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The Business Model of High-end Healthcare Service Institutions in China: a Stakeholders' Perspective

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Doctor of Management

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Shantou University

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BUSINESS  
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**The Business Model of High-end Healthcare  
Service Institutions in China: a Stakeholders'  
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## Abstract

In recent years, with the explosive increase in Chinese consumers' demand for high-end healthcare services and the policy reforms in the medical system, these institutions, both public and private, have flourished in China. However, there is a lack of in-depth studies on their business model and such is the aim of this thesis.

To this end, a qualitative approach is adopted through the analysis of 25 interviews with related people from public and private high-end healthcare institutions as well as insurance companies, and the collection of secondary data of 28 files from various authoritative sources. Based on these data, we found that despite prominent commonalities, there are differences between the business models of both types of institutions. Public hospitals put more emphasis on medical treatments, which is their core value proposition, offer a more developed talent training system, enjoy good reputation and acquire new customers mainly through word of mouth. In contrast, private institutions emphasize value-added propositions, providing such elements as respect and privacy, and expand their customer base mainly through marketing activities.

This research further analyzed the value exchange between stakeholders and high-end healthcare service institutions. It is found that with the participation of various stakeholders, public institutions have formed internal synergy effects and external positive feedback but face challenges from policy constraints. Private institutions, having complementary effects and external positive feedback performed by various stakeholders, are also constrained by limited resources, especially in early stages. Based on the theoretical framework and data analysis, this thesis proposes a model of public-private partnerships to address the constraints that both institutions face.

**Keywords:** high-end healthcare services; business model canvas; stakeholders; value exchange  
**JEL:** M51; M54

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## Resumo

Recentemente tem-se assistido na China a um enorme aumento da procura de serviços de saúde de alta gama cujo rápido desenvolvimento tem sido em parte suportado por diversas reformas do sistema de saúde. Contudo os estudos sobre este tipo de organizações e os modelos de negócio adoptados são ainda escassos. Contribuir para o preenchimento desta lacuna é o objetivo desta tese.

Esta investigação adoptou uma abordagem qualitativa através da realização de 25 entrevistas em profundidade e de dados secundários recolhidos através de 28 documentos relevantes. Os resultados revelaram elementos em comum, mas também diferenças significativas entre os modelos de negócio das instituições públicas e privadas. Enquanto as primeiras centram a sua proposta de valor na “prestação de saúde”, desenvolvem um bom sistema de formação de talentos, desfrutam de uma elevada reputação, e obtêm pacientes através de recomendações, as instituições privadas enfatizam a prestação de valor acrescentado (por exemplo respeito ou privacidade) e alargam a sua base de utilizadores através de serviços de marketing.

A tese analisou ainda o intercâmbio de valor entre “stakeholders” e as organizações de prestação de serviços de saúde de alta gama. Os resultados mostram que, embora as organizações públicas tenham desenvolvido sinergias internas e efeitos positivos de “feedback” externo com a participação de vários “stakeholders”, também têm de enfrentar muitos desafios devido a restrições políticas. Por seu lado, as organizações privadas desenvolvem complementaridades e efeitos positivos de “feedback” externo com diversos “stakeholders”, mas têm de enfrentar muitos problemas na obtenção de recursos sobretudo no início da sua atividade. Para ultrapassar as restrições sentidas por estes dois tipos de organizações, a tese propõe um modelo sustentado de parcerias público-privadas.

**Palavras-chave:** serviços de saúde de alta gama; modelo de negócios; stakeholders; intercâmbio de valor

**JEL:** M51; M54



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## 摘 要

近年来，随着中国消费者对高端医疗服务的需求呈现爆发式增长和医疗体系的政策改革，公立和私立高端医疗机构在中国蓬勃发展。然而，学界对其商业模式缺乏深入研究。

为此，本研究采用定性方法，通过对来自公立、私立高端医疗机构和保险公司的相关人员的25份访谈，以及来自各种权威来源的28份二手资料进行分析。在这些数据的基础上，我们发现公立医院与私立机构的商业模式尽管存在突出共性，但依然有所区别。公立医院更强调“治病”这一核心价值主张，拥有更完善的人才培养体系和及更高的社会声誉，主要通过客户口碑来获取新客户；而私立机构更强调附加价值（如尊重、隐私等）的提供，主要依靠市场营销扩大客源。

本研究进一步分析了高端医疗机构与其利益相关者之间的价值交换。研究发现，在各利益相关者参与下，公立医院尽管已形成内部协同效应与外部正反馈效应，但其发展仍受政策限制；而私立机构在各利益相关者参与下，尽管已形成互补效应与外部正反馈效应，但其发展依然受资源限制。基于理论框架与数据分析，本文建议并证实了公立和私立医院高端医疗服务相互合作模式（即PPP模式），以解决二者的发展限制性问题。

**关键词：** 高端医疗服务；商业模式画布；利益相关者；价值交换

**JEL:** M51; M54

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I used to be a clinician. However, not satisfied with only providing one-on-one healthcare services to patients as a doctor, I wanted to establish a healthcare institution to provide services to more patients. Over the years, I have visited several healthcare organizations in Hong Kong, and other regions of Europe and the United States. It is found that the business models of healthcare organizations vary from country to country and region to region, but all of them indicate the importance of healthcare services to people's health and well-being. This has inspired me to dig deep into the model that best suits China's national conditions and the healthcare needs of the people, as well as the solutions to settle the conflict between the development of healthcare institutions and their nature of public welfare. I was very excited when I learned about the doctoral program in Public Health Policy and Management. Especially, I would like to express sincere thanks to my supervisor, Professor Virginia Trigo. It is a great privilege and honor for me to complete my doctoral studies under her supervision. She often quotes Socrates to me, "I cannot teach anybody anything, I can only make them think". Her rigorous research approach and deep understanding of academic theories guided me in terms of basic theories, literature reading, and research methods. I could hardly have completed this thesis without the guidance of Professor Virginia Trigo.

When finishing the courses of my doctoral program, I believe that if I study hard and think deeply by myself, I would be able to obtain the satisfying results and find out answers to my confusion. However, I still encountered a lot of difficulties in my study. For instance, I had to switch from the research system and thinking mode of natural science to those of social science in my doctoral program. When I encountered these difficulties and frustrations in my study, Ms. Jiang Hong and Ms. Zhao Di gave me a lot of encouragement and help, and I am especially grateful to them. Besides, I would also like to express my heartfelt thanks to Professor Su Fang from the School of Management of Jinan University for her guidance to me on qualitative research methods and data processing and analysis, which made my dissertation more rigorous and scientific.

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我曾经是一名临床医生，但是不满足于作为医生为患者提供一对一的医疗服务，我想成立一家医疗机构为更多的患者提供服务。多年来，我参观了香港和欧美的多家医疗机构，发现各国的医疗机构的商业模式各不相同，但是都体现出医疗服务对民众健康和幸福感的重要性。这也引发了我进一步的思考，什么模式才更适合中国国情和民众的医疗需求？如何解决医疗机构生存发展与医疗服务公益性之间的矛盾？当我得知有《公共卫生政策与管理》这个博士课程的时候，我非常兴奋，我要特别感谢我的导师Virginia Trigo教授，让我幸运的成为她学生，她经常引用苏格拉底的名言告诉我，“我不能教会别人任何事，我只能让他们思考”。她严谨的治学态度和深厚的学术理论指导我从基础理论、阅读文献，研究方法等方面不断的启示和引导，没有Virginia Trigo教授的指导，我几乎无法完成这篇论文。

在博士学位课程学习过程，我坚信只要努力地学习思考就能够获得理想学习成果和解答我的困惑。可是在学习过程我遇到许多困难，我要从自然科学的研究体系和思维，转换为现在这门博士课程社会科学的研究体系和思维，面对学习中的困难和挫折，姜虹老师和赵棣老师给了我很多鼓励和帮助，我特别感谢这两位老师。我还要衷心感谢暨南大学管理学院苏芳教授对我关于质性研究方法和数据分析处理的指导，在苏芳教授指导下才让我的论文更加严谨和科学。

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## List of Abbreviations

VPC	Value Proposition Canvas
BMC	Business Model Canvas
CRM	Customer Relationship Management
IBM	International Business Machines Corporation
VCA	Value chain analysis
FMCG	Fast Moving Consumer Goods
SRI	Stanford Research Institute
ICHOM	International Consortium for Health Outcomes Measurement
MCS	Multiple Case Study
MTD	Multi-Disciplinary Teams
DRGs	Diagnosis Related Groups
DDI	Data Diagnosis-intervention
TPA	Third-Party Administrator
AIA	American International Assurance
KR	Key Resource
KA	Key Activity
KP	Key Partnerships
CS	Cost Structure
CGSS	China General Social Survey
NPS	Net Promoter Score
DIP	Diagnosis-Intervention Packet
SIMC	Shanghai International Medical Center
NACHRI	National Association of Children's Hospitals and Related Institutions



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## **Chapter 1: Introduction**

### **1.1 Research background**

China's economy has developed rapidly since the reform and opening-up. Along with the increasing number of high-net-worth individuals and foreigners in China as well as the improvement of living standards and health awareness, people's demand for high-end healthcare services also increases. This study focuses on China's high-end healthcare services industry and, through a stakeholder perspective, analyzes the different business models they adopt to better overcome constraints and challenges and seize opportunities.

#### **1.1.1 Huge unmet demands for high-end healthcare services in China**

At the beginning of China's reform and opening-up in 1978, China's gross domestic product (GDP) was only 367.87 billion RMB, the per capita GDP was 381 RMB, and the per capita household consumption expenditure was 183 RMB (National Bureau of Statistics, 2020). During this period, China's economic level was low and high-end healthcare services were in low demand. The main consumer groups were foreigners in China, people from Hong Kong, Macau and Taiwan, some overseas Chinese, and some local senior officials (Chen & Zhang, 2013). Since the reform and opening-up, China's economy has maintained rapid development for a long time, and its economic level has continued to improve. As of 2018 (Figure 1.1 below), China's GDP was 91,928.11 billion RMB, with a per capita GDP of 66,006 RMB and the per capita consumption expenditure topping 25,378 RMB (National Bureau of Statistics, 2020). With China's economic level rapidly rising, domestic high-net-worth individuals have gradually constituted the main consumer group for high-end medical care.

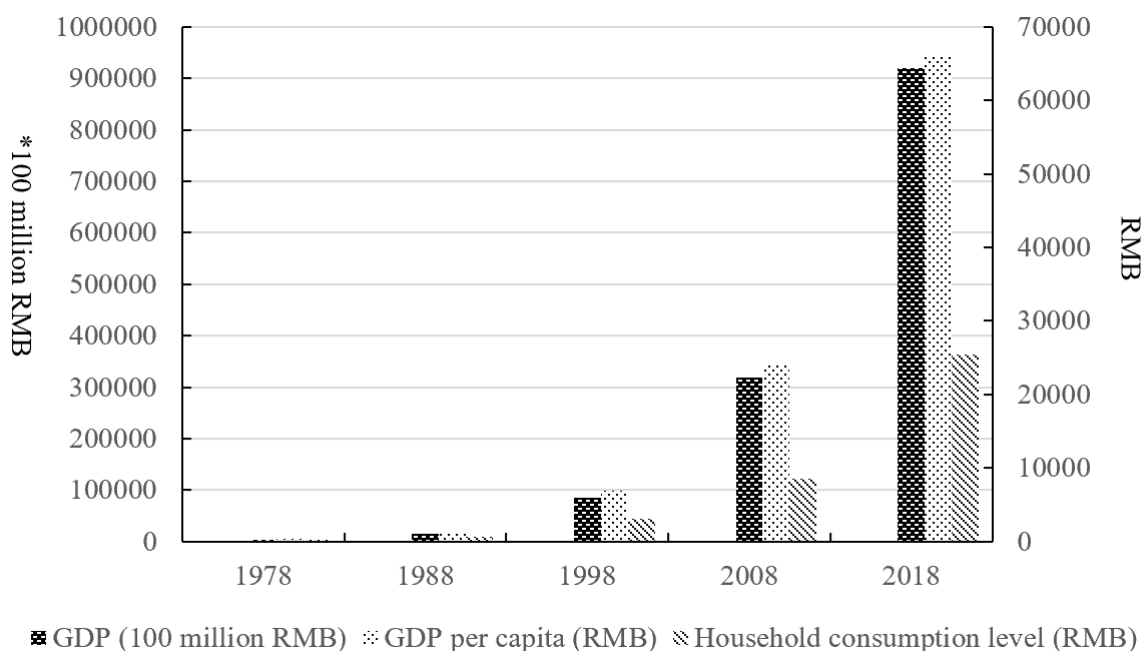


Figure 1.1 China's national economy: 1978-2018

Source: National Bureau of Statistics (2020)

The number of high-end healthcare service consumers continues to grow in juxtaposition with China's booming economy. The year 2018 witnessed that the number of high-net-worth individuals with investable assets exceeding 10 million RMB reached 1.97 million, and the number of ultra-high-net-worth individuals with investable assets exceeding 100 million RMB amounted to 170,000, as shown Figure 1.2 (China Merchants Bank, 2019). The increase in the number of high-net-worth individuals promotes consumption levels, and consumption upgrades are not only reflected in the pursuit of high-end material products, but also in the search for high-level health and medical services. In 2016, the annual per capita health expenditure of China's high-net-worth population was 8,660 RMB (including basic health insurance expenditure), which was 5.31 times (1630.8 RMB) the figure of China's urban areas (Hurun Report, 2017). While high-net-worth individuals pay more attention to health issues, they are also more proactive in avoiding health risks and seeking high-quality healthcare, ushering in high demand for high-end healthcare services (Hurun Report, 2017). Quality, efficiency, effectiveness, service attitude, care environment and brand reputation have attracted rising attention from high-net-worth individuals (Fang et al., 2015).

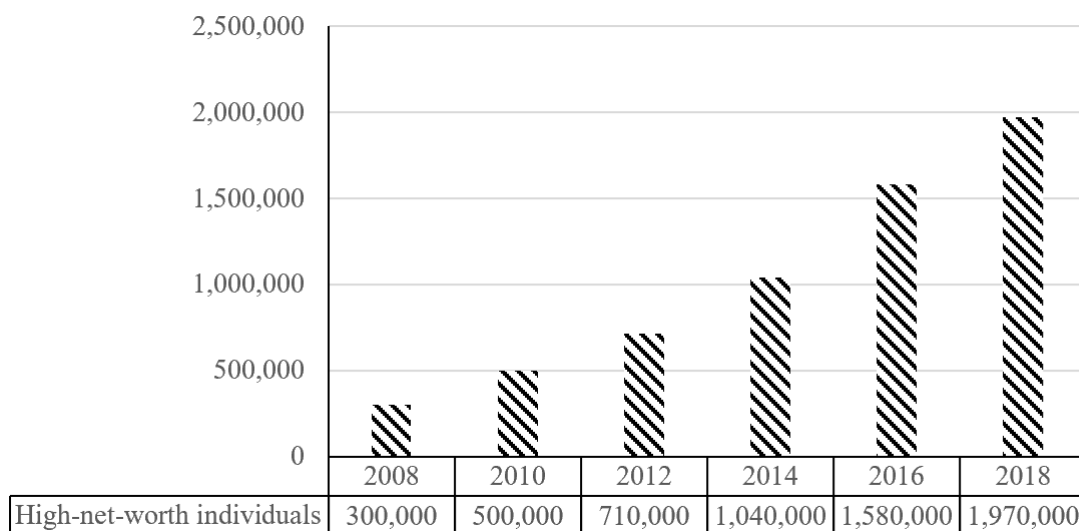


Figure 1.2 China's high-net-worth population 2008-2018

Source: China Merchants Bank (2019)

At present, China's healthcare system mainly caters for disease treatment and is inundated with problems like long waiting time, weak service awareness, poor care environment or lack of diversified services. High-end healthcare services aim to address the pain points of high-net-worth individuals seeking medical care, which is more in line with their appeal of interests. As the affordability and health awareness of high-net-worth people increase, and the demand for high-end healthcare services picks up rapidly, it is imperative to develop a high-end healthcare service operating model that adapts to China's national conditions.

However, although both China's public and private hospitals provide high-end healthcare services, the existing system cannot meet the huge and growing demand. Public hospitals represent the main body of China's healthcare system and have the advantage of centralized resources. They are the main providers of both basic and high-end healthcare services, but in China, public hospitals provide high-end healthcare services mainly through the so-called "special-needed" medical departments or international departments.

Public hospitals dominate China's healthcare service system. In 2018, there were 12,032 public hospitals, the number of which decreased by 2.15% year-on-year, accounting for 36.45% of the total number of hospitals. While the number has decreased, the volume of their healthcare services has gathered continuing momentum. In 2018, consultations in public hospitals reached 3.051 billion, a year-on-year increase of 3.3%, accounting for 85.29% of the total number of consultations in hospitals (National Health Commission, 2019a). With the development of China's economy, the income level of residents and the coverage of health insurance keep improving and the demand for healthcare services continues to increase. Therefore, public hospitals face many operational pressures with the supply of healthcare services and the

problem of healthcare accessibility has become growingly prominent.

In order to alleviate service supply and operating pressure, public hospitals have invested in more personnel, equipment, beds and other resources into high-end healthcare services that provide more substantial returns. This development has advantages in medical quality and healthcare professionals. According to Hurun Report (2017), tertiary public hospitals are the preferred medical institutions for high-net-worth individuals, with 70% of respondents citing public hospitals as their first choice for special-needed healthcare services. However, the report also points out that there is still room for improvement in the healthcare environment and efficiency of tertiary public hospitals.

Under market mechanisms, high-end healthcare services provided by public hospitals squeeze the resources and development space of basic healthcare services thus damaging their mission of public welfare. Since 2003, in order to ensure the supply of basic healthcare services, the Chinese government has strengthened regulations on special-needed healthcare services and, in 2009, proposed its restriction stating that the proportion of high-end healthcare services (called as special-needed healthcare services in China) in public hospitals should not exceed 10% of the total (State Council of China, 2009a). During this period, the development of these services and foreign-related healthcare services with public hospitals as the main carrier was restricted by policies, and public hospitals could not meet the increasing demand for such services.

Meanwhile, private hospitals form an important part of China's healthcare service system. In recent years, they have gained rapid expansion with policy support, playing a crucial role in providing multi-level, diversified and personalized high-end healthcare services and in alleviating demand pressure.

Private capital has entered the field of healthcare services under the support of the new healthcare reform policy, and the number of social medical institutions has grown rapidly. By 2015, there were 14,518 private hospitals in China, exceeding public hospitals (13,069) for the first time. As of 2018, there were 20,977 private hospitals and 12,032 public hospitals in China. The gap between the numbers of the two types of hospitals shows a further widening trend. However, the scale of private hospitals is relatively small, as evidenced by the fact that there were only 117 private hospitals with 800 beds or more in 2018, less than one-tenth of that of public hospitals (NHC, 2019a).

The number of people served by private hospitals has registered a year-on-year growth, but their service capacity still lags far behind that of public hospitals. In 2018, consultations in private hospitals reached 526 million, accounting for 14.70% of the total number of national

visits, while admissions in private hospital were 36.65 million, taking up 18.31% of the total of hospital admissions (NHC, 2019a).

The medical quality of private hospitals is still less than satisfactory. According to the *Annual Report on China's Private Hospitals Development (2016)*, the medical errors and safety incident rate, the mortality of priority diseases, the rehospitalization rate of priority diseases, and the perioperative mortality are higher than those in public institutions (Zhuang & Zeng, 2016), as shown in Table 1.1.

Table 1.1 Comparison of medical quality between private-invested and public hospitals

Index	Medical errors and safety incident rate (%)	Mortality of priority diseases (%)	Rehospitalization rate of priority diseases (%)	Perioperative mortality (%)
Private hospitals	0.36	1.03	5.03	0.35
Public hospitals	0.20	0.88	3.00	0.27

Source: Zhuang and Zeng (2016)

Private hospitals pay more attention to economic benefits rather than to clinical skills and advanced medical technology. They tend to provide low-cost, low-tech, high-yield, and short-return medical services. The popular specialties of private hospitals include stomatology, ophthalmology, and cosmetic surgery. In the field of high-end healthcare services, stomatology and ophthalmology are the most established specialties, accounting for 25% and 12% respectively (VCBeat Research, 2019).

In addition, private hospitals face a serious healthcare talent crunch. The allocation of ready talents with relevant background and experience in private hospitals is seriously lagging that in public hospitals. According to a study on physician human resources, the number of senior physicians and personnel with doctor degree respectively accounted for 2.4% and 0.50% of all medical staff in private hospitals, while the proportion is 11.50% and 9.30% in public ones (Sun et al., 2014). The qualifications of physicians in private hospitals differ significantly from those in public institutions in terms of academic degrees and professional titles, and there is a lack of high-quality physician resources to provide high-end health services.

As a result, private hospitals have not established a good brand reputation in China. According to the *Annual Report on China's Private Hospitals Development (2017)*, the top 100 hospitals in 2016 were all public, with no private hospitals on the list (Zhuang & Zeng, 2017). Likewise, in the 2017 hospital rankings released by Fudan University, no private hospital was enlisted on the top 100 comprehensive rankings (Hospital Management Institute, Fudan University, 2017). In addition, there is no competitive healthcare service brand for private hospitals in China and, due to the lack of supervision, high medical errors and safety incident rate have seriously affected their reputation.

Although private hospitals have an advantage in terms of quantity, they also face shortcomings in terms of healthcare quality, clinical skills, technology, talent resources, brand reputation and others and there is a large gap when it comes to overall level compared with their counterparts in the public sector. Private hospitals have not developed into a leading force in China's high-end healthcare services and fail to meet the rapidly growing demand.

### **1.1.2 Opportunities for developing high-end healthcare services**

In 2009, the State Council of China released the *Opinions of the CPC Central Committee and the State Council on Deepening the Healthcare System Reform* proposing to set up a well-structured, accessible healthcare system in both rural and urban areas by building a new model based on the principle of public medical institution domination and private medical institutions participation in joint development (State Council of China, 2009b).

With the in-depth advancement of China's new healthcare reform, policies for private capital investment, multi-sited practice, and commercial health insurance have been gradually improved, providing policy guarantees for the development of high-end healthcare services in terms of investment capital, human resource, and payment systems.

Firstly, China's new healthcare reform policies encourage private investment in the healthcare sector and its rapid development in recent years is inseparable from the support of new healthcare reform policies as illustrated in Figure 1.3 below. As a result of the reduction of market access limitations and the continued improvement of guidelines, private capital has obtained more space and guidance for growth. The reform policies have promoted the rational and sustainable development of private healthcare. Driven by favorable healthcare policies and the entry of private capital, China has gained more room in developing private high-end healthcare institutions, spawning an increasing number of private service brands, which from 1997 to 2018 have increased from 2 to 98. Among them are many well-known international brands such as United Family Healthcare, Parkway Health, and Raffles Medical. Some domestic brands have also gradually come to the stage including Peking University International Hospital, Newhongqiao International Medical Center, New Century Healthcare, Sunbow and others (VCBeat Research, 2019).

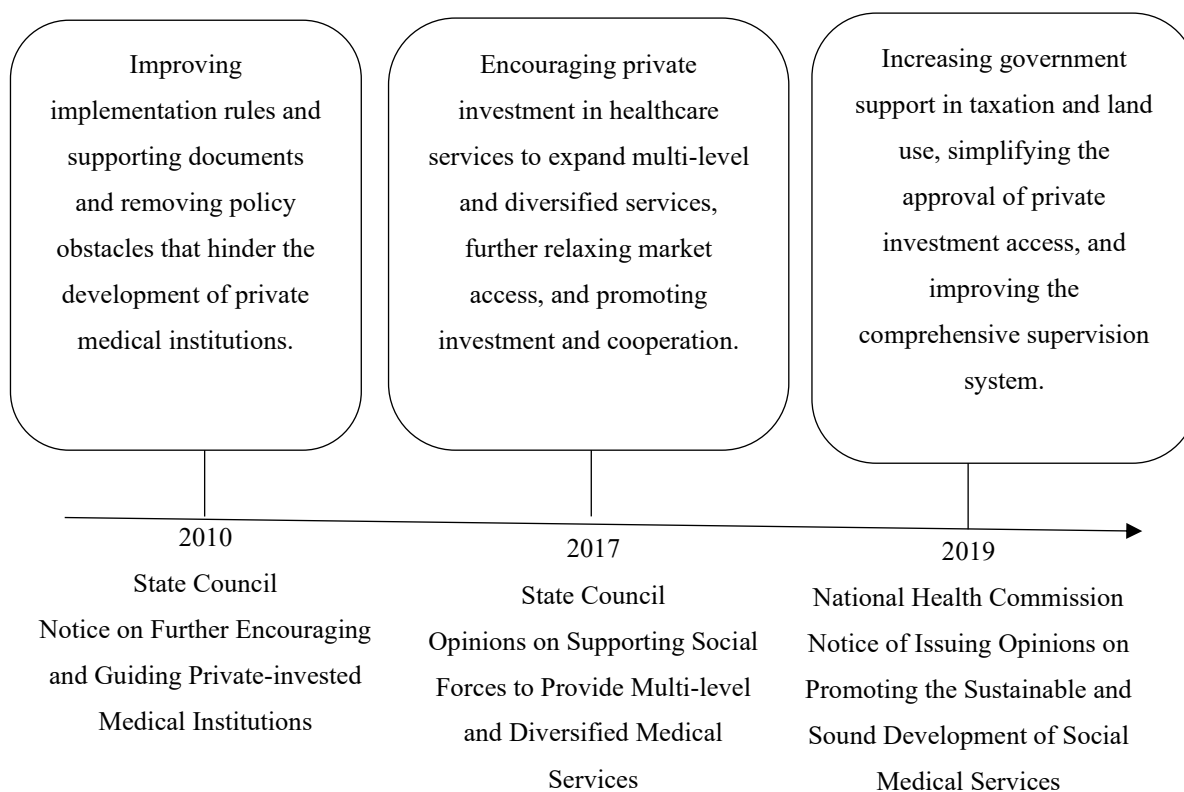


Figure 1.3 Policies related to private investment in China's healthcare sector

As mentioned before, China's new healthcare reform policies have, to a certain extent, improved the environment for private healthcare and created opportunities for the development of high-end healthcare services. However, there are still problems such as imperfect policy guidelines, policy-implementation gaps, and immature regulatory mechanisms. In addition, the model of high-end healthcare institutions solely invested by private capital with mono-service model abandoning basic healthcare services is incompatible with China's national conditions and China is yet to explore a sustainable high-end healthcare service operating model.

Secondly, China's new healthcare reform policies encourage multi-sited practice of healthcare professionals. Multi-sited practice refers to the practice of healthcare professionals who obtain a qualification certificate and regularly engage in practice activities in two or more medical institutions during the valid registration period (National Health Commission, 2014). The new healthcare reform policies encourage multi-sited practice of healthcare professionals, for the purpose of creating a fair development environment, promoting the rational mobility of healthcare talents in different institutions to release the radiation effect of talent resources. Multi-sited practice policies are conducive to alleviating the pressure of talent shortage in the field of high-end healthcare services. The evolution of these policies is illustrated in Figure 1.4.



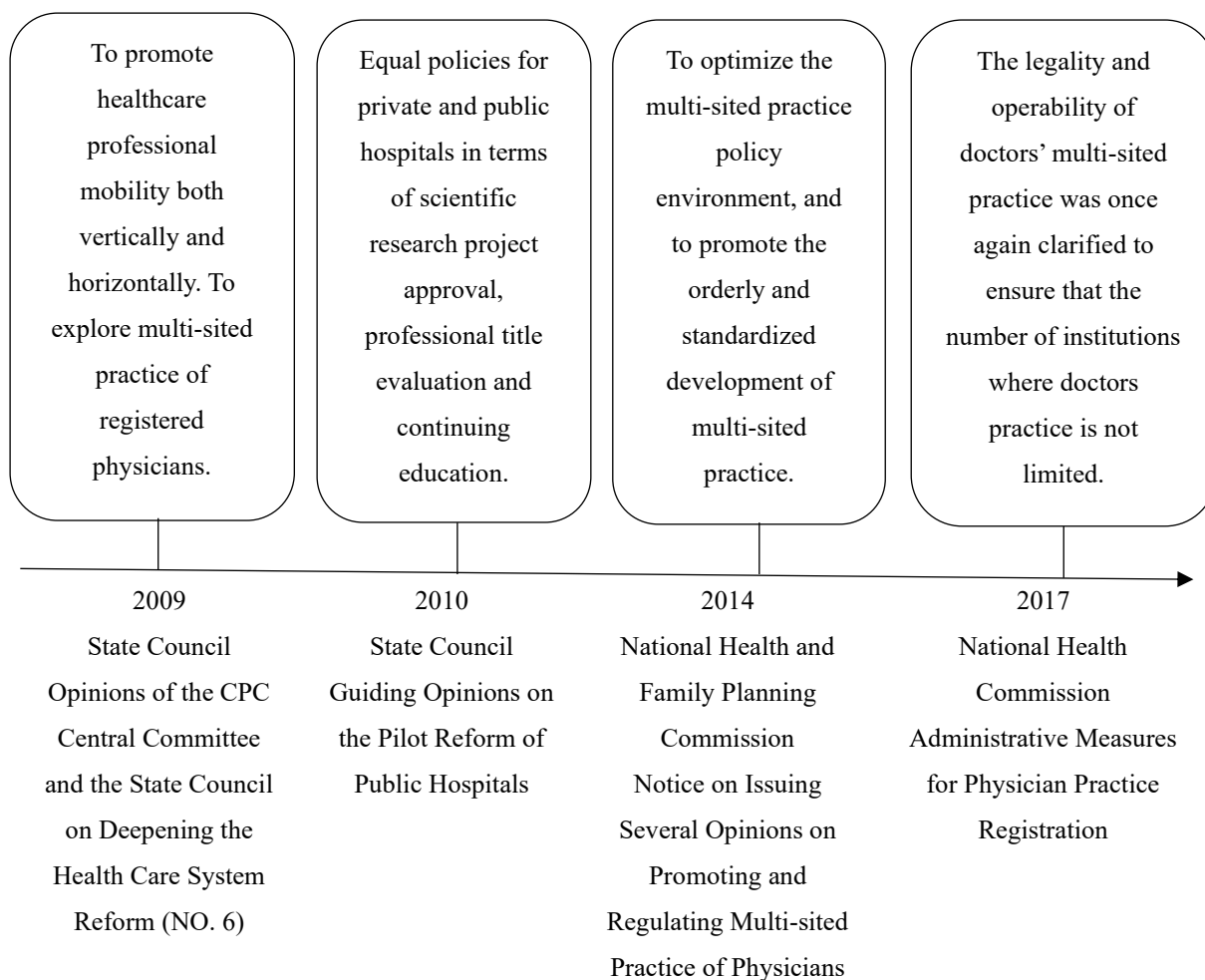


Figure 1.4 Policies related to multi-sited practice of Chinese healthcare professional

Before the new healthcare reform, there were few ways for high-end healthcare institutions to obtain talents except through hiring top-class public hospital experts who were about to retire or had retired (VCBeat Research, 2019). With the gradual relaxation of the new healthcare reform policy on multi-sited practice restrictions for healthcare professionals, those high-end healthcare institutions with generous salaries, good working conditions and flexible work arrangements have attracted the favor of some healthcare talents.

However, a gap in the implementation of the multi-sited practice policy still exists. Due to the lack of a reasonable mechanism to balance the relationship among stakeholders, public hospitals are still concerned about brain drain and the negative impact on scientific, educational and research work while the appeals of medical staff for an equal practice environment and guaranteed medical liability, among others, is not satisfied. As a result, the hospital and medical staff are unwilling to change their current relationship (Xu & Zhang, 2018). In 2018, the number of Chinese registered physicians (practice physicians, physician assistants) was 3.607 million, while that of multi-sited practice physicians was 160,000 which accounted for only 4.43% of the registered total showing that medical talents are still highly concentrated in public hospitals

(National Health Commission, 2019b).

Under the combined effects of economic development, consumption upgrading, policy relaxation and capital-driven, China's high-end healthcare services have entered a rapid development stage, and the service scope has expanded from major markets such as Beijing, Shanghai and Guangzhou to other first-tier cities in China.

Notwithstanding the fast-growing market, high-end healthcare services have not received due attention from scholars in the research field. This study intends to contribute to narrowing this gap by conducting a preliminary search of relevant literature and industry data to find extant high-end healthcare service-related research in China, existing models and their limitations. Considering that high-end healthcare services have better development conditions in first-tier cities, this research comprehensively takes into consideration political, economic, social, and technical factors, and selects the representative cities of Beijing, Shanghai, and Guangzhou as an example considering its high economic development, high demand for high-end healthcare services and relatively complete healthcare service systems.

