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Commercial Opportunities in the Primary Care Market in China

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PROUD TO SUPPORT HEALTHCARE IS GREAT BRITAIN & NORTHERN IRELAND

Glossary

AIC	Administration for Industry and Commerce
APP	Application
CAGR	Compound Average Growth Rate
CBBC	China-Britain Business Council
CDC	Centre for Disease Control and Prevention
CFDA	China Food and Drug Administration
CHA	Chinese Hospital Association
CHC	Community Health Centre
CHS	Community Health Station
CIRC	China Insurance Regulatory Commission
CMA	China Medical Association
CMDA	Chinese Medical Doctor Association
CNA	Chinese Nursing Association
CNCA	China National Committee on Ageing
CPC	Communist Party of China
CPMA	Chinese Preventive Medication Association
CRCA	China Research Centre for Ageing
CSA	Chinese Stomatological Association
DIT	Department for International Trade
ECG	Electrocardiograph
EHR	Electronic Health Record
EMR	Electronic Medical Record
GDP	Gross Domestic Product
GHI	Grassroots Healthcare Institution
GP	General Practitioner
GSM	Global System for Mobile Communications
HFPC	Health and Family Planning Commission
IHG	International Hospitals Group Limited
IPCD	Insurance Programme for Catastrophic Diseases

MCA	Ministry of Civil Affairs
MFA	Medical Financial Aid
MOC	Ministry of Commerce
MOE	Ministry of Education
MOF	Ministry of Finance
MOHRSS	Ministry of Human Resources and Social Security
NACTM	National Association of Chinese Traditional Medicine
NDRC	National Development and Reform Commission
NHFPC	National Health and Family Planning Commission
NPC	National People's Congress
NPOPSS	National Planning Office of Philosophy and Social Science
NRCMS	New Rural Cooperative Medical Scheme
PACS	Picture Archiving and Communication System
PCDI	Per Capita Disposable Income
PDA	Personal Digital Assistant
RCGP	Royal College of General Practitioners
RCMS	Rural Cooperative Medical System
RHIN	Regional Health Information Network
SOE	State-owned Enterprise
THC	Township Health Centre
UEBMI	Urban Employees Basic Medical Insurance
UFH	United Family Healthcare
UN	United Nations
URBMI	Urban Residents Basic Medical Insurance
VC	Village Clinic
WHO	World Health Organisation

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Executive summary

Primary care in mainland China is being transformed as part of the country's overall healthcare reform. The primary care service market is expected to grow from £42.6 billion in 2014 to £98.5[1] billion by 2020. The development of primary care will generate significant commercial opportunities for both domestic and international players. In developing new primary care models, the Chinese government is looking at best practice internationally. The UK is well known for the quality of its primary care and its general practitioner (GP) training and education system.

This report provides a detailed analysis of the primary care market both nationally and regionally, where we take Guangdong Province as an example. Opportunities for UK investors and companies involved in the primary care market will be identified and further assessed.

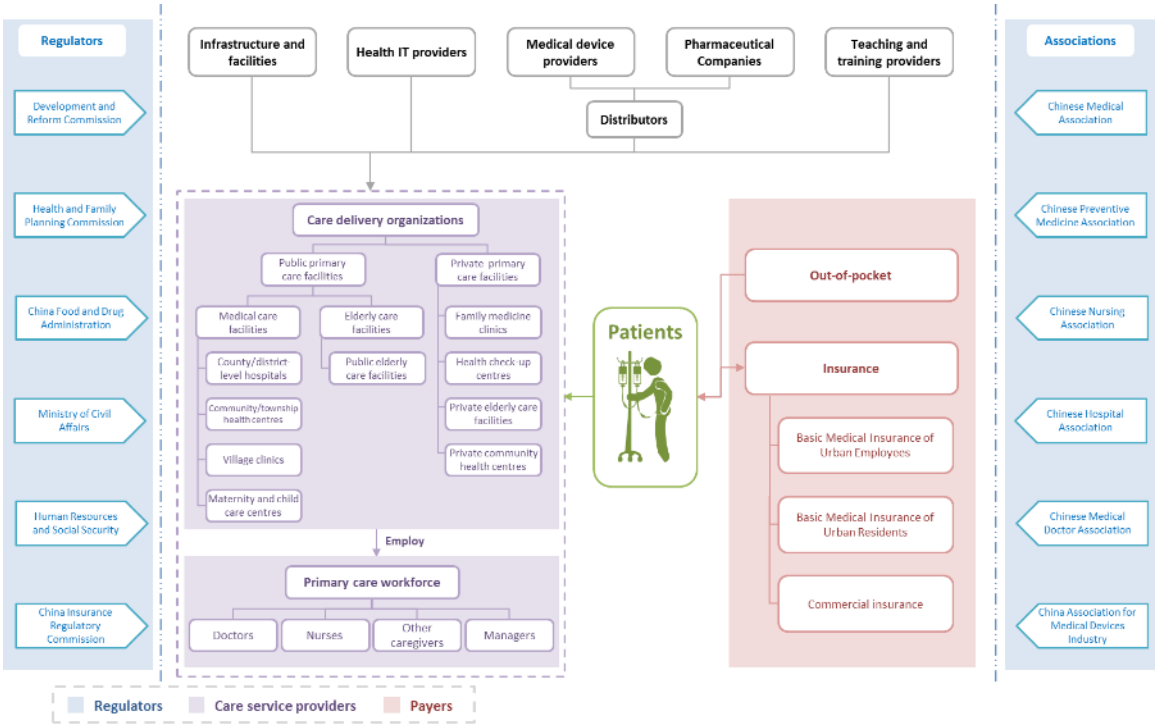

Figure 1 Eco-system of the primary care system in China

The following five sub-sectors of the primary care market are analysed:

- primary care services
- education and training
- health insurance
- infrastructure and facilities
- health IT

[1] An exchange rate of £1 to RMB 9 is used in this report

For each sub-sector, an assessment of demand, supply, providers, regulators, market size, growth potential and competition will be conducted. The following eleven commercial opportunities are identified:

Sub-sectors	Identified opportunities
Primary care services	1. Service provision in private family medicine clinics/Community Health Centres (CHCs) 2. Service provision in homecare 3. Service provision in private elderly care facilities 4. Assist the government in establishing primary care systems and pilot programmes
Education and training	5. Provide GP training programmes 6. Provide training programmes for elderly care workers
Infrastructure and facilities	7. Provide operations related consulting services
Health IT	8. Population health information analysis 9. Telecare/Telehealth solutions 10. Provide clinic and elderly care facility IT solutions
Health insurance	11. Expand commercial medical insurance in China

Table 1 Identified opportunities in the primary care market

To ensure UK players are well-placed for these opportunities, a detailed assessment is carried out. The following nine opportunities are identified for further evaluation:

#1 Service provision in private family medicine clinics/CHCs

#2 Service provision in homecare

#3 Service provision in private elderly care facilities

#4 Assist the government in establishing primary care systems and pilot programmes

#5 Provide GP training programmes

#6 Provide training programmes for elderly care workers

#7 Provide operations related consulting services

#8 Population health information analysis

#9 Telecare/Telehealth solutions

Given the changing landscape of China's primary care market, the market size and growth potential for these opportunities are evaluated. The results are illustrated using a 3x3 matrix in Figure 2.

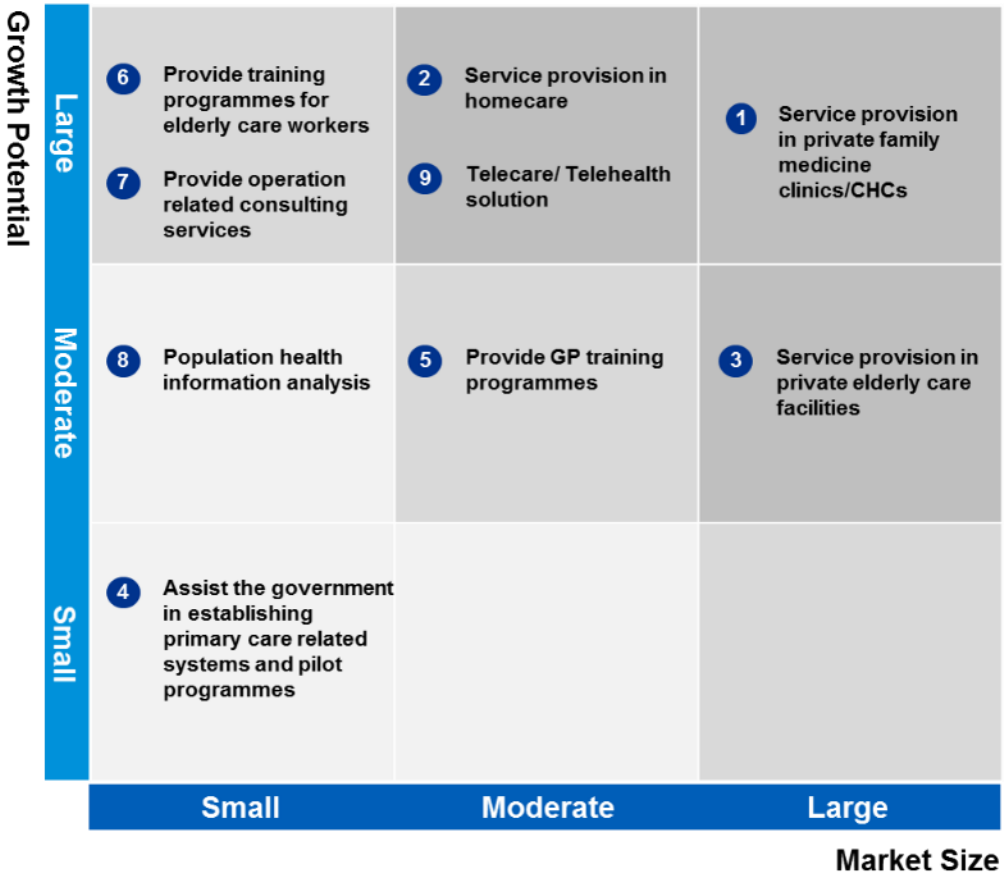

Figure 2 Evaluation matrix of market size against growth potential for the identified opportunities

Growth potential	Market size
Large: over 15% Compound Average Growth Rate (CAGR)	Large: over £1 billion
Moderate: 5%-15% CAGR	Moderate: £100 million to £1 billion
Small: less than 5% CAGR	Small: less than £100 million

After assessment against market size and growth potential, the following seven opportunities are selected for UK players looking to enter the China primary care space, eliminating the ones in light grey boxes (#8 and #4) in the matrix:

#1 Service provision in private family medicine clinics/CHCs

#2 Service provision in homecare

#3 Service provision in private elderly care facilities

#5 Provide GP training programmes

#6 Provide training programmes for elderly care workers

#7 Provide operations related consulting services

#9 Telecare/Telehealth solutions

A number of key success factors are highlighted for UK investors planning to enter the primary care market in China:

- Finding the right local partner
- Seeking help from UK agencies in China such as Department for International Trade (DIT)/ China-Britain Business Council (CBBC)

- Understanding the market and focusing on product/service localisation
- Setting up pilot programmes to gain reputation and customer acceptance
- Devoting time to business development in the local market
- Adapting to local culture
- Workforce localisation

Entering China's primary care market is not without risks and challenges. Overall challenges and risks in the areas of regulatory, culture, partnership, business development and workforce are discussed in this report.

The report illustrates the go-to-market strategies for each commercial opportunity in greater detail, suggesting clear steps that UK players may follow when entering China's primary care market. Potential regulators and potential partners are explained.

1. Introduction

Primary care is internationally acknowledged as the gate-keeping system for providing care outside of an acute setting. Research shows that an effective primary care system achieves the best outcome for patients, improves access and lowers overall healthcare system costs. With the increasing prevalence of chronic diseases, ageing population and funding pressure, China is reviewing best practices globally and taking actions to strengthen its primary care system.

An effective primary care system has five core features:

- First point of contact
- Community and home-centred care
- Coordinated and integrated care
- Comprehensive care
- Continuous and holistic care

China developed its primary care system following the establishment of the People's Republic of China in 1949. One of the major achievements was the innovative Rural Cooperative Medical System (RCMS), a three-tier healthcare system for rural population. The first tier involved the introduction of the "barefoot doctors"[2] who provided free basic healthcare in villages. The second tier involved the township clinics, which were subsidised by the government. County level hospitals and above formed the third tier of the system. This "China Model" significantly improved population health and life expectancy across the country. It was highly praised by the United Nations (UN) and the World Health Organisation (WHO) as an effective model for other developing countries at the time. However, with the impact of Chinese economic reforms[3] initiated in December 1978, the RCMS and the three-tier system lost government funding and gradually ended in the 1980s. This was followed by market-oriented healthcare reform which started in early 1990s.

The market-oriented reforms negatively affected the primary care system and increased the related healthcare costs. With increasing public complaints about difficulties in accessing quality healthcare and the unaffordability of medical bills, the Chinese government initiated a series of reforms to rebuild its primary care system.

- In 1997, the policy known as *Decision on Health Reform and Development* set out plans to develop community health services and improve the three-tier rural health service network.
- In 2002, the government issued *Decision on Further Strengthening Rural Health Work* which stated that a New Rural Cooperative Medical Scheme (NRCMS) would be established.
- The outbreak of SARS in 2003 accelerated healthcare reform. Pilots of NRCMS were introduced in 2003 and quickly implemented nationally.

In 2009, the *Implementation Plan of Main Areas of Health System Reform in the Near Future (2009-2011)* marked the beginning of New Healthcare Reform in China. There were five key reforms:

- Ensuring basic health insurance coverage
- Establishing a national essential drug list
- Improving primary care
- Ensuring equal access to basic public health
- Piloting reform in public hospitals

Significant progress has been made in improving primary care since 2009, especially in achieving wide coverage of basic medical insurance and upgrading of infrastructure and facilities. There are three types of basic medical insurance in China. Employees and retirees in urban areas are compulsorily enrolled in Urban

[2] Barefoot doctors refer to farmers who received minimal basic medical and paramedical training and worked in rural villages in China
[3] Chinese economic reform refers to a series of reform actions initiated by the government on the decollectivisation of agriculture, the opening up of the country to foreign investment, permission for entrepreneurs to start businesses, privatization and contracting out of state-owned industry, the lifting of price controls and regulations.

Employees Basic Medical Insurance (UEBMI). Other residents in urban areas can enrol in Urban Residents Basic Medical Insurance (URBMI). Rural residents can participate in the NRCMS. By the end of 2014, over 95% of the total population was covered by basic medical insurance *(2014 White Paper on Human Rights in China, State Council, 2015).*

To develop the primary care workforce, the government issued a series of policies starting with *Outline of National Health Service System Development (2015-2020)*. The government set a goal of having at least two GPs per 10,000 population by 2020. This means a total of 290,000 GPs are needed (National Health and Family Planning Commission, 2015). According to the Development Centre for Medical Science and Technology, National Health and Family Planning Commission (NHFPC), there were 170,000 GPs in 2015. With a gap of 120,000 GPs, an annual increase of 24,000 GPs is required from 2016.

Strengthening primary care is a key part of "Healthy China", which was approved as a national strategy at the 5th Plenary Session of the Communist Party of China (CPC)'s 18th Central Committee in October 2015. The vision of "Healthy China" is to achieve long-term prosperity by improving the health of the entire population. At the 4th session of 12th National People's Congress (NPC) in March 2016, Ms Bin Li, the Director of NHFPC, emphasised that "more attention will be paid to institutional innovation, prevention and health promotion. We will enhance the quality of basic health care services, give full play to grassroots healthcare workers and provide them with more resources".

Building on a weak and non-functioning three-tier system, primary care reform in China faces many challenges:

- Lack of a well-tested primary care model that meets current and future demand
- Basic medical insurance has wide population coverage but primary care and outpatient services are often not reimbursed
- Low quality of existing primary care medical professionals
- Difficulty in attracting and retaining talent in primary care setting as compensation is low, training and development system is not well established
- The public regards primary care services as of lower quality than the acute setting. Patients tend to go straight to acute hospitals hence bypassing primary care
- Primary care and elderly care services are not integrated as the two services are managed and funded by separate government departments

The challenges create a range of commercial opportunities for both domestic and international companies. The Chinese government has issued a number of policies to encourage both domestic and international investment in healthcare. Attracted by the huge market size and growing demand, more and more companies are investing in China's primary care sector, ranging from service provision to elderly care services, medical equipment and diagnostics, to medical insurance and Telecare.

2. Analysis of the primary care market

This section provides a detailed understanding of the market and the likely commercial opportunities in China's primary care sector.

Primary care services

Primary care services are analysed in the following six key areas:

- Public health services
- Health management services
- Medical services
- Nursing services
- Rehabilitation services
- Safety monitoring and emergency aid

Education and training

The commercial opportunities to improve the quantity and quality of the primary care workforce through three categories of education and training are discussed:

- Degree education
- Continued education
- Vocational education

Infrastructure and facilities

Three service categories related to infrastructure and facilities are discussed:

- Architecture and design
- Process design and business model planning
- Facility services

Health IT

Three segments of health IT solutions, as well as relevant sub-segments, are discussed:

- Regional Health Information Network (RHIN)
- Clinic IT/elderly care facility IT solutions
- mHealth/Telehealth/Telecare

Health insurance

The coverage of social insurance and the rising opportunities for commercial insurance are discussed.

- Social insurance
- Commercial insurance

NOTE: Consumables, medical equipments and pharmaceuticals sectors are not discussed further in this report as global players are well established in the Chinese market.

