CHCs. The local governments provide capitation cost of 15-40 RMB for public health services package which includes elder care. CHCs complained this was not enough.

"The funding cannot even cover the cost of the body examination, which is 100 RMB per person."

---Director, CHC in Zhuhai

The CHCs supported by the hospital reflected difficulties in obtaining the full FPHSP due to their management pattern. Hospital-managed CHCs are integrated into one of the departments of the holding hospital and do not have a separate management sector and financial accountant. All the government FPHSP is allocated to the holding hospital first and then assigned to the CHC management office by the holding hospital. However, the holding hospital can withhold funding as is seen fit.

"Our CHC could get 15 RMB for following up one chronic patient. But all funding goes to the holding hospital, we don't know how much we get. (We) don't have motivation to do the public health work."

--- Director, CHC in Shenzhen

The implementation of medical insurance, in contrary to the hospital-managed CHCs, was a big stimulus to the privately owned CHCs:

"We kept financial loss until 2009 when the outpatient could get 70% of the charge reimbursed by the health insurance."

---Director, CHC in Zhuhai

The regulation of the elderly care services

The district health authority is responsible to oversee the quality of the public health services provided, while line based technical advisories are given by different organizations. For example, the chronic disease hospital should instruct the chronic disease management services in the CHC while the Center of Disease Control is responsible to instruct the communicable disease prevention, while maternal care has to be reported to the maternal and child hospital. The local health authorities examined the CHCs against indicators such as the management rate and health examination rate of elders in the community. Government funds were found not often fully disbursed to CHCs due to CHCs not achieving set targets on those indicators.

Discussion

Elderly patients are a high priority target group for primary care due to their higher prevalence of chronic diseases [13]. Prior to reforms elders would use over the counter medication for illness or go to tertiary hospitals for the outpatient visits when suffering minor diseases [14]. The prevention and management provision for the elderly with chronic disease by CHCs serves as an accountable means for the elderly healthcare. This paper provides a snapshot of the current situation of elderly healthcare based in the CHCs in the urban PRD region. Elderly services such as regular health checkups and chronic disease management are being provided in all the CHCs. The shortage of government investment and qualified health workers for elderly care were identified as two barriers for the community.

Patterns of elderly care in the PRD region were similar to those provided in Shanghai [15]. However, no systematic care regarding diabetes or hypertension has been provided as in Shanghai [16]. The residents with common chronic diseases such as hypertension and diabetes mellitus entered the regularly follow-up system depending on the

level of severity. Treatment rates and control rates of hypertension in the investigation area were among the range of 70.3% to 92.1% and 20.1% to 26.7% for public CHCs in the PDR, respectively [17], which was better than those figures at southern China and Beijing [18,19].

A safety network has been established through the enlarged coverage of the elderly by the social medical insurance scheme. Previously, medical costs were paid out of pocket for the majority of elders before 2007 [14]. This is a big step forward to achieving equal access to primary health care. This is attributed to the dynamic economic progress at PRD which is ahead of most other parts of China [20]. Social health insurance schemes have been expanded to migrants in Shenzhen [21], but the coverage is still too low compared with the local residents, and hinders their further use of primary care [22].

The present service provision is still short of the stated goal considering that many regulated services such as vaccine injections, osteoporosis prevention, fall prevention, etc., have not been carried out in any CHCs [23]. We also found a large proportion of elderly are not registered locally for services of the CHCs. Studies found that the awareness of preventive care remains low among the elderly. Many of them are reluctant to receive preventive care. In Shanghai, elders expressed poorer response in overall satisfaction and knowledge of available public health care in the CHCs [24].

Barriers

Government funding is crucial for CHCs and the level varies in different cities depending on their local economic development [25]. Shortages of funding and manpower were two main barriers for service provision in the CHCs. With limited funding, the CHCs have to restrict high-cost services, such as in-home care and mental healthcare [26]. Therefore, despite the fact that all the CHCs provide the regulated elderly services, the main focus is on the curative services instead of preventive care.

The increasing workload of implementing public health services overwhelms the health providers but the extra workload does not translate into increased income. Consequently, the health workers have low motivation to perform public health due to low economic reward and even flow to other settings. Our findings are similar to observations in Shanghai [27] and other places in China [28]. The role of health providers are also not clearly defined and this may affect the quality of clinical care as doctors spend lots of time on filling forms and other administrative duties.

Limitations

The results of this study should be interpreted with caution. The qualitative study nature prevents its further generalisability. However, lessons of PRD region serve as an empirical example to other regions in Guangdong and China. Only views of providers and administrators were collected, service utilization of hypertensive patients were collected and reported elsewhere by our team [17].

Policy recommendations

Preventative care can be enhanced by providing sustainable funding such as the increase of capitation funds. The capacity of the health worker in terms of both quantity and quality needs to be enhanced through training and skills building, in addition to other means. More specific training on elderly healthcare needs to be offered to the health providers. There needs to be a greater emphasis on how to attract the elderly to utilize the service at CHC, such as increasing the awareness of the preventive care, and reducing copayment rate for elder's preventive services.

Conclusions

The present study described the status quo of the elderly care service provision in CHCs using a qualitative study approach. All CHCs provide elderly care services including curative treatment, body examination and chronic diseases management. Sustainable government funding is required and the professional capacity of CHCs needs to be enhanced to achieve the government targets of primary care reform.

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