## **1.2 Research contents and research questions**

This study has searched databases including PubMed, ScienceDirect, EBSCO, ProQuest, IEEE, and Chinese databases namely CNKI, Weipu and Wanfang. By summarizing the current literature, it was found that research in the field of healthcare services in China has focused on such aspects as the reform of public hospitals, hierarchical medical system, private healthcare services, and the canceling of medicine markups. Only a few scholars have focused on high-end healthcare services, and few research findings have been produced. Among this limited literature on high-end healthcare services, most of the related research remains in the description of market prospects, service concepts, development history, and foreign experience, and lacks in-depth research on core elements, business models, and value realization.

In order to fill the gaps of the above research, this thesis will explore China's high-end healthcare service industry and its business model(s) addressing the following research questions: 1) What are the characteristics of high-end healthcare services? 2) What are the business models of China's high-end healthcare service institutions? 3) What value and role do stakeholders play in these business models? How do they promote the sustainable development of high-end healthcare service institutions?

(1) Exploring the characteristics of high-end healthcare services.

The research on high-end healthcare services in China is in its infancy. The existing

literature only conceptually summarizes concepts and characteristics, and different researchers and stakeholders have great ambiguity and lack uniformity in the definition. Moreover, the category is vague, and its core elements are not uniformly defined (Feng & Xue, 2020). On the basis of foreign literature and a smaller amount of relevant literature in China, this study summarizes the characteristics and important dimensions of China's high-end healthcare services by interviewing industry experts with more than 10 years of experience in the medical industry, and on this basis proposes a clear definition to answer the first research question of this thesis. Exploring the concepts and characteristics of high-end healthcare services lays the foundation for subsequent research on high-end healthcare services.

(2) Exploring the business model of high-end healthcare service institutions in China.

Different from the inclusiveness of basic healthcare, high-end healthcare services are profitable services and need to be analyzed from a commercial perspective. This research used conceptual frameworks such as business models to clearly describe their operational logic and systematically define the dimensions of value creation and value acquisition. The business model can clearly describe the structure, processes, resource composition, and customer relationships in an organization, and provide a blueprint for strategy implementation (Kemperman et al., 2017; Pfannstiel & Rasche, 2017). The business model canvas in the form of nine building blocks helps researchers better understand and analyze the relationship between business model elements, so as to facilitate the discussion of the operational logic behind value creation and benefit acquisition, thus forming a practical analysis system (Osterwalder & Pigneur, 2010). This study draws on the nine building blocks of the business model to analyze the content of the key elements of value creation, marketing and a series of activities in the supply chain of high-end healthcare services. The research content in this part can help to better understand the management and operating models of high-end healthcare service institutions.

(3) Exploring the influence of stakeholders on the business model of high-end healthcare service institutions.

In theory, the business model literature emphasizes value creation and value delivery activities between customers and enterprises, and places customer value at the core. However, the sustainable development of the business model is inseparable from the participation of other stakeholders (Lenssen & Smith, 2019). Enterprises should not only consider the value realization of customers and enterprises, but also the value acquisition for other stakeholders. Only by comprehensively considering the value demands of all stakeholders can an enterprise achieve sustainable development (Freudenreich et al., 2020). Therefore, combining the business model with the stakeholder theory and globally analyzing the value creation and value

acquisition behaviors of various stakeholders in the business model activities may help to overcome the limitations of existing business model research that only focuses on customers and enterprises (Freudenreich et al., 2020).

High-end healthcare service institutions are knowledge-intensive, high-tech, and asset-heavy industries, and their own development cannot be separated from the deep participation of internal and external stakeholders. Therefore, high-end healthcare institutions need to focus on common goals and value positioning, manage stakeholder relationships, and offset the negative effects of competition through the positive effects of cooperation, so as to create greater benefits (Lenssen & Smith, 2019). This research will review the stakeholder theory to explore the role of various stakeholders in the business model activities of high-end healthcare service institutions, and further analyze how these stakeholders promote the sustainable development of high-end healthcare service institutions.

### **1.3 Research methods**

This study adopts two kinds of research methods. Firstly, literature review and analysis. Based on the key words including high-end healthcare services, operating model, core competence, and stakeholders, domestic and foreign literature databases have been searched to collect journals, books, theses, reports and yearbooks. Official websites of the World Health Organization, the World Bank, OECD, and all levels of government departments were reviewed. This procedure aimed at summarizing the development and research status of high-end healthcare services, identifying core elements, and preliminarily constructing the framework of high-end healthcare services operating model.

Through empirical cases, this study further verified the theoretical framework of the high-end healthcare services operating model and carried out in-depth analysis of their development path and problems encountered under specific operating models. Nine high-end healthcare service institutions (including five public high-end healthcare service institutions and four private high-end healthcare service institutions), three stakeholder companies, ten industry experts and three patients, covering a total of 25 subjects were interviewed. These respondents covered six major stakeholders. Then, business model canvases of public and private high-end healthcare service institutions were compared, to identify which stakeholders play important roles in their development

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## **Chapter 2: Relevant Theory and Literature Review**

According to the research questions of the thesis, this chapter first lists the concept of high-end healthcare services (2.1), introduces the definition and dimensions of business models, and the application of business models in high-end healthcare services (2.2), then introduces the stakeholder theory (2.3), and finally presents the research gap (2.4).

### **2.1 The status of high-end healthcare services in China and abroad**

In China, high-end healthcare service is a new term formed in the process of the country's socio-economic development and healthcare reform. Internationally, most high-end healthcare services exist in the private healthcare sector. In the following section, we will introduce the concept and respective features.

#### **2.1.1 The concept of high-end healthcare service**

Due to the differences in healthcare systems and cultural backgrounds in various countries and regions, scholars have different understandings on the concept. French et al. (2010) and Clark et al. (2011) pointed out that in American concierge medicine, physicians are expected to provide personalized high-end healthcare services to their patients, and the core of this "high-end" model is the provision of same day appointment, house calls, and access to a primary care physician 24 hours a day. Butt and de Run (2010) put forward that quality healthcare in the private context emphasizes providing quick response to patients' needs and offering better and more personalized services to live up to patients' expectation in terms of the quality of healthcare services. Donohoe (2004) defined luxury primary care as specialized healthcare services provided to meet the disparities in health needs of the business elites, including 24-hour cell phone inquiries, shuttling clients for medical treatment, luxury hospitalization environment with saunas, massage and other recreational services.

In China, "private healthcare" means healthcare services received in private healthcare institutions whose shortcomings are small scale of service coverage, weak medical skills, and low quality of services. Therefore, Chinese people's understanding of "private healthcare" is different from that of their counterparts in foreign countries. In order to define and differentiate

the higher-level healthcare service needs of high-net-worth individuals, Chinese scholars have proposed the concept of “high-end healthcare services” (Jin et al., 2015). At the beginning, high-end healthcare services were called “special-needed healthcare services”, and they mainly served foreigners in China, people from Hong Kong, Macau and Taiwan, and overseas Chinese (Guo & Yu, 2017). The model refers to the provision of healthcare services at different levels, with different characteristics, in different needs, and in different ways under the existing medical conditions by exploiting the comprehensive advantages of medical resources through corporate management and market operation (Bao, 2001). Huang and Du (1996) believe that high-end healthcare service is a form of paid service that has gradually developed with the improvement of people’s living standards, economic level, and health service demand, and is positioned at a higher level than basic healthcare services.

Based on the research on high-end healthcare services both in China and abroad, scholars have not proposed a universally accepted concept, but have reached a basic consensus on the concept of high-end healthcare services, which, opposed to basic healthcare services, aims at high-net-worth individuals, provides high-quality, high-skilled and high-efficiency healthcare services, and charges high service fees.

### **2.1.2 Characteristics of high-end healthcare services**

High-end healthcare services, opposite to basic ones, put more emphasis on the development of service content, service form and ancillary services while basic healthcare services primarily aim at serving the public good with the idea of “establishing a sound mechanism for basic health care and strengthening such endeavor at the community level” to protect life and health rights of members of the society. On the contrary, high-end healthcare services, whose target groups have higher standard of services and affordability, are dedicated to satisfying the needs for personalized and high-level healthcare service of high-net-worth individuals (Zhao et al., 1997).

High-end healthcare services focus on excellent healthcare environment and personalized consultation services, provide high-quality services and high-level skills, and charge high fees, characterized by the merits of convenience, comfortability, and high-quality service. According to Fang et al. (2015), high-end healthcare service is a relative concept in the healthcare system, which is characterized by high quality of service, high skill level, and high fees. Jin et al. (2015) suggested that such services are significantly different from basic healthcare in terms of ethics, politics, economy, and technology, and that high-end healthcare services focus more on people with higher affordability to meet their needs.

In summary, high-end healthcare services are distinguished from basic ones by high quality,

high efficiency, good environment, and high fees.

## **2.2 Business model**

### **2.2.1 The origin and definition of business model research**

The term “business model” has been discussed in the academia for over six decades and has first appeared in the academic research in 1957 (Osterwalder et al., 2005). Later in 1960, it was mentioned in the title of the article *Educators, Electrons, and Business Models: A Problem in Synthesis* (Jones, 1960). Since then, the term “business model” has chiefly appeared in information technology-based theses and was primarily employed as Business Modeling (Process Model). By 1975, Konczal (1975) had extended the term business modeling and adopted business models as a management tool. In the following period, business modeling was still perceived as an operating way of system modeling with function as its characteristic (Wirtz et al., 2016a), but it was not until the mid-to-late 1990s that the term “business model” consistently emerged in the literature (Osterwalder et al., 2005). Some scholars believe that this is associated with the rise and growth of the Internet in the mid-1990s and the rapid development of high-tech enterprises (Amit & Zott, 2001; Osterwalder et al., 2005).

In the past over 25 years, from 1995 to date, many scholars have conducted studies on business model. However, they have adopted different definitions when mentioning the concept (Zott et al., 2011). In a 2011 literature review on business models, 37% of the studies did not define it and a mere 44% clearly defined the idea with 19% of these adopting previous definitions (Zott et al., 2011). Till today, there is no consensus on the definition of business model in academia and the main reason is that the idea is still comparatively new, and that existing studies cover multiple disciplines such as economics and technology, e-commerce and others (Pateli & Giaglis, 2004). When scholars of various disciplines study business models, they tend not to propose a unique definition, but rather different definitions from different perspectives according to the needs of their own theses. For example, business model is considered as a statement (Stewart & Zhao, 2001); a description and an activity description (Arend, 2013); a representation (Morris et al., 2005); an architecture (Timmers, 1998); a conceptual tool or model (Osterwalder, 2004; Osterwalder et al., 2005); a structural template (Amit & Zott, 2001); a method (Afuah & Tucci, 2001); a framework (Afuah, 2004); a pattern (Brousseau & Penard, 2006); and an analytical tool (Holgado et al., 2015).

There is also no uniform definition in what concerns the differences between business



model and profit model. Scholars in early times simply equated these two models and they thought that business model is a statement of how an enterprise makes money and maintains profit streams (Stewart & Zhao, 2001). Later, researchers gradually realized that a clarified distinction does exist between business model and profit model (Amit & Zott, 2001), believing that profit model is an integral part of the business model (Morris et al., 2005; Timmers, 1998). Profit model mainly refers to the way in which the enterprise obtains income and considers the profit sources, labor cost, promotion cost and other aspects and it has a clear financial and accounting connotation. Meanwhile, business model has to be involved with the issue on how to capture new business opportunities to provide value to users and create new revenue sources and markets for the enterprise itself (Beltramello et al., 2013). Business model is a system which helps to solve problems like identifying customers and meeting their demands, providing satisfactory services for them, and monetizing value (Baden-Fuller & Haefliger, 2013). Therefore, business model research often not only takes cost and profit into account, but also emphasizes customer value. The inherent value proposition must demonstrate that the products and services provided can meet customers' needs and solve their pain points (Al-Debei & Avison, 2010).

Although the definitions of business model are relatively fragmented and completeness and accuracy are lacking, these studies have pointed out that the core of business model lies in value creation, and systematically answered questions like “for whom”, “what to do” and “why to do it” (Amit & Zott, 2001). The analysis of the business model regards how the enterprise provides value to the market as the starting point, and integrates various elements and resources including the business internal structure, partners' network (such as customers and suppliers), and cooperative capital (such as investors), thus delivering and obtaining value (profit) through a specific form (Osterwalder & Pigneur, 2010b; Priem et al., 2018; Teece, 2010).

### **2.2.2 Business model elements**

When discussing business model, it is necessary to examine its specific elements (Al-Debei & Avison, 2010; Afuah & Tucci, 2001; Demil & Lecocq, 2010; Osterwalder & Pigneur, 2010; Osterwalder, 2004). Afuah and Tucci (2001) employed a broader definition of business model and divided it into eight elements, namely customer value, scope, pricing strategy, revenue sources, connected activities, implementation, capabilities, and sustainability. Johnson et al. (2008) generalized business model into four interrelated elements, encompassing customer value proposition, profit formula, key resources and key processes, which work jointly to create and deliver value.

Different scholars hold differentiated views on the classification of business model elements, yet the business model canvas has become the most widely employed visual analytical tool (Berends et al., 2016). In 2004, Osterwalder (2004) completed a research of business model ontology, summarized the business model elements studied by predecessors, and identified nine elements of the business model, namely customers, value proposition, channels, relationships, income, capabilities, value structure, cooperation, and cost.

Later, Osterwalder (2005) continued to perfect the nine elements of the business model and published the book *Business Model Generation* in 2010. He established the following elements: customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partners and cost structure on the basis of business model ontology (Osterwalder & Pigneur, 2010), and further proposed the framework of the business model canvas, which is a simplified scheme for showcasing and forecasting business models and identifying new strategic options. Its purpose is to provide a common model to conveniently describe and manipulate business models in various organizations, including large enterprises, non-profit organizations, and start-ups. This framework has now been applied and tested worldwide and implemented by a number of organizations such as IBM, Telefonaktiebolaget LM Ericsson, Deloitte or the Public Works and Government Services Canada (Osterwalder & Pigneur, 2010).

These nine elements cover four major aspects of the business model: customers, offerings (products/services), infrastructure, and financial viability, and they comprise the widely employed business model canvas, a commonly used visualization tool which defines an enterprise's business model. These elements will be respectively described below.

### **2.2.2.1 Customer segments**

Customer segments depict the different groups of people or organizations that an enterprise wants to connect with or serve. These potential customer groups possess common consumption needs and purchasing habits so that the enterprise can utilize these characteristics to divide the overall market into sub-market groups composed of consumer groups with roughly the same demands so as to create value for them. This is also known as market segmentation (Allenby et al., 2002; Armstrong et al., 2014; Haaijer et al., 1998).

Customers are the core of the business model, because customers (who can profit) are the key to an enterprise's survival. In this regard, grouping customers with common needs, behaviors, and attributes can better satisfy them. First, the limitation of resources is the main cause for enterprises to carry out customer segments, and it is a must to select effective customer

groups and excellent markets for marketing activities. There often exist disparities in market demand, so enterprises must make selections (Cooil et al., 2008). Second, customer segments are conducive for enterprises to gain unique competitive advantages in the market by understanding different customers and meeting their demands with specific products. Moreover, an effective understanding of specific customer groups can enable an enterprise to make optimal marketing strategies, thus contributing to long-term economic benefits (Ansoff, 1957; McDonald et al., 2003). Furthermore, customer segments are also convenient for enterprises to identify who they create value for and who are the most pivotal customers. Therefore, customer segments should be as narrow and precise as possible, and in the positioning stage of start-ups, an enterprise must target a specific group of customers, otherwise it will be difficult to achieve rapid growth (DaSilva & Trkman, 2014).

A business model can serve various types of customer segments, such as 1) a mass market that serves a large group of customers with roughly the same demands, yet the price war will be a crucial node it encounters; 2) a niche market that serves a specific group of customers; 3) a segmented market that serves customer segments with different demands which will affect other segments within the business model canvas like value proposition, channels, customer relationships, and revenue sources; 4) a diversified market that serves two customer segments with different needs; 5) multi-sided platforms or multi-sided markets that serve two or more interdependent customer segments, which require multi-sided segments for the business model to function (Osterwalder & Pigneur, 2010).

#### **2.2.2.2 Value proposition**

Value proposition involves a series of products and services that create value for a specific customer segment to solve customers' problems and satisfy their needs (Osterwalder & Pigneur, 2010). Value proposition can reflect the desire of the organization to profitably provide suitable products and services for customers. "Profitably" here means that the value proposition must be lucrative in the enterprise's sustainable operation while serving customers (Barnes et al., 2009).

The value proposition is the essential component of a business model (Pfanstiel & Rasche, 2017). Any value-centered organization needs to have a clear understanding of its value proposition, for it not only makes the organization more focused, but also serves as an important factor to differentiate itself from its competitors. The basis of an enterprise strategy is a differentiated customer value proposition, and the source of sustainable value creation is to satisfy the target customer groups (Kaplan & Norton, 2004). Rasmussen (2007) emphasized in

his study that business model focuses on how an enterprise differentiates itself from other competitors through its value proposition and how an enterprise integrates its own value chain with that of other counterparts in the value network. Therefore, a highly-efficient enterprise needs to identify through its positioning, allocate stakeholders' roles according to resource capabilities, determine the relationship and structure of value chain activities related to the enterprise, and cooperate with each other between internal and external parties around the business system built on the enterprise positioning so as to construct a value network (Al-Debei & Avison, 2010).

Pfannstiel and Rasche (2017) pointed out in *Service Business Model Innovation in Healthcare and Hospital Management* that a value proposition which includes the target market, services offered, and revenue mechanism is an essential component of a business model. Specifically, a value proposition, 1) states how to create value by offering distinct services or products that cater to the unique needs of customer segments (Osterwalder & Pigneur, 2010; Pfannstiel & Rasche, 2017) whereby value can be quantitative (e.g. price or speed of service) or qualitative (e.g. design and customer experience) (Osterwalder & Pigneur, 2010); 2) identifies the target market; 3) explains revenue mechanism (Pfannstiel & Rasche, 2017). The attributes of a value proposition include description, reason, value level, price level, and an optional life cycle (Pfannstiel & Rasche, 2017).

Osterwalder and Pigneur (2010) proposed that the following key points help to create value for customer segments and position the value of enterprises: 1) providing novel products or services to meet the brand-new needs of customers; 2) improving the performance of products or services; 3) offering customized products and personalized services; 4) excellent designs; 5) showing the status with brands; 6) offering homogeneous value at a lower price to satisfy customer segments who are sensitive to price; 7) helping customers cut costs; 8) aiding customers in reducing risks; 9) making products or services available to previously inaccessible consumers; 10) making products and services more convenient and easy to use.

The process of identifying a value proposition is equal to the process of value positioning. Value positioning can help managers position customers, identify problems and difficulties they are facing, and recognize how much revenue they can get after the problems are solved. Besides, value positioning can align the products or services of an organization with the market, match supply and demand, and adjust the value proposition based on the information gained in the empirical research. The process can be visualized through the Value Proposition Canvas (VPC), which is compatible with the Business Model Canvas (BMC) and clarifies the relationships between value proposition, a pivotal element of the BMC, and customer segments (Pfannstiel

& Rasche, 2017). The VPC can provide simple and feasible research methods for the business model of high-end healthcare services, analyzes the most important components of high-end healthcare services, discuss how to solve problems for customers and generate revenue, and design a value proposition that is in accord with the needs of customers (Strategyzer, 2020). A significant difference between the BMC and the VPC is that the BMC focuses on how to create value for the industry while the VPC focuses only on how to create value for customers and stakeholders and does not involve the balance between cost and revenue of the business (Osterwalder et al., 2014).

### **2.2.2.3 Channels**

Channels depict how a company builds the interface with its customers through communication, distribution, and sales channels to deliver its value proposition. In other words, channels describe how a company reaches its customers, how it develops its market, and what its distribution strategy is (Osterwalder & Pigneur, 2010).

Channels play an essential role in customer experience. For customers, channels improve their cognition of the products and services of a company, help them evaluate its value proposition, and assist them in purchasing specific products and services. For a company, channels help deliver its value proposition to customers and offer them post-purchase support (Osterwalder & Pigneur, 2010).

Osterwalder and Pigneur (2010) put forward that those channels could be divided into distribution channels, communication channels, and a mix of both. Distribution channels can be direct internal sales teams or websites, or indirect retail shops owned or run by an organization; they can effectively contribute to profitability, yet they are expensive to set up and operate. Communication channels are all indirect channels, such as wholesalers, distributors, retailers, or partners' websites. They are low in margins but high in benefits as a wider range of customers can be reached.

An enterprise can make efforts in the five stages of the buyer behavior process by taking advantage of channels: 1) during need recognition, to continuously raise customers' awareness of the enterprise's products or services; 2) during information search, to guide and help customer segments to analyze and evaluate the products or services and finally obtain their own recognition for products or value propositions; 3) during evaluation of alternatives, to put the focus on making customers more willing to purchase products or services; 4) during purchase decision, to succeed in realizing the ultimate goal of delivering value propositions instead of selling products or services; 5) during post-purchase evaluation, to offer post-purchase support

for customers by investigation, phone calls or door-to-door inspection (Dewey, 1997; Engel et al., 1968). If a channel fails to support the whole buyer behavior process, customers may ask for another channel that provides more powerful support for them in one of the stages of the process (Kohli et al., 2004).

The selection of channels begins with the consideration of customer needs and product features. Choosing channels requires an overall understanding of the nature of each channel and concrete analysis of how they work as well as their advantages and disadvantages so that the company can find out the channels and ways that can reach customers. Segetlija et al. (2011) stated that the model of a single channel is often not suitable for the current environment. Therefore, it is necessary to find the optimal combinations of various channels, cultivate a stable customer segment, and maximize benefits to achieve higher profit margins and market coverage.

#### **2.2.2.4 Customer relationships**

Customer relationships describe what type of relationships is built between companies and customers (Osterwalder & Pigneur, 2010). According to these authors, customer relationships affect customer experience in an all-around way and can be divided into different types that can coexist between a firm and its specific customer segment, including 1) personal assistance; 2) dedicated personal assistance; 3) self-service; 4) communities; and 5) co-creation. In the relationship between enterprises and customers, enterprises offer customers opportunities to teach them what they need, that is, to provide customer information, and enterprises need to understand and apply the information as well as turning them into products and services to retain customers' business. In the concrete operation and management practice, an enterprise must decide on which type of relationship to develop based on the product features and the positioning of customers.

Since the 1970s, the concept of customer relationship management (CRM) has been gradually known and improved, providing a comprehensive management perspective for how enterprises relate and interact with all their current and potential customers. Customer value is crucial to CRM. It refers to the economic value, specifically profit margin or net profit, of customer relationships to the enterprise (Kumar & Reinartz, 2018). For enterprises, identifying each customer segment and building long-term and stable relationships based on their needs is beneficial for their business and market development and therefore of their business model.

The CRM concentrates on developing a customer-focused business culture, which means that resources are allocated to the area where customer value can be most enhanced and a reward system is set to promote employees to collect, share, and apply customer information within an

organization (Buttle, 2004). CRM contains customer value management and customer information management. Customer value management contains the deepest connotation of CRM. Enterprises collect data that cover the needs and preferences of customers to create and deliver value for them (Kumar & Reinartz, 2018). The value enterprises get from customers includes consumption, loyalty, and word-of-mouth communication. Customer information management is the process through which enterprises extract customer information and utilize it. Enterprises need to know their customers better than they themselves do, and the first step is to collect information from them, which includes customers' subjective preferences, various objective data (eg. web browsing and purchase history), and trends in market demand that are used for targeting customer needs. Companies should extract effective customer information from a huge amount of data to guide their behaviors, which requires precise and creative information management (Bose, 2002). In the process of transaction, enterprises provide customers with fast and considerate services based on their needs, establishing and maintaining a close trust relationship with customers to improve customer satisfaction and loyalty.

#### **2.2.2.5 Revenue streams**

Revenue streams describe the success of companies in delivering their value propositions to each customer segment and gaining cash revenues excluding costs (Osterwalder & Pigneur, 2010). Companies must analyze where their revenues come from, such as who will pay for what value and when. They must also define the profit margins of each market and figure out the sources of profit.

Companies can generate revenue by selling assets and offering services, subscriptions, leasing, licensing intermediary services, and advertising. There are two main forms of pricing mechanism, which are fixed pricing presupposed by static variables and variable pricing adjusted by the changes in the market (Osterwalder & Pigneur, 2010). Companies can choose and combine the above revenue streams based on the characteristics of their products and services. In general, companies should avoid the single model of one-time payment through the sale of goods ownership and should consider the recurring revenue model (Mehta et al., 2016). For example, by shifting from selling servers to services, the International Business Machines Corporation (IBM) changed its one-time revenue to recurring revenue. To determine revenue streams, enterprises should take customer needs into account, identify the value proposition that meets their needs, and combine other elements to make the revenue streams more diversified.

#### **2.2.2.6 Key resources**

As an important element in the entire business model, key resources affect product value,

channels, customer relationships, revenue streams as well as capital against competitors. Key resources include physical resources, financial resources, intellectual resources, and human resources (Osterwalder & Pigneur, 2010).

Physical resources comprise equipment, raw materials, workplaces, and other tangible assets that ensure the operation of enterprises and the successful combination of other elements. Under the model of capital thinking, financial resources are becoming increasingly essential. When the economy is in recession, it is more difficult to sell commodities and achieve payment collection, and the cost is constantly boosting. If the cash flow is cut off for a long time, enterprises will fail to survive; on the contrary, a strong cash flow may be conducive to higher competitiveness (Pepur & Turić, 2020). Nowadays, as enterprises gradually compete with each other for intangible assets, such as talent, trademark rights and patents, intellectual assets are one of the significant resources for a well-functioning business model (Osterwalder & Pigneur, 2010) and are greatly pursued by enterprises, especially by creative industries (Muizu, 2016). Therefore, these resources which are closely linked to the other elements of a business model enable enterprises or organizations to create and deliver value propositions, reach markets, build relationships with customer segments, and earn revenue (Osterwalder & Pigneur, 2010).

Some studies consider core competence as a vital intangible asset and thus discuss it as one of the elements of a business model (Hamel, 2001). Core competence refers to the accumulated knowledge and skills, especially those used to coordinate various production skills and integrate different technologies (Prahalad & Hamel, 1997). Core competence offers organizations clusters of knowledge that make them more competitive and is key in developing their specialized ability to create value for customers. Prahalad and Hamel (1997) pointed out that identifying core competence in practice required enterprises to determine which resources, knowledge, and technology could support their strategic intent. From this definition, core competence comes from the accumulation of knowledge and resources within organizations. Table 2.1 below summarizes the main perspectives in the literature on the relationship between core competences and business model.

#### **2.2.2.7 Key activities**

Key activities are used to depict the most vital activities for a company to ensure the smooth operation of its business model. Like key resources, key activities are inextricably linked to the other segments of the business model and are the foundation for creating and delivering value propositions, reaching markets, and earning profits (Osterwalder & Pigneur, 2010). The key activities are often the initial idea that drives a company to make a product. Over time, as



markets change and user needs are uncovered, the key activities evolve, perhaps along the same lines as the original vision or perhaps beyond expectations. Key activities fall into three categories: manufacturing products, solving problems for customers, and platform or network-related businesses (Osterwalder & Pigneur, 2010).

Table 2.1 Relationship between core competencies and business model

Literature	Perspectives
Drucker (1994)	For the first time, the problem of “business model” is discussed, requiring a clear and reasonable explanation of “theory” or “model” of business. Although the term “enterprise theory” is used instead of “business model”, it links the enterprise environment, mission and core competencies.
Hamel (2001)	Business models have been described as business concepts that can be put into practice. In practice, the business concept consists of four main components: core strategy, strategic resources, customer interface, and value network. Strategic resources include core competencies, assets and processes.
Pfannstiel & Rasche (2017)	Combining the study of Christensen et al. (2010) and Govindarajan and Trimble (2010), the business model framework that has been developed consists of three main components: value offering, revenue stream, and resource. Core competencies are grouped together with information, processes and finance as resources.

Porter (1985) introduced the concept of “value chain” in his book *Competitive Advantage* and argued that each production activity of an enterprise is an economic activity that creates value. Therefore, all the different but interrelated production and operation activities of an enterprises constitute a dynamic process of value creation and transmission. Compared with the competition among enterprises, those that optimize the key activities in their value chain have more opportunities to make use of valuable resources and turn them into sustainable competitive advantages (Porter, 1985). In reality, there are not only one-way value chains starting from suppliers to customers, but also reverse or horizontal value chains from customers to central enterprises, from customers to suppliers, from central enterprises to suppliers. These complex value chain links constitute a “value network” (Bovet & Martha, 2000). Bocken et al. (2014) put forward a conceptual framework of business model in which key activities are regarded as a series of important links in the value chain. As essential elements, key activity, key resources and customer relationships have a profound impact on the value creation and transmission model.

Value chain analysis (VCA) is not only to study the process of enterprise value formation, but more importantly, to select effective measures and methods of allocating enterprise resources and seek the strategic role of resources through the analysis of the value formation process (Collins et al., 2016). Each business of an enterprise is an essential and important part of its success, but the degree of influence on it varies. It is often better to establish and strengthen the competitive advantages of enterprises on key activities, so it is necessary to clarify the priority level of each business in the value chain (Barnes, 2002). For example, the

degree of coordination between human resources and the industrialization of new product development can directly affect the competitiveness of new products. Therefore, when analyzing the value activities of an enterprise, it is also necessary to assess the degree of local optimization within the entire value system.

#### **2.2.2.8 Key partners**

The concept of key partners describes the network of suppliers and partners that make a business model operate. To make a business model work better, many enterprises create partnerships or construct integrated partnership networks to optimize their business models so as to reduce risk or access resources. Partnership network management is a method of controlling value creation and value distribution. Identifying and managing key partners have a profound impact on multi-stakeholder value creation. Therefore, the management of partnership networks is often seen as one of the components of a business model (Osterwalder & Pigneur, 2010; Pfannstiel & Rasche, 2017; Wu & Zhang, 2009).

An enterprise is a collection of integrated design, production, distribution, delivery, and management activities. The operations of different segments connect and influence the others. Therefore, the concepts of supply chain management and partnership are gaining attention as a management method to efficiently organize suppliers, manufacturers, channel partners, warehouses and other parts together for manufacturing, transferring, distributing and selling products while meeting the enterprise's requirements of customer service level and minimizing the cost of the entire supply chain system (Ellram & Cooper, 1990). Osterwalder and Pigneur (2010) identified four types of partnership between suppliers and partners: 1) strategic alliances with non-competitors, 2) strategic partnerships with competitors, (3) joint venture relationship to develop new business, and (4) buyer-supplier relationship to ensure a stable and reliable supply.

Existing literature has stressed that enterprises can only have advantages in some certain segments of the value chain, but not in all segments (Porter, 1985). Therefore, it is not rational for them to have all the resources and to perform every business activity themselves. Instead, partnerships allow to rely on others to provide specific resources and to perform parts of the business to extend capabilities according to the needs (Osterwalder & Pigneur, 2010). Di Domenico et al. (2009) emphasized that in new enterprises, trusting each other's key partnerships can promote the acquisition of valuable resources, so as to optimize allocation and business opportunities and maximize overall profits.

In addition, partnerships can help reduce the risks associated with the uncertainty of the

competitive environment (Osterwalder & Pigneur, 2010). A proper case is that by establishing partnerships with suppliers and distributors, manufacturers can make a repetitive use of supplier platforms without expensive and risky vertical inheritance, to outsource a large number of part design and production tasks they are not good at and focus on their core business. Based on a high degree of mutual trust and the long-term shared advantages as well as interests, all parties will receive win-win cooperation (Lahiri et al., 2012).

#### **2.2.2.9 Cost structure**

Cost structure reflects the fixed costs that an enterprise has to pay to run its business model, which determines the type of business model. The cost structure can be fixed costs that are not subject to changes in the output of products or services, variable costs that change proportionally with the output of goods or services, economies of scale whose cost advantage is brought by a large amount of output, or economies of scope whose cost advantages is brought by a large business scope (Osterwalder & Pigneur, 2010).

According to their asset structure, enterprises can be classified into light or heavy asset ones. Heavy asset industry refers to the industry in which long-term assets such as plant, equipment and raw materials account for a high proportion of total assets. This requires relatively large capital investment and has a certain threshold, which is easy to cause oligarchy effect and low profit in return. Taking the rail transportation industry as an example, its physical assets account for a large proportion (fixed assets, construction in progress, property, and other assets), and the number of equity investments is large and is being constantly diversified. Rail transportation assets have a long lifecycle and fast technological update, requiring a large amount of technical equipment and stable cash flow.