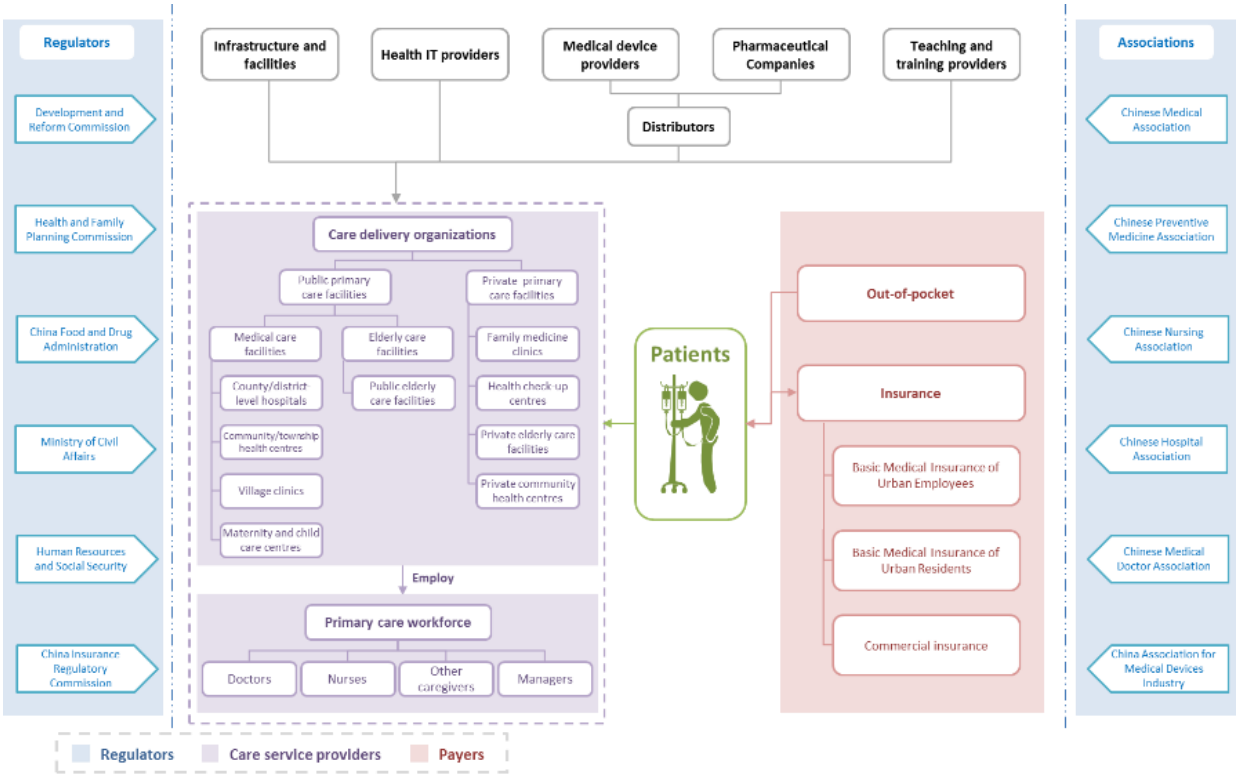

Figure 3 Eco-system of the primary care system in China

2.1 Primary care services

China's economy has grown rapidly in the past few decades. In 2015 the Per Capita Disposable Income (PCDI) was £2,441[4]. Alongside the strengthening economy, life expectancy has increased to 76 years; 10.5% of the population – 144 million people – were aged 65 and over[5] in 2015.

Increasing longevity and modern lifestyles contribute to increasingly complex and chronic health conditions. One quarter of citizens aged 15 and over have been diagnosed with chronic diseases[6]. Heart disease and cerebrovascular disease have become the second and third highest causes of death after cancer.

This places substantial demand on primary care. The Chinese government envisages a health care system structured with clear pathways between primary, secondary and tertiary care and a social care system based on home services, supported by community services and supplemented by residential services.

Although historically most primary care facilities were run by the public sector, the government has been encouraging the private sector to invest in primary care. Private clinics are important supplements to the public grassroots healthcare institutions (GHIs) which are the main organisations responsible for delivering primary care.

In first tier cities and some cities in eastern China, international brands dominate the high-end market. Local leading health check-up groups (iKang, Health 100) and mHealth vendors (Dr Chunyu, Dingxiangyuan) are also developing their network of clinics. The elderly care market is at an early stage of development and highly fragmented. Alongside the elderly care providers, players from other industries such as IT, real estates and insurance companies are entering this market. Some international brands in homecare and elderly care have already entered the Chinese market.

[4] Chinese Statistics Yearbook 2015
[5] National Bureau of Statistics, China National Committee on Ageing (CNCA)
[6] NHFPC statistics, 2013

Demand and supply

Economic context

As the second largest economy with a Gross Domestic Product (GDP) of more than £7.5 trillion – the PCDI grew rapidly in both urban and rural China.

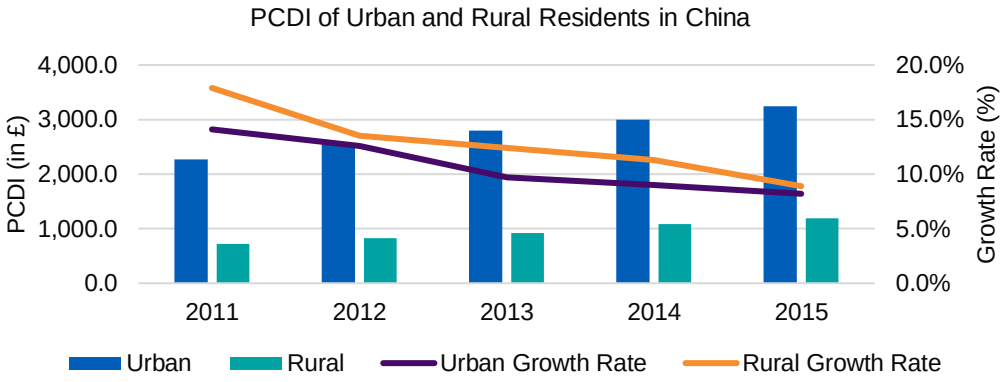

Figure 4 PCDI of Urban and Rural Residents in China

Source: *Chinese Statistics Yearbook 2015;* KPMG China Analysis

Based on 2014 data, the Yangtze River Delta is the leading economic area with Shanghai at the top. Beijing, Zhejiang, Jiangsu and Guangdong rank second to fifth respectively.

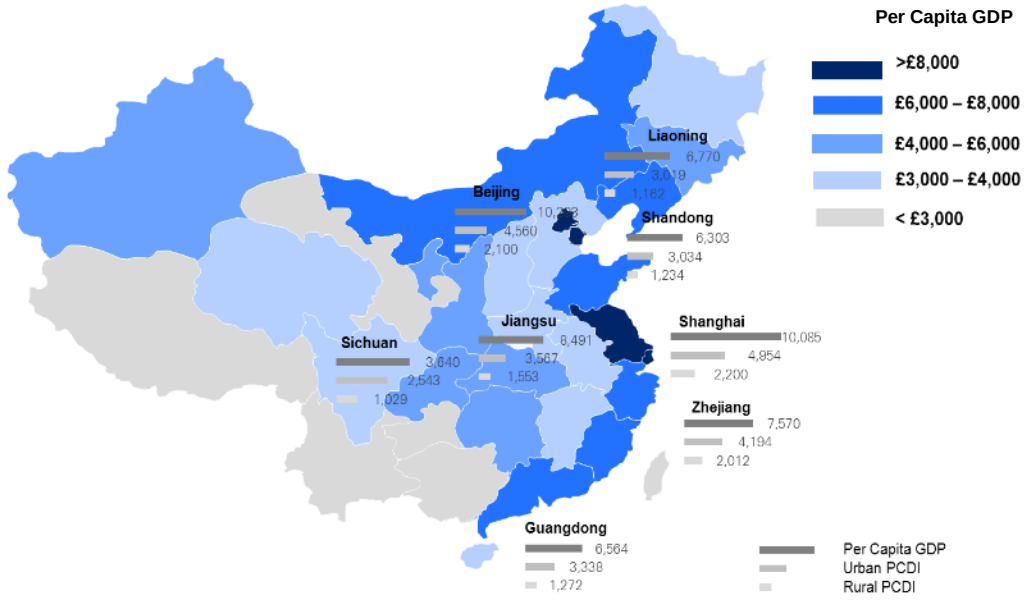

Figure 5 2014 Per Capita GDP and PCDI of Major provinces/Municipalities in China

Source: *National Bureau of Statistics 2015;* KPMG China Analysis

Demography

The number of people aged 65 and over in China is expected to reach 166.6 million by 2020. According to the World Bank, the growth rate of older people in China over the next 30 years will be higher than that in many developed countries.

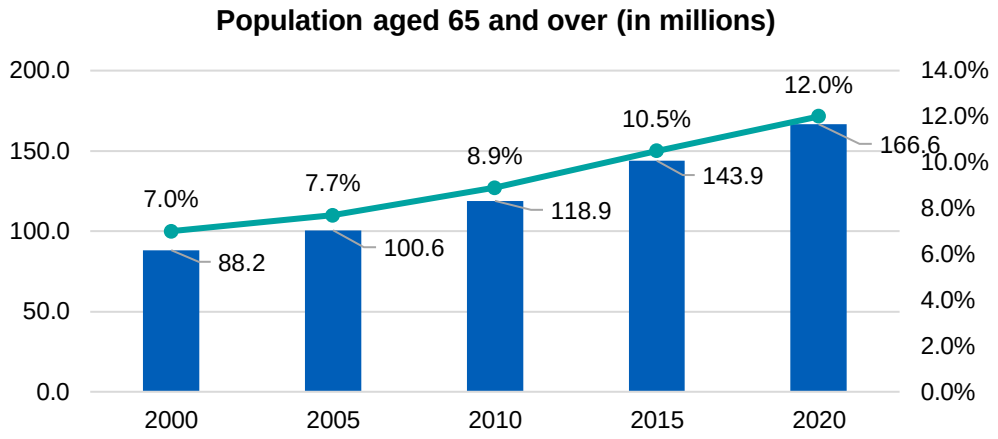

Figure 6 Population aged 65 and over in China (in millions)

Source: *National Bureau of Statistics, China National Committee on Ageing (CNCA) 2015;* KPMG China Analysis

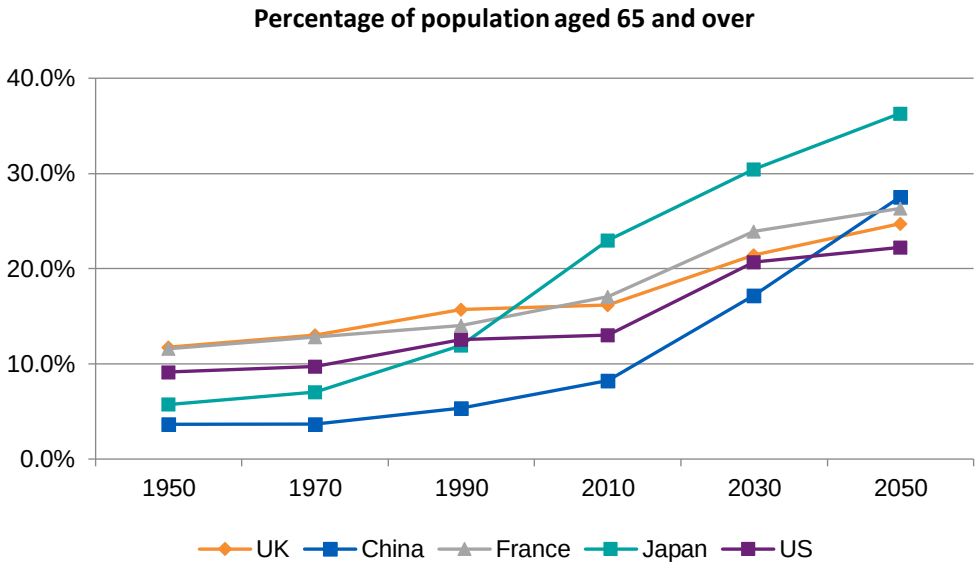

Figure 7 Percentage of population aged 65 and over in China and other benchmarking countries
Source: *World Bank's World Population Prospects (the 2010 Revision);* KPMG China Analysis

Among all the provinces and municipalities, Liaoning, Sichuan, Anhui, Jiangsu, Chongqing, Shandong, Shanghai and Hunan have the highest proportions of elderly people.

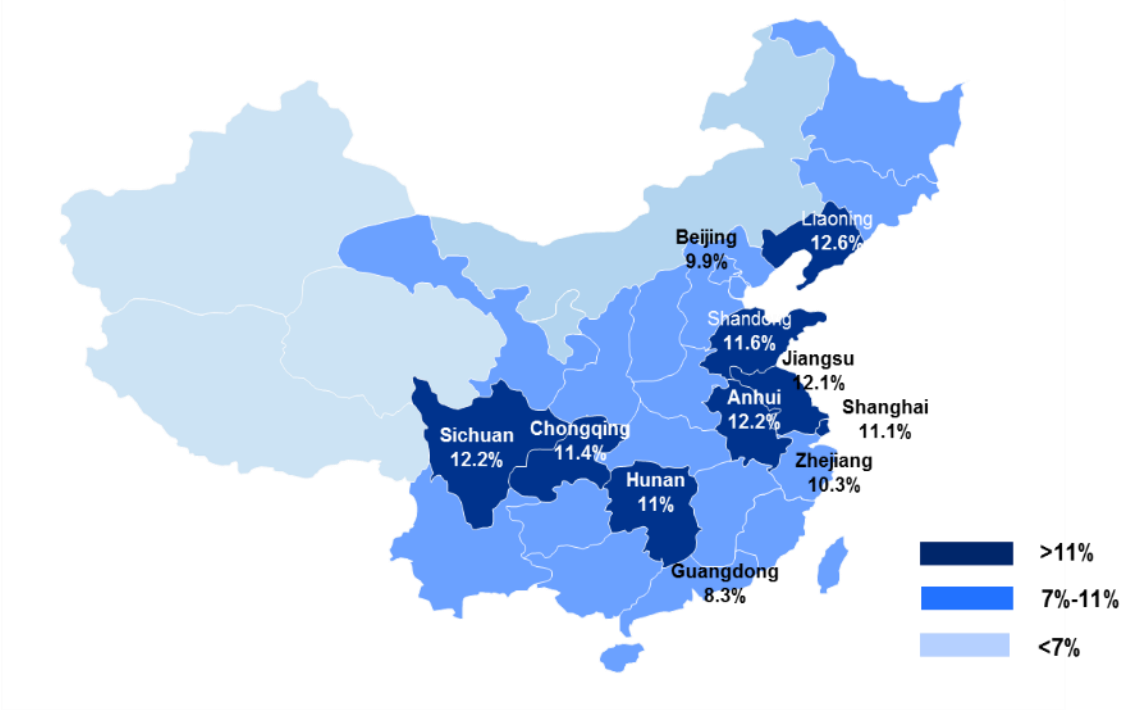

Figure 8 Percentage of population aged 65 and over in major provinces/municipalities in China

Source: *National Bureau of Statistics, Local Ageing Committee 2015*; KPMG China Analysis

Health status

Life expectancy in China has increased significantly, from 68 years in 1985 to 76 years in 2015, although there are wide variations between regions.

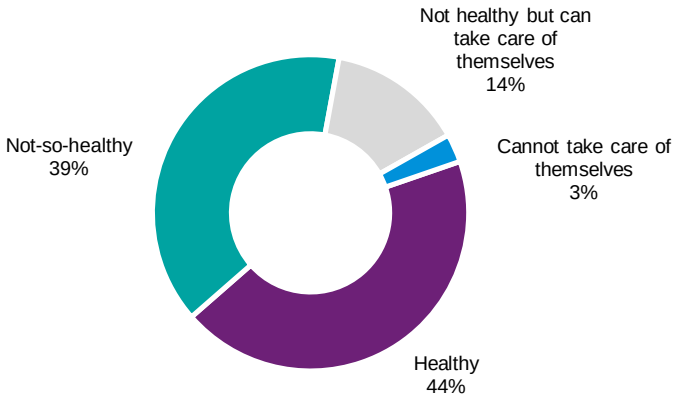

Figure 9 Health status of ageing population in China (2010)

Source: *The 6th National Census Conducted in 2010*

In Shanghai, one of the most economically developed cities, life expectancy was 82.7 years[7] in 2015, while it was just 71.5 years in Yunnan[8], a province with much lower economic development.

In the Sixth National Census in 2010, senior residents were asked to assess their health status. 43.8% were healthy and capable of taking care of themselves. 39.3% had minor ailments which didn't affect daily life. 13.9% had suffered an illness in the previous month but could still take care of themselves. 2.9% were in bad health and could not perform daily activities by themselves such as eating, dressing or walking.

The health status of young people also has its challenges. Aspects of the modern lifestyle such as smoking, alcohol, a salty diet and physical inactivity lead to unfitness and unhealthy lives, especially among young

[7] Shanghai Health and Family Planning Commission, Xinhua Net
[8] Yunnan Health and Family Planning Commission, Yunnan Net

"white-collar" office employees. According to the 2016 Shanghai White-collar Health Indicator Whitepaper[9] based on 400,000 health check-ups, up to 94.9% of white-collar workers in Shanghai had health issues including overweight (33.7%), thyroid disorders (23.7%) and having a fatty liver (17.1%).

The prevalence of the top four chronic diseases -- hypertension, diabetes, heart disease and cerebrovascular disease – have increased significantly in China over the past two decades. NHFPC statistics in 2013 indicated that the prevalence of chronic diseases was 24.5% among citizens aged 15 and above, compared with 54.0% among citizens aged 65 and over. Heart diseases and cerebrovascular diseases have become the second and third leading causes of death after cancer.

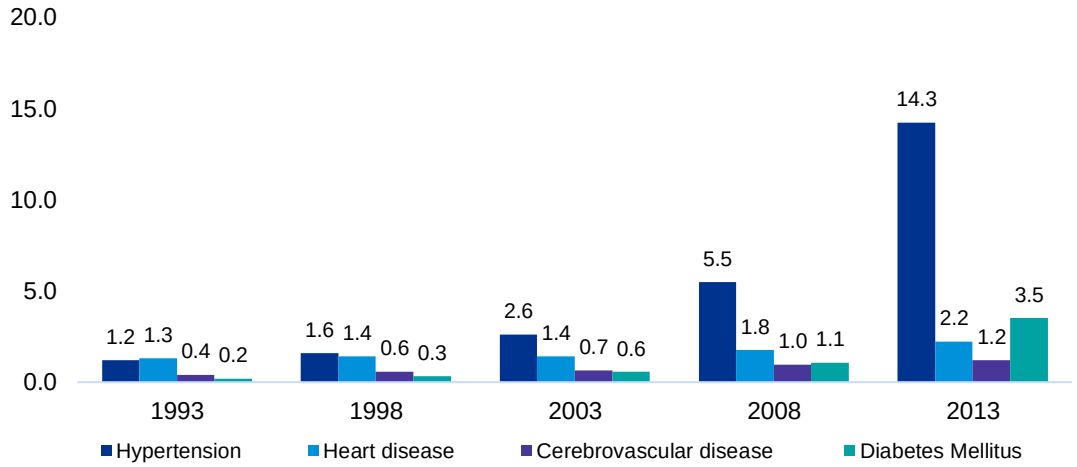

Figure 10 Prevalence of four major chronic diseases in China (%)

Source: *NHFPC Yearbook 2014;* KPMG China Analysis

Political context

Under the New Healthcare Reform initiated in 2009, the importance of improving primary care and providing equitable healthcare for all citizens was stressed. The *Outline of National Health Service System Development (2015-2020)* required that the number of GPs per 10,000 population increased from 1.07 in 2013 to 2.0 by 2020, and the number of beds in GHIs per thousand population increased from 0.99 to 1.2. The *Guidance on Development of Tiered Medical System* required public hospital reform pilot cities[10] to achieve these objectives by 2017.