The McKinsey & Company proposed the model of light assets, which does not require much investment in fixed assets and maximizes profits with minimal investment through standardized process management and the ability to integrate industry resources. In this case, the enterprise takes value as the core and uses the resources of other enterprises for production through outsourcing or leasing and meets the market demand with new technological products (Maly & Palter, 2002). Compared with heavy assets, light assets have a larger proportion of operating funds in marketing channels. If the enterprise itself focuses on high value-added parts such as R & D, marketing, and terminal channel sales, it has higher requirements on the technical level of manpower. The software industry, such as map software, needs talents with independent development ability and leadership ability to conduct location mapping, real-time data transmission and update, and accurately present the mobile positioning of each IP on the

mobile terminal. Therefore, for some light asset industries, talents are not only the most important cost, but also the key resource. These industries depend on human resources to a certain extent.

Thus, the business model canvas proposed by Osterwalder and Pigneur is an analytical framework that can be used to describe, analyze, visualize, and redesign business models (Osterwalder & Pigneur, 2010) and can explain the processes of value creation, delivery, and capture (Pfannstiel & Rasche, 2017). As mentioned before, Osterwalder and Pigneur (2010) have structured nine elements of the business model canvas, as shown in Figure 2.1. In this figure, the left half represents the key resources, key activities, key partners and cost structure, reflecting that the value creation comes from the key resources within the organization, the key activities carried out, and the collaborations with partners on the value network. These have shown how the value of the enterprise is created. The cost structure reflects the deployment of key resources and the source of value.

The right half is customer segmentation, customer relationship, channels, and revenue sources, reflecting the process of value delivery and capture. The first three (customer segmentation, customer relationship and channels) describe how to locate the business content and select the channel according to the needs and relationships of the target customer group in the specific market competition environment, so as to match the supply and demand of products and services. These three aspects explain to whom and how the value created by the organization is transmitted. Revenue sources answer where the organization obtains value.

The value proposition resides at the center of the framework diagram, reflecting its importance (Berends et al., 2016). It is important to emphasize that these nine dimensions are not independent of each other. They influence and relate to each other and form an integrated business model together.

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segmentation
	Key Resources		Channels	
Cost structure			Revenue Sources	

Figure 2.1 Business Model Canvas Framework Diagram

Source: Osterwalder and Pigneur (2010)

### 2.2.3 Application of business models in the medical industry

The healthcare industry has a complex internal and external environment as well as many

stakeholders. Business models and their frameworks can help healthcare organizations understand the rationale to achieve their values and goals. In line with research trends on business models in many other industries, recently more and more studies show that the medical industry needs to pay attention not only to medical services and the platform itself, but also to non-technical contents such as value proposition and income model, as well as factors such as stakeholders, market and value creation in order to establish a comprehensive business model (Nosratabadi et al., 2019). In the specific case of hospitals, an integrated business model framework can help decision makers identify the important components and help them better coordinate different organizational elements and organizational activities to achieve goals such as improving patients' experience, improving quality of medical services, and controlling operating costs. As a result, the use of business model frameworks in the medical industry has been increasing in the past decade (Fredriksson et al., 2017).

Fredriksson et al. (2017) reviewed 139 articles on business model frameworks in the healthcare industry from 1975 to 2015. The amount of literature started to increase rapidly from 1997 and reached a peak in 2013. Business model frameworks are mainly applied in the healthcare industry for business model description, financial assessment, classification based on pre-defined typologies, business model analysis, business model development, and business model evaluation.

The business model canvas can capture key elements and integrate different activities based on different situations and purposes flexibly and comprehensively. It is not only applicable to the field of medical services, but it is also the most widely used business model analysis framework in the medical industry (Fredriksson et al., 2017). In the pages that follow, this study will introduce the application of the nine dimensions of the business model canvas in the medical industry from three aspects, namely value proposition, value creation, value delivery and capture.

### **2.2.3.1 Value proposition**

The value proposition refers to the products or services that a business model provides to specific customers and stakeholders, indicating the overall view of value creation of an enterprise or organization (Osterwalder, 2004). In the field of healthcare services, the value stated in the value proposition is realized through the provision of healthcare services (Pfannstiel & Rasche, 2017), which mainly involves target groups such as patients, medical staff, and payment institutions. For example, the value proposition of the patient group can be analyzed from the three dimensions of healthcare service quality, patient satisfaction and

healthcare service cost, to explore ways to optimize the content and price of basic treatment services, and to improve patients' overall medical experience by optimizing service forms and ancillary services. In addition, the business model also creates specific value for medical staff, which can be analyzed from the dimensions of efficiency, quality and revenue to discuss how to create good workflow, hardware facilities and practice environment for medical staff, mobilize their internal motivation, encourage them to invest more time in core clinical work and attracting new patients, and achieve self-actualization by providing healthcare services (Pfanstiel & Rasche, 2017).

### **2.2.3.2 Value creation**

This section presents the key resources, key activities, key partners, and cost structure of the healthcare industry, thereby illustrating how healthcare organizations create value.

#### **(1) Key resources**

Key resources are an important factor for the effective operation of a business model. Key resources include physical assets, knowledge assets, personnel, financial assets, as well as the ability to effectively organize and coordinate such resources and knowledge, that is, core competencies (Pfanstiel & Rasche, 2017; Wirtz et al., 2016a).

Different industries have varied key resources. For example, the retail industry takes physical assets as its key resource, the FMCG (fast moving consumer goods) industry takes brands, and some pharmaceutical companies take talent team with R&D capabilities (Osterwalder & Pigneur, 2010). The core competencies of healthcare services are highly correlated with variables such as the development level of medical science, healthcare resources, and business models in a certain period, and they are featured by technical and organizational characteristics.

Core competency is an important type of key resource (Hamel, 2001). Malmoon et al. (2020), in their research on the future competencies of hospitals in developing countries, concluded that the core competencies of healthcare services include capabilities of such aspects as medical quality improvement, knowledge and skills integration, medical management, talent training and incentive mechanism, and service structure design, which are very necessary to improve the efficiency of healthcare services and promote the role-change of healthcare service institutions. The building of such capabilities is inseparable from the management and medical personnel of healthcare institutions. Therefore, from this perspective, the key resources of healthcare institutions are mainly medical talents (including management personnel and medical personnel).

## (2) Key activities

Key activities are the most important business activities to achieve successful operation. Oftentimes, in a business model, there is not just one key activity, but a series of key business activities along the value chain (Osterwalder & Pigneur, 2010). In the process of practice, sorting out the value chain and key resources is conducive to understanding the value creation mechanism, identifying key business links, and clarifying the source of competitive advantage (Walters & Jones, 2001).

The key activity in the field of healthcare services is problem solving, which refers to providing solutions to the problems faced by certain segmented customers. This type of business activity is characterized by the need for knowledge management and continuous training (Osterwalder & Pigneur, 2010). At the micro level, the key activities include pre-admission outpatient service, disease diagnosis, co-establishment of treatment goals with patients, patient treatment, post-operative care, and discharge planning in patient care, as well as patient demand management, capacity planning, workload planning and personnel management (Walters & Jones, 2001). For some non-key activities, such as medical inspection, medical imaging, and disinfection supply institutions, cooperation with third-party independent medical institutions can be explored to achieve cost structure optimization and resource sharing.

## (3) Key partners

The building block related to key partners means the network of partners that are needed to make the business model work effectively. The partner network relationship mainly refers to the external interactions, and the key resources are in the hands of different partners. Therefore, it is necessary to share resources and create value through a mutual willingness to cooperate. Key partners create business value by minimizing risk and increasing access to resources (Gilbert & Smith, 2019). The field of healthcare service involves a huge network of stakeholders (such as the government, insurance companies, instrument, and equipment providers), and the key resources are scattered among the many partners in the industrial chain. The integration of resources and the co-creation of value with partners are the new development trends of healthcare services (Pfannstiel & Rasche, 2017).

## (4) Cost structure

Healthcare business costs refer to the various expenses incurred by healthcare institutions in carrying out healthcare services and corresponding ancillary activities, including personnel expenses, consumption of drugs and health materials, depreciation of fixed assets, amortization of intangible assets, and withdrawal of medical risk funds (NHC, 2019b).

In order to save costs and improve management efficiency, high-end healthcare service

institutions invest resources in key activities and outsource some non-key medical service activities to “third-party independent healthcare service institutions”. Among the “third-party independent healthcare service institutions” currently approved by the National Health Commission of China, medical inspection laboratories, pathological diagnosis centers, and medical imaging diagnosis centers have relatively close cooperation with the high-end healthcare institutions (National Health Commission, 2018).

### **2.2.3.3 Value delivery and acquisition**

This section introduces the customer segments, customer relationships, channels, and revenue sources of the healthcare industry, and explains the value delivery and acquisition of healthcare institutions.

#### **(1) Customer segments**

The traditional business model holds that the objects of value creation are enterprises and customers, so the healthcare service industry is divided according to the needs and problems of target customers, which belong to the segmented market. Customers in different healthcare service segments have different levels of needs, pain points and service expectations, which also affect the key activities at the value creation level. In a study on medical tourism in Malaysia, local patients and foreign high-net-worth patients were divided into different healthcare service market segments. These two customer groups in different market segments have varied service expectations, spending powers, and channel selections. For example, foreign high-net-worth patients have higher demands for high-end diagnostic services, coronary heart disease surgery, plastic surgery, hip, and knee implants.

#### **(2) Customer relationship**

The customer relationship in the business model canvas is another building block that profoundly affects the customer experience. The traditional customer relationship mainly refers to the customer-supplier relationship but, like in many other industries, the healthcare industry is now increasingly leaning towards the “co-creation” relationship with customers.

The concept of customer participation in value co-creation was put forward as early as the beginning of the 18th century. The basic idea is that customers and suppliers interact to create value, and this concept has been greatly supported and supplemented by the fields of economics and management (Nordgren, 2009). The customer's role as a participant is particularly evident in the healthcare service industry (Nordgren, 2009). In their research, Osei-Frimpong et al. (2018) showed that patients' access to information and active participation play a positive role in clinical practice, and that healthcare service providers need to use doctor-patient interactions,



shared decision-making, and provider-patient orientation (understanding the doctor's behaviors) to reduce value conflicts, and collaboratively improve the service results perceived by both doctors and patients, thereby better realizing the co-creation of value.

### (3) Channels

Channels are the interface with segmented customers and play an important role in customer experience. The characteristics of healthcare services are different from that of general products, and different channels for communicating and delivering value propositions with segmented customers also differ from that of general products.

Intangibility is one of the important characteristics of healthcare services as most of them cannot be delivered through physical channels and are difficult to be separated from service providers and workplaces. Since it is not easy to compare services before experiencing them, customers can only rely on such information as reputation, service prices, facilities, and places to have a certain understanding of the services. In particular, healthcare services are characterized by interaction with customers, and the quality of services depends on the interaction between providers and customers. Therefore, the purchase risk of healthcare service products is greater than that of tangible products. Effective channel communication, efficient interaction, and correct transmission of value propositions are very important.

Hospitals are the most important channel for direct contact with patients for healthcare services and are the place that directly provides services such as diagnoses, disease treatment, and healthcare for segmented customers. Before engaging with customers, hospitals can use indirect channels such as digital channels (Konyalioglu & Öznur, 2020) and third-party platforms to deliver the information of healthcare institutions to customers a typical example of which is that medical tourism agencies are an important indirect channel for the high-end healthcare services in Japan.

### (4) Revenue sources

Revenue sources indicate the cash revenue obtained from segmented customers, including clarifying the willingness-to-pay, pricing mechanism, and revenue management of segmented customers (Osterwalder & Pigneur, 2010). Healthcare service revenue refers to the revenue obtained by medical institutions in carrying out healthcare service activities, including registration, bed using, diagnosis, inspection, laboratory testing, treatment, operation, health material, drug, and pharmaceutical service, and nursing (NHC, 2019b).

Although some studies have analyzed the business models of the healthcare industry, they mainly discuss the basic demands of customers, for example, how medical institutions work with partners to meet customers' needs for healthcare service quality and healthcare service

experience. However, the target of value creation is not only customers, but also stakeholders involved in value creation (Zott & Amit, 2007). Gilbert and Smith (2019) hold that the value chain involves a complex network of stakeholders, and that the target of delivering value through products or services by an organization or enterprise is not only customers, but also various stakeholders. In a sustainable business model, the value proposition creates value not only for customers but also for stakeholders. Correspondingly, the healthcare industry also needs to analyze the value creation and acquisition of various stakeholders in order to make the business model sustainable (Freudenreich et al., 2020). The following section will review the relevant literature.

## **2.3 Stakeholder Theory**

### **2.3.1 Origin and development of stakeholder theory**

#### **2.3.1.1 Origin of Stakeholder Theory**

In the 1930s, a debate about whether enterprises should be responsible to other entities besides shareholders, brought the concept of “stakeholders” into the management academia. Enterprises not only represent the interests of shareholders, but also need to be responsible to other stakeholders. Actually, enterprises need to pay attention to four groups of people: shareholders, employees, consumers, and the public (Fontaine et al., 2006).

The period from the 1930s to the early 1980s witnessed the formation of the stakeholder theory. The term “stakeholder” was first used as a management concept in 1963 in the management literature of International Memorandum of the Stanford Research Institute (SRI) and was clearly defined as the fact that “an enterprise cannot exist without the support of these organizations” (cited from Freeman, 1984). According to the SRI stakeholders are individuals or organizations that are particularly important for the survival of enterprises.

Influenced by the SRI, early classical literature of stakeholders focuses on the topic of enterprise survival. These stakeholder studies are generally fragmented and lack systematic integration. Most of them analyze stakeholders as one of the elements, or only emphasize a certain perspective in stakeholder studies. For example, Corporate Planning and Systems Theory only analyzes stakeholders as one of the elements; Corporate Social Responsibility theory only emphasizes that enterprises should pay attention to and meet the interests of different groups; Organization Theory only describes the relationship between organization and environment from the perspective of stakeholders. Although these studies have enriched

stakeholder research from different aspects, they do not put stakeholders at the core of the research, nor do they propose a complete theoretical framework or model (Lin, 2010).

In 1984, Prof. R.E. Freeman published *Strategic Management: A Stakeholder Approach*. Scholars in the field of stakeholder research generally believe that Freeman's classic work is a milestone in the development of stakeholder theory (Elias et al., 2000). Freeman put forward the influence of stakeholders on strategic analysis, planning and practice, and emphasized the importance of stakeholder participation in strategic management. Freeman (2010) built the Stakeholder Theory framework and depicted a stakeholders' map by clarifying the definition of stakeholder, the identification and behavior analysis method, so as to provide the theoretical framework which can help to deal with stakeholder-related questions in reality. Since then, the stakeholder research has been basically following Freeman's theoretical framework, and many scholars agree that Freeman's *Strategic Management: A Stakeholder Approach* is the origin of the traction that the stakeholder theory took thereafter.

Later, Freeman (2010) posited that classic stakeholder study originated from the concept of business survival proposed by the Stanford Research Institute, and can be classified into four categories, namely Corporate Planning, Systems Theory, Corporate Social Responsibility (CSR), and Organization Theory. This study has had a profound impact on the development of stakeholder concepts.

### **2.3.1.2 Development of Stakeholder Theory**

Freeman provides a solid theoretical basis for stakeholder research, and a large amount of literature and books related to stakeholder management have emerged since then. However, Donaldson and Preston (1995) pointed out that there were some limitations in different stakeholder studies, such as lack of theoretical classification, confusion of concepts, and contradiction of arguments. Concerning these problems, in their article *The stakeholder theory of the corporation: Concepts, evidence, and implications*, the theory was divided into three levels: descriptive, normative, and instrumental (Donaldson & Preston, 1995).

Descriptive theory is generally used to describe "the way that the world really is". This theory aims to reveal the actual interactions happening between enterprises and their stakeholders and how they perceive their own behaviors and roles (Jawahar & McLaughlin, 2001).

Normative theory is often used to explain "how the world should be". It focuses on the ethics of enterprises and their managers, provides moral guidance for the development of enterprises and emphasizes how enterprises should view their goals based on certain moral

principles and then take action to deal with the relationship with stakeholders. This theory attempts to explain the functions of enterprises from a moral and philosophical perspective.

Instrumental theory links methods with results. It focuses on how enterprises should deal with stakeholder relationships in order to maximize value and explains the relationship between stakeholder management practice and enterprise achievement (Donaldson & Preston, 1995). It holds that in the long run, enterprises that focus on stakeholders will be more successful.

However, Freeman (1999) considers that descriptive and normative stakeholder theories lack the connection to the real world. Freeman has expressed interest in instrumental Stakeholder Theory holding that it has practical implications and is not pure philosophy or science. Compared with the proposition of normative stakeholder theory “managers should pay attention to the relationship between key stakeholders”, the proposition of instrumental theory “in order to maximize shareholders’ interests in uncertain time frame, managers should pay attention to core stakeholders” shows greater practical significance by linking corporate practice with stakeholders. Figure 2.2 below depicts the origin and development of the stakeholder theory.

The ultimate goal of the application of the stakeholder theory in this study is to explore operating model and co-creation of value. Although this study involves some elements of descriptive and normative stakeholder theories, it focuses on instrumental stakeholder theory, which emphasizes the practice of stakeholder management and value realization.

### **2.3.1.2 Definition of stakeholder**

Littau et al. (2010) summarized the definitions of stakeholder proposed by different scholars out of 116 relevant articles published between 1984 and 2009. These different definitions can be divided into three categories. Firstly, in the “can affect” and “affected by” definition group, such stakeholder definitions are generally based on the concept of “any organization or individual that can influence or be affected by organizational objectives” proposed by Freeman (1984). Secondly, in the “interest-in” or “stake-in” definition group, which is based on the definition proposed by Cleland (1985) “a group or individual with a vested interest in the results of the project”. The third category is the combination of the above two definition groups. In this category, the two elements of “interest” and “influence” both exist in the definition. For example, Boddy and Paton (2004) proposed the definition that “stakeholders are individuals, groups or institutions that have interests in the project and can influence the outcome of the project”, in which the two key words of “interest” and “influence” coexist. The third definition group has been widely used after 2002.

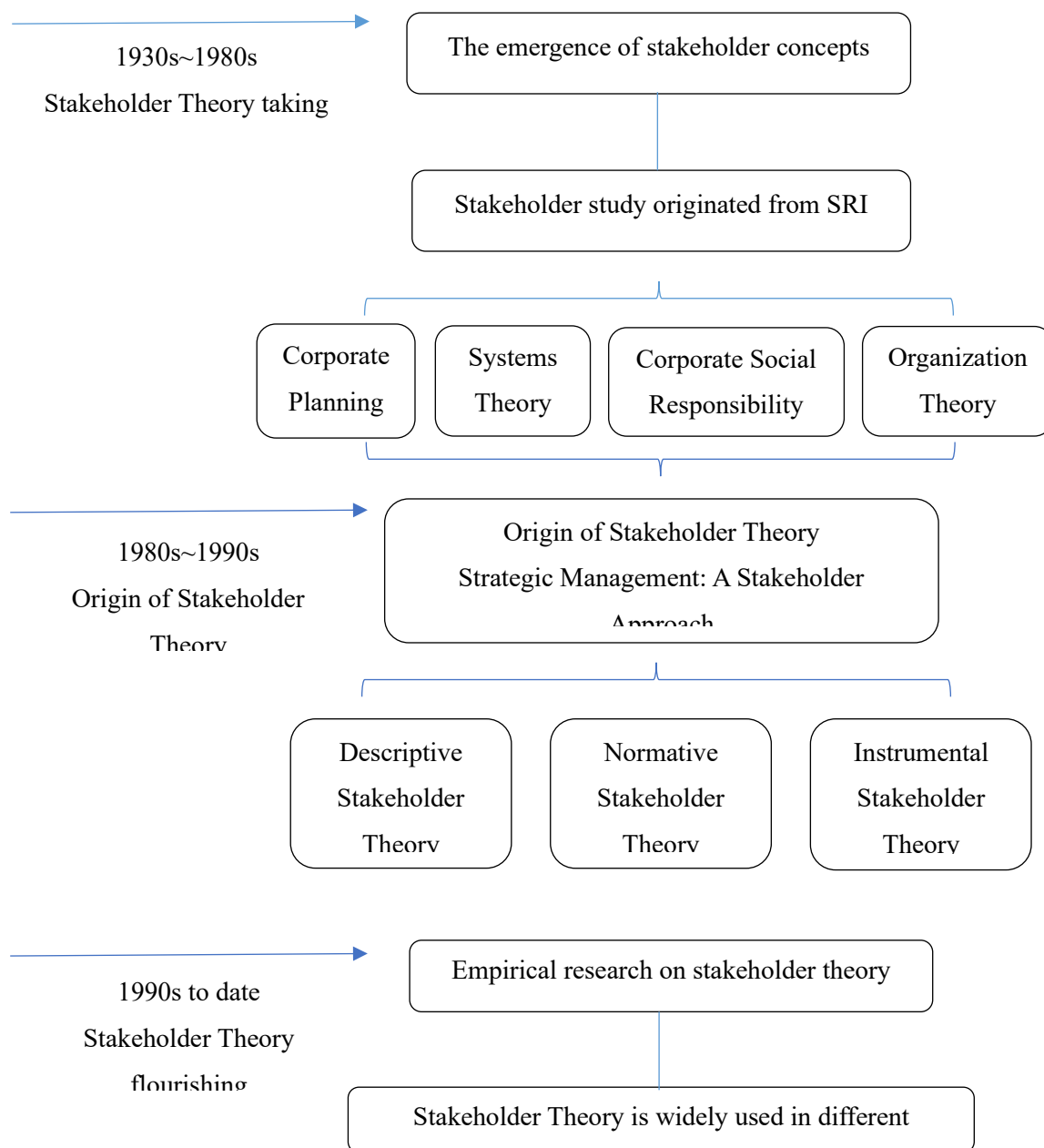


Figure 2.2 Origin and development of Stakeholder Theory

This study not only involves the interest among stakeholders in high-end healthcare services sector, but also explores how stakeholders influence or are influenced by high-end healthcare services. Hence, this study, combined with Boddy and Paton's (2004) study, defines high-end healthcare services stakeholders as “actors (individuals, groups or institutions) who have vested interests in the development of high-end healthcare services, influence or are influenced by development outcomes”.

### 2.3.2 Application of stakeholders in the healthcare industry

The stakeholder theory has been widely used in different industries after years of development.

Littau et al. (2010) classified the articles applying the stakeholder theory into seven industrial types: Agriculture/Development, Construction, Facilities and Utilities, Process Industries, Manufacturing, Information and Services, and General. They found that since the 1990s, the stakeholder theory has been mainly applied in the industries of construction, information and services and that there are few articles in agriculture, process industries, and manufacturing. After 2006, stakeholder theory appeared frequently in the research of facilities and utilities industry, including the application in healthcare service.

Healthcare services are different from general economic activities, and complex relationships exist between their potential stakeholders. The development of healthcare service systems is influenced by many factors and represents the value created through stakeholder participation. The application of the stakeholder theory in the field of healthcare services can help to identify key stakeholders, analyze their interest correlation and influence, and put forward the management method of stakeholders in the healthcare service system, thereby exploring the appropriate operating model to achieve value co-creation (Wu et al., 2019).

At present, the Stakeholder Theory has been widely used in the field of healthcare services. For example, Brousselle et al. (2018), in the study of improving the performance of the health system in Quebec, Canada, this theory is applied to explore stakeholder views on the inability to implement high-performing healthcare systems, so as to find out possible solutions to improve performance. Franco-Trigo et al. (2017) applies the Stakeholder Theory to identify key stakeholders in 46 organizations including patients, healthcare providers, medical institutions, government agencies, and insurance companies, and to explore the development of pharmacy services. Hyder et al. (2010) analyze the stakeholders of six national health system research projects to evaluate the power, impact and recognition of stakeholders on the projects.

### **2.3.3 Stakeholder analysis in high-end healthcare services**

Stakeholder analysis is the core of stakeholder research, which mainly involves identifying stakeholders and their interests, as well as assessing the impact and relationship of stakeholders (Varvasovszky & Brugha, 2000). Freeman (2010) divides stakeholder analysis into rational, process and transactional levels. According to this, interests and influences of stakeholders are identified at the rational level; then, at the process level, the management method of stakeholder relations will be proposed; finally, at the transactional level, management method and successful transactions will be refined and deduced.

### **2.3.3.1 Stakeholder identification**

Stakeholder identification is to divide stakeholders with different importance and distinguish key stakeholders. The main contents include: (1) identify potential stakeholders; (2) analyze the attribute, interests, and influence of stakeholders; (3) classify stakeholders and identify key stakeholders.

Stakeholders have their own interests. The influence of different types of stakeholders on enterprises, as well as the level of influence posed by enterprise goals and behaviors also vary. Moreover, there is a dynamic relationship between the enterprise and stakeholders. Over time, the stakeholders' interests and stakes also change with the development of the enterprise (Freeman, 2010).

The various stakeholders involved in the healthcare field have different interests and influences. Shaban Khamseh et al. (2017) applied an eight-step analysis to identify stakeholders, and took 17 organizations including government departments, health insurance organizations, medical societies, and non-governmental organizations as the stakeholders when designing the certification model of hospitals in Iran. Brailsford et al. (2009), in an article about stakeholder engagement in health care simulation, divide the stakeholders of the National Healthcare System into seven categories: parliament, government and civil servants, public health service providers, private health service providers, professional groups, professionals, consumers, and the public. Schmeer (1999), in an article about policy reform in the healthcare sector, carried out research on such stakeholders as donors, consumers, domestic political groups, government public sectors, labor and unions, medical associations, profit or non-profit organizations, non-profit organizations, and communities.

According to relevant research, potential stakeholders in the field of healthcare service mainly include investors, payers, patients, healthcare professionals, government, healthcare administrators, competitors, other related profit-making enterprises (such as pharmaceutical enterprises, suppliers, intermediary organizations), and scientific research institutions.

### **2.3.3.2 Stakeholder relationship management**

Stakeholder relationship management discusses effective coordination mechanisms, puts forward appropriate management methods and operating models by analyzing the motivation, demands, propositions, and influence of key stakeholders (Pera et al., 2016).

The relationship between stakeholders in the field of healthcare service is complex and difficult to manage. Determining the motivation, demands, and propositions of stakeholders helps to coordinate and achieve effective resource integration. Through interviews and thematic

analysis, Trankle et al. (2020) collected the demands and propositions of different stakeholders on the Western Sydney Integrated Care Program and put forward management strategies such as effective information sharing and improving primary healthcare service. In a study by Khan et al. (2018), the principal component analysis method is applied to explain how the motivation of key stakeholders affects the development of the healthcare supply chain in the United Arab Emirates, thereby building a stakeholder key motivation model for the sustainable development of the supply chain in the healthcare field.

Stakeholder analysis reveals the main conflicts and the balance mechanism of interests by constructing graphs of the ecosystem of healthcare service stakeholders. It provides guidance for the development of management methods and operating models in line with the healthcare service field (Wu et al., 2019) and has therefore become more and more popular. Pereno and Eriksson (2020) investigate the current scenario of stakeholders in the health ecosystem of Nordic countries and formulate transition strategies from their perspective. The identified transition strategies reshape stakeholder roles and set up long-term development plans for the distributed dynamic healthcare service network. Jonas and Roth (2017) discussed the balance of interests and resource integration of internal and external stakeholders in healthcare service innovation. Their research shows that stakeholder integration is realized in the manner of reactive integration in the healthcare service system. Managers must take into account the resulting stakeholder dependence and its indirect integration mode when carrying out stakeholder management.

The stakeholder management of high-end healthcare services requires a broad perspective on complex stakeholder relationships, so as to fully integrate healthcare resources, and form a feasible theoretical framework (Pereno & Eriksson, 2020). This study explores the operating model of high-end healthcare services based on a stakeholder perspective to provide a theoretical framework for multi-stakeholder value co-creation practice.

### **2.3.3.3 Value co-creation of stakeholders**

The ultimate goal of stakeholder analysis is value co-creation. By analyzing stakeholder in the high-end healthcare service field, this study explores how to establish and improve the operating model at the executive level, and finally maximize shared value.

Value reflects the benefits obtained relative to the input (Yong et al., 2010). Stakeholders of the healthcare service ecosystem have different understandings of the value of healthcare service as summarized in Table 2.2 below.



Table 2.2 Stakeholders' understanding of the value of healthcare service

Stakeholders	Value of healthcare service
Patients	Achieve optimal health
Enterprise employers	Make employees and their families healthier and more productive at a lower cost
Healthcare providers	Improving patients' health through effective diagnostic and high-quality treatment
Health insurers	Provide patients with the most appropriate and evidence-based healthcare service
Health product innovators and manufacturers	Achieve corporate profits while improving the health of patients

Patients believe that the value of healthcare service is to help them achieve their best condition of health and often measure value through the quality of the interaction with healthcare service providers. Employers believe that the value of health service manifests in making employees and their families healthier and more productive at lower costs. In turn, healthcare providers emphasize that healthcare service value means that effective diagnostic and high-quality treatment approaches are developed to improve patients' health, and do not pay too much attention to healthcare expenditure. According to health insurers, the value of healthcare service is not about providing the best, most effective and often more expensive healthcare service to patients but offering the most appropriate and evidence-based healthcare service according to the patient's financial ability and physical condition. They assert that efficient payment models and medical interventions are conducive to realizing the value of healthcare service. Health product innovators and manufacturers believe that the value of healthcare service lies in achieving corporate profits while improving the health of patients (Yong et al., 2010). In sum, stakeholders do not have a unified understanding of the value of healthcare service, and the factors that motivate different stakeholders are fundamentally inconsistent (World Economic Forum, 2017).

In 2006, Professor Michael Porter of Harvard Business School defined the value of healthcare service as the health outcomes per unit of healthcare service expenditure (Porter & Teisberg, 2006) as follows (Formula 2.1).

$$\text{Value of healthcare service} = \frac{\text{Health outcomes}}{\text{Health expenditure to achieve these outcomes}} \quad (2.1)$$

This view has been widely recognized worldwide along with the promotion of value-based healthcare. Porter believes that the primary goal of healthcare services is to achieve high value for patients, which is the common goal of stakeholders in the health service ecosystem and can link the interests of all actors in the system. If the value of healthcare service is increased, all stakeholders can benefit from it and the health service ecosystem can achieve sustainable development (Porter & Teisberg, 2006).

The value measurement of healthcare service involves the results of healthcare service delivered to specific patient groups and the corresponding costs. The value of healthcare service must be measured throughout the entire cycle of care, rather than a certain intervention or procedure. Besides traditional clinical indicators, indicators of healthcare service outcome should also include such elements as service attitude, comfortability, and correct information (World Economic Forum, 2017).

In the high-end healthcare services field, the common goal of stakeholders is to optimize the healthcare service results at an established cost. A reasonable high-end healthcare service operating model provides management methods and liability constraint tools to the stakeholders to maximize the value of high-end healthcare services throughout the entire cycle of care.

Value co-creation is realized through resource integration. The stakeholder ecosystem is a non-linear, complex, iterative, and interactive environment, which is connected by various relationships. All stakeholders are resource integrators and value creators in the ecosystem (Greer et al., 2016). Value co-creation in the healthcare service ecosystem is realized through resource integration in the process of stakeholder interactions.

The International Consortium for Health Outcomes Measurement (ICHOM) is a successful practice of stakeholder resource integration in the healthcare field. ICHOM, by organizing leading expert groups such as patient representatives, clinicians, and payers, gives a new definition of the value of healthcare service. ICHOM promotes the consensus of stakeholders in such aspects as common goals, indicator selection, standardization, and service quality to integrate healthcare resources and achieve value co-creation. At present, more and more institutions from all over the world have adopted ICHOM standards, including Boston Children's Hospital, Stanford Healthcare, and Karolinska University Hospital. Next, ICHOM plans to innovate the resource integration model and the operating model, impels stakeholders to carry out closer cooperation in order to create greater value (World Economic Forum, 2017).

Nowadays the healthcare service system in China pays little attention to value co-creation, and most scholars focus on interaction between patients and healthcare providers. Mai and Wang (2019) propose that both patients and healthcare providers are resource integrators, and the integration of operational resources (such as knowledge and skills) and object resources (such as equipment, drugs, and financial resources) can achieve common interests. Wu and Wang (2019) explore the optimization of stakeholder management from the perspective of healthcare service ecosystem and attempt to find a way to achieve value co-creation. They propose that clinicians, national regulators, and hospital administrators are key stakeholders in the field of healthcare service. Administrators not only need to pay attention to the relationship

between providers and patients, but it is also necessary to establish an ecological network where information and resource is freely delivered, so that other key stakeholders can fully realize their function of integration and coordination.

The core content of value co-creation is to unify the goal of stakeholders in the healthcare service ecosystem, give play to stakeholders' respective advantages in order to jointly integrate healthcare resources, maximize the value of healthcare service and make healthcare service development sustainable.

Based on the perspective of high-end healthcare service stakeholders, this thesis combines the stakeholder theory and questionnaire survey to carry out in-depth analysis of different operating models, so as to seek the best allocation of resources and the balance of interests to achieve value co-creation in high-end healthcare services.

## **2.4 Research gaps**

Through the above literature review, it was found that the fields of high-end healthcare service and business models have the following research gaps.

First, in China the concept of high-end healthcare service is still not clearly defined. Generally, the current definitions are simply summarizing the characteristics of high-end healthcare services (Feng & Xue, 2020). The blurred conceptual boundaries lead to many problems in its development process, such as unclear positioning of target customer group, mismatch of existing resources and business conditions, and lack of industry standards, policies, and regulations. This study combines literature, observations, and data collection to clarify the concept of high-end healthcare service. In addition, high-end healthcare service, as a type of more diversified, multi-level, and personalized healthcare service, has its differences and advantages in relation to basic healthcare services in terms of content, form, and ancillary services and its business models are also different from basic healthcare services.

Second, existing research on business models in the healthcare industry does not pay enough attention to the context of developing countries. Fredriksson et al. (2017) reviewed the literature related to the business model of healthcare industry published from 1975 to 2015, a total of only 139 pieces and an average of 3 per year, finding that there is not much literature on the use of business models in the analysis of healthcare institutions in the healthcare field. More importantly, most of the research data comes from healthcare institutions in developed (and capitalist) countries with high-income (102 pieces), and the high-end healthcare service institutions in developing countries obviously has not attracted enough attention. This study

will take China's high-end healthcare service institutions as the research object to explore the business model of high-end healthcare services in developing countries.

The main reason for choosing China as the research object is that China's high-end healthcare services face more restrictions and a more difficult development path and need more reasonably designed business models. Unlike developed countries outside China, where mainly private hospitals provide high-end healthcare services, China's high-end healthcare services are mainly provided by public hospitals. China is a socialist country where the interests of the people come first, so public healthcare institutions need to meet first the demands of the ordinary people, featuring the attribute of public welfare. However, high-end healthcare services obviously have a strong profit-seeking attribute, that is, people who spend more money can primarily enjoy healthcare resources and have access to better healthcare services, which runs counter to the value proposition of inclusive healthcare. Furthermore, China's total GDP is standing at the second place in the world, and its middle-class population has reached a considerable level (more than 300 million people). High-end healthcare services have also become the real demand of some people with relatively superior economic conditions in socialist countries and need to be valued and satisfied. Therefore, the conflict between inclusiveness and profitability of healthcare in China is more intense than that in Western developed countries. It has become an important issue to be addressed concerning how to solve the resource conflict between basic healthcare and high-end healthcare, so that inclusive basic healthcare and profitable high-end healthcare can develop in parallel to meet the needs of different groups of people.

In addition, existing research on business models in the healthcare industry has mainly focused on the value creation and acquisition of customers (ie. patients), while ignoring that of other stakeholders.

Business model research explores how value is created, focusing on the value created for clients in exchange for economic value of enterprises (Freudenreich et al., 2020), which reflects a unilateral flow from clients to enterprises. However, the importance of other stakeholders has not been taken into account in business model studies. In particular, the widely used business model canvas (Osterwalder & Pigneur, 2010) places client value at the center, while using the economic benefits obtained by the enterprise as a base support. In this model, the importance of other stakeholders (e.g., employees, partners, and managers) is not prominent compared to client value and economic benefits to enterprises.

In fact, business models should be multiple value flows among the various participants, and enterprises need to consider not only the value acquisition of their clients, but also the benefits

that other participants receive in that business model, because only in this way can the business model obtain sustainable development (Freudenreich et al., 2020). Especially in the healthcare industry, medical institutions need a huge flow of patients to maintain operating revenue and the technical level of medical staff. At the same time, first-class teams, high-quality services, and patient flow can attract investment institutions, insurance institutions and third-party service institutions to establish cooperative network relationships to provide support. The healthcare industry creates value not just for patients, but for a bilateral segmented customer group composed of stakeholders such as providers, investors, payers, and even supervision and management organizations. Managers need to put forward corresponding value propositions according to the differences of the multilateral segmented customers, organize resources and cooperation networks, select channels, and make business models operate efficiently.

The stakeholder theory helps us to understand the relationship between the various participants in a business model. It emphasizes that enterprises need to consider the demands of stakeholders in order to conduct business activities for sustainable development. However, the stakeholder theory does not explore the role that each stakeholder plays in value creation. Combining the stakeholder theory and business models and regarding stakeholders as value creators and beneficiaries may help us understand the relationships among stakeholders and provide new insights for the sustainable operation of business models (Freudenreich et al., 2020).

This study combines the stakeholder theory and the business model theory to explore what role each stakeholder plays in the value creation process, what the relationship between stakeholders is, what benefits have been obtained, and how stakeholders drive the development of the business model.

## **Chapter 3: Research Methods**

### **3.1 Research methods**

In terms of China's premium healthcare, both industry development and academic research are in the initial stages. Therefore, in this study, case-based research is carried out to explore a business model for premium healthcare that may cater for the development needs of the sector. On the one hand, because premium healthcare institutions are isolated islands of information for each other and cannot be linked into an overall data network, and the industry data has not yet been standardized nor systematized, there is a lack of sufficient quantitative data and structural standards for researchers to collect data and conduct quantitative research for verification. In sum, research on China's premium healthcare lacks an overall framework which sets the ground for case study research being a particularly suitable choice to study phenomena in their initial stages (Eisenhardt, 1989; Yin, 2009).

Although also allowing quantitative data sets, case studies include field visits, open-ended or close-ended interviews, literature analysis, and other generally more flexible non-quantitative methods, which help to gradually collect data and build the framework of premium healthcare (Brinkmann & Kvale, 2005). They may also help to find out the blind spots of the business models of premium healthcare from the research objects and put forward new concepts. To sum up, compared with quantitative research, a qualitative approach can better reveal the internal interaction of the business models of premium healthcare. Specifically, this study adopts the multiple case study (MCS) research method, which, following Eisenhardt (1989), may help researchers find rules and patterns by comparing different cases.

### **3.2 Data collection**

The thesis mainly collects first-hand data through interviews, along with desk research involving secondary data by downloading national policy documents and industry analysis reports and consulting news reports on the Internet and official websites of high-end medical institutions.

### **3.2.1 Interviews**

The study uses the method of expert interviews, which has been popularized and widely used in the fields of medical and health care, educational investigation, and psychological counseling for many years. As the development of premium healthcare in China is still in the exploratory stage, the study employs the method of “theoretical sampling” to select sample institutions and respondents. Theoretical sampling refers to a specific category according to reasonable initial dimensions (such as time, space, identity, and power). The initial dimensions are developed according to the research purpose. They are used to extract the research objects that can provide the maximum amount of information for the research problem (Coyne, 1997). Case studies focus on obtaining a more in-depth and detailed understanding from the internal knowledge and experience of the research objects. Therefore, there is no need to select many experts as the research objects. “Theoretical saturation” occurs when the information is repeated or saturated, and then interviews or observation can be stopped (Eisenhardt, 1989).

#### **3.2.1.1 Sample institutions**

This study selected high-quality institutions in China’s premium healthcare industry and their stakeholders as samples, the specific selection process is divided into two steps. First of all, the target cities are determined for research, high-end medical institutions in Guangzhou, Beijing and Shanghai are selected for field research in this study, the main research objects are concentrated in Guangzhou. There are two reasons for the selection of target cities: Firstly, Beijing, Shanghai and Guangzhou are the first-tier cities in China, with a high degree of economic and cultural development, the richest resources and the most mature operation of high-end medical institutions. It is reasonable to choose these three cities. Secondly, due to the impact of the COVID-19, travel and the face-to-face research are limited, so the main research objects of this study are concentrated in the author's city Guangzhou, while only four high-end medical institutions in Beijing and Shanghai were investigated.

In addition to the target research cities, we further identified the premium healthcare institutions and stakeholders to be researched in the target cities, and then conducted field research and face-to-face interviews. The whole data collection process continued for three months (See Table 3.1 for more details), and the schedule was as follows.

Table 3.1 Interview process, interviewees and description of subject institutions

Time	Institution cases	Respondent	Length of interview	Type of institutions	Basic information of institution
First stage: May to June 2021	Union Advanced Medical Center of Guangdong Provincial People's Hospital	Director of the medical center Rao Jiaqi (1)	2 hours and 2 minutes	Public hospital	Guangdong Provincial People's Hospital is one of the largest public hospitals in China, and its comprehensive strength ranks among the top in the country. The hospital has long been responsible for cadres' health care, and it is the most important geriatric research and cadres' health care base in South China. The Union Advanced Medical Center is the first hospital in China to adopt the operation mode of overseas private hospitals, with patients from both home and abroad, providing high-quality and efficient medical services.
	The Special Medical Center of the First Affiliated Hospital of Sun Yat sen University	Administrative Director Gu Yong (1)	2 hours and 23 minutes	Public hospital	The Special Medical Center is an important part of the Special Medical and Health Management Center of the First Affiliated Hospital of Sun Yat sen University. The special outpatient service fully relies on the medical technology advantages of various specialties of Zhongshan First Hospital to provide multidisciplinary special medical services. The experts and professors who visited the hospital were all experienced professors in various specialties of Zhongshan First Hospital; At the same time, the special outpatient service launched high-end physical examination services. With the help of high-quality medical teams, the hospital's medical examination green channel, combined with the high-quality nursing services of the special outpatient service, we are committed to providing high-quality and convenient high-end medical services for patients.
	Huiqiao Medical Center, Nanfang Hospital, Southern Medical University	Director of the medical center Miss Wu (1)	1 hour	Public hospital	Huiqiao Medical Center, the former Huiqiao Branch of Nanfang Hospital of First Military Medical University, was established in October 1979. It is one of the oldest foreign-related special medical institutions that can receive the largest number of overseas patients in China. Huiqiao Medical Center is the comprehensive embodiment of the talent and technical strength of Nanfang Hospital and the medical research strength of Southern Medical University. It provides outpatient, inpatient, physical examination and health care services for patients, and is one of the few premium healthcare institutions in China that accept basic medical insurance for residents. Huiqiao Medical Center provides medical services for foreign consulates and cooperates with dozens of domestic



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Time	Institution cases	Respondent	Length of interview	Type of institutions	Basic information of institution
	Guangzhou United Family Hospital	President Xia Kaili (1)	1 hour and 8 minutes	Private hospital	and foreign medical insurance institutions. In 2018, United Family set up a hospital in Guangzhou and put it into operation. As a private hospital, it provides high-quality medical services for foreigners in China and high-net-worth individuals (HNWI). It delivers characteristic services including general family medicine, gynecology and obstetrics (OB/GYN), pediatrics and dentistry. The hospital has over 100 beds and is equipped with a senior medical team with multi-language services.
	Foresea Life Insurance Guangzhou General Hospital	Vice president Zhu Peixuan (1)	1 hour and 19 minutes	Private hospital	Foresea Life Insurance Guangzhou General Hospital is a key hospital in the medical care and health sector of Foresea Life Insurance. It is an important investment project of the district government and a general hospital approved by Guangzhou Municipal Health Commission. As a comprehensive medical institution operated by Foresea Life Insurance Co., Ltd., it is equipped with sophisticated equipment and introduces high-quality talents. The hospital will construct six medical centers, namely, neurology medicine center, digestive disease center, center for cardiovascular disease, sleep medicine center, rehabilitation medical center and cancer center, aiming to become one of the tertiary general hospitals with the most advanced equipment in Guangzhou city and even Guangdong province.
	American International Assurance (AIA)	Sales director Lin Cuiqiong and finance director Liu Jing (2)	2 hours and 43 minutes	Insurance enterprise	AIA is one of the world's leading life insurance companies and investment securities companies, with wholly owned branches and associated companies in 15 countries and regions. In the insurance industry, it is one of the first insurance companies that launches high-end medical insurance products in China, covering all areas of medical consumption and prevention and health care. It has an expert medical team that provides project management and health consulting.
	Industry experts	Experts with over 10 years of working	16 hours and 8 minutes	/	Doctors and administrators from public hospitals or private hospitals, including Zhong Wenzhao from Guangdong Provincial People's Hospital, Qin Jie from the Third Affiliated Hospital of Sun Yat sen University, Yao

Time	Institution cases	Respondent	Length of interview	Type of institutions	Basic information of institution
		experience in the medical industry (10)			Lin from Yahe Medical Department of the Sixth Affiliated Hospital of Sun Yat sen University, and Ma Liyu from Guangdong Provincial People's Hospital (Union Medical Center); Chen Hao, Director of Health Management Center of Private Hospital, Zhang Liangping of Zhuozhuang Medical Group, Lin Zihong of Guangdong Weier Hospital, Fan Zhenzhong of Guangdong Zhujiang Investment Co., Ltd., Shan Guoxin of Guangzhou Heping Medical Group, and Wang Jichen of Suzhou Huici International Medical Health Center
	Patients	Patients (3)	2 hour and 54 minutes	/	Miss Chen first received basic medical treatment from public hospitals, and then received treatment from high medical institutions; two others were Mr Du and Mr He. All of them are not willing to disclose their real name.
Second stage: July 2021	International Medical Center, Beijing Friendship Hospital, Capital Medical University	Director of the medical Center Li Li (1)	1 hour and 6 minutes	Public hospital	Beijing Friendship Hospital, founded in 1952, is affiliated to Capital Medical University and is the first large hospital in the capital. At present, Beijing Friendship Hospital has become a large class A tertiary comprehensive hospital with medical treatment, education, scientific research, disease prevention, health care and rehabilitation service. The International Medical Department is established according to the needs of the society. It has three centers: International Medical Center, Health Diagnostic Center and Medical cosmetology Center. The staff of the International Medical Department is committed to meeting the needs of foreign customers staying in China for a long time, foreign customers staying in China for a short time and people from all walks of life in China for health examination, medical treatment and beauty.
	Shanghai International Medical Center (SIMC)	President Liu Weidong (1)	2 hours and 14 minutes	Hospital with public-private partnership (PPP)	SIMC is a large joint-ownership general hospital with the level of "tertiary" hospital. As the unit with multi-sited practice for physicians designated by Shanghai Health and Family Planning Commission, it has created the "1+X" super platform healthcare service model which integrates the resources of top experts from public hospitals into medical services and extends the service to clients across the country and the world. The hospital has a total of 500 beds and is equipped with state-of-the-art medical equipment. It features a rehabilitation center in collaboration with Germany's top medical team. As one of the first

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Time	Institution cases	Respondent	Length of interview	Type of institutions	Basic information of institution
	OASIS International Hospital	President Huo Dazhi (1)	1 hour and 15 minutes	Private hospital	designated medical institutions for high-level social medical insurance in Shanghai, SIMC is also the only high-end hospital in Pudong New District that participates in the pilot hybrid healthcare reform with stacked medical insurance. OASIS International Hospital is an international high-end general hospital with the international JCI medical standards certification. OASIS gathers experts from all nationalities in various fields, more than 30 clinical departments and research centers, including internal medicine, surgery, OB/GYN, pediatrics, dental and traditional Chinese medicine (TCM), as well as emergency rooms with 24 hour/365 days a year service and modern large-scale medical equipment, providing personalized international medical services around the clock.
	International Medical Center, Huashan Hospital, Fudan University in Shanghai	Director of the medical Center Ren Jingwen (1)	1 hour and 2 minutes	Public hospital	As the earliest foreign-related medical institution in China, the International Medical Center of Huashan Hospital affiliated to Fudan University in Shanghai proposed the concept of "excellent medical and health services" to provide high-quality medical services for patients at home and abroad. Build a core medical top team with the goal of international management level. Create a distinctive MDT diagnosis and treatment center and specialized department by creatively using the multi-disciplinary of "general+specialized". In 2021, the center officially removed its foreign capital and introduced public capital from Huashan Hospital from. Medical activities are jointly completed by the physician team of the center and the experts and professors from various departments of the hospital.
	Taikang Insurance Group Co., Ltd.	Senior researcher Yin Tong (1)	1 hour and 32 minutes	Insurance enterprise	Taikang Insurance Group Co., Ltd. is a leading domestic financial services group integrating insurance, asset management, and health and elderly care. It has a mature strategic layout in the health and elderly care industry and holds the largest number of physical medical institutions and elderly care institutions in China. And it is the first insurance company to make heavy asset investment in the health and elderly care industry. In addition, Taikang well combines its virtual financial products with physical medical institutions, thus forming a perfect closed-loop service. It is also one of the few insurers in China with truly high-end medical

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Time	Institution cases	Respondent	Length of interview	Type of institutions	Basic information of institution
Total	12 institutions	25 interviews	36 hours and 46 minutes		insurance products.

Note: a director of the medical center and three patients in the table were not convenient to disclose their real names

In the first phase, from May to June 2021, we selected two healthcare center directors, one chief executive, one hospital general director, and one hospital associate director for research interviews. These five interviewees worked in five of the most reputable premium healthcare institutions in Guangzhou (the city where the researchers work), respectively. Meanwhile, in terms of the stakeholders, we selected three patients who have received premium healthcare services before, ten specialists with more than ten years of experience in the healthcare industry (including five doctors and five institution managers), and two insurance company directors from Guangzhou and Hong Kong who have cooperated with these premium healthcare institutions.

In the second phase, in July 2021, we went to Beijing and interviewed one hospital director and one medical center director of two premium medical institutions, respectively. We also invited a senior researcher from an insurance company for an interview. In order to further enrich the sample information, we then went to Shanghai and interviewed one hospital general director and one healthcare center director of two premium healthcare institutions. The healthcare institutions to be researched in Beijing and Shanghai are also the best local premium healthcare institutions. (Evidence is preferred.)

### **3.2.1.2 Respondents**

After determining the sample institutions, the respondents were selected according to the following basic requirements: 1. stakeholders, except serviced objects and payers, should hold positions in relevant fields of high-end health care and have at least 10 years of working experience in the medical industry, and the serviced objects themselves or their families have received high-end health care; 2. as providers, stakeholders should be senior managers in relevant institutions or enterprises or have a bachelor's degree or above; 3. the gender ratio of male to female in this study should not be higher than 150%.

The study takes the approach of semi-structured face-to-face interviews, which is helpful to set a series of open-ended questions for exploration based on a relatively loose structure. Semi-structured interviews allow the respondents to be guided into deeper areas as questions go deeper in structured conversation. At the same time, researchers can use a series of follow-up questions for an interactive discussion to obtain richer information (Richards, 1996).

The interview outline includes three parts: "basic information", "investigation on the business model of premium healthcare" and "investigation on the stakeholders of premium healthcare". In the "basic information", respondents select options given their real situation. When the respondents have different views on a certain issue, discussions according to their

age and gender except for stakeholder identity could be conducted. "Investigation of the business model of premium healthcare" is a semi-structured interview about the business model of premium healthcare. The outline for questions is designed in the light of the nine blocks of the business model canvas, and the respondents explain the value proposition, core requirements, and critical business of the premium healthcare model based on open-ended questions. "Investigation of the stakeholders of premium healthcare" helps to identify key stakeholders, clarify the motivation, impact, and benefits of stakeholders' participation in the business activities of premium healthcare, and discuss the interests and conflicts among them.

As per Table 3.1 above, a total of 25 interviews were conducted in this study, of which the shortest lasted for 33 minutes, the longest lasted for 143 minutes, and the average length was 86 minutes. Communication with the respondents was mainly based on the interview outline and notes were taken on the scene to record the respondents' reactions to the questions, including important interview information, tone, expression, and behavior. The whole process was recorded with the consent of the respondents, and the audio files were exported and transcribed on a professional transcription website on the day after the interview. Relevant interview contents were returned to the respondents after the transcription for confirmation.

### **3.2.2 Secondary data**

Secondary data collected in the study include national policies, authoritative industry reports, the material of medical science, as well as materials collected from sample institutions on the Official Internet website. National policies and industry reports help to reveal the status quo of the industry. Policies related to premium healthcare issued by the state and the relevant laws and regulations promulgated by the state are often indicators of industry development. For example, *the CPPCC proposal on accelerating the development of international medical tourism and premium healthcare in the Hainan Pilot Free Trade Zone* released by the People's Government of Hainan Province in 2019 and *the Circular of the General Office of the People's Government of Guangdong Province on printing and issuing the implementation plan for further promoting the construction and development of high-level hospitals* released by the People's Government of Guangdong Province in 2021. The industry reports reveal the living background, market characteristics, and competitive strategies of premium healthcare. They must be collected from professional securities companies and authoritative third-party research institutions. The secondary data and first-hand data through interviews complement and support each other.

As shown in Table 3.2, secondary data includes 6 national policies, 5 industry reports, and

17 materials provided by professionals. Besides, relevant information introducing the medical institutions of the respondents, including service concepts, featured services, and preponderant disciplines was also collected so that the interviews could be prepared more smoothly and effectively since previous knowledge about their organizations already existed.

Table 3.2 Collection of secondary data

Source	Amount of data
National policy	6
Industry report	5
Publicity materials from the institutions in the cases	17

### 3.3 Data analysis process

Data analysis of MCS research contains within-case analysis and cross-case comparative analysis (Eisenhardt, 1989). In the data analysis, it is found that although the business models of public high-end medical institutions were highly consistent and those of private medical institutions were also similar, the differences between the two types were obvious. Therefore, the thesis divides the overall samples into two groups. In one group, there are 12 respondents from 5 public high-end medical institutions, including 5 managers, 4 industry experts and 3 patients. The other group consists of a total of 8 interviewees from 8 private high-end medical institutions (one of them with the public-private partnership model), including 4 managers and 4 industry experts.

The data analysis in the thesis contains three stages, in which intra-group analysis was performed first and then inter-group comparison was performed. In the first stage from September to December 2021, this research aimed to identify the business model canvas of China's premium healthcare, and answered the second research question of the thesis: what business model do China's premium healthcare institutions have? Since business model canvas (such as value creation, value proposition, and value delivery and capture) is a mature framework, this research conformed to the existing literature to generate codes, such as value proposition, core resources, key activities.

After respectively analyzing the business models of public and private premium healthcare institutions, the business models were compared and some obvious differences were found in such areas as value proposition and development mechanism, which laid a foundation for further analysis in the third stage.

The data analysis and process in the second stage (January 2022) was centered on the value

exchange process between stakeholders and premium healthcare institutions. Stakeholders and their roles in business models were identified, having in view addressing the second research question of this thesis: what value and role do stakeholders play in these business models? The subjects of analysis at this stage are the stakeholders. Through the data analysis in the second stage, this study found that although there were some differences in the business models of public and private premium healthcare institutions, they had the same key stakeholders (including customers, medical teams, operation teams, investment institutions, insurance companies, and third-party cooperation institutions) and that both public and private premium healthcare institutions have the same value exchange with stakeholders, so the analysis in this stage did not clearly distinguish the stakeholders of public and private premium healthcare institutions. Since stakeholders' roles in business models are an underexplored issue, this research adopted data analysis of open coding and axial coding (Gioia et al., 2013). In the open coding, data related to stakeholders' roles emerged 6 first-order codes, which were constantly compared and then integrated into 2 second-order codes by constantly comparing the first-order codes (i.e., resource endowment and resource acquisition). The two second-order codes were further integrated into the aggregated dimension of value exchange. See Figure 3.1.

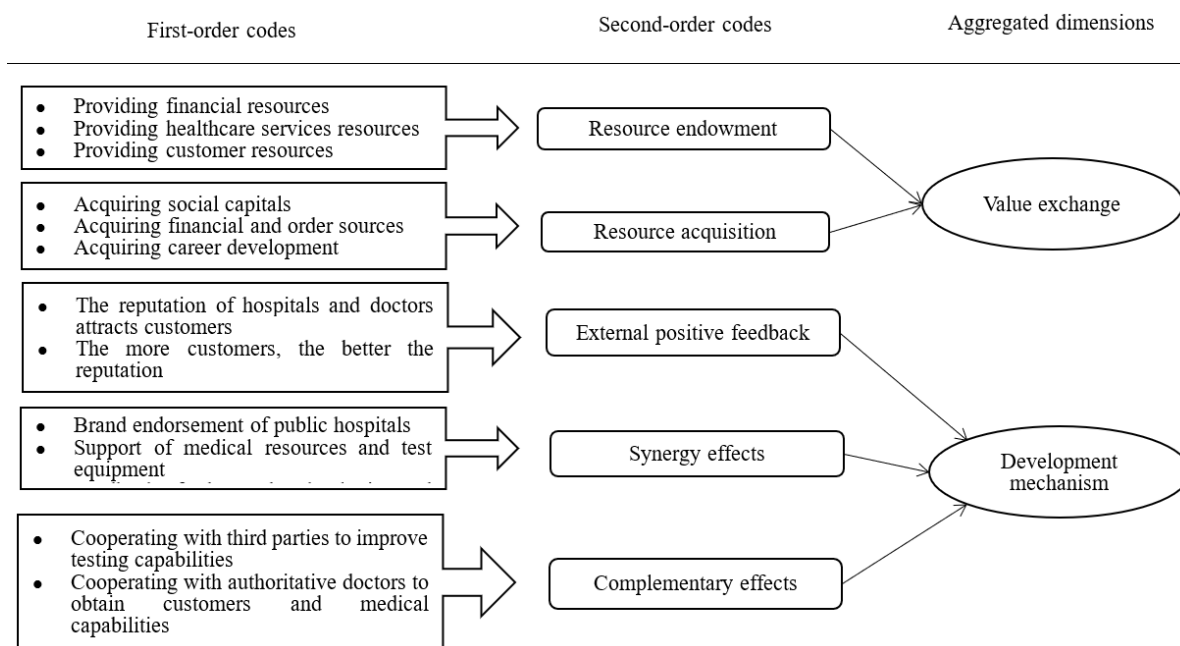


Figure 3.1 Data Structure

Based on the analysis of the second stage, the third stage (February 2022) focused on the relationship among stakeholders and how they affect the development of the business model of China's premium healthcare institutions and answered the third research question on how do China's premium healthcare institutions develop under the influence of various stakeholders? The present focus is the development mechanism of a business model (concept). In the analysis



process of open coding and axial coding with MAXQDA, six first-order codes were identified and then integrated into three second-order codes, namely, synergy effects, complementary effects, and external positive feedback were found. These three second-order codes were integrated into the higher level of dimension of development mechanism (Figure 3.1). After the comparison of the two groups of samples of public and private premium healthcare, it is found that the mechanisms to promote the development of their business models are different. The development of public high-end medical institutions mainly depends on the interaction of network externality effects and internal synergy effects, while that of private high-end medical institutions is based heavily on the interaction of resource complementary effects and network externality effects.

MAXQDA software was employed to code the original materials in the data analysis of three stages, but the built-in features of the software to explore relationships among stakeholders and the relationship among various elements of business models were not used. This analysis was rather based on reflection and idea maturation along the discovery of the nature and characteristics of these relationships in the process of immersion in the data, through repeated browsing and coding.

## **Chapter 4: Business Model Canvas of High-end Healthcare Service in China**

Since high-end healthcare service institutions are for-profit organizations, they need to consider the sustainability of their resources and business when providing services. This chapter first introduces the conceptual definition and dimensions of high-end healthcare services (section 4.1) and then analyzes their business models from the three dimensions of value proposition, value creation, value transfer and acquisition (sections 4.2-4.4). Finally, a summary of the business model of high-end healthcare services institutions (section 4.5) is presented. In each section, the thesis applies the method of “telling” about data and showing data, first introducing and explaining the concept or relationship found from the data, and then showing powerful quotes to support the finding.

### **4.1 Understanding of high-end healthcare services**

The concept of high-end healthcare services is closely related to business model elements such as healthcare service positioning, medical resource matching, customer demand matching, and customer expectation management. It is critical that the concept and boundaries of high-end healthcare services are clarified since, unlike basic healthcare, they tend to focus on non-basic services. Specifically, the value of the former is reflected in ensuring the most basic healthcare needs of residents, emphasizing public welfare and fairness, while the latter focuses on diverse, differentiated, and personalized healthcare service needs. It was also pointed out in the literature review chapter that high-end healthcare services are different from basic ones in that they are featured by high quality, high efficiency, sound environment, and high charges. This study finds that in addition to the above four aspects, high-end healthcare services also boast the characteristics of fine service, excellent technology, and high privacy. The following is an analysis of the seven basic features and provides conceptual definitions on this basis.

#### **4.1.1 High quality**

High quality is reflected on providing patients with personalized and precise medical solutions suitable for their physical conditions. In terms of basic healthcare, due to the short consultation

time for each patient (note: doctors see an average of 6-8 outpatients per hour), it is difficult for doctors to form a complete understanding of the patient's physical condition, and thus it is difficult to provide each patient with a tailored medical treatment plan. In addition, public high-end healthcare institutions are often able to quickly organize top-level expert resources throughout the hospital, provide customers with multidisciplinary integrated disease diagnosis and treatment services, and provide personalized medical treatment plan. As Gu Yong, who is the administrative Director of First Affiliated Hospital of Sun Yat-Sen University, said:

*Doctors in general outpatient clinics usually work alone. Under normal circumstances, ordinary wards are handled by second-line medical personnel. However, the special wards (high-end healthcare institutions) are all at the director level and respond very quickly, that is, multi-disciplinary teams (MDT). For cancer patients in special wards, diagnostic lists can be issued, and expert resources of various departments can be gathered by phone.*

#### **4.1.2 Excellent technology**

Excellent technology is reflected in the advanced medical team and medical technology. High-end healthcare services received by patients are attended by Chinese authoritative doctors in the field, and even by foreign authoritative medical teams. They often have more mature treatment experience, master advanced treatment plans, and are able to use more advanced medical technologies (such as artificial intelligence, 3D reconstruction image processing technology) to provide patients with more personalized and high-quality healthcare services. High-end healthcare services often focus on the development of frontier medical technology and may become important for future medical technology innovation.

*With consultations from experts from all over the world, these platforms allow patients to receive more reasonable, standardized, and advanced treatment plans. The cost is not too high, because high-quality guidance plans can be provided to patients through the Internet (Zhong Wenzhao, doctor of Guangdong Provincial People Hospital).*

#### **4.1.3 Fine service**

Fine service refers to the service provided in the treatment process, which is mainly reflected in the following two aspects. The first is to provide a more detailed explanation for the patient during the consultation process, which to a certain extent eliminates the patient's doubts and worries. The second is to provide the patient with more comprehensive health management services, such as the establishment of health records, regular return visits, management of

chronic diseases, to prevent them from getting sick, or to control the course of the disease in a timely manner. Xia Kaili, president of Guangzhou United Family Hospital, introduced the concept of high-end healthcare service:

*High-end healthcare service providers spend more time solving patients' medical problems, such as listening to patients' demands more patiently, explaining to patients more carefully, making more detailed arrangements for the diagnosis and treatment of patients, and establishing personal health record tracking for patients. This is the core of high-end healthcare service.*

#### **4.1.4 Sound environment**

The 25 respondents interviewed in this study all mentioned that high-end healthcare institutions need to provide customers with a comfortable environment. Most of the tertiary public hospitals in China have been constructed and operated for more than 10 years. There are many common problems, such as excessive medical treatment, arbitrary charges, complicated medical procedures, noisy, crowded, and dilapidated medical environment, and poor personal experience of patients (Bai et al., 2018). The target group of high-end healthcare services is willing to pay a premium for a better medical environment. An interviewee explained:

*The priority and medical experience of patients in general wards are relatively poor. Most of the general wards are multi-person rooms, mixed with male and female, with long queues for services, and there is no guarantee that the operation will be performed by a senior professor. Some patients are willing to pay three times the price for being treated in special wards, regardless of the cost, just hoping to ensure a better healthcare experience (Zhong Wenzhao, doctor of Guangdong Provincial People Hospital).*

#### **4.1.5 High efficiency**

China has a large population, but relatively fewer tertiary public hospitals, which is the highest hospital classification in China. For example, Guangzhou is home to 42 tertiary hospitals, but its permanent resident population stands at 18.8106 million (based on the *2021 Yearbook of Guangzhou released by the Guangzhou Bureau of Statistics*). Many patients from other parts of the province also seek medical treatment in tertiary hospitals in Guangzhou. According to the average waiting time of patients in the outpatient clinic of a tertiary hospital was 31.84 minutes and has not improved since. Low efficiency has become the biggest drawback of China's basic healthcare. The high efficiency of high-end healthcare services is one of the important aspects

to attract time-sensitive high-income groups. In a department with special needs at a public hospital, priority can be given to laboratory tests and payment, to save patients' waiting time. The following transcribe comments from some interviewees on this issue:

*Patients are the least willing to line up and waste time (Yao Lin, Vice President of Yahe Medical Center, and The Sixth Affiliated Hospital of Sun Yat-sen University)*

*In the special consultation clinic of our hospital, the examination fee is increased by 50% compared with that in the general outpatient clinic. However, the inspection can be arranged in the morning, and the report can be handed out in time after the inspection, and patients are very willing to pay. (Tan Jie, doctor of The Third Affiliated Hospital of Sun Yat-sen University)*

#### **4.1.6 High privacy**

Another feature of high-end healthcare is that it fully protects the privacy of patients, especially meeting the high requirements for privacy protection of socially renowned entrepreneurs, celebrities, and other groups. Once their medical treatment situation is announced, it is likely to have a worse impact. For example, the medical treatment information of the chairman of a listed company may cause fluctuations in the company's stock price. Interviewees commented:

*The chairman of a listed company needed a spinal surgery, but he did not want the public to know about his treatment (Wang Jichen, Industry expert)*

*Our hospital received a well-known actor. When he entered a public hospital, all the non-medical staff swarmed. In this case, he needed more privacy, so he preferred a private hospital for higher privacy (Li Li, International Medical Center of Beijing Friendship Hospital, Capital Medical University).*

#### **4.1.7 High charge**

Compared with basic healthcare, high-end healthcare services provide patients with high-quality treatment plans and therapeutic effects with advanced technologies, as well as healthcare services with fine service, sound environment, high efficiency, and high privacy. If patients want to enjoy these high-end healthcare services, they need to pay higher prices. Some high-end healthcare institutions charge more than twice as much as general healthcare institutions. Dr. Zhong Wenzhao of Guangdong Provincial People's Hospital introduced the situation of his hospital. *In a general ward, when a lung cancer patient undergoes an operation, it costs about RMB 70,000 to 80,000 from admission to discharge. In Peking Union Medical College Hospital, it costs about RMB 130,000 to 150,000.* Other high-end healthcare

institutions charge higher fees. The registration fee for Beijing United Family Hospital is RMB 2,000, which is almost 100 times the outpatient fee of a public hospital.