[9] http://www.thepaper.cn/newsDetail_forward_1448290
[10] Public hospital reform cities refers to the designated cities that shall conduct public hospital reform pilots

Goals for the Tiered Medical System pilots by 2017:

- ≥ 95% GHIs have the appropriate infrastructure
- over 65% of the total medical activities to happen in GHIs
- counties with over 300,000 population shall have at least one Tier 2A general hospital; 90% of the activities to be within the county
- ≥ 2 GPs per 10,000 urban population; every township health centre shall have at least one GP
- ≥ 30% urban population sign contracts with GPs
- ≥ 70% patients are able to see a GHI doctor within two weeks
- ≥ 50% counties (districts) covered by telemedicine service
- integrate information systems and improve the systems in all tier 2 & tier 3 hospitals, over 80% township health centres and community health centres
- referrals from tier 2 and tier 3 hospitals to GHIs grow 10% year on year
- all community healthcare centres and township healthcare centres establish stable relationships with tier 2 and tier 3 hospitals for expert support and collaboration
- standardised guidelines for hypertension and diabetes applied for over 40% of patients in urban areas

As for elderly care, the model promoted by the government is generally called the 9073 or 9064 model. Most regions follow the 9073 model, which generally refers to 90% of elderly people living at home supported by family and home care services, 7% living at home supported by community-based elderly care services such as day-care centres, and 3% living in nursing homes or other elderly care institutions. According to the *13th Five-Year Plan for Civil Affairs Development* published by the Ministry of Civil Affairs (MCA) in July 2016, the number of elderly care beds will increase from 30.3 beds per thousand elderly population in 2015 to 35-40 beds per thousand elderly population by 2020.

To better understand China's primary care services provision, we will provide detailed analysis in the following areas:

- public health services
- health management services
- medical services
- nursing services
- rehabilitation services
- safety monitoring and emergency aid

For each of the six areas, we will answer the following questions:

- What are the services provided?
- Who provides the services ?
- What is the price and who are the payers?

(1) Public health services

What are the services provided? The government defined the following public health services:

- Residents' health record setup and management
- Health education
- Vaccinations
- Maternity care
- Child care (0-6 years old)
- Elderly people health check-ups
- Chronic disease management of hypertension, including four follow-ups a year
- Chronic disease management of diabetes, including four follow-ups a year
- Management of severe mental diseases
- Management of tuberculosis
- Health management with traditional Chinese medicine
- Reporting and management of contagious diseases and emergent public health events
- Supervision assistance for sanitation inspection

Who provides the services? All public GHIs. People are more active in seeking vaccinations, child care, maternity care, elderly people health check-ups and chronic diseases management services, as the benefits are more visible and the services are free.

Some regions deliver limited home visits for chronic diseases management for the elderly, during which tests such as blood pressure, blood glucose checks and electrocardiographs (ECG) are performed.

Public health services are commissioned by the government and delivered in the community. However, due to limited funding and lack of capbility, the actual public health services being delivered are insufficient and not comprehensive.

What is the price and who are the payers? The government provides funding for public health services. It was £5 per capita in 2016.

(2) Health management services

What are the services provided?

- Health monitoring: The majority of health monitoring are done voluntarily and are paid out-of-pocket by individuals. The CHC is responsible for holding health check-up sessions at the designated facilities, but costs incurred are paid out-of-pocket by individuals.
- Chronic disease management: Patients with chronic diseases are encouraged to seek advice from their local CHCs. Many patients still prefer to have their follow up appointments at the acute hospitals where they were initially diagnosed by the specialists.

Who provides the services? Large public primary care facilities, including CHCs and THCs provide the services. Private facilities, including some chain clinics and health check-up centres, provide the services at higher price. Most of the services are delivered at the community facilities. Some private facilities use mHealth/Telehealth solutions for high-end customers.

In 2014, 373 million people had health check-ups, which accounted for approximately a quarter of the population[11]. 72.3% of the health check-up services were delivered by public facilities, 21.6% were provided by private health check-up centres and 6.1% provided by mHealth/Telehealth solutions[12].

What is the price and who are the payers? Health management is not covered by basic medical insurance schemes, which would be either self-funded or provided by the employers as welfare. The fee can range from tens to hundreds of pounds per year, depending on service packages.

[11] NHFPC Statistics Yearbook 2015
[12] Published by Analysis in 2016, http://www.cs.com.cn/gppd/hyyj/201604/t20160407_4941814.html

(3) Medical services

What are the services provided? Medical services provided by primary care facilities mainly involve diseases like cold/influenza, digestive diseases and chronic diseases such as diabetes and hypertension. Large primary care facilities, such as CHCs and Township Health Centres (THCs), have beds to hospitalise patients and can perform surgeries such as hernia repair, appendectomy, cholecystectomy and caesarean section.

Who provides the services? Both the public and private sectors provide medical services at community facilities. Home services provided by either party are limited.

Very few public facilities provide home medical services. Foshan City in Guangdong Province is one of the few regions piloting home medical services. United Family Healthcare (UFH) is one of the very few high-end private hospitals providing such services to its patients.

What is the price and who are the payers? The home medical services provided by public facilities are partially covered by basic medical insurance and out-of-pocket payment. Some commercial insurance schemes offer packages that include home medical services. The price for private service is generally expensive, e.g. UFH offers a package of home visits with a fixed fee of £290 per year, which includes four home visits by a physician and a nurse.

(4) Nursing services

What are the services provided?

- Daily living support, e.g. assistance in eating, getting out of bed, dressing, grooming, toileting, bathing, safety guard, etc.
- Specialised services, e.g. medication administration, tube feeding, bedsore and wound management.

Who provides the services? Home nursing services are mainly provided by the private sector:

- Traditional home-helpers providing a combination of living support and basic nursing services.
- Specialised nursing services provided by qualified nurses. There are established providers in major cities such as Beijing, Shanghai and Guangzhou.

What is the price and who are the payers? The private service is charged at hourly rate at £10-£15. In 2012 a pilot project was launched in Qingdao City, Shandong Province where costs of some nursing services were funded by social medical insurance schemes, and the reimbursement rate reached 90%.

(5) Rehabilitation services

What are the services provided? Very little rehabilitation services are provided in China's primary care setting. It was estimated that over 70 million elderly people were in need of rehabilitation services in 2013[13].

Who provides the services? Rehabilitation services are generally provided by the rehabilitation departments of acute general hospitals or the rehabilitation specialty hospitals. Songjiang district in Shanghai is one of the very few regions in eastern China that provides rehabilitation services in primary care.

What is the price and who are the payers? Most rehabilitation services are not covered by basic medical insurance schemes. Patients will pay out-of-pocket or use private commercial insurance packages.

[13] Dr. Jianjun Li, Director of China Rehabilitation Research Centre, 2014, http://health.people.com.cn/n/2014/0922/c14739-25708050.html

(6) Safety monitoring and emergency aid

What are the services provided? It is estimated that 10% of the elderly population live alone and 41% live with their spouse only, accounting for a total of around 100 million people[14]. Safety monitoring and emergency aid services are emerging and increasingly being adopted.

Who provides the services? Home care service providers and the elderly care facilities have partnered up with Telecare vendors to provide innovative solutions, e.g. a community elderly care centre in Pudong district, Shanghai City cooperates with Izhaohu, a Telecare vendor, to monitor the safety of elderly people. Any notable issues are sent to the mobile phone of a care worker so that the elderly can get the appropriate care in a timely manner.

As for an emergency aid service, almost every major city has call-centre-based emergency aid services, subsidised by the governments. Each city or district has different local vendors that work together. In some cases, emergency response service providers partner up with mobile phone manufacturers and local 120 or 999 service centers, the client can get rapid access to 120 or 999 services by pressing a single button on their mobile phones.

What is the price and who are the payers? Safety monitoring and emergency aid services are often not funded. The Telecare solutions may cost hundreds or thousands of pounds depending on their functionality. One of the active providers currently existing in China is the Yun Jun Duan (云君端), which provides home-based Telecare solutions and devices for patients cared for at home. The current cost for installing a comprehensive system is more than £14,000. Most of the cases are based on pilot programmes which are not yet widely adopted.

2.1.1 Providers

The government encourages the private sector, including foreign investors, to invest in primary health care and elderly care space. The providers are further analysed under the following categories:

- Public primary care providers
  - Community health centres/community health stations (CHSs)
  - Township health centres (THCs)/village centres (VCs)
- Private primary care providers
  - Private clinics
  - Private CHCs
- Health check-up centres
  - mHealth vendors
- Public elderly care providers
  - Day care centres
  - Nursing homes and social welfare homes
- Private elderly care providers
  - Call centre operators
  - Homecare service providers
  - IT solution providers
  - Residential care providers
  - Real estate developers
  - Insurance companies

[14] 2015 Report on Chinese Family Development, NHFPC

Primary care providers

Public CHCs/CHSs and THCs/VCs

Public primary care services are provided mainly by CHCs and CHSs in urban areas, and THCs and VCs in rural settings.

	CHCs	THCs
Management model	Located in urban cities 3 major types of management stakeholders at CHCs: • City/district level health bureaus • Host hospitals (Tier 3/Tier 2) • Enterprise stakeholders, i.e. state-owned enterprises (SOEs)	Located in rural areas 1 major type of management stakeholders at THCs: • County level health bureaus
Operational model	Typically, 1 CHC managing and supporting 3-4 CHSs	Typically, 1 THC managing and supporting 10+ village clinics

Table 2 Management and operational model of CHCs and THCs

The total number of outpatient visits and inpatient admissions in GHIs accounts for about 60% and 24% respectively of the total activities. NHFPC statistics in 2013 indicated that THCs and VCs were the backbone of the GHIs which together delivered 70-90% of the total primary care services.

2013	Facility		Beds		Outpatient Visit		Inpatient Admissions	
	#	%	#	%	#	%	#	%
CHCs	8,488	0.9%	167,998	12.4%	508	11.7%	2,920	6.8%
CHSs	25,477	2.8%	26,243	1.9%	149	3.5%	301	0.7%
THCs	37,015	4.0%	1,136,492	84.2%	1,007	23.3%	39,372	91.5%
VCs	648,619	70.9%	N/A	N/A	2,012	46.5%	N/A	N/A
Others	195,769	21.4%	19,175	1.4%	648	15.0%	414	1.0%
Total	915,368	100.0%	1,349,908	100.0%	4,324	100.0%	43,007	100.0%

Table 3 Service activities of CHCs and THCs

Source: *NHFPC Statistics Yearbook 2014;* KPMG China Analysis

Private CHCs

Although the majority of CHCs are publicly owned, private CHCs have emerged in recent years, for example, Yunnan Xinkang and Shanxi Qiangsen. Compared with public CHCs, private CHCs mainly target the middle class market, providing more convenient access.

Private family medicine clinics

Some chain brands such as UFH and Parkway are mainly based in tier 1 cities. These clinics were initially set up to target expatriates, and have now gradually extended to the local high-end market.

Health check-up centres

Local well-known health check-up groups are also trying to break into primary care services, seeking service extensions from disease prevention to primary care service delivery. For example, iKang has set up clinics in Beijing, Shanghai and Shenzhen.

mHealth vendors

Some prominent healthcare app companies have extended their service offerings from online to offline clinics, for example, Dr Chunyu and Dingxiangyuan. Dr Chunyu plans to set up 300 clinics in 50 cities in 2016 while Dingxiangyuan has established two family medicine clinics in Fuzhou and Hangzhou, with five more being planned.

Elderly care providers

Day care centres

Most day care centres provide services such as daily living support, entertainment and emergency aid. Some day care centres do have beds to accommodate elderly people who may require short stays. Some day care centres have rehabilitation equipment and a GP at a nearby community health centre who can visit patients on a regular basis. The use of day care centres is low due to the lack of awareness of the services available and elderly people seeing day care centres as an unattractive option.

Nursing homes and social welfare homes

Public elderly care institutions are fully funded by government bodies such as the MCA to provide elderly care services to those who receive government subsidies. According to the China Research Centre for Ageing (CRCA), on average, less than 40% of all public senior care facilities can provide long-term professional nursing care for people who cannot take care of themselves.

Since the publication of the 12th Five-Year Plan, many new elderly care projects have been established with the backing of government agencies. The MCA is pushing this agenda to increase the number of elderly care facilities. Major challenges include lack of service standards and shortage of trained nursing staff. The government is exploring PPP model of having the elderly care facilities “built by government and operated by private companies”. This will present new opportunities for private investors and senior service companies.

Call centre operators

Elderly care call centres are often established by private investors in close collaboration with the local government. Diversified elderly care and home care services are provided based on the requirement of the clients transferred by call centre staff. Those elderly care and home care providers invested in the call centres will have the advantage to serve those clients who accessed the call centres. Services from other providers

may also be accessed and integrated on this call centre platform, usually encouraged by the local government.

Homecare service providers

The private brand chain for home care is now a mature elderly care business model in many developed countries. However, in China, few local companies have capabilities in this area, and the existing ones (such as Qingsong and Ainong) are mostly expert in providing daily living care as opposed to specialised nursing and medical care. A number of international providers from the US and Japan are trying to enter this sector, such as Right At Home and Home Instead from the US and Riei from Japan. However, these companies are not developing quickly due to the lack of an estalished public social insurance and commercial insurance system, and difficulty in localisation and slow adaptation of the foreign care delivery model.

IT solution providers

Many small companies or departments in big companies are using IT to provide health management services, such as Neusoft Xikang and Wonders Fullway. Some small companies, such as iZhaohu, are also using sensor-based solutions and apps for safety monitoring and nursing services. As with elderly care service provision in the UK and US, integrated elderly care service delivery with the help of Telehealth and Telecare will be an emerging trend in the near future. Care delivery models provided by Tunstall in the UK are examples that China is looking at, in which Telehealth and remote monitoring, Telecare, home-med and off-line services including wearable devices, daily care, nursing and rehabilitation care can be integrated through IT platforms or call centres. As RHIN is already highly developed in most cities, it is possible that elderly care services can be connected and accessed via such platforms.

Residential care providers

There are numerous residential care providers in China, with the leading ones operating in chains. Providers of this kind, such as Fosun, Cherish-Yearn, YueCheng Group and Le Amor normally target the high-end market and provide both long-term nursing care and living apartments designed for elderly people (usually 400-600 square feet). For instance, Fosun Pharmaceuticals is cooperating with Fortress in building senior care apartments.

Real estate developers, insurance companies and other investors

There has been increasing interest in developing the residential care market in China. Local real estate companies, such as Vanke Real Estate and Poly Estate, and insurance companies such as Taikang Life and Union Life have been pursuing opportunities by building senior living centres. Some foreign investors, such as Columbia Pacific Advisors and Emeritus Corporation are also joining the race.

2.1.2 Regulators

National Health and Family Planning Commission (NHFPC)

The NHFPC issues national health policies in China, its core function is to plan and allocate health and family-planning resources; make laws, regulations and policies for health and family planning; develop drug policies including the Essential Medicines Policy; develop a health and family planning personnel development plan; administer and supervise public health and clinical services; administer and deliver family planning services; and manage the NRCMS for rural residents.

China Food and Drug Administration (CFDA)

The CFDA administers and technically supervises research and development, production, distribution and use of drugs. It also oversees, inspects and audits safety assurance systems for food, supplements and cosmetics. The CFDA works with the NHFPC on setting up an adverse reaction/events reporting system and handling protocols for major drugs and medical devices.

National Development and Reform Commission (NDRC)

The NDRC is responsible for key infrastructure development programmes and overall planning, including the development of private healthcare institutions. It also coordinates health system development and reform initiatives.

Ministry of Finance (MOF)

The MOF allocates health budgets and subsidies. It provides funding support for implementing health policies, oversees financial issues of the public health sector, and helps to formulate key national strategies and policies. Health subsidies offered by the MOF include health insurance subsidies, public health subsidies and those for public healthcare facilities. In 2013, government inputs accounted for about 40% of the total revenue of public primary care facilities.

Ministry of Human Resources and Social Security (MOHRSS)

The MOHRSS is responsible for developing policies and standards that affect the urban employee-based medical insurance (UEBMI) for urban employees and urban resident-based medical insurance (URBMI) for urban residents. It also builds up financial protection schemes and medical aid for catastrophic illnesses, and strengthens links between different health insurance schemes to increase risk-pooling capacity.

Ministry of Civil Affairs (MCA)

The MCA develops laws, regulations and policies for social care and administers and supervises social care services. It is also responsible for the planning, policy and standards of the Medical Financial Aid (MFA) programme.

Local government[15]

Primary care delivery is mainly organised by local governments, which play an important role in the establishment, operation and monitoring of primary care. For example, the provincial department of commerce is responsible for approving the entry of foreign-funded for-profit elderly care providers; the local administration for industry and commerce is responsible for issuing business licences and registering for-profit private clinics and elderly care facilities, and the local MCA is responsible for registering the not-for-profit private clinics and private elderly care facilities. Major public health programmes and the basic health financial protection programmes in undeveloped areas are mainly financed by the central government. Local government, on the other hand, provides the funds for personnel, infrastructure, equipment, and other development projects for public township health centres and community health services.

Professional associations

Professional associations such as the Chinese Medical Association (CMA), National Association of Chinese Traditional Medicine (NACTM), Chinese Preventive Medication Association (CPMA), Chinese Nursing Association (CNA) and Chinese Medical Doctor Association (CMDA) play a role in professional oversight. Other roles include conducting academic research, organising academic activities, promoting best practices, assisting the government in developing industry standards and providing accreditation and assessment services.