From the above seven characteristics, high-end healthcare services are diversified, personalized, and differentiated and present certain improvements in all aspects compared with inclusive basic healthcare services. This study defines high-end healthcare services as those that, through the effective coordination of top-level medical resources, allow customers to enjoy high-quality, high-tech, high-efficiency, and high-confidence personalized clinical and health management services in a comfortable physical space. High-end healthcare services are provided by high-end healthcare service institutions, which have their own management personnel, operation teams, and operate independently in the market.

## **4.2 Value proposition**

The value proposition depicts the services offered and value created by high-end healthcare for a specific customer group. The interview data of this study show that the value proposition of high-end healthcare service institutions in China is to provide customers (patients) with a healthy and high-quality life, which includes two aspects: first, to cure diseases and ensure health for customers; second, to allow patients to have a sense of respect, privacy, comfort and security in the healthcare process. The former is the core value, which is the most important and urgent demand of all customers; the latter is the added value, which is to allow customers to enjoy the convenience, comfort and security of healthcare while curing the disease.

### **4.2.1 Core value proposition**

The core value provided by high-end healthcare service institutions to customers reflects the most important purpose of patients seeking medical treatment, that is, to cure diseases and enjoy a healthy life. Due to individual differences in the physical condition of each customer, the disease status is often not affected by a single factor. However, due to the large number of patients admitted by the basic medical departments of Chinese public hospitals, the limited resources can mainly ensure the safety of medical services and solve the problems of basic diseases. Many specialists also lack sufficient energy to take multidisciplinary consideration in disease diagnosis and treatment. However, high-end healthcare service institutions are required to quickly coordinate multi-department doctors and technical resources, integrate medical resources through general medicine and multi-disciplinary diagnosis and treatment models, and provide customers with the best, accurate, and personalized comprehensive diagnoses and

treatment plan so that the customers can be cured and live a healthy life. Several interviewees explicitly emphasized that addressing health issues is the patient's first need:

*To truly achieve high end, the first and foremost is the quality of healthcare services. If the quality and safety of healthcare services cannot be guaranteed, offering a good environment is not enough. Even if all the flight attendants and Miss World came to the hospital for reception, patients would not dare to walk through this door, because the purpose of (patients) is to see a doctor and solve their health problems. The first core is to solve problems. And the required problem-solving skills should be at the industry-leading level rather than the average level. (Wang Jichen, Industry expert)*

*What customers really need to solve when they go to high-end healthcare service institutions are medical problems. (Xia Kaili, President of Guangzhou United Family Hospital)*

#### **4.2.2 Added value proposition**

On the premise of ensuring the core value, high-end healthcare services provide customers with additional added value, which can be achieved through a more reasonable medical treatment process, adequate and effective communication, a sound hospital environment, strict privacy protection, adequate humanistic care, religious respect and other high-quality auxiliary services, which enable customers to enjoy respect, high quality and sense of security in the process of medical treatment, and meet customers' value demands for high-quality service experience. These added value propositions can make patients maintain a relatively happy mood in the process of medical treatment.

**Respect and high quality:** Respect and high quality are reflected in aspects such as a sound medical environment, fast medical procedures, and fine healthcare services. High-end healthcare services have become a convenient way for customers to obtain resources. The data of this study show that customers with the ability to pay can more conveniently obtain resources such as experts, beds, equipment, and green access to medical treatment through high-end healthcare services, saving waiting or medical treatment time, and obtaining safer and high-quality healthcare services. This resource acquisition method solves the problem that customers need to pay huge comprehensive medical costs in the process of medical treatment and allows a wider group of people to access high-quality healthcare resources.

**Sense of security:** The sense of security comes from the doctor's psychological counseling, patient explanation, and the protection of patient's privacy. Healthcare services are highly technical and specialized. Due to the low level of knowledge about the disease treatment and the healthcare industry, general customers may have doubts, anxiety, fear, and other emotions

when faced with complex disease problems. Therefore, it is often difficult for customers without professional background to make decisions regarding different treatment options. Healthcare service is a process in which medical staff and customers create health value together. If customers have professional support when making decisions, for example, medical technicians adopting visualization techniques such as 3D reconstruction to help customers to understand the condition more intuitively, or doctors explaining to patients more patiently and skillfully about the diagnosis and treatment plan and precautions to dispel their worries, then the quality and efficiency of joint medical decision-making will be higher, and the trust relationship between doctors and patients will be tighter.

#### **4.2.3 Differences in the value proposition between public and private high-end healthcare services**

The unique advantages and value of high-end healthcare are mainly reflected in providing customers with personalized and differentiated services, which can realize both health and personalized and differentiated service value. But there are nuances between public and private high-end healthcare institutions.

Public high-end healthcare institutions emphasize “treatment as the center”, mainly to treat patients in a timely manner (to meet the core needs), and to meet a certain degree of additional needs, such as less queues, and full communication with doctors (for half an hour). In other words, public high-end healthcare institutions put core needs first.

The most important thing is medical treatment. The service attitude of public high-end medical institutions is impossible to be better than that of private ones. Taking the United Family Hospital as an example, their healthcare processes and services are good and recognized by many customers, and there is no problem in general medical treatment. Although public hospitals certainly may have problems in poor service attitudes, there are still many patients who choose to go there, and doctors need to perform patient consultation and treatment as quickly as possible as interviewees mentioned:

*What matters is efficiency. The speed is accelerated but the quality remains unchanged. The core of public hospitals (high-end healthcare institutions) is solving problems, not service attitudes. (Gu Yong, Administrative Director of the First Affiliated Hospital of Sun Yat-sen University)*

*Since customers go to the hospital to solve problems, high-end healthcare provides high-level medical staff, who can save time and solve problems efficiently. (Ma Liyu, doctor of Union Advanced Medical Center of Guangdong Provincial People Hospital)*



*Clients of public hospitals place more value on medical resources than on auxiliary services. (Rao Jiaqi, Director of Union Advanced Medical Center of Guangdong Provincial People Hospital)*

*China is currently unable to form a system that provides forward and backward extension services for disease treatment, which can be achieved by private healthcare institutions. There is no need for private healthcare institutions to compete with public hospitals. The outpatient clinic in Qianhai District originally did not have the departments of stomatology and medical aesthetics. I forced the cancellation of the two administrative offices and added the departments of stomatology and medical aesthetics. (Zhu Peixuan, Vice President of Forsea Life Insurance Guangzhou General Hospital)*

Since most of the private high-end healthcare institutions have not been established for a long time, their medical capabilities are not as good as those of public high-end hospitals which have a longer history, so they invest more in meeting additional needs, with an emphasis on “patient-centered” differentiated needs. Relatively speaking, private hospitals are more balanced in meeting the core needs and additional needs of customers. Mr. Huo Dazhi, President of ASIS International Hospital, a private high-end healthcare institution, pointed out that high-end healthcare services need to provide more comprehensive, holistic, and systematic services while curing diseases for customers. Mr. Fan Zhenzhong, General Manager of Guangdong Pearl River Investment Co., Ltd., who was the president of a private high-end healthcare service hospital, also mentioned the need to provide customers with a healthy and happy life. These all reflect that private high-end healthcare service institutions provide services that aim to meet the overall needs of patients.

High-quality healthcare is the “height” pursued by high-end healthcare services. High-end healthcare does not only mean that the environment is sound, charges are high, and equipment is good. In addition to medical treatment services, high-quality healthcare also emphasizes communicating with patients more actively, treating patients in a holistic manner, and providing services such as health education, health management, psychological counseling, and treatment follow-up. The process of patients receiving treatment is also a process of healthcare service experience:

*The pursuit of high-quality allows customers to obtain a better healthcare experience, not just medical treatment. (Huo Dazhi, President of ASIS International Hospital)*

*Private high-end healthcare institutions need to develop businesses that public ones do not do, and provide fine services, with high proportion of doctor-patient services and relatively high cost. Sometimes it is easier to operate a private one. (Wang Jichen, Industry expert)*

*Some high-end healthcare services in public hospitals have technology and high quality but lack several others, namely service, environment, efficiency, and privacy. Meanwhile, the private or public-private joint high-end healthcare institutions do well in the latter aspect and are also working hard to improve their technology and quality. (Zhu Peixuan, Vice President of Forsea Life Insurance Guangzhou General Hospital)*

### **4.3 Value creation**

Value creation reflects how high-end healthcare institutions realize their value proposition. The value creation dimension consists of core resources, key activities, partners, and cost structures in the business model canvas (Berends et al., 2016). First, in the high-end healthcare service business model, core resources include medical staff, management teams, advanced technical equipment, and brand reputation. Second, key collaborations involve diagnosis and treatment, customer health management, and talent management. Medical staff and management teams meet the needs of customers through consultation, treatment, and customer health management. Talent management activities carried out by high-end healthcare institutions are an important channel to cultivate authoritative medical staff and accumulate brand reputation. Third, key cooperation includes strategic alliance cooperation with commercial insurance companies and third-party administrator, as well as service outsourcing cooperation with doctor teams and third-party testing institutions. This cooperation not only improves the efficiency of inspection and testing, but more importantly, reduces the fixed costs and management costs of high-end healthcare institutions, and improves their flexibility and anti-risk capabilities. Fourth, the cost structure of high-end healthcare services mainly includes the salaries of medical staff and management teams, investment in fixed assets such as testing equipment, and the costs of equipment maintenance, among which labor costs account for the largest proportion. These four dimensions are described as follows.

#### **4.3.1 Core resources**

Core resources are important assets or elements necessary to realize the value proposition. According to first-order codes (see Figure 3.1), the core resources that enable the high-end healthcare service business model to operate effectively and create value include medical staff and management team, advanced technology and equipment, and brand reputation.

#### 4.3.1.1 Medical staff and management team

As an industry highly dependent on human resources, high-end healthcare has its value proposition mainly realized through medical and healthcare human resources. Healthcare services have the characteristics of inseparability, that is, the production and the creation of service value cannot be separated from doctors, nurses, technicians, pharmacists, administrative personnel, and other factors. Therefore, medical and health human resources are important resources in the high-end healthcare industry. In this field in China, medical and health human resources are mainly divided into two categories: medical talents and management talents, which respectively correspond to the two concepts of health technicians and managers in the *Yearbook of Health in China*.

First, medical talents are the main providers of high-end healthcare services that have a direct impact on the quality of core medical services. Medical talents include medical practitioners, occupational assistant physicians, registered nurses, pharmacists, laboratory technicians, imaging technicians, health supervisors and other health professionals. The data shows that authoritative medical practitioners are the most frequently mentioned type of medical talents in the interviews. Highly skilled and clinically experienced are more concerned and valued and tend to have stronger and more advanced technical capabilities to help patients solve problems as some interviewees mentioned:

*To ensure the quality and safety of healthcare, medical talents are the key. It is necessary to maintain and make good use of core talents. As for the discipline system, it should be comprehensive and specialized. (Huo Dazhi, President of Beijing Mingde Hospital)*

*There are more experienced doctors and less experienced ones. If I go for high-end healthcare services, it is mainly because there are some more experienced doctors there. (Miss Chen, qualified informant)*

Second, another core human resource of high-end healthcare institutions is operational talents, which mainly include management talents and healthcare management staff. Specifically, management talents refer to the staff who undertake management tasks or leadership responsibilities, including staff engaged in disease control, medical services, health supervision, scientific research and teaching, as well as staff engaged in personnel, finance, information, security and other administrative affairs including health technicians engaged in health management (NHC, 2019a). Healthcare and healthcare management, while dedicated to achieving common interests and value propositions, actually involve different areas of expertise.

The importance of managing human resources is reflected in the planning and

implementation of business activities and management regulations and is an indispensable and important participant in the sustainable development of high-end healthcare at the institutional management level. Secondly, managers undertake professional management and administrative affairs, provide high-quality processes and services for medical talents, and create a better career development environment and platform. Finally, high-end healthcare emphasizes solving diverse and complex health problems for customers and providing comprehensive and all-round high-quality medical services. This involves the integration of medical resources, which often requires the active cooperation of managers and the mobilization of experts and equipment resources from multiple disciplines to provide the best diagnosis and treatment services. President Xia Kaili of Guangzhou United Family Hospital clearly pointed out the attempts of managers to standardize internal processes:

*It is crucial to truly implement the rules and procedures through a professional management team. There is a lot of content behind the standardized management of United Family Hospital. Currently, there are about 4,000 rules, regulations, and workflows, and more than 20,000 individual disciplines. (Kaili Xia, President of Guangzhou United Family Hospital)*

Customer health management talents are equivalent to physician assistants, who take on the task of communication between doctors and patients. In the field of high-end healthcare services, doctors need to spend considerable time dealing with non-core healthcare services such as communication and consultation, process notification, and follow-up. In fact, these services can be undertaken by customer health management staff, freeing doctors from tedious administrative work, allowing them to devote more time and energy to medical treatment and scientific research, and giving full play to the efficiency and value of medical human resources. An industry expert referred:

*In an interview in 2017, I pointed out that “currently, non-core healthcare services take up 80% of doctors' time, while the most core healthcare services only account for 20%. If there are professional physician assistants to share non-core medical services, we can save doctors' time from the tedious administrative work.” By liberating doctors' hands, doctors can devote more time to core healthcare services, scientific research, and entrepreneurship, improving the efficiency of human resources and giving full play to the value of human resources. (Lin Zihong, Industry expert)*

#### **4.3.1.2 Advanced Technology and Equipment**

In addition to medical talents, first-class hardware and equipment are also important resources for high-end healthcare service institutions. Medical equipment is the production tool

and material carrier of healthcare services. Good equipment is not only conducive to the improvement of service efficiency and quality, but also provides customers with more diversified service options. For example, patients can choose more sophisticated medical technologies (such as DaVinci robot-assisted Surgical System) for treatment according to their own needs. Of course, only advanced technology and equipment do not constitute core resources. The authoritative interpretation of inspection and laboratory reports by medical talents are required to provide accurate diagnosis and treatment. One interviewee mentioned:

*The competitive advantage of public hospitals lies in medical talents and medical technology. For example, the equipment of Guangdong Provincial People Hospital is not the best. The equipment purchased by some private hospitals is more advanced than that of the Guangdong Provincial People Hospital. However, it is still experts from public hospitals who can interpret the report, and many private healthcare institutions lack doctors who can interpret the report. (Rao Jiaqi, Director of Union Advanced Medical Center of Guangdong Provincial People Hospital)*

#### **4.3.1.3 Brand reputation**

Brand reputation is the overall reflection of the quality of medical staff and the service level of institutions. When patients cannot evaluate the quality of medical services through their own professional knowledge or experience, brand reputation and public praise often become an important reference for customers and even insurance companies to choose medical institutions and pay for medical services. A good brand reputation not only helps an institution build trust relationship with customers, but also attracts medical talent, management talent, and key partners.

The brand resources of high-end healthcare services are divided into two categories: institutional brands and personal brands. At present, many public special healthcare institutions in China have established a good brand reputation by virtue of their advantages in human resources, accumulated clinical experience and institutional culture. However, since Chinese customers usually first consider a well-known healthcare institution when seeking medical treatment, and then choose a more authoritative doctor in the healthcare institution, the value of Chinese medical talents is often attached to large platforms such as public hospitals or Institutes of Medicine. The brand value formed by superb skill and rich experience generally cannot be accumulated as a personal brand with social influence but is transformed into an institutional brand. This leads to the loss of personal brand when medical talent leaves the large platform.

The brand reputation formed by a talented team and medical effects is the soft power acquired by high-end healthcare institutions after a long period of accumulation, and it is a core resource that is difficult to imitate or replace. Since China's authoritative medical talents are all located in public hospitals, there are not many socially operated high-end healthcare institutions with brand resources. Private hospitals place more emphasis on short-term brand accumulation: 1) marketing; 2) applying for healthcare service and management level certification (such as JCI); 3) forming affiliations, medical alliances, and medical communities with reputed public hospitals as mentioned by an industry expert:

*I think customers pay for good reputations in the healthcare industry. The healthcare industry is an industry with continuous credit enhancement. A good reputation cannot be achieved overnight. If a hospital with luxurious buildings and facilities lacks good reputation, there will not be many customers. A good reputation is also the most critical (intangible asset) for a healthcare institution. The better the hospital's reputation, the stronger the customers' willingness to pay (Fan Zhenzhong, Industry expert).*

#### **4.3.2 Key activities**

The key activities of high-end healthcare service institutions are consultation and treatment, health management and talents training. The first two are direct activities for value creation, while the last one is the talent management within the enterprise, which helps the enterprise to build and accumulate core resources and provide resource guarantee for value creation.

##### **4.3.2.1 Diagnosis and treatment**

Diagnosis and treatment are the core sections of "curing disease" and "ensuring health", where medical staff are the service providers. The doctor conducts a preliminary examination on the patient by "wang, wen, wen, qie", namely observation, auscultation and olfaction, inquiry and pulse feeling and palpation, and issues check list and test sheets. Various testing pharmacists provide patients with testing services such as blood test, B-ultrasound, and imaging. The doctor then diagnoses the condition and the cause based on the test results and provides a plan for symptomatic treatment. If hospitalization is required, the nurse staff executes the doctor's treatment plan and provides the patients with nursing service.

The quality level of diagnosis and treatment provided by high-end healthcare services is higher since it is top authoritative teams of doctors who provide diagnoses and treatment services. Secondly, high-end healthcare service institutions can mobilize the best expert resources from multiple departments to provide customers with a more systematic and

comprehensive diagnosis. Third, high-end healthcare service institutions often have advanced equipment and technology to ensure better treatment effects.

Comprehensive diagnostic interpretation and refined services. Diagnosis level, interpretation and communication are the keys. For the results of screening with the same equipment, the interpretation of Union Advanced Medical Center of Guangdong Provincial People Hospital is different from other places:

*The interpretation of the same result there is more detailed, providing customers with comprehensive, intuitive, and easy-to-understand information. Customers will feel that they are enjoying high-end services (Rao Jiaqi, Director of Union Advanced Medical Center of Guangdong Provincial People Hospital).*

In the process of seeking medical treatment, patients can not only feel the quality of medical treatment that solves the disease problem, but also have a perception of the medical treatment experience. High-end healthcare service institutions have excellent environment and are equipped with full-time health management staff to provide customers with fine services, efficient testing, and laboratory procedures, and at the same time ensure privacy for patients. These features provide patients with a respectful, comfortable, and safe healthcare experience in the process of diagnosis and treatment, and meet consumers' demands for added value as the President of Graceland Medical Center referred:

*There are two experiences for patients, one is the experience of medical safety, and the other is the experience of medical treatment. But it is very difficult to rely on a doctor to do the latter. The last thing patients want is queuing or wasting time. But these problems cannot be solved by doctors and require an operations management team (Yao Lin, Vice President of Graceland Medical Center of the Sixth Affiliated Hospital of Sun Yat-sun University).*

#### **4.3.2.2 Health management**

High-end healthcare services provide customers with a healthy life, not only through the diagnosis and treatment process, but also through complete health management and post-recovery management. Health management includes the establishment of patients' health records, regular return visits to patients' health status, and protection requirements for some chronic diseases. Paying regular return visits to patients, tracking their physical condition after recovery, helping them to book regular physical examinations, and to better understand and manage their own bodies and other tasks of this kind are primarily provided by customer health managers. An interviewee explained:

*For health management services, patients who receive a physical examination will receive*

*extended life-long care. It is just like an automobile sales service shop, which will always call customers for follow-up services, such as asking if they need to change the insurance, change the filter element, change the oil, change the tire. Since automobile sales service shops do this for the safety of customers, most customers will agree with this follow-up practice. Why? Because our tires may indeed be almost worn out, and the same with the belts, and what if the car breaks down on the way? The same is true for people's health, follow-up practice is to care about customers. (Wang Jichen, Industry expert)*

#### **4.3.2.3 Talent management**

The key business of the healthcare service industry involves patients' problem solving, and its business model is inseparable from continuous staff training and knowledge system management (Osterwalder & Pigneur, 2010). The medical team is the core resource of high-end healthcare service institutions. As the effective operation of institutions is inseparable from healthcare practitioners, the acquisition and management of high-quality talents is one of the important business links. A sound talent training system can not only help medical professionals clearly plan their careers, satisfy their sense of honor, and realize their personal value, but also help high-end healthcare service institutions build their brand reputation by cultivating authoritative medical teams. The cultivation of medical talents, similar to the accumulation of brand reputation, also requires long-term investment.

The career development and self-realization paths of medical staff include training, re-education, scientific research project declaration, professional title evaluation, and honor application. For example, high-end healthcare service institutions provide a platform for medical talents to apply for master tutors, doctoral tutors, and national-level talent titles as well as to apply for national, provincial, and ministerial level scientific research projects or to carry out exchanges and continuous cooperation with a large number of peers. These all help doctors to enhance their own skills and social reputation to realize their personal value. A wealth management director who cooperates with high-end healthcare service institutions pointed out that doctors place a higher value on the development opportunities provided by their institutions more than on salary:

*I think research resources are very important for experts. I have a friend from Shanghai Medical College Fudan University who is now working in the Affiliated Hospital of Fudan University. This friend did not choose to work in a private healthcare institution because he felt that the private medical institution could provide neither a better platform for development or promotion, nor resources for further study and re-training, which would not help him to gain*



*more experience. He feels that working in a private medical institution is just for money, and there is not much room for improvement (Liu Jing, Sales Director of American International Assurance Co., Ltd.)*

In this dimension, public high-end healthcare service institutions enjoy natural advantages depending on public hospitals, which can provide medical staff with good promotion channels and rich social resources, helping medical staff to continuously improve their abilities. It is difficult for private high-end healthcare service institutions to provide a promotion platform for medical staff in terms of career channels because the staff of such institutions are subject to policy restrictions on applying for national, provincial, and ministerial level projects and professional title evaluation.

Experts and professors are proud groups, and remuneration is only second to them. In order to maintain medical talents, it is important to provide a platform. On the one hand, it can be a platform of industry association such as the Chinese Medical Doctor Association, which can reflect the top professional level and technical ability of experts in a certain medical field. On the other hand, it can be a comprehensive tertiary public hospital, such as Nanfang Hospital of Southern Medical University, which is more conducive to the application for national, provincial, and ministerial projects, and doctoral tutors. However, in private institutions such as Ciming Medical Examination, even if doctors receive high salaries, their chances of applying for projects, personal honors, and retraining are much lower than those in tertiary public hospitals, and their space for personal career development is limited:

*Without these platforms, outstanding medical talents are reluctant to go to private healthcare institutions (private high-end healthcare institutions) (Fan Zhenzhong, Industry expert).*

### **4.3.3 Key partners**

The effective operation of the high-end healthcare service business model is inseparable from the industrial ecology and cooperation network with many stakeholders. Only when researchers clarify the type and motivation of cooperation, can the relationship network be continuously optimized. The data of this study shows that the key partners of high-end healthcare service institutions include commercial insurance companies, third party administrators, medical groups, and third-party medical testing institutions. Among them, commercial insurance companies and third-party administrators optimize customers' healthcare experience as strategic cooperation partners, and even help high-end healthcare service companies to improve their internal processes; while the cooperation with medical groups and third-party medical

testing institutions is mainly based on service outsourcing, which can not only reduce the fixed costs of high-end healthcare service institutions, but also improve service efficiency.

#### **4.3.3.1 Commercial insurance companies**

Commercial health insurance companies are important strategic alliance partners for high-end healthcare services, and form mutually beneficial relationships with them in terms of cost payment, cost control, and resource acquisition. Commercial health insurance companies are one of the important payers of high-end healthcare services, who use medical insurance products to improve customers' ability to pay for them, but also for advanced technologies, innovative drug application and other personalized and differentiated services. Direct payment can improve the payment method and optimize the customer experience by cutting down the complicated affairs such as payment and subsequent claims application after the customers receive medical treatment. High-end healthcare institutions, on the other hand, realize actual high-quality healthcare services for the virtual financial products of commercial health insurance, in order to obtain target customer groups and service fees.

Some respondents also believe that commercial health insurance can help healthcare institutions to control costs to a certain extent, but this is different from the cost control mechanism of U.S. health insurance system. The U.S. insurance cost control mechanism, taking Kaiser Permanente as an example, is achieved by paying a fixed annual medical fee to the hospital. Insurance companies do not pay for additional medical behaviors or auxiliary services in hospitals, so they will try to avoid them. Such a mechanism not only ensures the quality of healthcare services, but also controls its cost. Since 2019, the Chinese government has also implemented a basic healthcare service payment model of Diagnosis Related Groups (DRGs) and Big Data Diagnosis-intervention (DIP) nationwide, under which hospital medical expenses exceeding a certain limit will not be paid by the government. This model aims to regulate medical behavior and incentivize cost reduction. During the interview, the effect of commercial health insurance cost control proposed by respondents is often reflected in the fact that customers pay for basic healthcare services through commercial health insurance, thus reducing the total amount of basic costs that hospitals need to apply for reimbursement from the medical insurance department. Medical staff can provide customers with more personalized, differentiated, and diversified healthcare services without considering too many cost restrictions and supervision pressures from basic healthcare insurance, further consolidating the alliance between commercial health insurance and high-end healthcare services, as mentioned in one interview:

*Many high-end healthcare service institutions and commercial insurance companies have direct payment systems, and patients do not need to pay medical expenses at the hospital. These are now very common healthcare service insurance products. In the field of high-end healthcare services, insurance companies will monitor the entire healthcare service process and have close cooperation and contact with high-end healthcare service institutions. Insurance companies will look into the entire diagnosis and treatment process of doctors and institutions, and also control the quality and cost (Liu Jing, Sales Director of American International Assurance Co., Ltd.)*

#### **4.3.3.2 Third party administrator**

The full name of third-party administrator (TPA) relates to group medical insurance, which refers to an entity that provides third-party management services for medical insurance institutions. The value it provides to insurance companies includes health insurance preservation services, service fees settlement, claims processing services or building a network of service agencies. At the same time, TPA companies also provide customers with services such as medical resource acquisition, health management, medical appointment and accompanying, medical dispute resolution, which even improve the buyer's disadvantage in the existing market structure to a certain extent. Mature TPA partners play the role of hub and link between high-end healthcare institutions, medical staff, commercial insurance companies, pharmaceutical companies and pharmacies and many other stakeholders, freeing commercial health insurance companies and high-end healthcare service institutions from non-core business, reducing redundant business in the industrial chain, and optimizing business model structure.

The boundaries between China's TPAs and commercial health insurance companies are unclear, especially when the development of both is immature in China. TPAs often exist in the form of independent departments or subsidiaries of commercial health insurance companies, whose functions such as optimizing the buyer's market structure, improving healthcare services, and enhancing social welfare are far from reaching the international counterparts as one interviewee said:

*Commercial insurance can provide customers with more convenient channels for medical treatment to save their time. Taking the critical illness insurance service as an example, American International Assurance (AIA) has set up a medical service center in Shanghai, and a customer service team composed of more than 80 doctors, also known as the Team Yucongrong (Healing with Ease). The doctor team can be regarded as a TPA team, the main tasks of which include coordinating patient admission, surgery, medication, discharge,*

*underwriting, claims settlement, settlement and assisting patients to communicate fully and efficiently with high-end medical service institutions. Currently AIA Medical Services does not purchase TPA services (Lin Cuiqiong, Sales Director of American International Assurance Co., Ltd.).*

#### **4.3.3.3 Medical groups**

According to the interview results, the medical group is another common type of strategic alliance partner. A medical group refers to a practice alliance or entity constituted by a number of doctors through a contractual cooperation mechanism (Zou, 2019). In the context of the dominance of the public system in China, the medical group is still in its infancy as a third-party platform, and the members are mainly doctors of specific specialties, with few cooperative practice platforms (Xie et al., 2016). At present, the cooperation between high-end healthcare service institutions and medical groups mainly includes obtaining medical manpower and entrusting education and training. In practice, the medical group will use the venue facilities and medical equipment of high-end healthcare institutions to provide patients with diagnosis and treatment services and charge corresponding fees, and then pay the corresponding platform fees to high-end healthcare institutions. At present, some high-end healthcare institutions have also begun to actively communicate with overseas medical groups or medical associations, hoping to obtain more business cooperation and exchange opportunities.

As the Chinese government allows doctors to practice in multiple locations, high-end healthcare service institutions sign up authoritative medical groups to provide part-time diagnosis and treatment services. In this case, these part-time contracted medical groups become the partners of the high-end healthcare service institutions as one interviewee confirmed:

*If you want to recruit talents, you can sign a medical team. For example, if the digestive department of Friendship Hospital is good, you can sign a contract with the director of this department. Many private hospitals such as pediatric hospital and orthopedic hospital sign such top teams or doctors. (Li Li, Director of International Medical Center of Beijing Friendship Hospital, Capital Medical University)*

#### **4.3.3.4 Third-party medical testing institutions**

The high-end healthcare service industry chain covers not only the healthcare services, but also a series of upstream and downstream service supply relationships. In the case of limited resources, to achieve value propositions and business goals, high-end healthcare service institutions cooperate with third-party medical testing institutions, which can not only reduce

fixed capital, but also improve testing efficiency. The outsourcing services provided by these stakeholders tend to have one or more of the following characteristics: non-clinical core, high professionalism, high risk, and low demand.

For example, some non-core businesses with high professionalism and low demand, such as tumor genetic testing, molecular diagnostics, total-body PET/CT can be provided by third-party healthcare service institutions approved by the Chinese National Health Commission, thereby reducing service costs and risks (National Health Commission, 2018). In addition, at this stage, high-end healthcare service institutions in China are generally small-scale secondary hospitals or clinics, which cannot provide some high-precision medical services due to hospital level restrictions. For example, according to policy regulations, umbilical cord blood hematopoietic stem cell therapy needs to be carried out in tertiary general hospitals with corresponding personnel and technical conditions (NHC, 2009b). Through cooperation with higher-level healthcare institutions, this part of the business can establish green referral channels and achieve mutually beneficial cooperation. A doctor interviewed confirmed:

*Cooperating with third-party medical testing institutions can provide better services and faster inspections, such as genetic testing, tumor gene target detection, imaging (such as PET). The waiting time and appointment time for PET imaging examination in public hospitals are relatively long. The quality of images produced by third-party imaging companies is no different from that of public hospitals, such as Universal Medical Imaging (Zhong Wenzhao, doctor of Guangdong Provincial People Hospital).*

In terms of key cooperation, private high-end healthcare service organizations have a higher degree of freedom than public ones and can choose suitable institutions to establish a cooperation network according to the market and their own development conditions. However, public medical institutions are subject to many policy restrictions. The main purpose of these restrictions is to ensure service fairness and information security, and to prevent institutions or individuals from sending resources to third parties for personal gains. However, these restrictions have also caused drawbacks, including the large and complicated operation and management system of public medical institutions, and the slow response to new changes in the industry as mentioned by some doctors interviewed:

*We also cooperate with third-party companies, such as tumor genetic testing, but our hospital has limited projects (Ma Liyu, doctor of Union Advanced Medical Center of Guangdong Provincial People Hospital).*

*Guangdong Provincial People Hospital restricts sending out tests, including referring patients to other hospitals for examinations and genetic testing. But the waiting time in the*

*hospital is long. For example, if PET needs to be done, a third-party institution can do it immediately or the next day, but it will take three or four days in the hospital (Zhong Wenzhao, doctor of Guangdong Provincial People Hospital).*

#### **4.3.4 Cost structure**

It is inevitable that there are costs associated with conducting critical operations, using core resources, and engaging in critical collaborations. Cost structure is used to analyze the important costs incurred by high-end healthcare services in the process of value creation and value provision, and to describe the types and characteristics of the cost structure in the operation of a specific business model. The main costs of high-end healthcare services in China include labor costs for medical staff and management teams, and fixed costs for hospital buildings and testing equipment.