2.1.3 Market size and growth potential

According to the NHFPC, the total revenue of primary care service providers grew from £22.3 billion[16] in 2009 to £42.6 billion[17] in 2014, a CAGR of 13.8%. With the government encouraging investment into the primary care sector, the growth rate is likely to continue. With an estimated CAGR of 15%, primary care service market is expected to reach £98.5 billion by 2020. Private providers are expected to take at least 20% of the total market share, i.e. £19.7 billion by 2020.

It was estimated by the National Planning Office of Philosophy and Social Science (NPOPSS) that the total elderly care service market in China reached £54.4 billion in 2015. With a CAGR of 11.48% over the next few years, the total elderly care service market will reach £93.7 billion by 2020.

2.1.4 Competition

In primary care services, high-end market in first tier cities is dominated by international brands such as UFH, Parkway, Vista and Salus. In some cities in the mid-west provinces such as Yunnan, Guizhou and Sichuan, local providers such as Xinkang are emerging. Well established local health check-up groups, including iKang, Ciming, and local mHealth app providers such as Dr Chunyu and Dingxiangyuan, are also building up private clinics to extend service offerings.

[15] There are five principal tiers of public administration in China – central, provincial, prefectural or municipal, district or county, and township levels. Besides central government, the rest can all be grouped as “local government”.
[16] NHFPC Statistics Yearbook 2010
[17] NHFPC Statistics Yearbook 2015

Company name	United Family Healthcare (UFH)
General information	• First established in Beijing in 1997 and listed in New York • Privatised by Fosun and TPG in 2014
Locations of hospitals and clinics	• Beijing: 2 hospitals and 9 clinics • Guangzhou: 1 clinic • Shanghai: 2 hospitals and 3 clinics • Tianjin: 1 hospital • Qingdao: 1 hospital • United Family Home Health
Services offered in family medicine clinics	• Comprehensive services to people of all ages as a convenient one-stop for individuals and families • Effective and safe medical care through one of the GPs as primary care provide • Disease prevention and health education
Services offered in United Family Home Health	• Private Family Doctor: customised to meet the medical needs of various family members • Postpartum Medical Care: taking care of mothers and new-borns in the first few weeks after delivery • Paediatric Development Care: assessing development progress of children from birth to three years of age • On-demand Medical Care: medical visits as requested • Post-operative Care: supporting patients' recovery after surgery • In-home Rehabilitation Services: in-home rehabilitation treatment to improve functional ability, mobility and quality of life • Continuing Medical Care: continuing health management for elderly and chronically-ill patients • Palliative Care: end-of-life medical and emotional support for seriously ill patients and their families
Workforce	• Team of physicians consists of experienced family doctors and internal medicine doctors from Canada, China, France, Japan, Singapore, UK and US. • Qualified staff well trained to provide comprehensive medical care for infants, children and adults of all ages.

Table 4 Case study of UFH

The elderly care market in China is decentralised, fragmented and at an early stage of development. Some leading players are listed in Table 5 below:

Homecare / residential care	Types of provider	Domestic or International	Leading providers
Homecare	Homecare service provider	International	Right At Home（仁爱华） Home Instead（护明德） Riei（理爱）
	Call centre operator	Local	Beijing Xiaobangshou（北京小帮手） Shanghai Ankangtong（上海安康通）
	IT vendor	Local	Neusoft（东软） Sunhealth（太阳圣华） iZhaohu（爱照护）
Residential elderly care	Residential care provider	Local	Ainong（爱侬） Qingsong（轻松家政） Cherish-Yearn（亲和源） YueCheng Group（乐城集团）
		International	Columbia Pacific Advisor Emeritus Riei（理爱）
	Real estate developer	Local	Vanke（万科） Poly（保利） Greentown（绿城） Suncity（太阳城）
	Insurance company	Local	Taikang（泰康） China Life（中国人寿） Union Life （合众人寿）
	Investors	International	Fortress Investment

Table 5 Leading providers in elderly care service provision

2.1.5 Opportunities

1. Service provision in private family medicine clinics/CHCs

With an ageing population and an increasing prevalance of chronic diseases, demand for better primary care services will continue to grow in China. This is likely to present further opportunities for the private sector. There are significant primary care service gaps for middle-end market especially in tier 1 and 2 cities.

2. Service provision in homecare

The homecare service market is at an early stage of development, with very few established providers. There are potentially significant opportunities for new entrants especially foreign players with extensive experience in home care provision.

3. Service provision in private elderly care facilities

As China's elderly care market is fragmented and demand for high quality service provision is growing, there are opportunities for foreign elderly care service providers to establish business in China. With no dominant players currently, foreign players have the opportunity to expand quickly in China's elderly care market and become a leading player.

4. Assist the government in establishing primary care systems and pilot programmes

As the primary care system is still in its early stages of development, the Chinese government is reviewing best practices globally. Foreign investors may have the expertise in policy development, planning, designing and implenting innovative primary care models which will be vaulable for the Chinese government. In addition to policy and strategy advisory, foreign players have the opportunity to be involved in setting up and running primary care pilots. Support will be particularly needed at the local government level.

2.2 Education and training

Both the quality and quantity of the workforce appear to be factors inhibiting the development in primary health care in China. Among the physicians in CHCs and THCs, only 37% and 12% respectively have undergraduate or postgraduate education[18]. The government's solutions include the "5+3" medical education or compromised "3+2" model in central and western areas and on-the-job training to transform physicians to GPs. The government subsidises medical education in underdeveloped areas, as well as GP training nationwide.

Elderly care faces the greatest workforce challenge. The gap between demand and supply of elderly care workers by 2020 is estimated to be as high as six million, according to the MCA. Over 85% of the current workforce graduated from junior high school or below. The government's solution is to buy training services from public or private organisations or develop designated training sites to provide training to care workers for the elderly, or compensate individuals who spend their own money to acquire a licence as a care worker for the elderly.

Education and training for primary care workforce are provided by medical universities, university affiliated hospitals, professional associations, NHFPC and local Health and Family Planning Commissions (HFPCs). Private companies, as well as foreign universities, can also provide training programmes.

2.2.1 Demand and supply

Primary health care workforce

The workforce in primary healthcare includes licensed physicians[19], assistant licensed physicians[20], licensed nurses[21], pharmacists., technicians., village doctors[22] and managers, as well as support staff. Village doctors still play a major role in the rural primary care setting. There were about 1.3 million village doctors in China in 2015[23].

According to the NHFPC, there were 145,511 GPs, or 1.07 per 10,000 population in 2013. 41% of the GPs worked in CHCs/CHSs and 39% worked in THCs. The goal is to have two GPs per 10,000 population by 2020. In order to achieve this goal, China has developed multiple strategies to increase the number of GPs.

[18] NHFPC Statistics Yearbook 2015
[19] Doctors who received a license to practice medicine independently.
[20] Doctors who received a license to support licensed physicians. They can't practice independently.
[21] Nurses who have received a license to practice nursing according to the nursing regulations.
[22] Staff who have received a certificate to work in village clinics.
[23] NHFPC Statistics Yearbook 2015

- A “5+3” training system for GPs was established in 2012[24]. After 5 years of training at a medical university and receiving a bachelor’s degree, graduates will undergo a special three-year GP training programme before passing an exam to become a qualified GP. In some less developed regions, a “3+2” model is adopted, in which a three-year college level medical education followed by a two-year GP training programme.
- Transforming existing licensed physicians or assistant licensed physicians into GPs or assistant GPs. These physicians will undergo a 1-2 year training programme focusing on primary care and public health skills. The training programmes are mainly funded by central and local governments. This approach has become the main solution to increase the number of GPs quickly according to interviews.

The education standard of primary care workforce will need to be further improved. The workforce at CHCs and THCs have a much lower level of education than the national average as shown in Table 6 below.

Degree	CHCs			THCs			All healthcare Facilities		
	Health profes-sionals	Among which		Health profes-sionals	Among which		Health profes-sionals	Among which	
		Licensed physicians	Register-ed nurses		Licensed physicians	Register-ed nurses		Licensed physician	Register-ed nurses
Post-graduate	0.9%	1.8%	0.0%	0.1%	0.1%	0.0%	4.2%	9.3	0.1
Under-graduate	22.4%	35.3%	9.6%	7.4%	11.8%	3.6%	24.4%	38.4	12.5
Junior college	41.6%	39.5%	45.1%	38.1%	43.3%	36.2%	38.8%	31.2	47.3
Technical secondary school	31.1%	20.3%	43.1%	48.7%	40.7%	57.7%	30.0%	19.0	38.7
High school and below	4.1%	3.1%	2.1%	5.7%	4.1%	2.6%	2.7%	2.0	1.4

Table 6 Education background of workforce in CHCs and THCs

All health professionals in primary care require continuing education credits to keep their licenses or get promoted. Mid and above level roles require 25 credits[25] (credits offered per courses varies upon different programmes) a year while the others require up to 20. Credits can be earned by participating in various continuing education programmes, including classes and other activities provided by professional associations, hospitals and universities.

Care workers for the elderly

According to the MCA, there are three groups of elderly care workers with qualifications:

- Staff with a vocational certificate[26] of elderly care worker licensed by the department of civil affairs;
- Staff with a capability certificate for elderly care who are generally at low educational levels but have taken elderly care training programmes and passed the exam;
- Staff with a registered nurse licence issued by the health and family planning department.

[24] http://www.nhfpc.gov.cn/zwgkzt/pkjjy1/201207/55508.shtml
[25] Training programmes providing credits are classified into Grade 1 and Grade 2. For Grade 1 training programmes, it is about 2 credits for a whole day training; For Grade 2, it is about 1 credit for a whole day training programme.
[26] There are 4 levels of qualifications for elderly care workers, technician, advanced, intermediate and elementary.

According to the internationally recognised ratio of one care worker for three elderly people requring support, there should be 13 million care workers working in China to support the 40 million[27] elderly people who could not live independently in 2015. However, according to the MCA statistics, among the 600,000 staff in senior institutions, only 20,000 hold vocational certificates and another 80,000 hold capability certificates.

The *Guiding Opinions on Promoting Elderly Care Workforce Cultivation* set out by the Ministry of Education (MOE), MCA and other related departments in 2014 advised building up vocational education for care workers. Training for care workers is currently provided by designated training sites at provincial, city, district or county level. The vocational certificates will only be accredited when the trainee passes the tests organised by local departments of civil affairs.

2.2.2 Providers

Primary health care

The following groups and institutions provide education and training programmes to primary care workforce.

- Universities and affiliated teaching hospitals
- Professional associations
- NHFPC and local HFPCs
- Private companies

Universities and affiliated teaching hospitals

Universities provide a variety of education and training programmes related to general practice:

- Degree education for medical students
- Continuing education programs for licensed GPs
- Overseas training programmes for GPs, GP trainers or GP managers

In the early 2000s there were only 10 medical colleges providing GP higher education in China. GP education has now been introduced in most medical universities as a secondary major under either clinical medicine – such as Fudan University Shanghai Medical College – or public health – such as Guangzhou Medical University.

A number of leading Chinese universities or affiliated teaching hospitals have explored overseas cooperation in general practice related training. For example, Peking University Health Science Centre cooperates with the University of Birmingham in the UK to deliver training programmes for GP trainers or GP training managers.

Professional associations

Professional associations are mainly involved in continuing education for GPs and other health professionals. Authorised professional associations provide continuing medical education programmes and manage the programmes by provincial/city level branches. The following professional associations are authorised to provide training related to general practices:

- Chinese Medical Association (CMA)
- Chinese Preventive Medicine Association (CPMA)
- Chinese Nursing Association (CNA)
- Chinese Hospital Association (CHA)
- Chinese Medical Doctor's Association (CMDA)

Professional associations not on the above list can also provide training programmes but will need to collaborate with authorised organisations, including the above associations, universities and affiliated teaching hospitals, NHFPC or local HFPCs.

NHFPC and local HFPCs

The NHFPC and local HFPCs organise training programmes targeting health professionals including GPs. Some leading regional HFPCs, such as Zhejiang Province, have cooperated with foreign universities to deliver

[27] The MCA Statistics

overseas programmes. Some foreign universities, such as the University of Birmingham, have conducted short-term GP training programmes in China in collaboration with local HFPCs.

Private companies

Private companies can organise training programmes in primary care, such as hosting lectures and seminars, but they need to collaborate with universities, hospitals, professional associations or local HFPCs in order to attract participants.

Elderly care

The providers of education and training to the elderly care workforce include:

- vocational schools and colleges
- vocational training centres or elderly care institutions
- private companies

Vocational schools and colleges provide education to students to work in elderly care service related areas, such as elderly care, social work and rehabilitation. However, the programmes are only set up in around 30 vocational schools with only 1,000 graduates each year at present.

Some private companies, either private elderly care institutions or dedicated training companies, also provide training programmes. For example, Vanke opened an elderly care training school to train care workers to serve the elderly people living in the Vanke residential community in Shanghai.

2.2.3 Regulators

The Ministry of Education (MOE) is in charge of organising medical education and continuing medical education, developing the medical education plan, delivering training and working with other ministries to develop strategic plans for healthcare workforce development.

General practice-related continuing education programmes can be set up by universities, teaching hospitals, NHFPCs and local HFPCs, as well as the five associations including the CMA, CPMA, CNA, CHA and CMDA. The professional associations are regulated by the NHFPC and the MCA.

Vocational schools and colleges are regulated by the MOE. Designated vocational training sites for elderly care are regulated by the MCA.

2.2.4 Market size and growth potential

The total market size for GP training (on-job training and continuing education) was estimated to be £320 million in 2015 and will reach £560 million by 2020. The total market size for training elderly care workers is at about £600 million from 2016 to 2020.

On-the-job training for GP costs about £333 per person for two years[28]. According to interviews, it is estimated that over 80% of the GPs are trained via on-the-job training and less than 20% from medical university training programmes[29]. For the 120,000 new GPs to be trained over the next 5 years, at least 96,000 will come from on-the-job training. The total cost is estimated to be £32 million from 2016 to 2020, at £6.4 million per year.

Continuing education programmes for GPs (except for on-the-job GP training) are mostly funded by regional HFPCs. A county/district level HFPC in an eastern province provided subsidies of £220,000 for continuing education programmes for GPs in 2015[30]. Assuming the national average was £110,000, half of the number quoted above as this county is one of the most affluent counties in China, the annual investment for GP continuing education programmes from the government would be £314 million in 2015, calculated by 2,854 counties/districts in China[31]. Government funding related to primary care services (including GP continuing education) grew at 12% CAGR from 2012 to 2014[32]. Growing at a rate of 12% CAGR, the market size of GP continuing education programmes will reach £553 million in 2020.

The potential market for training care workers in the elderly care market is even bigger. The MCA set a goal of training 6 million elderly care workers by 2020. Based on interviews, it is estimated that fees for training care workers are at £100 per person. With 6 million licensed elderly care workers to be trained from 2016 to 2020,

[28] Interview from Dr Yaping Du, a leading GP education expert of Zhejiang University
[29] Interview from Mr Huaijin Qin, Department of Health Science, Technology and Education, NHFPC
[30] http://www.zgwj.gov.cn/upfile/template/contentpage/zgwj_zwgknew/nry.aspx?ID=40451
[31] China Statistics Year Book, 2015
[32] Calculated from NHFPC Statistics Yearbook 2013-2015

the total market size for training elderly care workers is at about £600 million from 2016 to 2020, at £125 million per year.

2.2.5 Competition

The GP degree education market is dominated by government universities and it is not a market which may provide great commercial opportunities for private companies. Table 7 below shows some leading universities with various GP education and training programmes.

Institution	Location	Degree/Programmes	International cooperation
Capital Medical University	Beijing	• Bachelor (5 years) • Master (2 years) • Continued education	Cooperate with Canada Don Mills in community health service training program
Fudan University	Shanghai	• Bachelor (5 years) • Master (2 years) • Doctor (3 years) • Continued education	N/A
Zhejiang University	Hangzhou	• Master (7 years) • Continued education	GP training in 13 hospitals of US, UK, Germany and Australia
Peking University	Beijing	• Bachelor (5 years) • Continued education	Cooperation with the University of Birmingham on GP education and short-term overseas training

Table 7 Examples of leading universities providing GP education and training programmes

As shown above, GP traning programmes provided by overseas institutions in China are well accepted. Some foreign providers have already entered the market but most of them are cooperating with a single partner, a university, a local HFPC or a professional association. Working in partnership with local firms, foreign providers will have a good chance to grow market share in this space.

Overseas training is a much smaller market due to high cost and language barriers. Cooperating with Peking University Health Science Centre, the China National Committee of GP Education and Health Education England, the University of Birmingham has organised several GP training programmes and six training programmes for GP trainers/managers in the UK over the last couple of years.

In the elderly care training area, many local private companies claim that they can provide training services, but many of them lack training standards and qualified training staff. Foreign players, with well established and accredited training programmes, will have an opportunity to grow in this market.

2.2.6 Opportunities

1. Provide GP training programmes

For GP training programmes provided in China, the government subsidises continuing education for GPs hence cost would not be a major barrier. In terms of overseas training, however, very few local HFPCs can afford it. Smaller number of trainees consisting of GP trainers and managers could be an option.

2. Provide training programmes for care workers for the elderly

Due to the huge gap in qualified elderly care workers, foreign players, with well established and accredited training programmes, will have an opportunity to grow in this market.

2.3 Infrastructure and facilities

A large number of the public primary care delivery organisations appear to have not yet fully realised the importance and uniqueness of architecture and design for medical facilities. However, some of the newly built

primary care centres are seeking professional architecture and design services. A number of local leading architecture institutions and foreign design companies such as Werkhart Huate and HK Aohua have established businesses in this sector.

Process design and business model planning services may be required as they can help both public and private players to better plan and design service offerings and resource allocation. Best practices and experience from overseas countries could be adopted and applied in China by service providers.

The majority of acute general hospitals outsource their infrastructure and facility management services to third-party providers. There is far less demand for infrastructure and facility services in the the primary care sector compared to the hospital setting due to the small size of individual centres and highly fragmented market.

2.3.1 Demand and supply

Architecture and design

Demand for architecture and design services primarily comes from the private sector. Some of the new hospitals, family medicine clinics and care delivery organisations may seek professional support from medical design companies. However, current demand is low as most companies appear to have not yet realised the importance and uniqueness of architecture and design for medical facilities and buildings.