##### **4.3.4.1 Labor cost of medical staff and management team**

Since high-end healthcare services rely on the devotion of high-quality medical teams and management teams, labor costs generally account for the largest cost. According to the results of interviews and field research, the proportion of labor cost to total cost of high-end healthcare institutions in China is generally about 30% to 60%, which varies according to the size of the institution, customer flow and main service types. Salaries and welfare are the main part of labor costs, including fixed costs such as post salaries, rank salaries, and welfare, as well as performance salaries and performance bonuses that fluctuate according to business conditions and benefits. Training cost is another important labor cost in the healthcare service field, which aims to provide talents with more career promotion opportunities and a broader exchange platform. Salaries and welfare are related to the staff's educational background, professional title, experience, ability, and other factors, while training costs are related to the retention and development of human resources. High-end healthcare emphasizes service quality, so reducing salary and welfare costs is not an effective path to achieve sustainable development.

High-end healthcare institutions have high labor costs that usually take more than 50% of the total cost. For example, the labor cost of United Family Hospital is around 56% to 60% while the labor cost of ordinary private healthcare institutions is about 30 to 40%. The high labor cost of high-end healthcare institutions mainly comes from experts, professors, and foreign doctors. For example, as its President explained, the internal and external women and children experts hired by ASIS International Hospital are all foreign general practitioners with doctoral degrees, who are offered an annual salary of more than RMB 1.2 million:

*In order to ensure the high quality of healthcare services, the labor costs of most high-end healthcare institutions remain high (Huo Dazhi, President of ASIS International Hospital).*

#### **4.3.4.2 Depreciation cost of infrastructure construction**

Infrastructure costs, which take up a high proportion of the cost structure, can be divided into two categories: the construction cost of hospital buildings and the purchase cost of testing equipment. Unlike public high-end healthcare institutions that can rely on the infrastructure of public hospitals, private high-end healthcare service institutions have to build their own infrastructures such as hospital buildings, which is a very expensive investment.

The equipment cost of high-end healthcare institutions and the maintenance cost of equipment are divided into charging materials and non-charging materials. The cost of medicine fluctuation according to business conditions is also a variable cost. The depreciation cost of fixed assets involves the depreciation of buildings, professional equipment, general equipment, and other fixed assets, which falls into fixed costs. For example, a CT machine costs RMB 30 million, and a DaVinci robot-assisted Surgical System costs RMB 25 million. In addition, due to the rapid update rate and high maintenance frequency of professional equipment, continuous and high maintenance costs are needed during operation.

Since the depreciation of fixed assets is calculated at a fixed value after purchase, the cost control generally occurs in the planning stage before the purchase rather than after. For instance, the institution location, scale of hospital beds, and equipment quantity will be planned in advance. After the institution is officially put into operation, labor costs become the largest part of the operating costs.

The cost structure of high-end healthcare services in China does not share obvious characteristics with the economy of scale and economy of scope. This means that high-end healthcare institutions cannot lead to significant unit cost reductions by increasing their scale and service volume, or by expanding their business scope since they are different from manufacturing, retail and other industries. The value proposition of high-end healthcare services is mainly realized through the effective interaction between medical staff and patients, with a low degree of automation. In this regard, when the scale of the institution or business volume increases, the corresponding labor costs will also increase significantly. In addition, economies of scope are often reflected in the increased utilization of the input factors of production. For example, specific equipment is used to produce more types of products, resulting in lower average production costs. However, high-end healthcare services are highly specialized, and the production factors of different sub-specialties can support limited business

types, but not multiple different types with the same resources and business activities. For example, when there are too many patients in the department of orthopedics, it is not feasible to transfer cardiologists to support the service work of the department of orthopedics. Therefore, high-end healthcare institutions should steadily increase the scale according to their own development stage, resources, and customer market conditions, and avoid blindly pursuing large scale in the early stage of development.

In terms of the boundaries of business scope, although high-end healthcare services cover health management, disease prevention, clinical healthcare services, rehabilitation nursing, hospice care and other services, at the operational level, they are not the only service providers in the value chain. Different service contents are provided by different appropriate stakeholders. For example, insurance companies and TPAs have their own unique operation models in customer health management; basic medical institutions are often the first choice for specialist treatment of severe diseases; elderly care institutions and rehabilitation hospitals undertake prognostic rehabilitation, chronic disease management and many other services. Therefore, high-end healthcare institutions should return to the core and basic health value creation of their healthcare service value propositions, as well as to the individualization and differentiation they emphasize focusing on clinically intensive comprehensive healthcare services, and avoiding blind expansion of business scope.

To sum up, the scale of the institution, business scope, fixed asset planning in the preparatory stage, and the management of non-charged materials during the operation process are the two entry points that healthcare institutions can use as cost control. In fact, the cost of healthcare services in China is strictly controlled by policies, and there is very limited space for active cost reduction through cost analysis and performance appraisal at the operational level. Therefore, when discussing the profit model of high-end healthcare services, the focus and resources should be placed more on value creation and service receipts, rather than on cost control.

Table 4.1 presents additional interview data on the four dimensions of value creation as evidence to support the findings in this section of the study.



Table 4.1 Representative evidence of value creation

Second-order Themes	First-order Concept	Representative Quotes
Key Resource (KR)	Medical personnel and managers	<p>Medical talent is the priority. Then it is equipment. With all these we can have good medical quality and save time cost. (Yao Lin, Vice President of Yahe Medical Center, the Sixth Affiliated Hospital of Sun Yat-sen University)</p> <p>Medical talents and technology are important resources. For example, after patients with pulmonary nodules receive physical examination, they need the interpretation on the examination results. Therefore, the medical talents of high-end healthcare service platforms are crucial (Zhong Wenzhao, doctor from Guangdong Provincial People's Hospital).</p> <p>The special-needs department can coordinate the best experts in each specialty to provide services. (Rao Jiaqi, Director of Union Advanced Medical Center, Guangdong Provincial People's Hospital)</p> <p>Medical technology is the first and foremost. High-net-worth individuals are very concerned about life and health. Technology is the prerequisite for other aspects. In all the medical technologies, I have been repeatedly emphasizing new technologies, drugs and treatment methods. (Zhu Peixuan, Vice President of Forsea Life Insurance Guangzhou General Hospital)</p>
	Advanced technology and devices	<p>A hospital should be a combination of technology and talent-based healthcare services, not just a beautiful building or advanced equipment. No matter how good the equipment is, if no one uses it, it will be useless after three years. (Gu Jingwen, Director of Foreign-related Medical Center, Huashan Hospital Affiliated to Fudan University, Shanghai)</p> <p>For the entire high-end healthcare industry, the key lies in medical technology. (Gu Jingwen, Director of Foreign-related Medical Center, Huashan Hospital Affiliated to Fudan University, Shanghai)</p> <p>The competitiveness of public hospitals' special-needs services does not lie in high-end healthcare itself, but comes from its own brand, location and target population. In my opinion, the most valuable is the stereotyped brand (Zhang Liangping, Industry expert)</p>
Key Activity (KA)	Brand reputation	<p>The key resource of a medical institution is word-of-mouth. (Fan Zhenzhong, Industry expert)</p> <p>I feel like customers in the healthcare industry will pay for word-of-mouth. The healthcare industry is an industry that improves its credit in a gradual manner. This cannot be accomplished overnight. Without the word-of-mouth, hospitals with luxurious buildings and facilities may not attract many customers. (Fan Zhenzhong, Industry expert)</p> <p>During the epidemic, many online remote consultations, such as the morehealth model, have been launched with experts from all over the world. These platforms allow patients to receive more reasonable, standardized and cutting-edge treatment options. (Zhong Wenzhao, doctor from Guangdong Provincial People's Hospital)</p>
	Diagnosis and treatment	<p>As for cancer patients in the special-needs ward, we can issue consultation sheets and gather experts from various departments by phone. (Gu Yong, Administrative Director of the First Affiliated Hospital of Sun Yat-Sen University)</p> <p>For high-end healthcare services, we can invite directors of specialty departments to consult or formulate a consultation plan. (Ma Liyu, doctor from Union Advanced Medical Center, Guangdong Provincial People's Hospital)</p>
	Health management	<p>After the physical examination, the experts will explain and give feedback on the results by telephone or face-to-face. (Tan Jie, doctor from the Third Affiliated Hospital of Sun Yat-sen University)</p>

Key Partnerships (KP)	Talent management	<p>High-end healthcare service institutions provide customers with good medical solutions and health management. At the same time, they will also cooperate with commercial insurance companies after the patients are discharged and pay attention to and follow up on the recovery of customers. For example, the aforementioned “Yu Cong Rong” team provides follow-up health management services, regularly follow up and remind customers of items that need to be re-examined. (Lin Cuiqiong, Sales Director of AIA Life Insurance Co., Ltd.)</p> <p>The problem is found in the physical examination, and then the management of chronic disease is carried out for this problem. The management of chronic disease is very professional. (Li Li, Director of International Medical Center, Beijing Friendship Hospital Affiliated to the Capital Medical University)</p> <p>First, we attract medical talents through branding. Secondly, after investing heavily in hiring doctors, we will carry out internal training to let doctors know how to realize their own value in the hospital and build the intrinsic driving force of the medical talent team. Finally, we provide doctors with high-quality processes and services, so that doctors can focus on their clinical work and serving patients. (Xia Kaili, President of Guangzhou United Family Hospital)</p> <p>The first is to provide more competitive income than public hospitals, the second is to create good working conditions for doctors so that they can focus on the healthcare service, and the last is to build brand value so that doctors have a sense of belonging and honor. (Huo Dazhi, President of OASIS International Hospital)</p>
	Commercial insurance agencies	<p>Private hospitals still have to cooperate with insurance agencies. Commercial insurance can divert customers, and there will be more customers and distribution channels. (Gu Yong, Administrative Director of the First Affiliated Hospital of Sun Yat-sen University)</p> <p>We establish direct payment channels with insurance companies. At present, some healthcare institutions in China have launched direct payment services with commercial insurance companies. (Lin Cuiqiong, Sales Director of AIA Life Insurance Co., Ltd.)</p>
	Third-party management administrators (TPA)	<p>Taking the critical illness insurance as an example, AIA has set up a medical service center in Shanghai, and has established a customer service team composed of more than 80 doctors, also known as the “Yu Cong Rong” team. This doctor group is equivalent to a third-party administrator (TPA) team. Its main tasks include coordinating patient admission, surgery, medication, discharge, underwriting, claims settlement, settlement, as well as assisting patients and high-end healthcare service institutions to carry out adequate and efficient communication. (Lin Cuiqiong, Sales Director of AIA Life Insurance Co., Ltd.)</p>
	Doctor groups	<p>We can cooperate with doctor groups, provide medical science education, and let partners in the healthcare and insurance industries communicate with each other through this platform. (Zhu Peixuan, Vice President of Forsea Life Insurance Guangzhou General Hospital)</p>
	Third-party medical inspection institutions	<p>The hospital does not have R&amp;D capabilities for many systems and equipment, so it is necessary to introduce third-party cooperative enterprises. (Rao Jiaqi, Director of Union Advanced Medical Center, Guangdong Provincial People’s Hospital)</p> <p>The equipment usage rate of high-end healthcare institutions is not high and it is such a waste. But the level of equipment has a great impact on image quality, especially from our professional point of view. We need to pay about 30 million yuan for a CT device. If we don’t want to invest in such device, we can cooperate with grade-A tertiary public hospitals who have</p>

<p>Cost Structure (CS)</p>	<p>Human resources costs of medical personnel and managers</p>	<p>an edge in such specialized equipment, so as to reduce unnecessary costs. (Tan Jie, doctor from the Third Affiliated Hospital of Sun Yat-sen University)</p> <p>This is due to the high labor cost of high-end healthcare institutions. The labor cost of most high-end healthcare institutions is more than 50% of the total. For example, the labor cost of United Family Hospital used to account for about 56%~60%; the figure in ordinary private healthcare institutions is about 30~40%, such as Amcare Healthcare (30%); while the proportion of labor costs in public hospitals is even lower, below 30%. The high labor cost of high-end healthcare institutions mainly comes from experts, professors and foreign doctors. In order to ensure the high quality of healthcare services, the labor costs of most high-end healthcare institutions have always been high. (Huo Dazhi, President of OASIS International Hospital)</p> <p>During the operation period of high-end healthcare institutions, the manpower cost in hospital operation surely accounts for a large share of the total. (Yin Tong, Senior Researcher, Strategic Development Department, Taikang Insurance Group)</p>
	<p>Fixed costs of hospital building and inspection devices</p>	<p>We pay about 30 million yuan for a CT device. (Tan Jie, doctor from the Third Affiliated Hospital of Sun Yat-sen University)</p> <p>(High-end healthcare) operators keep putting forward demand for new equipment, sometimes B-ultrasound, sometimes CT and MRI. And 64-row is not enough anymore, it must be 128-row. We often have to purchase multiple devices at one time. (Yin Tong, Senior Researcher, Strategic Development Department, Taikang Insurance Group)</p>

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#### 4.3.5 Differences between public and private high-end healthcare services in terms of value creation

High-end healthcare service institutions mainly provide patients with services such as diagnosis and treatment, and health management through medical staff, managers, and key partners, so as to realize the patients' pursuit of healthy and quality life. The cost structure reflects that high-end healthcare service is an industry highly dependent on talents, and its key resources are medical staff and managers, who have also become the largest source of costs for institutions.

Although public and private high-end healthcare service institutions share various dimensions of value creation, there are still some differences in certain dimensions (as showed in Table 4.2). Specifically, in terms of key resources, most private high-end healthcare institutions have not formed their own brand reputation because it is difficult for them to attract excellent doctor groups.

Table 4.2 Differences between public and private high-end healthcare services in the dimension of value creation

	Public High-end Healthcare Institution	Private High-end Healthcare Institution
Key Resource (KR)	Medical staff/managers, technical equipment, brand reputation	Medical staff/managers, technical equipment
Key Activity (KA)	Diagnosis and treatment, health management (less), talent management	Diagnosis and treatment, health management
Key Partnerships (KP)	Commercial insurance companies, third-party cooperation agencies (such as TPAs, doctor groups, third-party medical inspection equipment agencies) (less cooperation)	Commercial insurance companies, third-party cooperation agencies (such as TPAs, doctor groups, senior doctors in public hospitals, third-party medical inspection equipment agencies) (more cooperation)
Cost Structure (CS)	Salaries of managers and medical staff, inspection equipment	Salaries of managers and medical staff (a higher percentage), inspection equipment

In terms of key activities, public high-end healthcare service institutions have a complete talent management system, which provides resources and institutional support for cultivating core medical teams. However, private high-end healthcare institutions cannot be taken in the national talent management system since it is difficult for them to provide medical talents with the same promotion channel as their counterparts in public institutions.

As for external partners, both public and private high-end healthcare service institutions emphasize win-win cooperation with commercial insurance companies, but third-party cooperation projects of public high-end healthcare service institutions are regulated by the state, and projects such as cooperation with TPAs, doctor groups, and third-party medical equipment

inspection agencies are not as common at private high-end healthcare services.

In terms of cost structure, as previously said, the salaries of medical staff and managers in the two types of institutions are the main costs, and the cost of human resources in private high-end healthcare institutions is higher, because private institutions cannot provide good career promotion channels for medical staff, personal development or research opportunities. Private institutions can only attract medical staff through high salaries, so their cost of human resources is higher.

#### **4.4 Value delivery and acquisition**

Customer segments, customer relationships, distribution channels, and revenue streams in the Business Model Canvas determine how value is delivered to customers and how companies acquire value (Berends et al., 2016). These four dimensions explain how a company's value proposition is delivered to what types of customers.

Firstly, in terms of customer segments, customers of high-end healthcare service institutions in China are mainly middle-class and high-net-worth individuals who have strong payment ability and are sensitive to the time and experience of medical treatment, as well as inelastic demand/rigid demand customers who have medical treatment needs. The target customer groups of public and private high-end healthcare institutions are the same, so there exists a certain degree of competition between them. Secondly, in terms of customer relationships, the doctor-patient relationship comes first as it is doctors who address the pain of the patients. Furthermore, doctors' personal growth requires substantial clinical experience and a large number of patients (customers) who provide learning opportunities and research materials for doctors to improve their abilities. Hence the doctor-patient relationship is also a co-creation relationship. Thirdly, in terms of distribution channels, high-end healthcare service institutions use their own brand reputation (mainly public institutions), marketing (private institutions), and recommendations from doctors/institutions. Fourthly, the source of revenue is mainly divided into two dimensions. In terms of revenue structure, medical services contribute the most, and the rest also includes testing and drug charges. In terms of payment sources, patients' own expenses account for the vast majority, and commercial insurance accounts for a small amount. The ratio between the two is about 8:2 (the ratios in public and private institutions are basically equivalent). The following section will introduce these four dimensions respectively.

#### **4.4.1 Customer segments**

High-end healthcare service institutions need to distinguish customer groups in order to reasonably judge which customer segments their value proposition matches, which ones should the resources be devoted to, and which should be ignored. According to the results of open coding (i.e., first-order codes in Figure 3.1), the customer segments of the high-end healthcare service business model are subdivided into three categories: high-net-worth customers, middle-income customers, and inelastic demand/rigid demand customers.

##### **4.4.1.1 High-net-worth customers**

High-net-worth customers are generally classified as “high-yield” segmented customer groups because of their strong consumption and payment ability, namely, customer groups that can bring good profits to high-end healthcare services. In China, high-net-worth customers refer to individuals with more than 10 million yuan of investable assets. According to the *Yi Tsai • Hurun Wealth Report 2021* released in April 2022, as of 2021, there were 2.06 million high-net-worth individuals in China.

The pain point of medical treatment for high-net-worth customers stems from the inability to obtain personalized and differentiated comprehensive solutions in the basic healthcare service system for their diverse health problems. For example, in terms of clinical medical treatment, basic healthcare services pay more attention to the diagnosis and treatment of a specific disease yet have not emphasized customers' demands for a comprehensive understanding of their health status, access to personalized comprehensive treatment plans and whole-process follow-up service. In terms of comprehensive service experience, the needs of some auxiliary services such as adequate communication, privacy protection and respect for religious beliefs cannot be met.

In addition, for high-net-worth customers, high-end healthcare services not only provide health value, but also hold the value as a private product. High-net-worth customers are mainly individuals with certain economic strength and social status such as senior government officials, highly educated intellectuals and corporate executives. Access to high-end or luxury healthcare services is a symbol of social status and wealth.

At a certain level of service price, customers' willingness to consume and ability to pay together constitute the aggregate demand for high-end healthcare services. The use and consumption of high-end healthcare services can only be realized when the need for healthcare services is recognized. Therefore, some of our interviewees emphasized that high-net-worth

customers is not an accurate segmentation. If they do not have health awareness or intention to consume, the potential demand estimated by the market cannot be fully released. An interviewee confirmed:

*They are successful entrepreneurs, social figures, and some senior government officials (most of those we have come into contact with are division directors and above). Simply put, they have better economic conditions and can afford the high-end services (Tan Jie, doctor from the Third Affiliated Hospital of Sun Yat-sen University).*

#### **4.4.1.2 Middle-income customers**

Based on the survey report of the China General Social Survey (CGSS) project, as well as a comprehensive discussion on China's economic and social background and the consumption behavior of high-end healthcare services, this study defines the middle-income population as urban and rural residents whose total income has remained at the middle level (1-2.5 times of the per capita total income) of the whole society for at least 5 consecutive years (CGSS, 2019). This definition only considers the level of one's economic condition in the society, excluding discriminative factors such as occupation and ideology. At present, the middle-income population in China is about 300 million, accounting for about 22% of the total (Chen & Jiang, 2018). According to the China Statistical Yearbook 2021, the per capita disposable income of a middle-income household in China is 26,000 RMB.

There is no essential difference between the middle-income group and high-net-worth individuals in terms of health awareness, service demand, and geographical distribution. Both have certain pursuits for the quality of healthcare services and hope to experience better medical treatment. The difference mainly lies in the individual's economic condition, a factor related to the ability and willingness to pay.

At present, the high-end healthcare service market mainly focuses on high-net-worth customers, and the service needs of middle-income customers have not been fully explored. As middle-income customers gradually develop the awareness of adding commercial health insurance on basic medical insurance (see Figure 4.1 below), improve their payment ability in a planned manner and shift health risks, there is still a huge market for the middle-income customers' demand in what concerns high-end healthcare services.

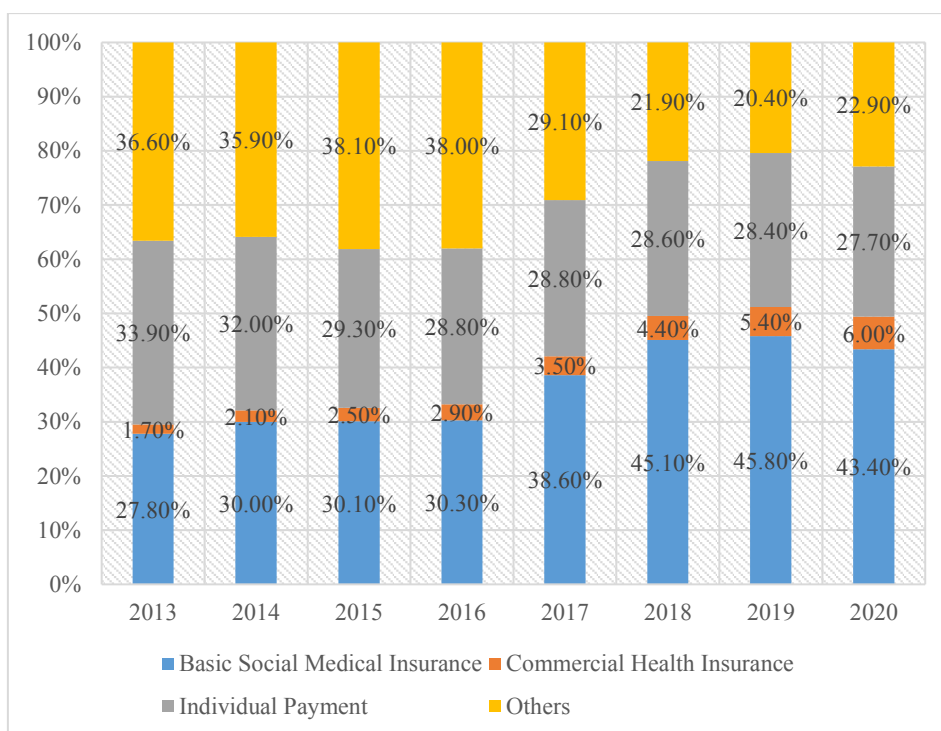


Figure 4.1 National health expenditure

Source: Oriental Securities, Insurance Industry Special Report (2022)

#### 4.4.1.3 Inelastic /rigid demand customers

High-net-worth and middle-income customers are categories based on the economic condition of customers, which emphasize the yield and profitability of high-end healthcare services for segmented customer groups. The inelastic /rigid demand customer group is defined according to the characteristics of service demand and generally refers to customers who hope to quickly obtain high-quality healthcare resources and realize the value of disease treatment through high-end healthcare services. They generally have the characteristics of chronic or underlying diseases, limited time for consultation or medical treatment, and high expectations for treatment results. Such customers may not have good health awareness and economic condition, but generally have a high willingness to pay.

The inelastic/rigid demand customers use high-end healthcare services as a convenient way to obtain top-level healthcare resources. Therefore, patients with complex and severe diseases are more inclined to choose the special-needs department of public hospitals since they have more top-level specialists and greater ability to treat complex and severe cases as one interviewee said:

*Patients with complex diseases should consult top-level specialists, and such specialists often have a whole team behind them. Recently, a patient with general economic condition needed urgent treatment, but we don't have any bed left since it is the holiday (the International*



*Labor Day). So, the patient decided to transfer to the Union Center. Considering the patient's economic condition (yet the patient's willingness to transfer is strong), we have tried our best to reduce the costs because the cancer is already at a stage of fast spreading, and things will be quite complicated if we wait until the holiday is over...Actually, in our hospital, a patient usually needs to wait for three weeks to get a bed. If paying more money (about tens of thousand) can spare the waiting, it might as well be a good choice for the patient (Zhong Wenzhao, doctor from Guangdong Provincial People's Hospital).*

High-net-worth and middle-income customers have demands for high-quality healthcare services, and high-end healthcare organizations can deliver service value to customers through adequate information, effective communication, and a good environment. Since the pain point of the inelastic/rigid demand customers is the diagnosis and treatment of diseases, especially the treatment of critical, severe, and rare diseases it is often necessary to deliver value to customers through specialists with top skills.

#### **4.4.2 Customer relationships**

Customer relationships focus on what kind of relationship high-end healthcare service institutions establish with customers and how to maintain such relationship. The types of customer relationships in this field include doctor-patient relationships and partnership.

##### **4.4.2.1 Doctor-patient relationship**

The doctor-patient relationship focuses on providing patients with the core value proposition of “healthy and quality life”, helping them to get rid of pain and become healthy again. In such relationship, doctors, being professional and authoritative, lead the entire diagnosis and treatment process and the health management of patients, provide and implement treatment plans and address pain according to patients' physical condition. While patients are passive and in urgent need of help, they support and cooperate with the care team during treatment (Mai & Wang, 2019).

Adequate communication with customers is necessary for maintaining a good doctor-patient relationship (Yang et al., 2022). Compared with the basic healthcare departments of public hospitals, high-end healthcare service institutions put more emphasis on adequate communication with patients to reduce the information asymmetry between doctors and patients. For example, doctors explain the causes of the disease and possible sequelae induced by treatment plans, and self-care in daily life, which not only relieves patients' anxiety, but also improves the trust between doctor and patient, as well as patients' compliance with doctor's

orders (Mai & Wang, 2018).

Taking the Union Advanced Medical Center of Guangdong Provincial People's Hospital as an example, some patients of this institution add doctors or medical staff as WeChat (a Chinese popular multi-service app) friends to facilitate daily contact, which is convenient for patients and doctors to communicate in a timely manner. OASIS International Hospital (a famous private hospital founded in 2012) requires that each time of communication between doctors and each patient should be no less than 30 minutes, and no less than 20 minutes in the case of Guangzhou United Family Hospital, another renowned private hospital founded in 2016. In addition, with the improvement of various digital platforms, more and more patients use them (such as WeChat public account and Good Doctor platform) to consult doctors and give feedback on progress outside the hospital. This kind of "Internet plus medical treatment" service model can greatly improve the doctor-patient relationship (Wang & Feng, 2017), as interviewees recognized:

*Some doctors and managers communicate with patients on WeChat, which is actually a private kind of communication. Customers can keep in contact with our staff in special-needs departments anytime without coming to the hospital. Our staff are eventually human with limited energy, so it's more appropriate to make appointment through WeChat public account or appointment hot-line. This is also one of the aspects that needs to be improved in special-needs healthcare service. (Rao Jiaqi, Director of Union Advanced Medical Center, Guangdong Provincial People's Hospital)*

*High-end healthcare institutions, like OASIS, should guarantee at least 30 minutes of communication with each patient, so as to fully understand their condition and demands, and introduce the services we provide and how should the patient cooperate. (Huo Dazhi, President of OASIS International Hospital)*

#### **4.4.2.2 Partnership**

Partnership means that both doctors and patients participate in the diagnosis and treatment process (Mai & Wang, 2018). Nambisan and Nambisan (2009) divided the value co-creation between doctors and patients into four types based on the two dimensions of leading role and knowledge: partnership model, open source model, support group model, and diffusion model (see Figure 4.2).

	Knowledge creation	Knowledge sharing
Patient-led	Open source model	Support group model
Institution-led	Partnership model	Diffusion model

Figure 4.2 Value co-creation model between doctors and patients

Source: Nambisan and Nambisan (2009) (Partnership model is the one verified in this study)

In view of the status quo of high-end healthcare service institutions in China, patients, as collaborators, participate in the formulation of new treatment options or the improvement of current options. During the diagnosis and treatment process, patients actively join in the discussion with doctors on the effect of new treatment options, and help doctors understand their efficacy so that they can constantly improve their knowledge of diseases and professionalism. An interviewee commented:

*Tertiary public hospitals generally do not admit stage-4 cancer patients (with complications), but hospitals engaging in advanced clinical research do. Actually, these patients are not willing to be “a lab mouse”. But they have to give it a try at such critical moment. (Liu Weidong, President of Shanghai International Medical Center)*

Since the diagnosis of any disease in clinical medicine comes from a large number of clinical observations and the confirmation of each treatment option is based on repeated clinical trials, patients are not just passively involved in the diagnosis and treatment process. They not only help the medical team to optimize the diagnosis and treatment plan, but also play an important role in improving the technical ability of the medical team. The rich experience is often indispensable for excellent medical teams, that is, the more cases they take, the more experienced and professionally competent they will be, as one interviewee noted:

*Clinical trial doctors improve their skills through practicing. You wonder why Chinese doctors are famous for their surgical operation skills? They deal with ten operations a day, while their counterparts in other countries may have only one. (Li Li, Director of International Medical Center, Beijing Friendship Hospital Affiliated to the Capital Medical University)*

#### 4.4.3 Distribution channel

The distribution channel is the link between high-end healthcare services and segmented customers and plays a critical role in customer experience. It describes which channels allow customers to better understand high-end healthcare services and how to deliver value propositions to customers. High-end healthcare service institutions attract customers through marketing campaigns, doctor/institution referrals, word-of-mouth, and reputation.

#### 4.4.3.1 Marketing campaign

Marketing refers to the process of applying marketing mix to carry out product promotion and sales activities, aiming to communicate with and deliver the value of high-end healthcare services to customers and stakeholders. Nowadays, the main marketing promotion methods include advertising, sales promotion, and cross-industry promotion.

The target customer group of high-end healthcare services does not rely on the internet, newspapers, and TV advertisements to obtain service information. When using advertising methods for marketing, it is necessary to adjust the promotion ideas and find the contact interface that matches the customers and the entry point of marketing activities. It is an effective method to promote, recommend or communicate through channels such as enterprise unions, embassies, commerce chambers and retirement affairs offices. For younger customer groups, advertising on popular social media is also an effective means of promotion.

Sales promotion is one of the means for high-end healthcare service institutions to increase product exposure and customer stickiness. In a series of sales promotion or membership-based activities, customers can enjoy certain discounts and privileges. As the amount of consumption increases, there will be better discounts. However, some interviewees pointed out that there are many healthcare service organizations that patients can choose independently in China, and they can seek medical treatment in some of them with greater treatment advantages according to their own disease conditions. In addition, healthcare services correspond to relatively low-frequency consumption scenarios, so sales promotion and membership-based activities cannot exert significant impact on the sales of healthcare service products. For example, OASIS International Hospital uses sales promotion to improve customer stickiness, as the President confirmed:

*OASIS improves customer stickiness through a membership system. After a customer joins the membership, as the amount of consumption increases, there will be better discounts. Customers can enjoy a 20% discount when they spend 50,000 yuan, 25% when they spend 100,000 yuan, and 30% when they spend 200,000 yuan. When a customer obtains the privilege of a certain discount, he/she can always have this discount for future consumption. In addition, the hospital also launches special campaigns for regular customers through some sales promotion, such as the special events hold on June 18 and November 11 (two “shopping festivals” in China) and gives away some service items such as free lectures, just like brand promotion. (Huo Dazhi, President of OASIS International Hospital)*

Cross-industry promotion refers to the promotion activities of high-end healthcare service

institutions in cooperation with other industries. Commercial health insurance is one of the most common cross-industry promotion channels. Commercial insurance companies can not only carry out service promotion and customer flow diversion at the stage of customer recognition and evaluation, but also follow up customers and regularly send out re-examination reminders at the after-sales stage. Some high-end healthcare institutions organized by insurance funds can even use the channel resources and sales teams of insurance companies to promote high-end healthcare services. In addition, other common cross-industry promotion channels also include upstream and downstream industries, Internet companies and commerce chambers. Compared with promotions within the industry or referrals from doctors, cross-industry promotion is less costly, and also less targeted. One industry expert commented:

*High-end healthcare can regard Internet companies as their distribution channels. Insurance institutions such as Ping An, JD.com, Tencent, and Internet medical institutions are relatively resourceful. For example, Ping An has rich insurance-related resources, and Foresea has also many customers with specific needs. High-end healthcare institutions reach their target customers through the Internet and online platforms. (Chen Hao, Industry expert)*

In terms of distribution channels, private high-end healthcare institutions have greater flexibility than the special-needs departments of public hospitals. At present, the institutions that use marketing methods as distribution channels are mainly private high-end healthcare service institutions that have not been established for a long time, such as Ciming Checkup which invests 3 million yuan annually in advertising for image promotion. Most public high-end healthcare institutions are strictly prohibited from advertising and promoting their healthcare services. An interviewee confirmed:

*Many public hospitals cannot do medical publicity. For example, medical publicity is prohibited in the affiliated hospitals of Sun Yat-sen University. However, Foresea Life Insurance Guangzhou General Hospital does not have such restriction. The insurance company also hopes that their healthcare institution can be promoted, so they have many marketing methods, such as advertising in the subway and advertising campaigns conducted by the marketing team of the insurance company. Hospitals can take advantage of such channels. (Zhu Peixuan, Vice President of Foresea Life Insurance Guangzhou General Hospital)*

#### **4.4.3.2 Doctor/institution referral**

The second channel is that patients may learn about an authoritative high-end healthcare service institution through a doctor or basic healthcare institution during the process of seeking medical treatment. Doctor referral is one of the promotion methods within the industry, and it is a highly

targeted channel with a high success rate. This is because doctors have a professional background and are familiar with patients' disease conditions and healthcare needs and also have rich healthcare service resources and information channels. Therefore, it is very easy for doctors to gain the trust of customers when making referrals. One of the interviewees in this study, Ms. Chen, chose high-end healthcare because of the introduction of her family's attending doctor in a public hospital.