Process design and business model planning

These services are currently provided by consulting firms specialising in strategy, business plan development and process design/redesign. Demand for such services primarily comes from the private sector, especially new entrants into primary care or elderly care sector.

Facility services

Facility services are usually outsourced to individual local providers. Although there have been government efforts to develop centralised facility services for primary care organisations, its feasibility has not been demonstrated.

2.3.2 Providers

Architecture and design

Medical design companies such as Werkhart Huate and H.K. Aohua are active in the Chinese market. Local leading architecture institutions have also started targeting this sector (e.g. China Architecture Design Group, Shandong Architecture Design Group and CCDI Group).

Process design and business model planning

As clinics gradually start to focus on operations management and improving service efficiency, the need for consultancy services in this area is growing. Such companies can partner with facility design companies to help clinics to improve service efficiency and patient flow.

Facility services

Providers tend to concentrate on services such as housekeeping, laundry, food services and elevator maintenance. Most providers are local small companies with some large players emerging, for example, Aramark and Yi Guan Jia.

2.3.3 Regulators

Architecture and design

Foreign architecure and design services are allowed to either set up foreign owned companies or joint-ventures in China. Both foreign owned companies and joint-ventures need to be approved by the Ministry of Commerce (MOC) at provincial level before company registration. There are several minimum requirements – one being that the number of foreign designers must be at least one quarter of the total design team[33]. The regulator responsible for company registration and issuing operating licences is the local Administration for Industry and Commerce (AIC).

Process design and business model planning

[33] Detailed policy guidance: http://www.mofcom.gov.cn/aarticle/b/f/200212/20021200055493.html

Process design and business model planning is provided by consulting firms in China. Foreign providers can either provide services directly (even without a legal entity in China) or with local partners. The local AIC regulates the registration and licensing of new companies.

Facility services

Foreign providers are encouraged to set up businesses (either foreign owned or JV) in China. The local AIC regulates the registration and licensing of new companies.

2.3.4 Market size and growth potential

Architecture and design

Approximately 2,000 new clinics (including CHCs, THCs and family medicine clinics) have been set up over the last five years[34]. The government stated that an additional 2,500 to 3,000 new clinics are required by 2020, at 500 to 600 new clinics each year. Around 3.3 million new elderly care beds are expected to be added from 2015 to 2020[35], which means at least 1,000 to 1,500 new elderly facilities will be required each year over the next five years.

Assuming 5% of the projected new clinics and elderly care facilities procure architecture and design services, and each contract at around £150,000, the market is estimated to be £78.8 million from 2016 to 2020, at £15.8 million each year.

Process design and business model planning

Process design and business model planning services are traditionally procured by new entrants. It is estimated that 5% of the total number of clinics and elderly care facilities will requre these services. Assuming each contract at around £100,000, the market is estimated to be £52.5 million from 2016 to 2020, at £10.5 million each year.

Facility services

The total revenue of primary care services was £42.6 billion in 2014[36]. Assuming facilities cost was at 0.1% of the total, it was estimated to be £42.6 million in 2014. Growing at an estimated rate of 5% CAGR, the market size will reach £57 million in 2020. However this market is dominated by local small players and unlikely to provide opportunities for foreign players.

2.3.5 Competition

Architecture and design

There are established foreign and local leading players in this sector, for example, Werhart Huate Medical Archit, H.K. Aohua Hospital Architectural Design Consulting, CCDI Group, China Architecture Design Group and Shandong No.6 Architecture Design Institution. Any new foreign players entering this market will face strong competition from existing players who have established reputations and networks in the market.

Process design and business model planning

The existing players include international consulting firms like the “Big Four” and some foreign niche players. Table 11 shows some players and the projects they have been involved in.

Company	Main projects
Sinophi Healthcare（信诺医疗）	• Huai’an First People’s Hospital（淮安市第一人民医院） • Five planning projects in Beijing, Luoyang, Changchun, Fuzhou and Nanjing
International Hospitals Group Limited (IHG)	• Cooperating with Wanda Group（万达集团）in developing three international hospitals in Qingdao, Shanghai and Chengdu • Cooperation covers hospital operational management, workforce training, and clinical treatment.

[34] NHFPC Statistics Yearbook 2010 - 2015
[35] Statistics from the NDRC, the MCA, and the CNCA
[36] NHFPC Statistics Yearbook 2015

Company	Main projects
HSM International（睿勤）	• Beijing United Family Hospital（北京和睦家医院） • Peking University International Hospital（北京大学国际医院） • Peking Union Medical College Hospital (North Branch)（北京协和医院东院北区） • Shanghai Delta Hospital（上海德达医院） • The First Affiliated Hospital of Guangzhou Medical University (Haiyin Branch)（广州医学院第一附属医院海印分院） • Qingdao Municipal Hospital (East Branch)（青岛市立医院东院）

Table 8 Leading players in operational design consulting services

Facility services

Competition for facility services is mainly from local players. There might be regional level consolidation as the primary care care sector further develops over the next few years.

2.3.6 Opportunities

Provide operations related consulting services

With the number of private practices gradually increasing in the coming decade, demand for operations related consulting services will continue to grow. Although some providers have started to participate in this area, very few companies can provide consulting services throughout the whole investment period from strategy development, construction, workforce planning, leadership development and operations.

2.4 Health IT

IT is one of the "Eight Pillars"[37] of China's New Healthcare Reform initiated in 2009. It has attracted a lot of attention and investment over the last few years. With ongoing investment, health IT is expected to continue to develop rapidly.

2.4.1 Demand and supply

The following areas are discussed in details in this section:

- RHIN
- clinics and elderly care facilities IT solutions
- mHealth
- Telehealth and Telecare

Regional Health Information Network (RHIN)

The RHIN is developed in many regions to connect CHCs/CHSs and THCs/VCs. The regional health information platform serves as the pivot for data sharing between different systems and collaborative applications based on EHR and EMR data.

In a typical CHC or THC, there is a patient administration system for billing, an EHR, a vaccination information system, a women and children's information system, and contagious disease reporting systems to support public health services. In some regions, for example Jiangsu Province, mobile solutions have been implemented.

A lot of progress has been made but challenges remain in the development of RHINs. IT standards, technical requirement and project management guidance are set by central government but different regions have different interpretations when implementing the systems. It is also difficult to integrate applications as there are

[37] Eight Pillars refer to the eight important areas in China's New Healthcare Reform initiated in 2009.

no incentives for IT vendors and healthcare institutions to co-operate. There is also a lack of national guidance on how data is collected and shared. All these led to low usage of the network and inconsistent data collection.

Clinic IT and elderly care facility IT

IT solutions for public CHCs/CHSs and THCs/VCs are part of the regional RHIN development and are funded by the local government.

The market for clinic IT solutions appears to be poorly developed. Major local providers are unwilling to invest because there are only a small number of potential clients while the solutions offered by the small players often fail to meet clients' expectations. Many private clinics targeting at high-end market use foreign systems such as Intersystems and Karrytech. Local vendors such as DHC and Neusoft are at early stages of developing clinic IT solutions. Therefore, there are opportunities for effective clinic IT solutions.

Only the leading public and private elderly care facilities have effective information systems in place. Compared with healthcare facilities, the information systems used in elderly care are much less complex.

MHealth, Telehealth and Telecare

Solutions of mHealth, Telehealth and Telecare satisfy consumers' needs to increase access to health information and enhance their engagement in health management. It also enables better chronic care management and post-acute discharge monitoring, potentially reducing costs.

mHealth refers to health care practice supported by mobile devices. Currently, mHealth has only affected part of the patient pathway such as doctor registration, making payments and accessing test results. Only recently has a complete online medical care system begun to be piloted in Zhejiang Province. The NHFPC indicated that telemedicine can only be provided by healthcare institutions, so physicians can only provide general opinions with no diagnosis or prescrriptions via mHealth platforms. Therefore, mHealth vendors have started to develop offline clinics to avoid the risk of violating regulations.

Insurance reimbursement through mobile payment also poses issues. Currently, regulations prohibit interfacing insurance with third-party payment platforms because of security concerns and complicated local insurance policies.

The health app market is divided into consumer-driven purchases handling low-confidentiality data and systems handling medium to high confidentiality data. mHealth solutions in the second group offer the greatest potential to improve health outcomes. Overall, the consumer demand for mHealth apps in China is growing, but monetising them in China is difficult because of a lack of clear reimbursement models.

Telecare involves remote computer-based health monitoring from home and has been promoted as a means of managing the aging population group with long-term conditions to reduce unnecessary hospitalisation and encourage self-care and autonomy. Telehealth collects vital sign data and uploads it to professional medical institutions for clinical review, aimed at educating and supporting people to identify and manage changes in their condition. Together, Telecare and Telehealth can provide a people-centred, integrated and home-based care system to help people live independently.

2.4.2 Providers

RHIN

RHIN solutions are mainly provided by local vendors. Many of the vendors were local IT providers for public health, insurance management, and infant & maternity IT solutions. Building on the experience of local healthcare systems, some local IT providers expanded their service offerings to develop RHIN solutions in the region.

Clinic and elderly care facility IT

There are many small local IT vendors providing clinical IT for local private clinics. High-end clinics, especially foreign chain brands, prefer foreign IT systems.

Local vendors for elderly care IT solutions tend to be small in nature and the solutions offered are often very basic. Some overseas vendors, such as those from Japan, have systems that are heavily customised to meet the particular needs of the Chinese market.

MHealth, Telehealth and Telecare

There are two main groups of mHealth vendors:

- Patient facing solutions, for example, Xunyiwenyao, Dr Chunyu and Guahaowang.
- Doctor facing solutions, for example, Haoyisheng, Dingxiangyuan.

There is a limited number of Telecare and Telehealth vendors in this market. Many existing companies tend to be small, such as iZhaohu and Mordo. Mordo collaborates with organisations in Shanghai. iZhaohu collaborates with a public data care centre in Shanghai.

2.4.3 Regulators

The Planning and Information Department (PID) and the Statistics and Information Centre (SIC) under the NHFPC are the two national departments regulate health IT development. The PID is a policy maker and the SIC focuses on implementation. The same structure is used at provincial and city level governments. At the county or district level, there are similar functions in the local HFPCs.

2.4.4 Market size and growth potential

The healthcare IT market in China was estimated to be £2.48 billion in 2014 according to IDC[38]. Growing at a rate of 13.8% CAGR, the market size of health IT market will reach £5.38 billion in 2020.

RHIN accounts for 30% of the total healthcare IT market in China. It was estimated to be £744 million in 2014 and will reach £1.62 billion in 2020 with a CAGR of 13.8%.

For mHealth, GSM Association indicated that the market was £436 million in 2015 and could reach £5.9 billion in 2020.

For Telehealth, assuming the penetration among the 200 million people who have major chronic diseases was 1% in 2015 and 5% in 2020, and the fee is £110 per year, the market size was estimated to be £220 million in 2015 and will reach £1.1 billion in 2020 with a CAGR of 38%.

For Telecare, assuming penetration among the 100 million elderly people who live alone was 1% in 2015 and 10% in 2020, and the fee is £110 per year, the market would be worth £110 million in 2015 and will reach £1.08 billion in 2020 with a CAGR of 58%.

2.4.5 Competition

In the RHIN segment, the concentration of the market is relatively high and local vendors such as Neusoft, B-soft and Kingstar Winning are leading in the market.

Foreign vendors are present in the high-end market for clinic IT solutions. The leading vendor for private family medicine clinic is Intersystem (vendor of UFH). The representative foreign vendor for elderly care facilities is NEC. Local vendors such as DHC and Neusoft are at early stages of developing clinic IT solutions.

In mHealth there are thousands of mobile internet vendors as well as larger ones from the traditional health IT and internet industries. The market is fragmented with intense competition.

Like mHealth, there are numerous vendors providing similar Tele-health solutions. As for Telecare, the market is at an early stage with few companies and little competition. Some leading health IT providers are listed in Table 9 below:

Sub-segments	Key providers
RHIN	• Neusoft（东软） • B-soft（创业软件） • Kingstar Winning（卫宁健康）
Clinic IT	• Intersystems • Karrytech • DHC （东华） • Neusoft（东软）
Elderly care facility IT	• NEC

[38] China Healthcare IT Solutions 2015-2019 forecast and analysis, IDC report, 2015

Sub-segments	Key providers
MHealth	• Dr Chunyu (春雨医生) • Dingxiangyuan (丁香园) • Guahao (挂号网) • Haodaifu (好大夫) • AliHealth (阿里健康)
Telehealth	• Neusoft Xikang (东软熙康) • Zhong Wei Lai Kang (中卫莱康)
Telecare	• iZhaohu (爱照护) • Mordo (摩多物联)

Table 9 Key leading players in health IT

2.4.6 Opportunities

1. Population health information analysis

It is expected that the government will continue to invest in RHIN development. Leading areas such as Shanghai have developed RHIN for a decade and a significant amount of data is collected and shared on a daily basis. Expertise in population health analysis is highly valued to support the government to make better use of the data.

2. Clinic and elderly care facility IT solutions

There are opportunities for IT companies to enter and expand their businesses in both clinics and elderly care facility IT space.

3. Telecare/Telehealth solutions

Telecare/Telehealth will be accepted more widely if it is integrated more effectively with other healthcare services. Some provinces, such as Zhejiang, have started to explore the integration of social care with primary care building on local RHIN development.

2.5 Health insurance

China has a basic health insurance system covering residents in both urban and rural areas. Employees and retirees in urban areas are compulsorily enrolled in the Urban Employees Basic Medical Insurance (UEBMI) scheme. Other residents in urban areas can enrol in the Urban Residents Basic Medical Insurance (URBMI) scheme. Rural residents can participate in the New Rural Cooperative Medical Scheme (NRCMS). Pooled funds have been established for eligible hospital admission expenses and outpatient expenses for some severe diseases. An MFA programme provides assistance in covering out-of-pocket payments for family members on the minimum living allowance and other people facing similar income issues.

With over 96% of the population covered by one of the three basic medical insurance schemes, China has achieved a remarkable achievement on insurance coverage. However, the insurance coverage is shallow. In 2014 patients paid 34% of the total cost out of pocket – which has stimulated demand for commercial health insurance.

Most of the leading global health insurance groups have established service offerings in China, local insurance companies dominate the market. The total market share of over 40 foreign health insurance companies is less than 10%.

2.5.1 Demand and supply

Social health insurance

The three key social insurance schemes, UEBMI, NRCMS and URBMI, were launched in 1998, 2003, and 2007 respectively. In early 2016, the State Council issued policy to merge UEBMI and NRCMS.

The Insurance Programme for Catastrophic Diseases (IPCD) is an extension of the basic medical insurance to provide further financial protection to patients with catastrophic diseases.

For the underpriveleged in both urban and rural areas, such as those who live on the minimum living allowance, the MFA programme helps them to enrol for basic medical insurance and provides extra reimbursement for medical expenses.

- By the end of 2014, the UEBMI, URBMI and NRCMS covered 283 million, 314 million and 736 million people respectively. The overall social insurance coverage was approximately 96%.
- The reimbursement list for URBMI and NRCMS schemes is narrower than that of UEBMI. For beneficiaries of UEBMI, basic medical services, outpatient visits, hospital admissions and designated pharmacy interventions are eligible for reimbursement. For beneficiaries of URBMI and NRCMS, only inpatient services and very few outpatient services are eligible for reimbursement.
- The reimbursement rate of NRCMS is generally lower than that of URBMI, and URBMI is lower than UEBMI. Overall, the out-of-pocket payments accounted for 33.9% of total health expenditure in 2013[39].

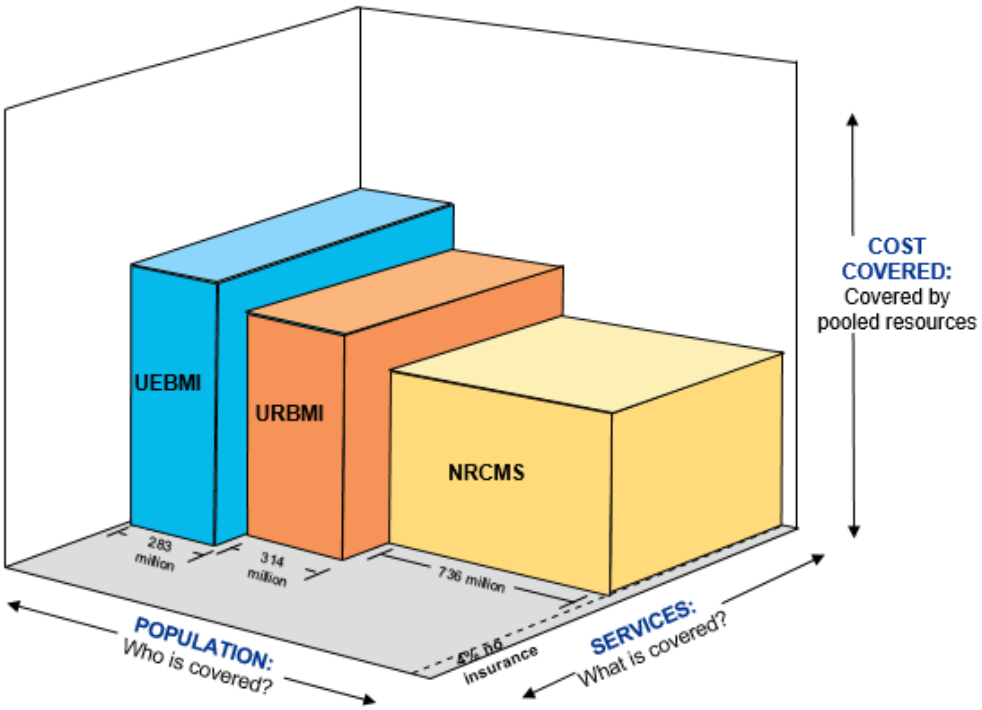

Figure 11 Social health insurance coverage in China

Source: *National Bureau of Statistics 2015;* KPMG China Analysis

Commercial Health Insurance

The government is encouraging employers and individuals to enrol in commercial health insurance and the government itself is using commercial health insurance companies to operate IPCD programmes for URBMI and NRCMS.

Individual demand for commercial health insurance comes from two groups. People who are self-employed, employees from private sectors and township enterprises who are excluded from basic medical insurance schemes are the first group to purchase commercial health insurance. The other group are those with basic health insurance but require fuller reimbursement coverages. There are four key commercial health insurance packages in China:

- Insurance for critical and severe illnesses

[39] NHFPC Statistics Yearbook 2015

- Medical reimbursement insurance, in which the client will receive supplementary reimbursement
- Income compensation, in which the client will receive compensation for salary lost due to illnesses
- Long-term care insurance, which targets at people who need long-term care and is only provided by China Life in the local market

Group enrolment in commercial health insurance at company level is often purchased as one of the welfare benefits for employees. These commercial health insurance schemes aim to provide supplementary reimbursement over and above the UEBMI scheme.

2.5.2 Providers

Domestic insurance groups

Many local commercial insurance companies provide various health insurance products. In the past, most health insurance companies operated at a loss due to high payouts because the healthcare institutions were powerful and mature, and the insurance companies were largely unable to influence the activities of doctors. They did not have sufficient data to define proper premiums either. However, as the market grows and access to data improves, commercial health insurance companies are seeing more opportunities. Some companies, such as China Life and Sunshine Life, are planning to set up dedicated health insurance subsidiaries, because the risk management and operational experience required for health is different from other general insurance areas such as life and automotive insurance. Others are setting up seperate health management companies to better control health related risks, such as PICC Health.

International insurance groups

Currently, most leading global health insurance groups have service offering in China, with a strong preference for collaboration with international private hospital/clinic groups (e.g. AmCare, UFH and Parkway).

2.5.3 Regulators

The NHFPC and local HFPCs are responsible for managing the NRCMS, while the MOHRSS is managing UEBMI and URBMI schemes. The China Insurance Regulatory Commission (CIRC), an affiliated institution of the State Council, regulates commercial health insurance companies. Though joint venture with a Chinese partner with maximum 49% ownership is allowed in China, foreign insurance companies wishing to enter the Chinese market will need first to obtain approval from the CIRC.

2.5.4 Market size and growth potential

Following a series of policies encouraging the development of commercial health insurance, the market is growing rapidly. The total premium income of commercial health insurance increased from £7.7 billion[40] in 2011 to £26.8 billion[41] in 2015, with the CAGR of 28%. With an estimated CAGR of 20%, it is predicted that the market will reach £66.6 billion in 2020[42].

2.5.5 Competition

There are over 100 local commercial insurance companies providing health insurance. Large local insurance companies dominate this market, while the total market share of over 40 foreign health insurance companies is less than 10%. Among all the local health insurance providers, six are dedicated health insurance companies, with PICC Health identified as the leading player.

[40] CIRC Statistics 2011
[41] CIRC Statistics 2015
[42] CIRC Statistics 2015

Company	Market position and scope of business
PICC Health 人保健康	• Established on 8 April 2005 as the first dedicated health insurance company in China • Participated in various reforms of health and social coverage, such as “Zhanjiang Model”, “Taicang Model”, “Pinggu Model” • Revenue of annual premiums accounted for more than 96% of the total revenue of dedicated health insurance companies in 2014.
Ping An Health 平安健康险	• Established on 13 June 2005 • Positioned at the high-end corporate and individual health market • Strategic partner with Discovery Group (South Africa) • Scope of business include various health insurance packages, accident coverage and health consultation, as well as reinsurance of health insurance services.
Kunlun Health 昆仑健康险	• Established on 12 January 2006 • Scope of business: various health insurance, accident insurance, government authorised health insurance, health consultation, reinsurance and financing services • Developed the “disease prevention” model to incorporate traditional Chinese medicine methods with diseases prevention
Hexie Health Insurance 和谐健康保险	• Established in 2006 and acquired by Anbang Health Insurance in 2010 • Scope of business: health insurance, accident insurance, government authorised health insurance, consultation, reinsurance and financing services
CPIC Allianz Health Insurance 太保安联	• Established in Shanghai Free Trade Zone in 2014 • Co-founded by CPIC and Allianz (Germany) • Provide health insurance and care management services to individual and corporate clients
Taikang 泰康	• Headquarters in Beijing • Targeting the middle-class population • Primarily focused on individual insurance services, with products covering children, women, healthcare, elderly care, severe disease, accidents etc. • Operating elderly care centres and hospitals in tier 1 cities

Table 10 Six dedicated health insurance companies in China

Company	Cooperative hospitals and clinics
Bupa International	UFH, Shanghai East International Medical Centre, Parkway Health, Arrail Dental, Healthway Medical Corp, Sunary Clinic
Aviva Cofco	Vista Medical Centre, Jiamei Dental
Lamp	UFH, Parkway Health, Shanghai East International Medical Centre, Raffles Medical Centre, Global Doctor

Table 11 Leading UK insurance companies in China

Company	Cooperative hospitals and clinics
MSH China	United Family Healthcare, Aier Eye Hospital, Parkway Health, Vista Medical Centre, New Omega Medical
Aetna	United Family Healthcare, Shanghai East International Medical Centre, Wellem Medical, Amcare, Global Doctor
Cigna Global Health	United Family Healthcare, Global Doctor, Arrail Dental, Ibyer Dental, Raffles Medical Centre, Parkway Health
Allianz	United Family Healthcare, Parkway Health, Amcare, Shanghai East International Medical Centre, Arrail Dental
DKV	United Family Healthcare, Amcare, New Life Ob/Gyn Group, Parkway Health, Global Doctor
AXA-Minmetals	Amcare, New Life Ob/Gyn Group, Parkway Health, Global Doctor, Confidant Medical Centre
ERV China	United Family Healthcare, Amcare, Parkway Health, Arrail Dental, Ibyer Dental
United Healthcare	United Family Healthcare, Amcare, Parkway Health, Global Doctor, Arrail Dental, Vista Medical Centre

Table 12 Leading foreign insurance players in China

2.5.6 Opportunities

Expanding commercial medical insurance in China

The commercial health insurance market in China is at an early stage of development with limited products and services on offer. New entrants will be subject to very tight insurance licence regulation. Existing players should consider developing innovative products and services targeting the middle market.

3. Primary care market in Guangdong

Guangdong is one of the most economically developed provinces in China. Although the proportion of elderly people is currently below the national average, it has a relatively high prevalence of major chronic diseases, and life expectancy is lower than in that in Beijing and Shanghai. The Guangdong government published a series of policies to increase primary care coverage and the range of services available.

Care delivery models, major public providers and the services provided in Guangdong are similar to those in the rest of the country, although home care in Foshan city is relatively advanced. In the private sector, many leading primary care and elderly care companies have already established businesses in Guangdong.

The markets for education and training, health insurance, infrastructure and facilities and health IT are broadly similar to the rest of China. As a pilot site for social insurance, Guangzhou is increasing the reimbursement rate for first visits to primary care facilities to encourage patients to use primary care services.

3.1 Primary care services

3.1.1 Demand and supply

Economic context

Guangdong has a strong economic foundation. Its GDP has ranked the top in China over the last 27 years.

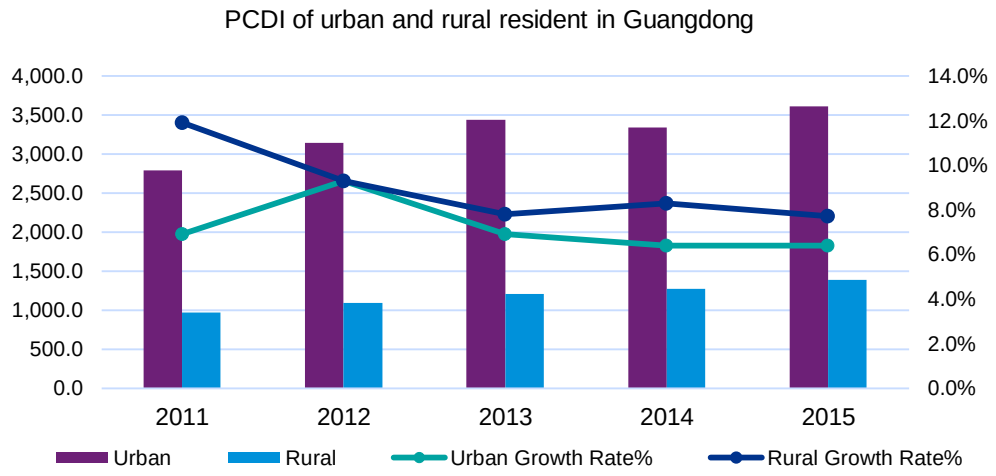

Figure 12 PCDI of urban and rural residents in Guangdong

Source: *Guangdong Bureau of Statistics 2015*; KPMG China Analysis

Guangdong is one of the few provinces to introduce the private sector investment in healthcare and elderly care at a very early stage. Most of the leading chain brands in private family medicine clinics and private elderly care facilities have established businesses in Guangdong.

Demography

Guangdong is one of the provinces with a high number of immigrant workers from nearby provinces. People aged 65 and over in Guangdong accounted for 8.3% of the population in 2014, compared with 10.1% nationwide.

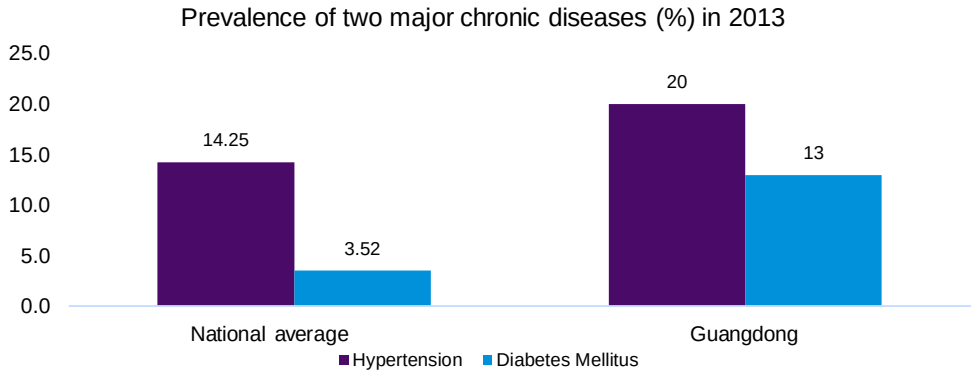

Figure 13 Prevalence of two major chronic diseases (%) in 2013

Source: *Guangdong Centre for Disease Control and Prevention (CDC) 2015;* KPMG China Analysis

Health status

According to 2013 data from the Guangdong CDC, the prevalence of the top two chronic diseases in Guangdong – hypertension and diabetes – is higher than the national average (20% and 13% respectively, compared with 14.2% and 3.5% nationwide). Although life expectancy in Guangdong was higher than the national average (79 versus 76.3), it is lower than that in Beijing (81.8) and Shanghai (82.3).

Political context

In 2016, three policies were published in Guangdong to focus on making healthcare service provision in Guangdong the best in China.

- *Decision on further strengthening the health development in Guangdong Province*
- *Plan regarding strengthening the basic development of healthcare in Guangdong (2016-2018)*
- *Plan regarding establishing a healthcare high-land in Guangdong Province (2016-2018)*

Several goals have been established for primary care, including provision of at least one CHC/THC in every community or township, at least three GPs per 10,000 population, and to further improve the primary care system and service provision. To fulfil these targets, the Guangdong government and local HFPCs will invest £1.3 billion between 2016 and 2018.

Guidance on improving elderly care in Guangdong was published in 2015, with a target of 35 elderly care beds per 1,000 population by 2020, and more emphasis on home care and community care.

Services

While most services are comparable with the rest of the country, home care services in Foshan city are considered as an advanced practice. Since 1998, Foshan has established home care beds for elderly people and disabled patients in order to provide primary care services at home, including chronic disease management, rehabilitation care, medical treatment and health management, which are covered by the UEBMI scheme. Patients and elderly people may stay at home to receive medical treatment, and doctors will visit the patients at least once a week for prescriptions, which are followed up by nurses. Home care teams including GPs and nurses are set up to deliver services related to home care beds. In 2014 there were 554 teams delivering home care services covering 280,000 people.

3.1.2 Competition

In the public primary care sector the service model and care delivery model in Guangdong are similar to those in the rest of the country, even though ownership of certain CHCs and THCs is slightly different. Some CHCs and THCs in Guangzhou and Shenzhen fall under the management of public general hospitals, while a number of CHCs in Dongguan are owned by city and district level government.

Most leading private and foreign healthcare and primary care groups have set up businesses in Guangdong as shown in Table 8.

Sector	Company	City	Services
Chain family medicine clinics	Global Doctor（环球医生）	Guangzhou, Dongguan	Primary care
	UFH（和睦家）	Guangzhou	Primary care
	Eur Am International（康辰国际医疗）	Guangzhou	Primary and dental care
	Amcare（美中宜和）	Shenzhen	Maternity and child care
Private family medicine clinics	Lidehui Clinic（李德辉全科医疗）	4 sites in Foshan	Primary care
Health check-up groups	iKang（爱康国宾）	Shenzhen	Primary care (family medicine clinic)

Table 8 Leading private healthcare providers with local practice in Guangdong

The volume of primary care services reached 390 million (accounting for 50% of the total healthcare service volume) in 2014. Among different types of facilities, service volume of CHCs and THCs accounted for 46% of the total primary care services as shown in Figure 14 below.

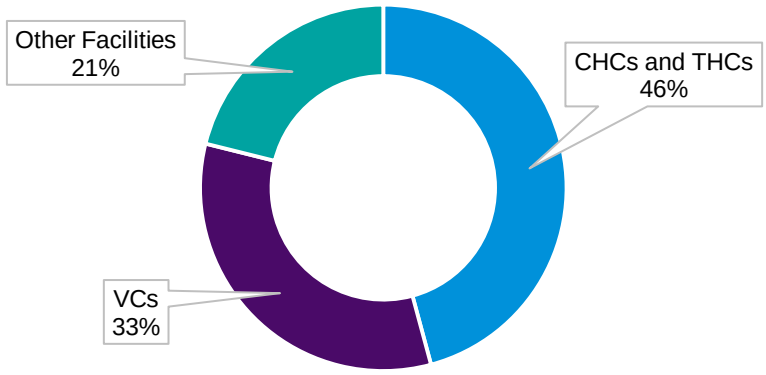

Figure 14 Service volume of primary health facilities in Guangdong (2014)

Source: *Guangdong HFPC 2015*; KPMG China Analysis

In the elderly care sector, 11% of the elderly care facilities are private owned, providing 30% of the total elderly care beds. In cities such as Guangzhou and Yangjiang more than half the elderly care beds are provided by private investors.

Name	City	No. of beds	Service
Yifuju Elders House （颐福居）	Guangzhou	260	• Short-term care: £776 per month • Long-term care: £34,000 covering 20 years
Songhe Nursing Home （松鹤养老院）	Guangzhou	Over 800	• Nursing care and medical care for disabled elderly people • Rehabilitation care
Guangdong Kangde Elderly Home （广东康德养老院）	Guangzhou	Over 1000	• 2A Rehabilitation centre • Nursing care
Nanlian Nursing Centre （南联颐养中心）	Shenzhen	Over 600	• Long-term nursing care • Short-term rehabilitation care and well-being
Home Instead （护明德居家养老）	Shenzhen	N/A	• Home care and nursing care

Table 9 Leading private elderly care players in Guangdong

3.2 Education and training

3.2.1 Demand and supply

Primary health care workforce

Like the rest of the country, there is a serious shortage of GPs in Guangdong. More than 20,000 GPs are required in the next two to three years.To encourage and support GP training, Guangdong has had the on-the-job GP training programmes since 2003. By 2014, 1,275 GPs had been accredited through this programme and the Guangdong government is planning to train 400 every year for the next few years.

Three stages are included in this training programme:

- in-class theory training (one month)
- community training (one month)
- clinical training (10 months). With the Royal College of General Practitioners (RCGP) in the UK as a partner, the in-class training and community training can be carried out in Sun Yat-sen University, Guangzhou Medical University, Guangdong Medical University and Medical College of Jiaying University.
- Clinical training is mainly carried out in the affiliated hospitals of the above universities.

Elderly care workers

There is also significant demand for elderly care workers. In 2015, the elderly care workforce was 23,000[43] but the demand was at least 270,000, based on the number of disabled elderly people in Guangdong (around 800,000)[44]. This indicates a large unmet demand for training services.

[43] Data source: Department of Civil Affairs of Guangdong Province, Xinhua Net
[44] One elderly care worker is needed for every ten healthy elderly people, or every three disabled elderly people

3.2.2 Competition

Currently, GP training is dominated by the public sector, and largely carried out by universities, paid by the government. GP education and training in Guangdong is also an emerging market for foreign investors. Elderly care worker training is delivered by numerous small local firms. Therefore, there are opportunities for foreign companies with professional expertise to enter this market.

Universities

Public medical universities in Guangdong are major providers of GP training. Degree programmes of bachelor (upgraded from associate) and masters have been established in Sun Yat-sen University and Guangzhou Medical University. Public on-the-job training programme for GPs is carried out in the four leading medical universities in Guangdong.

Institution/School	Degree types
Sun Yat-sen University（中山大学）	• Bachelor (Upgraded from associate, 2 years) • Master (two years, carried out in the 1st Affiliated Hospital) • On-job training program
Guangzhou Medical University（广州医科大学）	• Bachelor (Upgraded from associate, two years) • Government clinical training of GPs (three years, carried out in its affiliated hospitals) • On-job training program
Guangdong Medical University（广东医科大学）	• On-job training program
Medical College of Jiaying University（嘉应大学医学院）	• On-job training program

Table 10 Leading universities providing GP education and training in Guangdong

As the GP training centre for Guangdong Province, Guangzhou Medical University is responsible for planning and organising all the public GP training, including development of training sites, training for trainers, preparing training materials, quality management and accreditation (which includes exams). Around 6,200 GP trainers and over 1,000 new GPs (167 via degree education and government clinical training as well as over 900 via on-the-job training) have been trained by Guangzhou Medical University.

Professional associations

Medical associations in Guangdong are mostly involved in hosting lectures and seminars in the continuing education of GPs. These lectures and seminars are approved by either medical associations at the national level[45] or the Guangdong Continuing Medical Education Committee.

Foreign training providers

It is evident that foreign providers of GPs and elderly care workers are seeking partnerships with local governments or universities in Guangdong. GP training providers include the RCGP and the University of Birmingham, as well as elderly care training provider Forum from Germany.