*We're very familiar with the chief surgeon. He was at the clinic of the Union Center, and he recommended that we could go there. He asked the staff from the clinic to explain all the medical expenses to us clearly, that is, how much the costs would be if there is no reimbursement. We are OK with it, so we have chosen the Union Center. (Ms. Chen, family of a patient)*

Another interviewee commented:

*When doctors find customers in need of special healthcare during their practice, they will take them to the high-end healthcare service department. In the high-end healthcare departments of ordinary public hospitals, about 80% of the patients are brought by doctors. (Zhu Peixuan, Vice President of Forsea Life Insurance Guangzhou General Hospital)*

In addition, such channels as basic healthcare service institutions, physical examination centers, and high-end clinics are an important way for customers to obtain high-end healthcare service information and understand the value proposition. These institutions can deeply understand the extended consumption needs of customers when providing services, and then divert customers to suitable institutions for treatment, surgery, and rehabilitation. For example, in public hospitals, most of the patients in the special-needs department are referred by the medical staff of basic healthcare services.

#### **4.4.3.3 Word-of-mouth effect**

Word-of-mouth from customers is a highly targeted channel with high success rate. If a customer is willing to recommend the service to relatives and friends after seeing a doctor, he/she is actually risking his/her own credit, and it is easier for the service or institution to gain the trust of potential customers. Therefore, in order to obtain new customers through customer referral, it is necessary to ensure the high quality of healthcare services in the institution. Net Promoter Score (NPS) measures the willingness of customers to give recommendation, whose advantage is that it is directly linked to the operating conditions of high-end healthcare institutions, helping the management team to judge the recognition, loyalty and purchase intention of customers, and to measure future development trends and profitability. NPS is a simpler and more efficient measure of medical service evaluation than customer satisfaction

surveys. In practice, the survey objects of NPS include not only patients as customers, but also stakeholders such as patient's families, management teams, and medical staff who can bring more potential customers. Some interviewees confirmed:

*The first user experience is the most important, it can gain the customer's trust and interests in the service. Customers themselves will come back and recommend to their friends. Follow-up visits are also important. (Ma Liyu, doctor from Union Advanced Medical Center, Guangdong Provincial People's Hospital)*

*Word-of-mouth can facilitate customer diversion. If a customer thinks the services of the hospital are professional, he/she will tell others later. (Li Li, Director of International Medical Center, Beijing Friendship Hospital Affiliated to the Capital Medical University)*

In addition, high-end healthcare service institutions can establish an interface with customers in advance through public service and publicity activities. These activities create opportunities for customers to understand and experience the services. High-end healthcare institutions have both assumed social responsibilities and achieved image building and brand promotion in such process. Mr. Huo, President of OASIS International Hospital, introduced OASIS's practice in brand image building through public promotion activities:

*OASIS also choose some schools, companies, and large institutions to conduct publicity activities, popular science education and marketing. For example, during the epidemic, we provided free vaccinations for foreigners. Yesterday we received a notice, it invited us to provide COVID-19 vaccination services for children and adolescents aged 3 to 16 in Chaoyang District. These public welfare services have created opportunities for foreigners to come to OASIS and experience our services. Although we are providing free services at our own expenses, taking the initiative to undertake social services is also a process of self-promotion. (Huo Dazhi, President of OASIS International Hospital)*

Channels are only the interface for contacting customers. Value proposition and brand reputation are the core and most critical elements of high-end healthcare services. Only by providing high-quality services to let customers have great medical experience, can this type of organizations establish a long-lasting and strong relationship with the target customers obtained through various channels.

#### **4.4.4 Revenue streams**

Revenue streams describe the revenue an organization earns after providing services. Healthcare income reflects not only the business operation of high-end healthcare institutions, but also the value of the services they provide. Next, the revenue streams of high-end healthcare

service institutions will be introduced from the perspectives of revenue structure and payment model.

#### 4.4.4.1 Revenue structure

The revenue structure of high-end healthcare service institutions consists of two parts: 1) healthcare service revenue (such as registration fee, operation fee, blood drawing fee, and laboratory test fee); 2) revenues from drugs (patients buying drugs) and consumables (such as needles for blood drawing, blood reserve, and electrocardiogram) in the process of inspection and testing. In the revenue structure of high-end healthcare service institutions, the former usually accounts for a larger share.

1) Healthcare service revenue: Diagnosis and treatment is a highly professional activity, but public hospitals in China need to undertake the responsibility of inclusive healthcare, so the diagnosis and treatment fees are very low. For example, in Guangzhou, the registration fee for the attending physician is 10 yuan, for the deputy chief physician, 20 yuan, and for chief physician, 30 yuan. With the roll-out of China's new medical reform, healthcare service revenue, especially revenue from technical labor, is gradually returning to its actual value level. The increase in national income and changes in consumption patterns have also encouraged more and more residents to pay for high-quality healthcare services. In the high-end healthcare service institutions particularly, the registration fee can better reflect the service value of experts at different levels. Taking United Family, the doctor's registration fee is 2,000-3,000 yuan, but such a high cost has not led to reduced demand.

In fact, the share of healthcare service revenue in the total has increased, which improves medical behaviors. When doctors' income is separated from drug sales and connected to factors such as healthcare quality, treatment effect, and service attitude, the customer's medical service experience will be improved accordingly. An interviewee commented:

*Compared to drug costs, I think patients are more willing to pay for physician services. Regarding the payment of healthcare services, customers are more concerned about whether the charges match the quality of doctors, hospital services and the hospital environment. So, the key still lies in the fee of physician service, which should be improved. In the basic healthcare service institutions in Beijing, the attending physician charges 50 Yuan, 10 Yuan is out-of-pocket payment, and the rest will be reimbursed by the basic healthcare insurance; the deputy chief charges about 70 yuan, and the chief about 100 yuan. Physician service fees in high-end healthcare service institutions need to be increased accordingly to match the corresponding high-quality services. For example, Distinct HealthCare charges 200 yuan for*



*ordinary registration, and 400 yuan for specialist. Such fees are acceptable for its customers. (Yin Tong, Senior Researcher, Strategic Development Department, Taikang Insurance Group)*

2) Revenues from drugs, inspection and testing: this refers to the revenue obtained by healthcare institutions through the sales of drugs and the provision of testing services, which used to be an important revenue stream for healthcare organizations due to the low-income level of Chinese residents during a certain historical period. In order to improve residents' ability to pay for healthcare services, the Chinese government has kept these services at a low cost through policy regulation. During this period, in order to make up for the lack of financial subsidies and the loss of healthcare businesses, the Chinese government also introduced policies to allow healthcare institutions to keep the balance of drug sales, and also to allow the existence of inspection services provided through high-priced large equipment. However, this also encouraged the profit-seeking behaviors of healthcare institutions and medical staff, which is contrary to the public welfare nature of healthcare services.

During the current period of the new medical reform, the Chinese government has successively issued the *Opinions on Deepening the Reform of the Healthcare Security System*, *Notice of the Office of the National Medical Security Administration on Issuing the Pilot Program Work Plan for Diagnosis-Intervention Packet (DIP)*, *Notice of the General Office of the State Council on Issuing the Pilot Program Work Plan for the Centralized Purchase and Use of Drugs Organized by the State*, and *Pilot Program for Deepening the Reform of Healthcare Service Prices*. This series of measures taken by the Chinese government aim at comprehensively promoting the reform from the three aspects of healthcare, health insurance and medicine, so as to eliminate the mechanism of "medicines supported by drugs" and to increase the share of healthcare service revenue in the total. High-end healthcare institutions are not strictly controlled by the low-price healthcare service policy, and their motivation to obtain revenue compensation through drug mark-up or inspection services is not strong. Also, high-end healthcare pays more attention to service quality and customer experience and tries to avoid unreasonable drug sales or inspection services, so it is more dependent on healthcare service revenue, especially that from technical labor.

According to the field survey results, the overall price level of high-end healthcare services generally ranges from 30% to 200% higher compared with basic healthcare services. There is no unified standard or benchmarking for the pricing of high-end healthcare services. The added price for different business types is also inconsistent. For example, operations involving technical labor services such as surgery, diagnosis and treatment generally have a relatively high price increase while increases for services such as medicine, beds and food are relatively

low. The price strategies of different high-end healthcare institutions vary greatly. Some institutions providing luxury healthcare services have an overall price level 5 times or more than that of basic healthcare services. On the contrary, some socially-run high-end healthcare organizations even adopt the price standards for basic healthcare services promulgated by the local government in order to attract enough customers at the early stage of operation.

The data in this study show that customers' willingness to pay for different types of healthcare services varies. According to the results of open coding, customers have higher willingness to pay or repurchase frequency for healthcare services with obvious effects, short treatment time, and high scarcity. Therefore, consumption-oriented healthcare services such as medical cosmetology, obstetrics and gynecology, and stomatology, as well as serious healthcare services such as pediatrics, orthopedics, oncology, and cardiovascular and cerebrovascular departments tend to have stronger profitability. At the initial stage of high-end healthcare institutions, priority can be given to the development of some businesses with strong profitability to solve the problem of revenue and financing. The advantageous disciplines or special services in high-end healthcare often do not show their profitability at the initial stage of business but have the characteristic of high revenue growth rate. In the course of operation, institutions should use funds and revenue to support the development of other departments in a planned way, especially those advantageous projects that have not yet obtained profits but have good prospects.

#### **4.4.4.2 The payment model based on out-of-pocket payment supplemented by commercial insurance**

The healthcare service payment model acts as a leverage among stakeholders such as service providers, payers, and service recipients. A reasonable payment model can not only play a role in cost control, but also guide healthcare institutions to actively improve the quality of healthcare services. The payment of high-end healthcare services in China is mainly based on out-of-pocket payment, supplemented by commercial insurance payment.

Out-of-pocket payment refers to the money paid directly by patients after receiving healthcare services. Such expenses may be paid by the patients or their family members and may also be reimbursed or compensated by third parties such as the institution which the patient works for, government departments, and social organizations. Out-of-pocket payment is one of the mainstream payment methods for high-end healthcare services in China, especially for the special-needs healthcare services in public hospitals, accounting for 80%-90% of the total payment (such as the International Medical Center of Friendship Hospital Affiliated to Capital

Medical University). This also reflects that the commercial health insurance in China is not yet mature, and the proportion of out-of-pocket payment is relatively high. Excessive proportion of out-of-pocket payment can still inhibit the consumption behavior of target customers and of a large number of potential customers, which is not conducive to the long-term development of high-end healthcare services. Some interviewees commented:

*Patients usually pay by themselves, not by medical insurance. A few of them use commercial insurance. (Zhong Wenzhao, doctor from Guangdong Provincial People's Hospital)*

*Most patients pay by themselves (Wang Jichen, Industry expert)*

*Commercial insurance payment accounts for about 10~20% in our hospital. (Li Li, Director of International Medical Center, Beijing Friendship Hospital Affiliated to the Capital Medical University)*

The importance of commercial health insurance in the field of high-end healthcare services lies in that it can improve customers' ability to pay, increase payment convenience, and diversify the distribution channels of high-end healthcare institutions. First of all, commercial health insurance can improve customers' ability to pay for high-end healthcare services to a certain extent, especially for some advanced technologies, imported or rare drugs, and healthcare services that are not included in basic medical insurance but are applicable to specific diseases. Customers shift the economic risks of illness by purchasing commercial health insurance. Secondly, commercial health insurance has gradually transformed the previous reimbursement model that requires customers to pay medical expenses in advance to a prepaid model. Direct payment and online payment have also greatly improved the convenience of payment. As the payer, commercial health insurance companies, in addition to providing the most basic "health coverage" services, also functions as "resource matching". Through commercial health insurance, customers can more conveniently obtain healthcare service information and match suitable resources. Finally, commercial insurance can help high-end healthcare institutions reach more customers. In the short term, commercial health insurance agencies can transfer customers to high-end healthcare institutions. In the long term, commercial health insurance can improve the middle-income customers' ability to pay, and when more potential customers can afford high-end healthcare services, the customer coverage will be expanded.

At present, only a few high-end healthcare institutions or departments in mainland China can introduce basic medical insurance coverage, including the Huiqiao Medical Center of Nanfang Hospital affiliated to Southern Medical University, Shanghai International Medical Center (SIMC), and Qingdao United Family Hospital. In China, there are huge obstacles

hindering the implementation of basic medical insurance at designated high-end healthcare institutions, because public hospitals are the main providers of these services, and the government's medical insurance department has posed strict restrictions on the amount of basic medical insurance expenditures, the proportion of out-of-pocket payment, and the average length of stay in public hospitals. Therefore, public hospitals require patients in the special-needs department to pay at their own expense or through commercial health insurance and save the limited medical insurance expenditures for basic healthcare, so as to realize the original intention of inclusive healthcare services.

Table 4.3 presents additional interview data for the four dimensions of value creation as evidence to support the findings in this section of the study.

#### **4.4.5 Differences between public and private high-end healthcare service institutions in terms of value delivery and acquisition**

To sum up, high-end healthcare service institutions attract potential customers through marketing, doctor/institution referral, and word-of-mouth reputation. These customers are the high-net-worth customers and the middle class with good ability to pay, or people with illnesses who have inelastic/rigid demand for health services. By building a good doctor-patient relationship and partnership with customers, high-end healthcare institutions realize the value demands of customers (i.e., healthy and quality life) and improve the proficiency of medical staff and the management ability of medical institutions. At the same time, institutions obtain a stable source of revenue by serving these customers.

Table 4.3 Representative evidence of value delivery and acquisition

Second-order Themes	First-order Concepts	Representative Quotes
Customer segments	High-net-worth customers	(In terms of the target customers of high-end healthcare services) They should have both the financial ability and the willingness to pay, such as high-net-worth individuals and foreigners, including their spouses and parents. (Yao Lin, Vice President of Yahe Medical Center, the Sixth Affiliated Hospital of Sun Yat-sen University) In 2018, there were about 2.29 million high-net-worth individuals in China. The so-called high-net-worth customers refer to those with a disposable cash flow of more than 10 million yuan, which shows that there is a large customer base for high-end healthcare services (Lin Jing, Sales Director of AIA Life Insurance Co., Ltd.)
	Middle-income customers	Customers of high-end healthcare services include many ordinary middle-class families, and families with an annual income of about 200,000 yuan may also seek high-end healthcare services. (Lin Cuiqiong, Sales Director of AIA Life Insurance Co., Ltd.) More and more people can afford high-end healthcare services, and the middle class can also afford high-end healthcare services. (Rao Jiaqi, Director of Union Advanced Medical Center, Guangdong Provincial People's Hospital)
	Inelastic demand/rigid demand customers	Financially well-off patients suffering from critical diseases. (Liu Weidong, President of Shanghai International Medical Center) The customers of high-end healthcare also include some ordinary people who need to save time and find shortcut for disease treatment. (Ma Liyu, doctor from Union Advanced Medical Center, Guangdong Provincial People's Hospital)
Customer relationship	Doctor-patient relationship	Maintain customer relationship through one-on-one service, fixed location of treatment, and personalized service. (Zhong Wenzhao, doctor from Guangdong Provincial People's Hospital) High-end healthcare service providers spend more time solving patients' medical problems, such as listening more patiently to patients' demands, spending more time explaining to patients, making more detailed arrangements for patients' diagnosis and treatment, and establishing patients' personal health record. This is the core of high-end healthcare services. (Xia Kaili, President of Guangzhou United Family Hospital)
	Partnership	Tertiary public hospitals generally don't admit stage-4 cancer patients (with complications), but hospitals engaging in advanced clinical research do. Actually, these patients are not willing to be "a lab mouse". But they have to give it a try at such critical moment. (Liu Weidong, President of Shanghai International Medical Center)
Distribution channel	Marketing	OASIS improve customer stickiness through membership system. After a customer joins the membership, as the amount of consumption increases, there will be better discounts. For example, customers can enjoy a 20% discount when they spend 50,000 yuan, 25% when they spend 100,000, and 30% when they spend 200,000. When a customer obtains the privilege of a certain discount, he/she can always have this discount for future consumption. In addition, the hospital also launches special campaigns for regular customers through some promotional activities, such as the special events held on June 18 and November 11 and gives away some service items such as free lectures, just like brand promotion. (Huo Dazhi, President of OASIS International Hospital) Reach target customers through marketing methods and open up the market with a Top-Down mindset. (Fan Zhenzhong,

Revenue streams	Doctor/institution referral	<p>Industry expert) Private hospitals still have to cooperate with insurance agencies. Commercial insurance can divert customers, and there will be more customers and distribution channels. (Gu Yong, Administrative Director of the First Affiliated Hospital of Sun Yat-sen University)</p> <p>Generally, the customers of high-end healthcare service are mainly introduced by colleagues or friends. They all know an expert who is professional in a certain field, and the word-of-mouth is passed on. (Zhong Wenzhao, doctor from Guangdong Provincial People's Hospital)</p>
	Diversion by word-of-mouth reputation	<p>Introducers of high-end healthcare service involve many groups, such as patients, patient's family members, experts, and administrators. Introducers are very important, and they are also our service targets. We maintain the relationship with introducers well, and they will bring more customers of high-end healthcare to the hospital. (Rao Jiaqi, Director of Union Advanced Medical Center, Guangdong Provincial People's Hospital)</p> <p>There must be enough customers, the brand is built through word-of-mouth among friends, and experts carry out marketing by popular science and health promotion. (Tan Jie, doctor from the Third Affiliated Hospital of Sun Yat-sen University)</p>
	Revenue structure dominated by healthcare service revenue	<p>Surgery, large-scale physical examination (group physical examination), and in-depth physical examination can all bring relatively high profit and are also the services that customers prefer. (Rao Jiaqi, Director of Union Advanced Medical Center, Guangdong Provincial People's Hospital)</p> <p>Customers are willing to pay for healthcare services, but generally the available time of medical staff is limited. (Tan Jie, doctor from the Third Affiliated Hospital of Sun Yat-sen University)</p> <p>Compared to drug costs, I think patients are more willing to pay for physician services. Regarding the payment of healthcare services, customers are more concerned about whether the charges for healthcare services match the quality of doctors, hospital services and the hospital environment. So, the key still lies in the fee of physician service, which should be improved. (Yin Tong, Senior Researcher, Strategic Development Department, Taikang Insurance Group)</p>
	The payment model based on out-of-pocket payment, supplemented by commercial insurance	<p>Most patients pay by themselves (Wang Jichen, Industry expert)</p> <p>Currently, about 10% of the customers in the Union Center use commercial insurance, which can reimburse a certain proportion of the payment. (Rao Jiaqi, Director of Union Advanced Medical Center, Guangdong Provincial People's Hospital)</p>

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This study found that public and private high-end healthcare service institutions have a high degree of consistency in value delivery and acquisition (as showed in Table 4.4). For example, they target the same customer group, maintain doctor-patient relationship and partnership with customers, and earn profits mainly from out-of-pocket payment. There are slight differences though in distribution channels. Public high-end healthcare service institutions mainly rely on service process and service effects to obtain more customers, because they have the endorsement of public hospitals to acquire customers through word-of-mouth and service process, while private institutions put more emphasis on marketing to attract customers since their own word-of-mouth reputation is yet to be built at the early stage of business.

Table 4.4 Differences between public and private high-end healthcare service institutions in terms of value delivery and acquisition

Value and Acquisition	Delivery	Public High-end Healthcare Service Institutions	Private High-end Healthcare Service Institutions
Customer segments		High-net-worth customers, middle-income customers, and inelastic demand/rigid demand customers	High-net-worth customers, middle-income customers, and inelastic demand/rigid demand customers
Customer relationship		Doctor-patient relationship, and partnership	Doctor-patient relationship, and partnership
Distribution channels		Doctor/institution referral, and reputation effect	Marketing, and doctor/institution referral
Revenue streams		Revenue structure: dominated by healthcare service revenue Payment source: out-of-pocket payment, and commercial insurance payment (10%-20%)	Revenue structure: dominated by healthcare service revenue Payment source: out-of-pocket payment, and commercial insurance payment (10%-20%)

#### 4.5 Business model canvas of China's high-end healthcare service institutions

Based on the above analysis, this study summarized the business model canvas of China's high-end healthcare service institutions from nine aspects, namely value proposition, key activities, key partners, cost structure, customer segmentation, customer relationship, channels, and revenue sources. The similarities and differences among them in various dimensions have been discussed (see Figure 4.3).

<b>Key Partners</b> Commercial insurance companies (public < private) TPA's Medical groups (public < private) Third-party medical testing institutions (public < private)	<b>Key Activities</b> Diagnosis and treatment Health management (more common in private institutions) Talent management (more common in public institutions)	<b>Value Proposition</b> Healthy and quality life Core proposition: health (more emphasis by public institutions) Added value proposition: respect, high quality and sense of safety (more emphasis by public institutions)	<b>Customer Relationships</b> Doctor-patient relationship Partnership	<b>Customer Segmentation</b> High-net-worth customers Middle-income customers Inelastic/rigid demand customer
	<b>Core Resources</b> Medical staff and management team Advanced technology and equipment Brand reputation (public)		<b>Distribution Channels</b> Marketing campaign (private) Doctor/institution referral Word-of-mouth effect (public)	
<b>Cost Structure</b> Labor costs of medical staff and management team Depreciation cost of infrastructure construction		<b>Revenue Sources</b> Revenue structure: dominated by healthcare service revenue, followed by revenue from drugs and inspection Payment source: out-of-pocket payment, commercial insurance payment (10%-20%)		

Figure 4.3 Business model canvas of China's high-end healthcare service institutions

Figure 4.2 shows that public and private high-end healthcare service institutions face the same customer group, which means that there is a competitive relationship between them in terms of target customers. However, since they have different focuses on meeting customer demands, there is a differentiated competitive relationship between them.

In addition, there are slight differences in some dimensions (such as customer channels, key resources, key partnership, and key activities) between public and private high-end



healthcare service institutions, and such differences reflect the resource cooperation between the two. For example, private high-end healthcare service institutions invite part-time authoritative doctors from public hospitals to provide regular consultation while public institutions may also outsource some testing and laboratory items to their private counterparts.

Although public and private high-end healthcare service institutions share a competitive partnership, they involve the same key stakeholders, and there is a consistency between the value-creating activities that key stakeholders participate in in their respective business models, and the value they obtain from the business models of high-end healthcare services. Chapter 5 of this study will analyze the important role of various stakeholders in the development of the business models of this type of services in China.

## **Chapter 5: Development of High-end Healthcare Service Business Model Driven by Stakeholders**

In the previous analysis of the business model canvas, this thesis focused on the value proposition, value creation, and value delivery of high-end healthcare service institutions, as well as value acquisition of both customers and healthcare institutions. As mentioned in Chapter 2 the sustainable development of the business model requires the participation of all stakeholders (Freudenreich et al., 2020). On the one hand, stakeholders will provide important resources and participate in the value creation activities of high-end healthcare service institutions (Pfannstiel & Rasche, 2017); on the other hand, they will also obtain corresponding resources through enterprises. The former is the resource endowment behavior of stakeholders who provide important resources for high-end medical service institutions to realize their value proposition; the latter is the resource acquisition activities of stakeholders who obtain tangible and intangible resources from high-end healthcare service institutions after value co-creation with these institutions. This study defines the resource endowment and resource acquisition behavior of stakeholders in high-end healthcare services as the value exchange between stakeholders and high-end healthcare service institutions.

### **5.1 Value exchange between various stakeholders and high-end healthcare service institutions**

Based on the stakeholder theory and interview data, this thesis finds that the stakeholders of high-end healthcare service institutions in China (both public and private) include clients, medical staff, investors, operation teams, insurance companies, and third-party institutions. By analyzing the interview data as detailed in Chapter 3, a stakeholder value creation framework for the business model in high-end healthcare service institutions as shown in Figure 5.1 is proposed. The green circle, named “healthy quality of life”, in the center represents the core value proposition of high-end healthcare service institutions; the white circle outside the green shows a variety of management and business activities of these institutions; the gray circle outside the white illustrates the value obtained by high-end healthcare service institutions, and the blue circle represents the value obtained by stakeholders in the outer circle. The arrows

represent the value exchange between various stakeholders and high-end healthcare service institutions. The inward light pink arrows point to the gray circle referring to the resource empowerment activities of various stakeholders for the core value proposition. The outward yellow arrows point to all stakeholders from high-end healthcare service institutions, meaning that high-end healthcare service institutions create value for all stakeholders, that is, all stakeholders obtain value from high-end healthcare service institutions. The value exchange of the six stakeholders will be analyzed in the following part, and we will briefly present the resource endowment and resource acquisition behaviors of each stakeholder in this process.

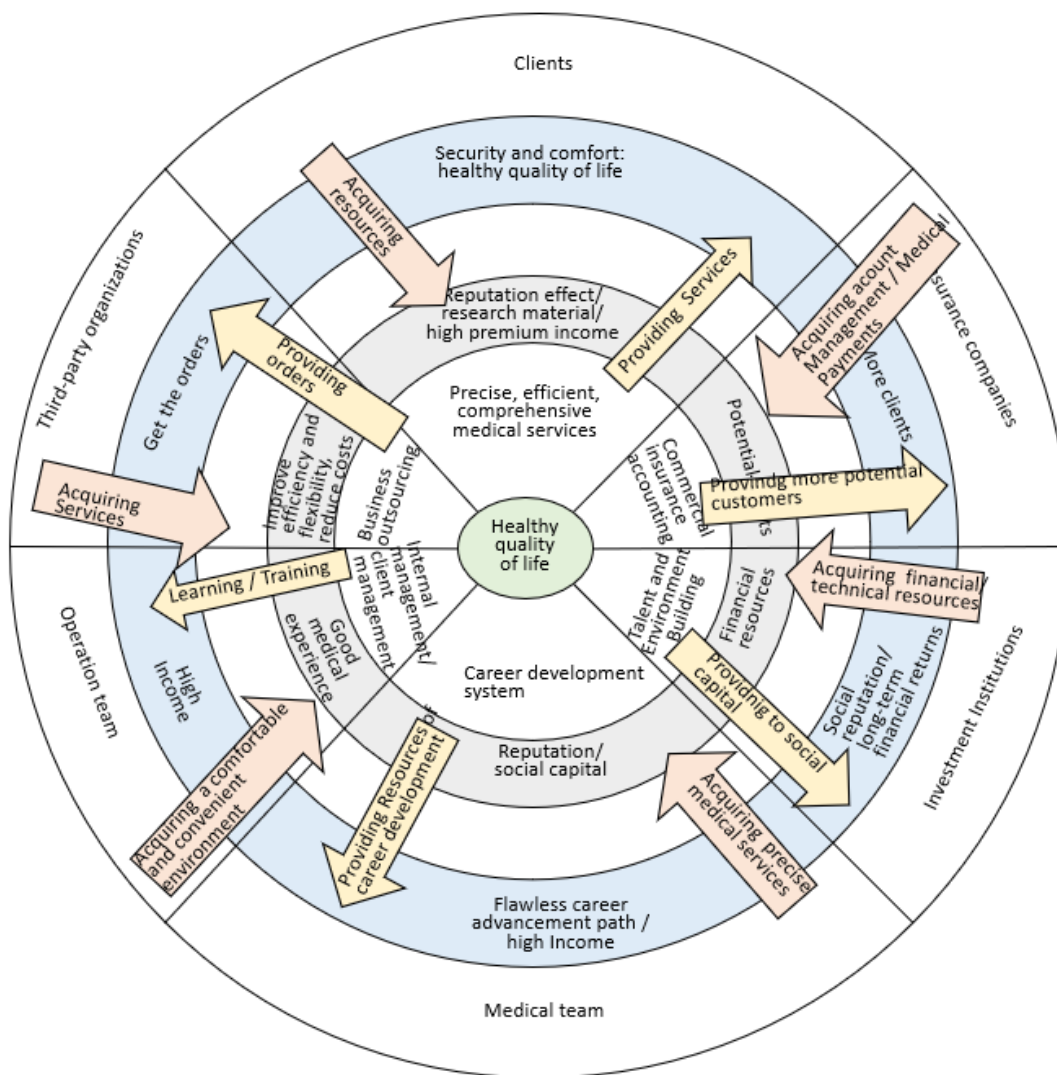


Figure 5.1 Stakeholder value creation framework for the business model of high-end healthcare institutions

### **5.1.1 Clients**

In terms of resource endowment, clients provide institutions with high premium income, reputation, and other resources in order to promote the long-term development of enterprises. For example, reputation helps enterprises to obtain more client resources, and high-premium income has become an important source for high-end healthcare service institutions. Clients also provide institutions with a wealth of research data that physicians use to improve their medical capabilities. These resources transform the relationship between clients and institutions from a simple doctor-patient relationship into a value co-creation relationship. This is also an important reason why high-end healthcare service institutions attach great importance to client management.

In terms of value acquisition, clients can enjoy precise, efficient, and comprehensive medical services in high-end healthcare service institutions, and at the same time feel respected, experience a sense of security and comfort in the process of medical treatment. In other words, they gain the value of healthy quality of life which is the core of the value proposition in the business model. Unlike other stakeholders, clients get health value rather than tangible or intangible resources.

### **5.1.2 Medical teams**

The medical team includes doctors, nurses, and hospital inspection and testing personnel, who are involved in the medical treatment process of clients. In terms of resource endowment, the medical team provides healthcare service resources and client resources for high-end healthcare service institutions. For one thing, medical teams are service providers, and they use their knowledge and experience to provide clients with accurate and effective medical services; for another, the reputation of authoritative doctors also adds social capital to high-end healthcare service institutions, which can attract more clients to come for medical services.

In terms of resource acquisition, medical staff can not only obtain high income from high-end healthcare service institutions (for example, medical staff in high-end healthcare service institutions earn more than three times as much as medical staff in basic healthcare systems), but more importantly, the career development system created by high-end healthcare institutions for medical teams can help them gain career advancement and personal social capital (such as better medical reputation). This is illustrated by the statements below, collected during the interview process:

*Famous doctors undoubtedly possess abundant scientific research resources. We provide them with different data comparisons through different service groups of high-end healthcare. (Ma Liyu, doctor at Concord Medical Centre, Guangdong Provincial People's Hospital)*

*Medical institutions may help doctors attract more high-end patients and earn better fame. (Zhong Wenzhao, doctor at Guangdong Provincial People's Hospital)*

*Doctors will be proud to say that the institutions they work for are United Family Hospital (Beijing) and OASIS International Hospital (Beijing). (Huo Dazhi, president of OASIS International Hospital (Beijing))*

### **5.1.3 Operational teams**

The operational team includes the management team, client managers, psychological caregivers, and back-office staff, who work together to create a comfortable, convenient, and safe environment. For example, the management team optimizes the treatment process, the client manager regularly visits clients to check their physical condition and their appointment for a follow-up visit. They create respect, comfort, and security in the value proposition, which is different from the medical services provided to clients by a team of doctors. In terms of resource acquisition, the operation team not only gets high income from high-end healthcare institutions, but also has access to learning and training resources to improve individual capabilities as one of the interviewees commented:

*For health managers, training should cover many aspects, including etiquette, services, communication, technology, cutting-edge information, and other aspects. (Ma Liyu, doctor of Guangdong Provincial People's Hospital Concord Medical Centre)*

### **5.1.4 Investment institutions**

Public and private high-end healthcare service institutions have different investment entities. The direct investors of public high-end healthcare service institutions are public hospitals, while the investors of private ones are enterprises or individuals. In terms of resource endowment, investment institutions bring financial and technical resources to high-end healthcare service organizations. First, the construction, such as physical space, inspection and testing equipment, and other fixed assets, requires investors to provide financial resources. Secondly, the operation of high-end healthcare service institutions also requires financial or personnel support. Public hospitals can directly provide healthcare service resources such as medical teams and other healthcare service resources for special-needs medical centers (i.e., public high-end healthcare

service centers). However, a private organization requires the investment of initial financial resources to attract excellent medical teams.

In terms of resource acquisition, investment institutions can obtain asset returns and social reputation by establishing high-end healthcare service institutions. First, despite the high cost of upfront investment and the long cycle for investment return, high-end healthcare service institutions can bring good returns to investors (such as public hospitals or investment institutions) in terms of asset returns as long as a virtuous cycle is created. For example, Concord Medical Centre has become the primary source of revenue for Guangdong Provincial People's Hospital. Secondly, in terms of social reputation, the industry of medical institutions is people-centered and service-providing in nature. When it comes to their establishment, some enterprises tend to use this as a means to form a good reputation among the people and show their social responsibility, while others even regard it as a way to give back to society as the statement below illustrates:

*At present, the special-needs medical department of Concord Medical Centre can bring good economic and social benefits to Guangdong Provincial People's Hospital. (Rao Jiaqi, director of Union Medical Centre, Guangdong Provincial People's Hospital)*

### **5.1.5 Commercial insurance companies**

In China, about 20% of the treatment costs of high-end healthcare services are paid by insurance companies, which are also considered as the second largest payers. In terms of resource endowment, commercial insurance companies can provide client resources for high-end healthcare service institutions. On the one hand, the target client groups of commercial insurance companies and high-end healthcare service institutions overlap. Commercial insurance companies recommend clients to high-end healthcare service institutions by arranging medical treatment for them. On the other hand, commercial insurance projects can reduce the proportion of out-of-pocket expenses for clients to seek medical treatment, thus increasing the possibility of clients to choose high-end healthcare services.

In terms of resource acquisition, the overlapping target client groups enable the reputation of high-end healthcare service institutions to bring potential clients to insurance companies, thus increasing insurance client orders as some clients choose to purchase commercial insurance to reduce the cost of medical treatment. For example, United Family Healthcare confirmed to provide client resources for commercial insurance institutions.

### **5.1.6 Third-party cooperative institutions**

Third-party cooperative institutions mainly refer to those institutions that participate in the laboratory, testing, imaging, and other projects of high-end healthcare services, as well as personnel outsourcing. In terms of resource endowment, third-party cooperative institutions provide medical service resources which can not only improve the efficiency of examinations and tests, shorten clients' waiting time, but also reduce the fixed costs and management costs of high-end healthcare institutions, improve flexibility and anti-risk capabilities. In terms of resource acquisition, third-party cooperative institutions can also obtain orders and income from cooperation with high-end healthcare institutions to ensure the sustainable development of their own business.

Various stakeholders are deeply involved in the process of serving clients and realizing value propositions in high-end healthcare service institutions through such activities as resource endowment and resource acquisition as per representative quotes extracted from our research and summarized in Table 5.1.

## **5.2 Mechanisms for the development of high-end healthcare service business model driven by stakeholders**

This section mainly introduces the role of various stakeholders in promoting the development of the business model of high-end healthcare service institutions in public and private models, and further deepens the research on business models from the perspective of stakeholders. This study found that the development of public high-end healthcare institutions benefited from the synergy effects formed with basic healthcare and the external positive feedback formed with external resources, while the development mechanism of private high-end healthcare service institutions is of complementary effect and is based on external positive feedback. There are obvious differences between the two as detailed below.

Table 5.1 Typical evidence of value exchange

Second-order themes	First-order concept	Representative Quotes
Resource endowment	Providing financial resources	<p>The medical industry is a heavy asset investment... The construction cycle is very long: from planning, construction, opening to the brand establishment. It is impossible to form without three or five years. (Shan Guoxin, an industry expert).</p> <p>The biggest problem for investors in the development of high-end healthcare is that the profit cycle is very long, and that sufficient funds are required. Investors should be prepared to be unprofitable for five to eight years and need to constantly invest funds. (Huo Dazhi, president of OASIS International Hospital (Beijing))</p> <p>Expert resources increase the competitive advantage of high-end medical care. (Medical Team) (Ma Liyu, from Concord Medical Centre, Guangdong Provincial People's Hospital)</p> <p>Whether you're running a clinic or a hospital, the administrative management is very important. Many aspects, including policy making and quality control, depend on administrative staff. (Operation team) (Zhu Peixuan, from Foresea Life Insurance Guangzhou General Hospital)</p>
	Providing healthcare services resources	<p>The healthcare services are like genetic testing, tumor gene target detection, and imaging (such as PET). The waiting time and the appointment time for PET imaging examination in public hospitals are relatively long. The quality of examination in the third-party imaging companies is no different from that in public hospitals, such as panoramic views. (Third-party cooperation institution) (Zhong Wenzhao, doctor of Guangdong Provincial People's Hospital)</p> <p>The staff in Hui Qiao Medical Center are very lucky. In the beginning, we did not have an operating room and ICU, and there were not many patients in the early days, so Hui Qiao Medical Center was not equipped with these resources independently. However, now we have CT and MRI in addition to the operating room and ICU, and our hardware is quite good in China. (Wu Jing, director of Hui Qiao Medical Center, Southern Medical University)</p> <p>Commercial insurance attracts clients, and there are many clients and sources of clients in insurance. There are not many clients who take the initiative to see a doctor in private institutions, and they are generally brought by commercial insurance. (Insurance company) (Gu Yong, Administrative Director of the First Affiliated Hospital, Sun Yat-sen University)</p>
Resource acquisition	Providing customer resources	<p>Increasing health insurance will attract more people to seek medical services (insurance company). (Tan Jie, doctor of the Third Affiliated Hospital, Sun Yat-sen University)</p> <p>Our clients are the spokespersons for our services. (Client) (Yao Lin, vice president of Graceland Medical Center of The Sixth Affiliated Hospital of Sun Yat-sen University)</p> <p>If experts and professors conduct consultations or take charge of the institution, then I think it will be attractive to patients. (Medical team) (Tan Jie, doctor of the Third Affiliated Hospital, Sun Yat-sen University)</p>
	Acquiring social capital	<p>The value of doctors is attached to the big platform, and individuals who are not on the public hospital platform will "lose professional value" in the field of medicine and are reluctant to leave the big platform. (Rao Jiaqi,</p>



Acquiring development resources	career	<p>director of Concord Medical Centre, Guangdong Provincial People's Hospital)</p> <p>Industry association platforms such as the Chinese Medical Doctor Association can reflect the top professional level and technical ability of experts in a certain medical field. (Industry expert Fan Zhenzhong)</p> <p>The medical industry in the world pays the most attention to lifelong education. Continuing education in China requires examinations. No other industry does this. (Medical staff/operation team) (Shan Guoxin, an Industry expert)</p> <p>It is easier for comprehensive grade-A tertiary public hospitals, such as Southern Medical University, to apply for national projects, provincial and ministerial projects, and apply to become doctoral tutors. (Fan Zhenzhong, an Industry expert)</p> <p>To hire excellent expert resources, it must be better than public hospitals in terms of salary and working environment. (Medical staff) (Liu Jing, wealth director of America American International Assurance Co., Ltd.)</p> <p>There are many business links in the upstream and downstream of the high-end healthcare service industry chain that need to cooperate with stakeholders. Upstream supply chains such as medical devices and medical equipment need to invest a long time to establish cooperative relationships, and the profit margins are also relatively uneven.</p>
		Acquiring financial or order resources

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### 5.2.1 Stakeholders and the development of public high-end healthcare service institutions

Public high-end healthcare institutions have a value proposition centered on “curing diseases”. Under this proposition, basic healthcare institutions provide reliable resource support for high-end ones (such as medical staff, medical equipment, and operation teams), while high-end healthcare institutions offer advanced technologies and concepts to basic healthcare institutions in return, thus creating a synergy effect between both forms of institutions. The reputation of basic healthcare institutions attracts clients to high-end ones: the stronger the basic healthcare institutions are, the larger the client base will be, which can further promote the development of both types of institutions. At the same time, it also attracts the intervention of insurance organizations, thus forming external positive feedback. With more capable doctors, more clients and more insurance corporations will be attracted, which further improves the doctors’ consultation and treatment capabilities. Internal synergy effects and external network effects have promoted the development of public high-end healthcare. The participants within the organization are pictured in the gray sections in Figure 5.2 below, that represents the development mechanism of the business model of the institutions under study.

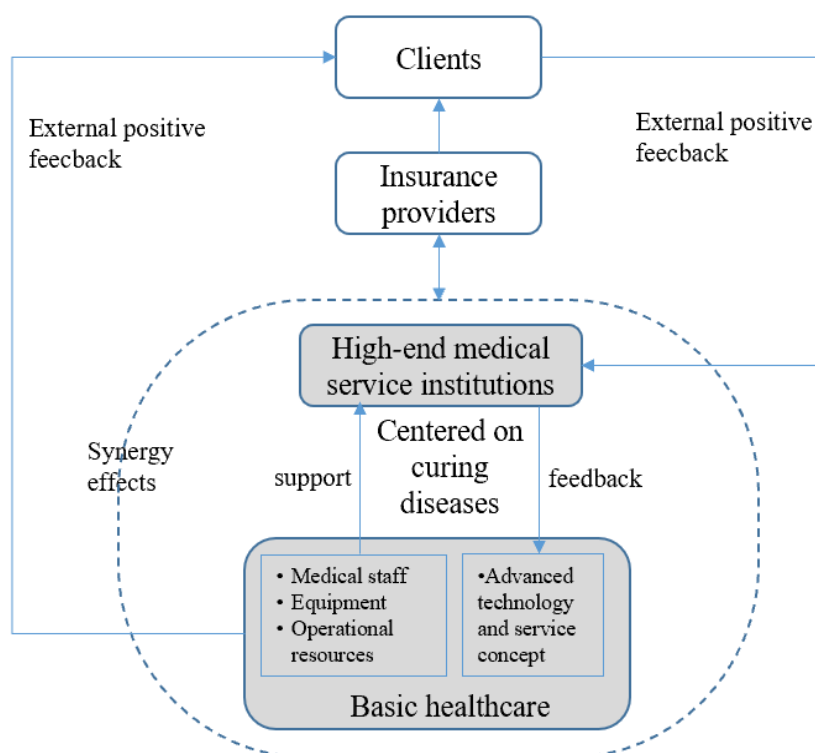


Figure 5.2 Development mechanism of the business model of public high-end medical service institutions

### 5.2.1.1 Synergy effects

High-end and basic healthcare in public hospitals are two different forms of business, and there is a cross business synergy between them. Synergy effects reflect value  $(a + b) > \text{value}(a) + \text{value}(b)$  (Davis & Thomas, 1993). The synergy effects between public high-end healthcare services and basic healthcare services are mainly reflected in two aspects: basic healthcare services support high-end ones, and high-end healthcare services feed back into basic healthcare services.

Basic healthcare services support high-end healthcare services: The financial, technical, and human resources (medical team and operation team) required for high-end healthcare services in public hospitals as well as most of the clients, all come from basic healthcare services (public hospitals). Indeed, medical staff, the core resource of high-end healthcare service institutions is mainly from public hospitals. For example, in addition to basic medical clinics, authoritative doctors sit in special-needs departments for a certain period every week. These authoritative doctors attract some economically powerful clients (patients) to high-end healthcare, which increases the income level of public hospitals. In addition, public hospitals have complete testing and check-up programs, and patients receiving high-end healthcare services there have priority in testing, check-up, and payment. For example, Ms. Chen, a patient's family member interviewed, mentioned that patients in special-needs departments (high-end healthcare institutions in public hospitals) could be given priority in testing and inspections to reduce queuing and waiting time:

*We are very familiar with the chief surgeon. He once offered outpatient service at the Concord Medical Centre and suggested going to the Concord Medical Centre for medical treatment. He has asked the staff at the Concord Medical Centre to explain all the medical expenses to us. We can accept it and chose to go to the Concord Medical Centre.*

The feedback of high-end healthcare services into basic healthcare services is reflected in two aspects: service concept and client reputation. The data of this study show that high-end healthcare services can promote the innovation and reform of cutting-edge healthcare service concepts. For example, a doctor named Li Li who was from International Medical Center of Beijing Friendship Hospital said, *new technology or new drugs are not implemented in basic medicine. However, the government has approved the application of them on the international medicine (i.e., one of high-end healthcare services), which could get more experience in the application of technical drugs. After that, we will serve different levels of medical care.*

Basic healthcare services involve the medical security of major residents and considering

the medical quality, safety and efficiency, more classical treatment methods and drugs are adopted. Besides, related policies and management of basic healthcare services are also highly unified and standardized which limits the innovative exploration of policy management, capital investment and patient willingness.

In contrast, the cutting-edge and innovative projects in the high-end healthcare field enjoy certain advantages. For example, basic medical insurance barely covers high-end healthcare services in China except for some pilot programs, but it places little restrictions in non-traditional fields such as cutting-edge therapy, innovative technology, and innovative drugs, so that high-end healthcare services in China can enjoy more freedom and flexibility while high-end commercial health insurance has a broader coverage and is affordable for more patients, and cutting-edge medical services and innovative drugs are consumed more frequently. In addition to the cutting-edge healthcare and technology, innovative management models and service concepts in high-end healthcare services should also be pursued, such as remote consultation management, medical diplomacy strategy, palliative and humanistic care. Through some pilot projects of high-end healthcare institutions, the innovation and reform in high-end healthcare services will be promoted. Besides, the successful experience of pilot projects can be implemented in basic healthcare services, which will ultimately benefit more people as one interviewee commented:

*“It is not just from the viewpoint of increasing hospital revenue and meeting clients’ needs. From another angle, it has a leading role, which is to explore certain models through some relatively small groups of people. Through the discussion of high-end healthcare service model, some new highlights are summarized and then promoted to basic healthcare services. Certainly, there are some limitations. For example, the healthcare in a single room might not work as well in general care. But we want adequate resources on the supply side. Then we can discuss and take a lead. At least, we can set a target that we should explore. This is more meaningful for high-end healthcare services than simply making some incomes or compensation.” (Gu Jingwen, Director of Foreign-related Medical Center, Hua Shan Hospital, Fudan University, Shanghai)*

The support of basic healthcare services to high-end ones and vice-versa is reflected in not only the reduced input cost of public high-end healthcare services, but also in the additional income that public hospitals can enjoy directly from clients. New therapies and concepts of high-end medical treatment will further improve the therapeutic effect of basic medical treatment and the hospital’s overall reputation. Therefore, the synergistic effect of high-end and basic healthcare services can not only reduce the overall cost of public hospitals, but also

improve their overall income and reputation.

#### **5.2.1.2 External positive feedback**

External positive feedback refers to the mutual promotion between the organization and the external environment (Su & Mao, 2019). As shown below, this study found that public high-end healthcare institutions can get external positive feedback from clients and commercial insurance companies, which in turn can promote their continuous development.

The reputation of basic healthcare services, which is formed in the early stage of a public hospital, will attract potential clients to use its high-end healthcare services. Those patients who have received high-quality services in public high-end healthcare institutions are more willing to introduce their relatives and friends there for medical treatment, then the reputation and visits of these institutions increase. A good reputation also attracts the cooperation of commercial insurance companies, which will attract more clients to public high-end healthcare institutions. The more clients these institutions have, the better reputation and financial performance public hospitals will enjoy. They will be able to purchase updated equipment and accumulate more clinical experience, which will further improve the treatment level of high-end healthcare institutions, as well as their basic healthcare services. The higher level of treatment will improve the reputation of medical institutions and attract more cooperation from commercial insurance companies and more potential clients for medical services. Therefore, positive external feedback is formed among medical institutions, clients, and commercial insurance institutions as one interviewee noted:

*“If patients have a good experience, they will naturally introduce their family and friends, which is what the special medical departments need to maintain good customer relationships.”*  
(Rao Jiaqi, Director of Prime Care of Guangdong Provincial People's Hospital)

#### **5.2.2 Stakeholders and the development of private high-end healthcare institutions**

Private high-end healthcare services are based on a patient-centered value proposition, with more emphasis on value-added services such as health record management, comfortable medical environment, and psychological safety. At the beginning of their establishment, private high-end healthcare institutions need to acquire complementary resources such as authoritative doctors from public hospitals and third-party institutions, so as to provide high-end healthcare services for clients. Authoritative doctors and services will attract more clients, as well as the cooperation of investment institutions and insurance companies. In turn, investment institutions and insurance companies will invest more to attract more authoritative doctors to join, thus

forming external positive feedback. The gray section in Figure 5.3 below represents the internal participants of private high-end healthcare services.

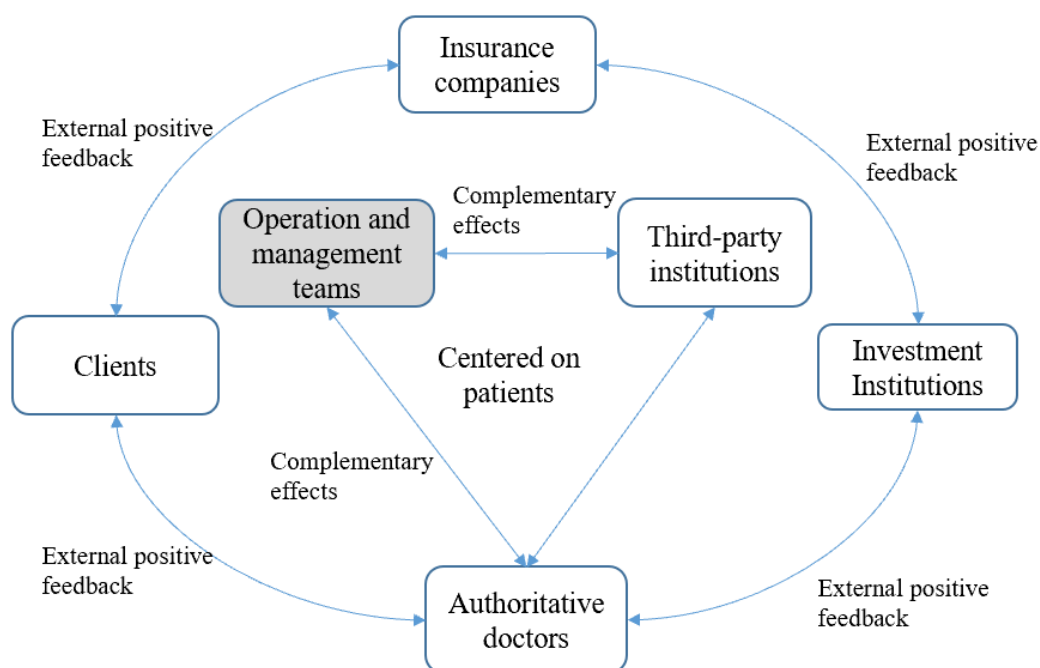


Figure 5.3 Development mechanism of the business model of private high-end medical service institutions

### 5.2.2.1 Complementary effects

Complementary effects refer to the cooperation of different resources, which can achieve the effect of “one plus one is more than two” (Dobusch & Schübler, 2013). In the early stage of their establishment, private high-end healthcare institutions can improve their reputation and medical ability by relying on complementary external resources.

In the initial stage of their establishment, private high-end healthcare institutions need to invest a large amount of money to build factories and purchase equipment. Therefore, many private hospitals choose to cooperate with third-party institutions in the form of leasing, such as leasing testing equipment to reduce start-up costs. At the same time, the staff career promotion channel of high-end private healthcare institutions is not perfect, so it is difficult for them to recruit full-time authoritative doctors. Instead, they may outsource them from public hospitals as part-time doctors to improve the medical quality and reputation of their organizations.

To summarize, at the beginning of their establishment, private high-end healthcare institutions can form complementary effects with external stakeholders including the third-party cooperative institutions and public hospitals with their operation teams responsible for the

added value requirements, that is, for providing clients with a comfortable medical experience and meeting their needs for respect, quality and safety in medical treatment. Part-time authoritative doctors hired from public hospitals play an important role in improving medical ability and quality at the early stage of establishment and these three complementary resources cooperate and promote each other, helping to improve the reputation of private high-end healthcare institutions.

#### **5.2.2.2 External positive feedback**

If private high-end healthcare institutions are able to form their own brand effect and reputation, they can also achieve positive external feedback. The authoritative doctors and reputation can attract not only more clients for medical treatment, but also more insurance companies for cooperation, which in turn will bring more potential clients. The increasing number of visits ensures the revenue, and thus brings more income to the financial department of private high-end healthcare institutions that can be invested in purchasing medical resources, including advanced medical technology, testing equipment and excellent medical teams. Rich medical resources will enhance their reputation by improving medical ability, but the process may be relatively long since medical teams are not established by private high-end healthcare institutions themselves but rather “borrowed”.

### **5.3 Problems in the business model of China's high-end healthcare institutions**

In section 5.2, we have discussed the development mechanism of the business model of public and private high-end healthcare institutions and the roles played by various stakeholders. However, the data obtained in this research also show that both types of organizations are facing problems that hinder their further development and that will be described below.

#### **5.3.1 Policy restrictions on the development of public high-end healthcare institutions**

High-end public healthcare institutions face strict policy restrictions that hinder their development. As a socialist country, China's basic healthcare system is founded on the premises that everyone has the right to basic health, which is the primary responsibility of public hospitals. All commercial activities in healthcare services must not conflict with universal access to basic healthcare. However, high-end healthcare services in public hospitals are obviously profitable, which conflicts with the inclusiveness of basic healthcare. For example, placing doctors in high-

end healthcare institutions can reduce the time they spend in consultation, and testing facilities in hospitals often give priority to high-end clients. China's public hospitals have once poured an excess of resources into special healthcare institutions with more substantial profits and, as a result, basic healthcare service resources are squeezed, which diminishes citizens' right to basic health protection.

In response to this, the Chinese government issued a policy in 2009 to prevent public hospitals from allocating core resources to high-end healthcare services in the pursuit of profits establishing that the proportion shall not exceed 10% of the total. The policy also seeks to avoid the rights of ordinary patients to be undermined. This, to some extent, limits the development of high-end healthcare services in public hospitals.

### **5.3.2 Resource constraints for the development of private high-end healthcare institutions**

In the early stage of development, private medical institutions often lack core resources such as medical talents and brand effect. Therefore, in a short period of time, it is difficult for them to attract enough clients to maintain their operation and development, which explains the slow pace of development that private high-end healthcare institutions have experienced so far.

Firstly, China's high-quality doctors are all in public hospitals, which enjoy concentrated medical resources and competitive advantages since they can provide a sound career promotion system, including a professional title evaluation system and a variety of national talent funding projects. These are important resources that private hospitals cannot provide. In this case, attracted by high financial and career benefits, many doctors will choose to work in public hospitals rather than in private ones.

Secondly, when Chinese patients choose medical institutions, they prefer authoritative ones such as grade-A tertiary hospitals, where they can find the best doctors showing that the authoritative identity and social reputation of these professionals largely benefit from the authority of the medical institutions they work for. Once a doctor is separated from the institution, the social reputation established by him will be weakened. Although the Chinese government advocates the multi-site practice of doctors, hospital leaders do not encourage authoritative doctors to practice privately in other institutions due to the limited medical resources of authoritative public hospitals.

Therefore, at the beginning of their establishment, it is difficult for private high-end healthcare institutions to form a social reputation and attract a large number of clients or patients. Without sufficient patients, it is hard to build and cultivate their own core medical resources in a short time, since a doctor's medical ability is highly correlated with his/her medical experience.



Therefore, the competitiveness of private high-end healthcare institutions in meeting the core needs of their clients, namely curing illnesses and maintaining health, is greatly reduced and it usually takes seven to ten years for them to form the positive feedback effect as shown in Figure 5.3.

### **5.3.3 Equitable model of China's high-end healthcare institutions**

Mutual cooperation can alleviate the policy restrictions affecting public high-end healthcare institutions and the resource constraints that private high-end ones have to face. One successful case is the New Century International Children's Hospital in Beijing, which opened in 2006 on a site next to the Beijing Children's Hospital, which is a public hospital. The two have formed a PPP model whereby Beijing Children's Hospital does not participate in the internal management of the New Century International Children's Hospital but provides the hospital with rich medical resources including basic doctors and nurses, large equipment and clinical laboratory services that can ensure the uniform medical quality, philosophy and culture of the two. As the only Asian member of the National Association of Children's Hospitals and Related Institutions (NACHRI), the New Century International Children's Hospital is responsible for the integration of international advanced management experience providing opportunities for doctors, nurses, and clinical staff of Beijing Children's Hospital to learn international management experience and advanced service concepts. The two complement each other to improve the healthcare system of the New Century International Children's Hospital.

In terms of managing core resources, apart from those from the Beijing Children's Hospital, the New Century International Children's Hospital has attracted a group of medical staff through external recruitment and internal recommendation. To ensure the medical capacity of its self-recruited medical staff and improve the quality and safety of healthcare, the New Century International Children's Hospital has implemented a continuing education system providing new staff with a closed and integrated training before employment, holding academic annual meetings, hosting lectures from well-known experts, and organizing international training to complete the integration of service concept, values, medical culture and management models. In addition, since 2010, the hospital has been recruiting every year post-graduates of the Medicine Department from the Capital Medical University, who will be sent to Beijing Children's Hospital for a three-year residency training after graduation. Three years later, they will return to the New Century International Children's Hospital and be admitted to the ward as resident doctors. At the same time, they will be equipped with a dedicated professor and continue to learn the medical model and practice clinical techniques in the hospital (Wang,

2018).

In terms of strategic positioning, the New Century International Children's Hospital provides medical projects that public hospitals cannot and do not want to provide, such as ultrasound-guided percutaneous atrial septal defect closure and oral treatment under general anesthesia. These projects gradually became the hospital's core technology and have attracted many patients outside Beijing. For these emerging technologies, the hospital has placed special emphasis on medical safety and quality. For example, it has set up 17 special committees, ten of which are related to medical quality (Wang, 2018).

The New Century International Children's Hospital is located next to Beijing Children's Hospital, and there is even a covered bridge built on the second floor to connect it with the latter, so that the top experts only need to walk across it. This purely private high-end healthcare institution keeps good relations with public hospitals and doctors in the public system. It charges high fees, and the income of its doctors is also high. In terms of staff composition, about half of their doctors come from the public system, and the other half are self-employed doctors. An industry expert commented:

*This model not only meets clients' demand for high-quality healthcare service, but as far as I know, can make their service quality comparable to that of the United Family Healthcare, in Beijing. At the same time, some critical, severe, and rare diseases can be directly solved by top experts at Beijing Children's Hospital next door. This model can attract not only external medical talents, but also diverse clients (Industry Expert Yin Tong).*

After more than ten years of development, the New Century International Children's Hospital has progressed into a company operated as a group. It manages hospitals in Beijing, Tianjin, Suzhou, Chengdu, Qingdao, Shenzhen and Qinhuangdao, and is one of the most successful hospitals operated under the Public-Private Partnership (PPP) model in China's healthcare system.

In this case, the PPP model benefits all sides. Firstly, due to the proximity of the two institutions, doctors from public hospitals can quickly arrive at private hospitals for consultation and treatment, which guarantees their consultation time in both. At the same time, they can obtain high income in private institutions and learning opportunities to communicate with international peers. Secondly, clients or patients can enjoy both the high-quality services of private hospitals and the top medical treatment of public ones. Thirdly, for public hospitals, such cooperation will not be restricted by policies. It can help them not only increase their income, but also learn international experience provided by private hospitals and improve the management level and medical ability. Fourthly, private high-end healthcare institutions can

have sufficient clients and shorten the time of brand building by leveraging on the reputation of authoritative public hospitals and doctors. At the same time, they can cultivate their own medical team thanks to the resources of public hospitals and build their own core competitiveness.

## Chapter 6: Conclusion and Prospects

This study analyzes the business model canvas of China's high-end healthcare institutions and, through content analysis of 25 interviews to experts and relevant stakeholders, found that the value proposition of such institutions is to provide clients with a healthy life. The value proposition highlights the client's core value demand of healing and wellness, as well as the added value demand for respect, quality, and privacy security.

In terms of value creation, high-end healthcare institutions in China have carried out medical diagnosis and treatment and health management through core resources such as medical teams and operation teams. In this process, high-end healthcare providers cooperate with third-party management organizations, commercial insurance companies and other cooperative organizations. They jointly provide medical services and health management services for clients. The cost of high-end healthcare services mainly comes from the human cost of the medical team, which also reflects that the core resource of high-end healthcare institutions is the professional and authoritative medical staff. In terms of value transmission, high-end healthcare institutions attract clients with certain economic capacity and health needs through their own brand reputation and commercial insurers and also gain their own value in the process of providing services. Their revenue mainly comes from high premiums paid by individual clients for services, and from insurance claims paid by commercial insurers.

This study also found that the business model of public and private high-end healthcare institutions differs in distinctive dimensions. Among them, the most obvious difference is that high-end public healthcare institutions uphold the value proposition of treating diseases as the center and focus on the development of medical quality, while the level of other additional services is low. On the other hand, private high-end healthcare services adhere to the patient-centered principle, and simultaneously satisfy both the core and added value proposition, which form a differentiated competition with public hospitals through the added value proposition.

On this basis, this study also discusses the value exchange activities between stakeholders and high-end healthcare institutions in the business model of the latter. Stakeholders participate in the value creation and value acquisition of high-end healthcare institutions through resource endowing and resource acquisition activities, so as to acquire their own value and form a sustainable development business model.

This study further analyzes how various stakeholders promote the development of public and private high-end healthcare institutions and the problems they face. We found that public high-end healthcare institutions form synergistic effects with internal stakeholders and external positive feedback with external stakeholders to achieve sustainable development while private high-end healthcare institutions form complementary effects and positive external feedback with external stakeholders, and thus achieve sustainable development. However, there are limits to both. The former face policy restrictions, while the latter face resource constraints. Finally, we propose the PPP model (public private partnerships), which can deal with both policy and resource restrictions.

## **6.1 Theoretical contributions**

This study has the following three theoretical contributions. Firstly, different from previous studies that only consider the interests of clients and enterprises, this thesis connects the stakeholders with business models. It is believed that when designing the business model, we should consider the resource endowment and resource acquisition of each stakeholder. In this respect, the research content of the business model has been broadened. Secondly, previous literature related to high-end healthcare services focuses on their definition and characteristics, but no unified and clear definition has been formed. In this study, 25 experts and stakeholders in the industry are interviewed in search of a clear definition and dimension of high-end healthcare services. Thirdly, different from previous conceptual discussions on high-end healthcare services, the concept is explored in the Chinese context and from the perspective of stakeholders, also preliminarily constructing the framework of high-end healthcare services operating model and discussing the development mechanism of these business models to better understand the high-end healthcare service industry.

## **6.2 Managerial implications**

This research has some implications for the high-end healthcare service industry in China. First, these institutions need to attach more importance to additional services to improve the comfort and privacy security of clients in medical treatment, which calls for the need to change the service concept of medical staff from “diseases as the center” to “patients as the center”. Training and institutional requirements can help realize this transformation. For example, in the formulation of regulations, it should be clearly stipulated that each doctor provides adequate

explanations to patients and that the diagnosis time for each patient should not be less than 20 or 30 minutes. Secondly, private high-end healthcare institutions can learn from the New Century International Children's Hospital to establish a PPP cooperation model with public hospitals. On the one hand, they can invite authoritative doctors in public hospitals, and on the other hand, entrust public hospitals to train new interns. Such cooperation can build its own core resources. Thirdly, private high-end healthcare institutions need to form differentiated competition with public hospitals, especially public high-end healthcare institutions. They can try new technologies, new drugs and new treatment programs that have been successfully developed internationally to build their own specialized reputation.

### **6.3 Limitations and suggestions for future research**

Firstly, Case studies emphasize the context of each case. When discussing the business model canvas of public and private high-end healthcare institutions, this study does not consider the uniqueness of each medical structure and ignores the differences in the management model and development strategy of each institution. Future research can take a certain or a few high-end healthcare institutions as an example to investigate their internal management and strategic factors.

Secondly, this research only analyzes the business model of private high-end healthcare institutions, without an in-depth analysis of their development process as, for example, how they shape their reputation step by step. Answering this question will help us to further understand the development path and mechanism of these organizations. Future research can take a well-known private high-end healthcare institution as the research object to explore how it breaks through resource constraints and achieves rapid development.

Thirdly, the development of China's high-end healthcare institutions has a national characteristic. Future research can compare the development mode and path of high-end healthcare institutions in China and developed countries. Besides, it can study the business model of high-end healthcare institutions from the national or institutional level.

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