- Since 2003, the RCGP has been involved in on-the-job GP training in partnership with the Guangdong government, as well as providing best practice lectures and overseas training programmes.
- In 2014 and 2015, with support from University of Birmingham, Guangzhou HFPC and Peking University, six GP training demonstration sites were set up in CHCs in Guangzhou, using primary care service

[45] Including CMA, CSA, CPMA, CAN, CHA and CMDA

principles brought in from the UK via GP training programmes in these clinics. Five GPs in one of the CHCs were sent to the UK for a one-year overseas GP training programme.

- In 2015, working with Guangdong Medical University and Shanghai Cherish-Yearn Elderly Care Group, Forum carried out the first international training programme in Guangdong for elderly care workers; 30 registered nurses were trained in a ten-day course.

Local private training providers

As GP training is normally delivered in universities, local private training providers are yet to become established in Guangdong Province. For elderly care worker training, there are numerous small local providers – at least 20 in Guangzhou alone.

3.3 Health Insurance

3.3.1 Demand and supply

Social health insurance

In Guangdong Province, UEBMI, URBMI and NRCMS social health insurance schemes are similar to other provinces. According to the Guangdong government, there was a monetary surplus from both UEBMI and URBMI in 2014. The reimbursement rate has been increasing for both UEBMI and URBMI in recent years and this is expected to continue.

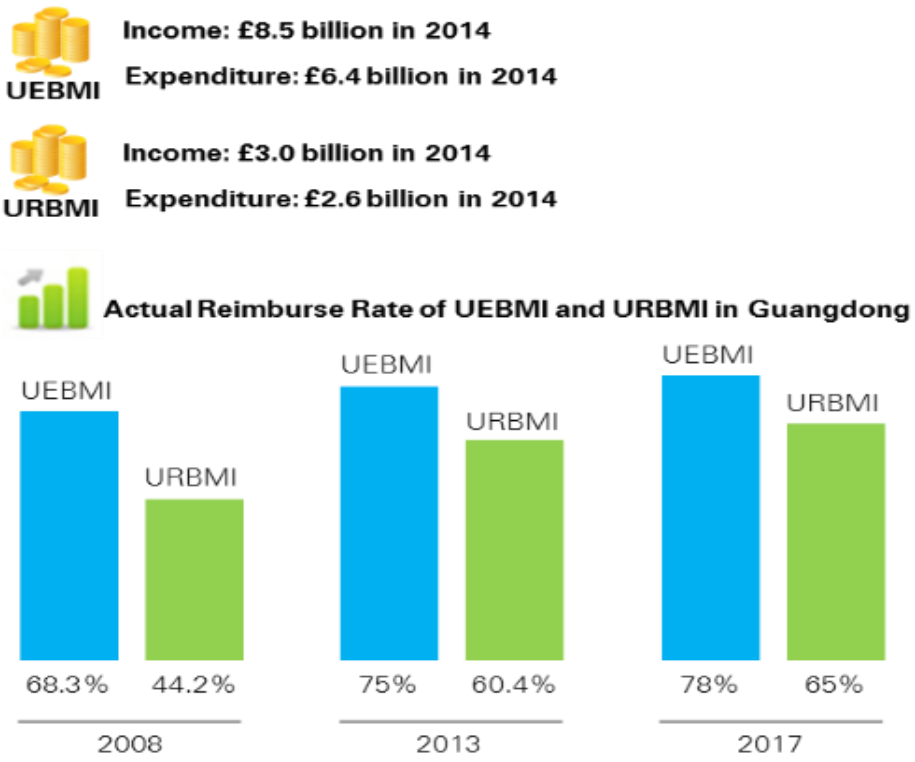

Figure 15 Social health insurance in Guangdong

Source: *Guangdong HRSS 2015;* KPMG China Analysis

Patient visit	Original rate	New rate
First visit to CHCs and THCs	75%	80%
Referrals from CHCs and THCs to hospitals	50%	55%
First visit to hospitals	45%	

Table 11 Reimbursement rate of social health insurance in Guangzhou

Source: *Guangdong HRSS 2015;* KPMG China Analysis

Guangzhou is increasing the social insurance reimbursement rate for primary care services. As the pilot site for social insurance reform, Guangzhou is encouraging people to use primary care services by increasing the reimbursement rate in primary care facilities as shown in Table 16.

Commercial health insurance

Similar to the rest of the country, commercial health insurance in Guangdong is considered a supplementary payment for social insurance as well as providing additional compensation for critical and severe diseases. A study in Guangdong revealed that citizens in Guangdong had a high awareness of purchasing commercial health insurance, but among those who were willing to buy, only 33% actually purchased it.

3.3.2 Competition

Local health insurance companies are entering the public sector through cooperation with government. In 2012, the Guangdong government started to involve leading local insurance companies in IPCD, which is considered supplementary health insurance. Citizens enrolled in URBMI will receive this insurance for free. An insurance company is selected as the partner by each city via a government bidding process (for example, China Life is the partner of Guangzhou city).

3.4 Infrastructure and facilities

3.4.1 Demand and supply

Architecture and design

For the architecture and design of clinics, despite leading national players working in Guangdong, there are several local prominent suppliers, such as the Architecture Design and Research Institute of Guangdong Province and Shenzhen Innovative Consulting.

Process design and business model planning

In terms of operations related consulting services, the demand will grow as the total number of new private clinics and centres increases.

Facility services

In addition to Aramark and Yiguanjia, there are a large number of smaller companies serving their nearby care organisations in Guangdong Province.

3.4.2 Competition

Architecture and design, process design and business model planning

Although major competitors have nationwide presence, some players have more practices in Guangdong, such as Shenzhen Innovative Consulting, which is a local architecture design firm. Brigham and Women's Hospital from the US, a new entrant providing operational design consulting services, is also visible.

Company	Main projects
Shenzhen Innovative Consulting	• Private family medicine clinics • Rehabilitation centres • Dental clinics • Plastic surgery clinics
Brigham and Women's Hospital	• Cooperate with Evergrande Group in providing strategic consulting including operational design, clinical pathway, clinic management, workforce training, as well as assisting in care delivery model design

Table 12 Leading infrastructure service providers in Guangdong

Facility services

Guangdong Zhongankang is a leading local provider for facility services.

Company name	Guangdong Zhongankang	
Current service area in China	Over 100 clients, mainly in Guangdong	
Services offered in China	• Medical equipment maintenance • Housekeeping • Transportation • Food service • Security • Elevator maintenance • Plant operation and maintenance	• Landscape management • Hospital information services • Conference services • Laundry service • Supplementary medical therapy • Hospital floor maintenance

Table 13 Case study of Guangdong Zhongankang

3.5 Health IT

3.5.1 Demand and supply

RHIN

In the early 2000s, the Guangdong government set the target that all rural and urban residents will have an EHR, with an utilisation rate of at least 80% by the end of 2020. By the end of 2014, Huizhou had set up 4.28 million EHR, covering 91% of its residents. However, not every city in Guangdong has implemented the integrated RHIN.

Clinic and elderly care facility IT

Guangdong attracts many private primary care providers and elderly care providers, indicating a high demand for clinic and elderly care facility-based IT systems. The demand will come from new entrants as well as those who want to replace their current systems.

Telecare/Homecare solutions

The *Guidance for developing and implementing the elderly care services in Guangdong Province* introduced in February 2015 indicated the need to establish comprehensive IT systems for home-based elderly care services. According to the guidance, information will be connected and shared within the community for more effective services.

3.5.2 Competition

In the RHIN market, vendors from other provinces, such as Wonders from Shanghai, have established businesses in Guangdong. A local vendor, Bluedon, has recently won the tender of RHIN project at £41 million to develop RHIN for 15 cities in Guangdong. No leading local vendor for clinic IT and elderly care facility IT has been identified in Guangdong.

The majority of Telecare technologies applied in primary and elderly care sectors in Guangdong are platform based, where a call centre is established to connect to various end-users and service providers, such as the Yi Dian Tong and Community 580.

Company name	Yi Dian Tong
Services provided	• Emergency calls • Housekeeping • Meal delivery • Shopping and delivery • Reminder services • Mental consultations
Product	• Intelligent terminal • Apps: ➢ 365 elderly desktop ➢ GPS positions ➢ 24-hour service hotline portal ➢ Family-paid calling services ➢ Family member app
Targeted population	• Senior residents

Table 14 Case study of Yi Dian Tong

Company name	Community 580
Services provided	For patients: • Consultation • Treatment information • Online appointment making • Health records • Referrals For physicians: • Health consultation and education • Health records • Mobile follow up services • Chronic disease management
Targeted population	• Elderly residents • Patients with chronic diseases • Prenatal and maternal population • Infant • Disabled population

Table 15 Case study of Community 580

3.6 Opportunities

Commercial opportunities identified in Guangdong Province, similar to the national picture, are listed below:

- Service provision in private family medicine clinics/CHCs
- Service provision in homecare
- Service provision in private elderly care facilities
- Assist the government in establishing primary care related systems and pilot programmes
- Provide GP training programmes
- Provide training programmes for elderly care workers
- Expand commercial medical insurance in China
- Provide operation related consulting services
- Population health information analysis
- Clinic and elderly care facility IT solutions
- Telecare/Telehealth solutions

4. Assessment of commercial opportunities

4.1 Summary of commercial opportunities identified in the primary care market in China

Based on the analysis of the primary care market in China, the following eleven commercial opportunities are identified in this report:

1. Service provision in private family medicine clinics/CHCs
2. Service provision in homecare
3. Service provision in private elderly care facilities
4. Assist the government in establishing primary care systems and pilot programmes
5. Provide GP training programmes
6. Provide training programmes for elderly care workers
7. Provide operation-related consulting services
8. Population health information analysis
9. Telecare/Telehealth solutions
10. Provide clinic and elderly care facility IT solutions
11. Expand commercial medical insurance in China

4.2 Assessment of identified opportunities against UK capabilities

The capabilities and competitive strengths of some UK companies have been assessed against the commercial opportunities identified.

Opportunities	Strengths	Examples of UK leading players	Assessment
1. Service provision in private family medicine clinics/CHCs	• Established brand • High quality • Management experience	• Circle Health • AT Medics • IHG • Bupa	• Partnership with local investors who have good foundations in the market will be more effective
2. Service provision in homecare	• Well established community health services • Integrated model	• Tunstall • Patients2People • Shaw Healthcare • Care Plus • CNWL NHS Foundation Trust • Northumbria NHS Foundation Trust • Jane Lewis	• With established brand and management experience, UK players could consider expansion into the Chinese market
3. Service provision in private elderly care facilities	• Integrated services • Established elderly care delivery model • Experienced in residential elderly care delivery	• Tunstall • Shaw healthcare • New care • Oakland Prime care	
4. Assist the government in establishing primary care related systems and pilot programmes	• Well developed primary care system • Comprehensive workforce training system • Experienced in care delivery model implementation	• University of Birmingham • Central North West London NHS Foundation Trust • Waring Health • Agencia Consulting • Imperial College London • York University	• UK companies can provide consulting services on policy and system development to the government in China • UK companies can demonstrate its strengths and credibility in the Chinese market by co-operating with a local government on a pilot programme

Opportunities	Strengths	Examples of UK leading players	Assessment
5. Provide GP training programmes	• Highly developed GP training systems • Well-established qualifications and accreditations	• RCGP • AT Medics • Waring Health • University of Birmingham	• Leveraging on UK GP training model, existing UK companies can provide GP training and accreditation programmes in China
6. Provide training programmes for elderly care workers	• Highly developed training systems for elderly care workers • Well-established qualifications and accreditations	• Annie Barr • Careshield • Skill for Care • Lincoln College	• Provide training, accreditation and revalidation programmes for elderly care workers
7. Provide operations related consulting services	• Highly competitive • Able to offer customised operations related services	• Strategic Health Planning • AT Medics • TFP Ryder	• One-stop consulting services covering different stage of development and different need, from health need analysis to care model design
8. Population health information analysis	• Experience in data collection and analysis	• TPP • Nine Health • Dr Foster • Babylon Health	• Provide data analysis service • Develop models on population health need analysis
9. Telecare /Telehealth solutions	• Established service provision incorporating primary care services with Telecare /Telehealth solutions	• Tunstall • Docobo • Medvivo • Nine Health	• Chinese companies look to the UK and other countries when developing integrated services with Telecare /Telehealth solutions
10. Provide clinic and elderly care facility IT solutions	• Though flexible and innovative, UK players are small compared with established players in this space	• TPP • PCRCo • Clarity • Medopad	• The market is fragmented and requires lot of investment for product development and marketing while individual IT deal size for clinics is small
11. Expand commercial medical insurance in China	• Leading UK players are providing service offerings through local partners Chinese market	• Bupa • Prudential • Aviva Cofco	• Though foreign players can expand service offerings with local partners or set up joint ventures with no more than 50% shares, setting up wholly owned insurance companies is currently not allowed in China

Table 16 Assessment against UK capabilities

4.3 Assessment of identified opportunities against market size and growth potential

Based on the assessment of the eleven commercial opportunities listed in previous section, the following nine opportunities are selected for further evaluation against market size and growth potential, shown in Table 17 and Figure 17.

Opportunity	Market size	Growth potential	Assessment result
1. **Service provision in private family medicine clinics/CHCs**	Large	Large	Y
2. **Service provision in homecare**	Moderate	Large	Y
3. **Service provision in private elderly care facilities**	Large	Moderate	Y
4. **Assist the government in establishing primary care related systems and pilot programmes**	Small	Small	N
5. **Provide GP training programmes**	Moderate	Moderate	Y
6. **Provide training programmes for elderly care workers**	Small	Large	Y
7. **Provide operations related consulting services**	Small	Large	Y
8. **Population health information analysis**	Small	Moderate	N
9. **Telecare/Telehealth solutions**	Moderate	Large	Y

Table 17 Assessment against market size and growth potentials

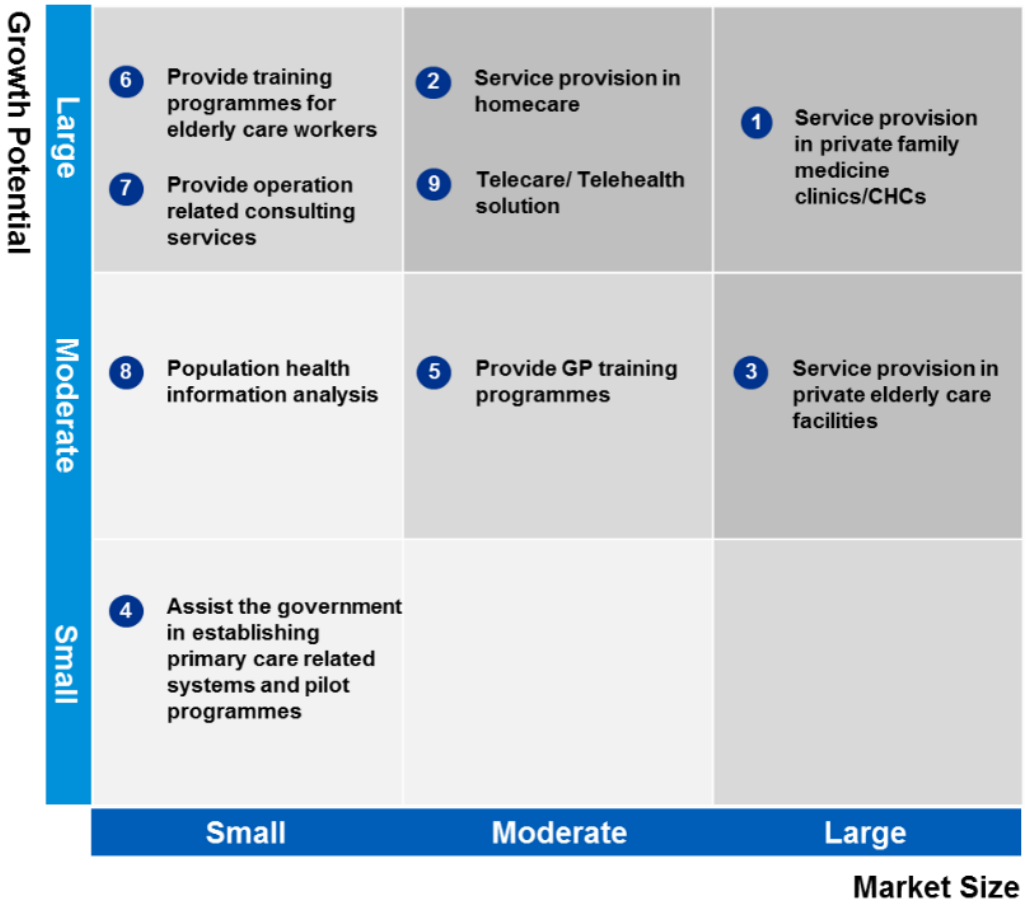

Figure 16 Evaluation matrix of market size against growth potentials for the identified opportunities

Market size	Growth potential
Large: over £1 billion	Large: over 15% CAGR
Moderate: £100 million to £1 billion	Moderate: 5%-15% CAGR
Small: less than £100 million	Small: less than 5% CAGR

Based on the analysis against market size and growth potential, the following seven opportunities will be considered further:

- Service provision in private family medicine clinics/CHCs
- Service provision in homecare
- Service provision in private elderly care facilities
- Provide GP training programmes
- Provide training programmes for elderly care workers
- Provide operations related consulting services
- Telecare/Telehealth solutions

4.4 Assessment of identified opportunities against regulation and competition

Opportunity	Regulatory	Competition
1. Service provision in private family medicine clinics/CHCs	• Although wholly-foreign owned private organisations are permitted in seven provinces or cities (Beijing, Tianjin, Shanghai, Zhejiang, Fujian, Guangzhou & Hainan), the detailed implementation rules are not clear • JV is currently permitted (Chinese partner needs to invest at least 30%)	• Majority of players are public based • Some foreign investors have set up a number of clinics in tier 1 cities targeting the high-end market • A number of corporate and financial investors are planning to enter this sector
2. Service provision in homecare	• The State Council has advocated that homecare for elderly population will be the major development target in the next 5 years • Many provinces have established relevant policies and plans to encourage the development of homecare facilities	• Major providers are community care centres providing services to low income elderly population • The market for private home care services in China is at the early stage of development • Established UK players have the opportunity to set up services and expand in China
3. Service provision in private elderly care facilities	• Ambitious target set by the government on the number of elderly care beds • Foreign investors are encouraged to set up private elderly care facilities in China	• Both local and international investors have already entered the market • Local insurance groups and real estate groups are strong competitors • Most big brands or foreign investors are targeting the high-end market
4. Provide GP training programmes	• Foreign players can provide training programmes independently or with local partners	• Limited number of providers in China • A small number of foreign providers are active in China
5. Provide training programmes for elderly care workers	• Foreign players can provide training programmes independently or with local partners	• Limited number of providers, mainly government intitutions • Established UK players have the opportunity to set up traning services in China
6. Provide operations related consulting services	• Foreign players can provide consulting services independently	• Limited number of providers in local market • Foreign players are at the early stage of business development in China

Opportunity	Regulatory	Competition
7. Telecare/ Telehealth solutions	• Telecare/Telehealth services are encouraged by regulators • Regulatory issues on data security and privacy need to be considered	• The market is at the early stage of development with new players entering the sector • Successful business model needs to be developed, especially on payment model

Table 18 Assessment against regulatory and competition

5. Go-to-market strategy

This section provides go-to-market stratigy analysis on the seven commercial opportunities listed in Table 18.

Service provision in private family medicine clinics/CHCs

	Marketing/sales	Service delivery	Follow up services
UK capabilities	• Well-known brands • Good reputation	• Operational experience • High-quality service • Workforce management • Strategic planning	• High-quality services
UK weakness	• Unfamiliar with local market • Huge time and effort needed for business development	• Huge investment in fixed investment • Small customer base • Need local workforce	• Limited workforce and experience in China market • Difficulty in achieving the economies of scale
How to overcome	• Help from UK agencies (e.g. DIT) and local government • Employ local staff who are familiar with local market	• Cooperate with local partners in setting up JVs • Establish pilot programmes • Cooperate with local large hospitals to grow customer base	• Cooperate with local large hospitals for service tracking • Workforce localisation
Potential partners	• Local government (e.g. regional HFPCs)	• Local insurance groups • Local real estate groups • Health check-up groups • Local PE/VC companies • Local hospitals	• Local large hospitals

Service provision in homecare

	Marketing/sales	Service delivery	Follow up services
UK capabilities	• Established integrated model • Management experience	• Operational experience • High-quality service • Mature home care service models integrated with Telehealth/Telecare solutions	• To use mature Telehealth/Telecare solutions
UK weakness	• Unfamiliar with local market • Need to develop local marketing strategy suitable for China market	• Existing model may not fit the local market • Lack of experienced workforce in China • Lack of a local network and a strong customer base	• Higher cost due to small scale to start with
How to overcome	• Help from UK agencies (e.g. DIT) and local government • Find local partners who are familiar with local market and have strong client base	• Cooperate with local training facilities to develop local workforce • Modify service models for local market	• Cooperation with local large hospitals for referrals and emergency services • Partner with other service providers serving the same group of customers
Potential partners	• Local government and local community centres • Local elderly care providers	• Local elderly care providers • Local real estate groups with plans to enter into home care • Local nursing schools and training centres	• Local large hospitals • Other service providers

Service provision in private elderly care facilities

	Marketing/sales	Service delivery	Follow up services
UK capabilities	• Well known chain brands • Good quality service • High reputation	• Extensive operational and management experience • Workforce training • Telehealth and telecare	• High-quality service • Service tracking via telecare systems and IT solutions
UK weakness	• Unfamiliar with local market • Huge time and effort needed for business development	• Huge investment in fixed investment • Small customer base • Need local workforce	• Limited workforce and experience in China market • Limited access to hospitals for medical issues
How to overcome	• Help from UK agencies (e.g. DIT) and local government • Employ local staff who are familiar with local market	• Cooperation with local partner in setting up JVs and enlarging customer base • Establish pilot programme • Workforce localization	• Cooperation with local large hospitals for medical referrals and emergencies • Workforce localisation
Potential partners	• Local government (e.g. regional Ministry of Civil Affairs)	• Local insurance groups • Local real estate groups • Health health check-up groups • Local PE/VC companies	• Local large hospitals

Provide GP training programmes

	Marketing/sales	Service delivery	Follow up services
UK capabilities	• Highly developed training and accreditation systems • Globally recognised GP training programmes	• Systematic training programmes • High-quality training • Best experience sharing • On-job training	• Well experienced in accreditation and revalidation
UK weakness	• Huge time and effort needed for business development • Lack of relationships with local HFPCs	• Limited number of trainees • Low willingness to pay	• May not be in a position to support customised continuous professional development
How to overcome	• Help from UK agencies (e.g. DIT) • Cooperation with local HFPCs to connect to potential trainees	• Cooperation with local NHFPs and professional associations to develop training programmes and reach potential trainees	• Work with local partners to establish continuous accreditation and revalidation programmes
Potential partners	• Local HFPCs • Professional associations • Local medical universities	• Local HFPCs • Professional associations • Local medical universities	• Local HFPCs • Professional associations

Provide training programmes for elderly care workers

	Marketing/sales	Service delivery	Follow up services
UK capabilities	• Well developed training and accreditation systems • High reputation	• Systematic training programmes for all levels • High-quality training	• Distance learning programmes
UK weakness	• Huge time and effort needed for business development • Lack of relationship with both public and private elderly care facilities	• Need to modify training programmes for local trainees • Need localised trainers	• Difficulties in assessing learning outcomes
How to overcome	• Help from UK agencies (e.g. DIT) • Partner up with elderly care facilities to establish market awareness	• Cooperation with local partners to establish pilot training programme • Trainers localisation	• Work with local partners to assess learning outcome
Potential partners	• Local government (e.g. the MCA) • Public and private elderly care facilities	• High-end private elderly care facilities • Local medical universities • Local MCAs	• Local medical universities • Local MCAs

Provide operations related consulting services

	Marketing/sales	Service delivery	Follow up services
UK capabilities	• Extensive experience in other countries • Industry leaders with good reputation	• Professional operational consulting experience • Successful implementation in other countries	• Continuous professional advice
UK weakness	• Unfamiliar with local market • Huge time and effort needed for business development • Lack of relationship with hospitals	• Limited customer base • Services need to be modified for local market	• May not be timely
How to overcome	• Help from UK agencies (e.g. DIT) • Employ local staff who are familiar with local market	• Establish pilot programmes • Establish relationships with local public hospitals and private chain hospitals	• Workforce localisation
Potential partners	• Professional consulting firms (e.g. the Big Four)	• Local public and private hospitals • Professional consulting firms (e.g. the Big Four)	

Telecare/Telehealth solutions

	Marketing/sales	Service delivery	Follow up services
UK capabilities	• Well established brand and solutions • Successful business model	• Experience in integrating Telecare/Telehealth solutions with different services • Extensive management experience	• Well delivered service tracking
UK weakness	• Unfamiliar with local market • Huge time and effort needed for business development	• Limited customer awareness and low willingness to pay • Services may not well localized	• Limited workforce and experience in China market • Limited access to healthcare institutions for medical issues
How to overcome	• Help from UK agencies (e.g. DIT) • Cooperation with local government or partners with strong relationships	• Establish pilot programme in elderly care facilities • Work with local partners to connect to customers	• Cooperation with local health institutions for medical referrals • Workforce localisation
Potential partners	• Local government (e.g. regional HFPCs) • Insurance companies	• Local call centre operators • Local homecare providers • Local elderly care facilities • Insurance companies	• Local large hospitals

6. Key success factors

Find the right local partner for cooperation

Local partners are often essential for foreign companies when establishing businesses in China, especially for business areas where 100% foreign ownership is not allowed. Local partners have a better understanding of the local market and can help UK firms to navigate the complex local system.

Seek help from UK agencies in China

Support from UK agencies such as the DIT, the CBBC and the British Embassy/Consulates-General is one of the important success factors for UK firms both in the early stages of business development and after successfully establishing businesses in China. Local firms view UK companies with more credibility when UK agencies listed above are involved.

Understand the local market and focus on product/service localisation

The primary care market in China is very different from the UK market. It is important for UK firms to adapt to the local market and take the following actions:

- Understand local demand and clarify what local customers need
- Clarify whether the products and services offered meet the needs of the clients
- Adjust the business or operating model to meet the demand of clients and business partners
- Integrate with the existing primary care system while providing unique services and products

Set up pilot programmes to build reputation and customer acceptance

Some companies and brands might be well estalished and well known in UK market. However, when entering the Chinese market, UK firms will need to raise awareness and secure local credentials. In order to minise the risks and investment, it is important to establish pilot programmes before committing to long-term investment.

Develop a network of partners through business consortia

Working with consortia formed by UK companies is highly recommended during the early stages of business development. This approach can help UK firms to develop a network of contacts quickly and reduce business development costs.

Investment on business development in the local market

According to interview results, some UK companies in China underestimated the commitment needed for business development. In order to develop a fuller understanding of the products and services required in China, it is important for UK firms to have dedicated resources focusing on the local market.

Adapt to local culture

Adapting to local Chinese culture is important for UK businesses to succeed in China. This is particularly true when developing service offerings for the local population and will also help UK firms to develop long-term relationships with local partners.

Workforce localisation

It is important to develop a local workforce in order to better serve the local market. UK companies could consider developing local professional expertise through initiatives such as ‘train the trainer’ programmes.

7. Challenges and risks

Though huge commercial opportunities, entering China's primary care market is not without challenges and risks. This section lists the key challenges and risks in the following areas.

Regulatory

There are strict regulary requirements when setting up service provisions in China. For example, except in free trade zones, foreign investors will need to form a JV when setting up a clinic. There are also detailed fire and safety requirements on the design and layout of the buidling. In addition to mandatory reporting and data submission to local HFPCs, foreign investors will need to pay special attention to data security and confidentiality.

Business culture

The Chinese business culture is very different from that in the UK. It is further complicated by China's healthcare system which has a complex financing, payment, reimbursement and delivery model. In order to succeed in China, UK companies will need to adjust their business strategies to fit into the Chinese business culture.

Partnership

Finding the right partners with the local knowledge, network, experience and commitment proved to be one of the most challenging tasks for many UK companies interviewed. On one hand the Chinese companies are interested in learning from foreign firms on their successful business models in other countries, on the other hand the Chinese parties question if the foreign experience could be successfully implemented in China.

Business development

Chinese companies put a lot of focus on networks and relationships when doing businesses. Foreign companies will need to invest in time and money to develop and maintain business and personal relationships. Foreign companies will be judged by their potential customers and partners on their long term commitment into the China market. Without dedicated resources focusing on business development in China, many UK companies interviewed found it difficult to have continuous success.

Workforce

Many foreign companies recognise the importance of having a localised workforce. However highly capable doctors and nurses are in short supply. Many staff view large public hospitals as the best platform for job security, career progression, personal development and teaching & research opportunities.

8. Roadmaps

Taking the commercial opportunity of service provision in private family medicine clinics/CHCs an an example, a roadmap with key steps, description and the likely timeline is provided in Table 23 below:

Steps	Description	Time duration
Find a local partner to form a JV	Potential local partners may include: • Local investors including PEs/VCs, insurance groups, real estate groups and health check-up groups • Existing international and local chain brands (e.g. UFH, Amcare and Parkway)	2-3 months
Partnership negotiation	• Negotiate on types of partnerships and agree on development strategies	1-2 months
Location selection of the pilot clinic/CHC	• Conduct market assessment and select a city for the pilot • Conduct detailed location selection (based on market research and profile of targeted populations)	1-3 months
Application of establishment and operation licence	• Submit the establishment and operation application to the local HFPC. • Upon approval from the HFPC, submit the establishment and operation application to the Department of Commerce of the selected city and province.	3-6 months
Building design and renovation	• Design and renovate the site • Comply with local requirements, especially fire and safety	4-6 months
Procurement of medical devices	• Procurement of medical devices • Installation and testing	1-3 months
Workforce recruitment and training	Recruit and train local workforces. Possible sources of recruitment include: Doctors (full-time or part-time as multisite practice is now allowed) and nurses from public hospitals Existing international chain clinics	4-6 months
Business opening and further expansion	To set up more sites and expand to other cities once the pilot proves to be successful	1-3 years

Table 19 Roadmap for service provision in private family medicine clinics/CHCs

Appendix: Potential partner list in Guangdong Province

UK companies may find it helpful to consider the following partners in Guangdong Province:

Sectors	Partner list	
Insurance groups	• Pingan（平安） • Sunshine Insurance（阳光保险） • China Pacific Insurance（太平洋保险）	• China Life（中国人寿） • BOC Insurance（中银保险） • Citic-prudential（信诚人寿）
Health check-up groups	• IKang（爱康） • Health 100（健康 100） • MHH Mjlife（美兆健康） • Ciming（慈铭）	• Regular (largest in Guangdong local and now held by Health 100)（瑞格尔）
Real estate groups	• Evergrande（恒大） • Yuexiu Property（越秀地产）	• Vanke（万科） • Poly Real Estate Group（保利）
PE/VCs	• Shenzhen Fortune Capital（深圳达晨创业投资有限公司） • Sequoia Capital China（红杉资本） • IDG Capital Partners	• Shenzhen Capital Group（深圳创新投资集团有限公司） • BlueRun Ventures（蓝驰创投）
Leading public hospitals	• First Affiliated Hospital, Sun Yat-sen University（中山大学附属第一医院） • Nanfang Hospital（南方医院） • Guangdong General Hospital（广东省人民医院） • Third Affiliated Hospital, Sun Yat-sen University（中山大学附属第三医院） • First Affiliated Hospital, Guangzhou Medical University	

Sectors	Partner list	
	（广州医学院附属第一医院） • Sun Yat-sen Memorial Hospital, Sun Yat-sen University （中山大学孙逸仙纪念医院）	
Leading private hospitals	• Guangdong Clifford Hospital（广东祈福医院） • Dongguan Tungwah Hospital (HK partnership)（东华医院） • Dongguan Kanghua Hospital（东莞康华医院）	
Private chain hospitals	• Fosun (Guangzhou) （复星） • UFH (Guangzhou) （和睦家）	• Amcare (Shenzhen) （美中宜和） • Tendcare Med (Maoming) （天健华夏）
Leading medical universities	• Sun Yat-sen University（中山大学） • Southern Medical University（南方医科大学） • Guangzhou University of Chinese Medicine（广州中医药大学） • Guangzhou Medical University（广州医科大学） • Guangdong Pharmaceutical University（广州药科大学）	
Leading SOEs	• Guangdong Trading Holding Group（广东省商贸控股集团） • Guangdong Guangxin Holding Group（广东省广新控股集团） • Guangzhou Pharmaceutical Corporation（广州医药有限公司）	
Leading private groups	• CR Group（华润集团） • Amer Group（正威集团） • TCL	• Huawei（华为） • Midea（美的） • Gree（格力）

Table 20 Potential partner list in Guangdong

Mainland China

Beijing
8th Floor, KPMG Tower, Oriental Plaza
1 East Chang An Avenue
Beijing 100738, China
Tel : +86 (10) 8508 5000
Fax : +86 (10) 8518 5111

Beijing Zhongguancun
Room 603, Flat B, China Electronic Plaza
No.3 Danling Street
Beijing 100080, China
Tel : +86 (10) 5875 2555
Fax : +86 (10) 5875 2558

Chengdu
17th Floor, Office Tower 1, IFS
No. 1, Section 3 Hongxing Road
Chengdu, 610021, China
Tel : +86 (28) 8673 3888
Fax : +86 (28) 8673 3838

Chongqing
Unit 1507, 15th Floor Metropolitan Tower
68 Zourong Road,
Chongqing 400010, China
Tel : +86 (23) 6383 6318
Fax : +86 (23) 6383 6313

Foshan
8th Floor, One AIA Financial Center
1 East Denghu Road
Foshan 528200, China
Tel : +86 (757) 8163 0163
Fax : +86 (757) 8163 0168

Fuzhou
Unit 1203A, 12th Floor
Sino International Plaza,137 Wusi Road
Fuzhou 350003, China
Tel : +86 (591) 8833 1000
Fax : +86 (591) 8833 1188

Guangzhou
38th Floor, Teem Tower
208 Tianhe Road
Guangzhou 510620, China
Tel : +86 (20) 3813 8000
Fax : +86 (20) 3813 7000

Hangzhou
8th Floor, West Tower,
Julong Building
9 Hangda Road
Hangzhou 310007, China
Tel : +86 (571) 2803 8000
Fax : +86 (571) 2803 8111

Nanjing
46th Floor, Zhujiang No. 1 Plaza
1 Zhujiang Road
Nanjing 210008, China
Tel : +86 (25) 8691 2888
Fax : +86 (25) 8691 2828

Qingdao
4th Floor, Inter Royal Building
15 Donghai West Road
Qingdao 266071, China
Tel : +86 (532) 8907 1688
Fax : +86 (532) 8907 1689

Shanghai
50th Floor, Plaza 66
1266 Nanjing West Road
Shanghai 200040, China
Tel : +86 (21) 2212 2888
Fax : +86 (21) 6288 1889

Shenyang
19th Floor, Tower A, Fortune Plaza
61 Beizhan Road
Shenyang 110013, China
Tel : +86 (24) 3128 3888
Fax : +86 (24) 3128 3899

Shenzhen
9th Floor, China Resources Building
5001 Shennan East Road
Shenzhen 518001, China
Tel : +86 (755) 2547 1000
Fax : +86 (755) 8266 8930

Tianjin
Unit 06, 40th Floor, Office Tower
Tianjin World Financial Center
2 Dagu North Road
Tianjin 300020, China
Tel : +86 (22) 2329 6238
Fax : +86 (22) 2329 6233

Xiamen
12th Floor, International Plaza
8 Lujiang Road
Xiamen 361001, China
Tel : +86 (592) 2150 888
Fax : +86 (592) 2150 999

Hong Kong SAR and Macau SAR

Hong Kong
8th Floor, Prince's Building
10 Chater Road
Central, Hong Kong

23rd Floor, Hysan Place
500 Hennessy Road
Causeway Bay, Hong Kong

Tel : +852 2522 6022
Fax : +852 2845 2588

Macau
24th Floor, B&C, Bank of China Building
Avenida Doutor Mario Soares
Macau

Tel : +853 2878 1092
Fax : +853 2878 1096

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