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The Chinese Private Medical Service Providers: A Review

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ABSTRACT

In the past 20 years, the number of private medical institutions in China has increased rapidly, the technology has been upgraded and the scale has been expanded. Domestic medical service giants, specialty chains, international medical and diversified institutions have entered the private sector. The trend of value-based healthcare is emerging. The diversified pattern of running hospitals has taken shape. The global trend of value-based healthcare has also brought opportunities for differentiated development of private medical institutions in China, which promotes the transformation from "quantitative change" to "qualitative change". The influx of diversified social capital helps the expansion and integration of medium and high-end private hospitals. The investment in private hospitals and public hospitals in China's capital market has shown unprecedented growth; the diversified capital structure composed of investment institutions, pharmaceutical groups, insurance funds and pharmaceutical-related industrial chain enterprises has become the core driving force for the sustainable development of China's private medical institutions.

GRAPHICAL ABSTRACT

In the past 20 years, the number of private medical institutions in China has increased rapidly.

Domestic medical service giants, specialty chains, international medical and diversified institutions have entered the private sector.

The global trend of value-based healthcare promotes the transformation from "quantitative change" to "qualitative change".

The influx of diversified social capital helps the expansion and integration of medium and high-end private hospitals.

The investment in private hospitals and public hospitals in China's capital market has shown an unprecedented growth; the diversified capital structure composed of
1. investment institutions,
2.pharmaceutical groups,
3.insurance funds and
4. pharmaceutical related industrial chain enterprises
has become the core driving force for the sustainable development of China's private medical institutions.

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Introduction

Major achievements of private hospitals in China in the past decade

In the past decade, with the promotion of the new health care reform, China's private hospitals have made significant improvements in the number of institutions, monomer size, and market institutions [1]. In terms of quantity, the proportion of private medical institutions is about 70%, which has become an important part of China's medical market. In addition, after the early exploration, private hospitals began to transform in the direction of technology and scale, and the service quality improved steadily (Table 1).

Table 1: Differences in the average number of hospital beds per hospital between the private and public hospitals in China, 2012–2018

Average number of hospital beds	2012	2013	2014	2015	2016	2017	2018
Private hospitals (beds per hospital)	52.87	54.68	59.49	63.04	66.59	71.23	75.08
Public hospitals (beds per hospital)	217.6	239.58	267.43	288.55	309.88	328.75	350.59
Ratio of private/public	1/4.12	1/4.38	1/4.50	1/4.58	1/4.65	1/4.62	1/4.67

Source: Chenhui Deng, Xiaosong Li, Jay Pan., Private hospital expansion in China: a global perspective, 2018

In the past decade, the number of private medical institutions has continued to grow, and the number of institutions has exceeded that of public hospitals [2]. According to the 2019 Yearbook on China Health Statistics, by the end of 2018, there were 9595 government-owned hospitals and 21461 private hospitals in China, with private hospitals accounting for nearly 70%. As for the number of beds, as of 2018, the number of beds in private hospitals has reached 1.83 million, accounting for 30% of the total number of beds in the whole society. Similar to the number of beds, although there is a certain gap in the proportion of inpatients served by private hospitals compared with public hospitals, the annual growth rate of 16% is much higher than the overall growth rate of 10% in the market, which also shows a good market prospect for private hospitals.

First, the focus of private hospitals in China is developing towards "technology" and "scale". After experiencing the development stage of small-scale and simple specialty, China's private hospitals began to develop in the direction of technology and scale. There have been some successful cases in the chain of general hospitals, specialized hospitals and clinics [3]. Successful general hospitals have made clear their positioning and development characteristics, realized differentiation, based on basic medical insurance, developed mixed payment and accelerated business development with the help of public hospital partner resources; more complex specialized hospitals began to rise, and in many successful cases, they often had clear specialty focus; strong clinical ability and excellence created by full-time clinical leaders other service-oriented hospitals, such as obstetrics and gynecology, ophthalmology and plastic surgery, can cultivate a relatively standardized operation mode after experiencing the rapid development in the early stage, with strong replicability and the best synergistic effect of regional-scale development. At present, the clinics are small and of low quality. However, with the development of hierarchical diagnosis and treatment, the chain clinics have been developing rapidly, gradually expanding to other regions by focusing on one city or one region [4].

Some private hospitals in China develop hybrid payment businesses based on basic medical insurance and use the partner resources of public hospitals to accelerate business development [5]. Taking Dongguan Kanghua hospital as an example, the hospital mainly focuses on the local intensive migrant workers and develops special specialties such as obstetrics and gynecology and assisted reproduction (about 17% of the total income). Based on basic medical insurance, VIP service should be added to improve the overall profit. The close cooperation between the hospital and Guangdong Provincial TCM Hospital is also an important boost to the rapid development of business.

Obstetrics and gynecology, ophthalmology, plastic surgery and other general specialized hospitals are among the fastest-growing areas in China's private hospitals. The obstetrics and gynecology hospital chain is one of the most mature specialties [5]. Middle and high-end maternity hospitals have begun to rise in Shanghai, Beijing and other first-tier cities, and famous brands such as Meihua, Meizhong Yihe and so on have emerged. Leading maternity hospitals have expanded from first-tier cities to second-tier and third-tier cities by establishing chain stores. At the same time, medium and high-end maternity hospitals in second and third-tier cities are also gradually rising. For example, Angel Maternity Hospital started in Chengdu and has developed to other identities around.

Although the number of specialized hospitals focusing on complex specialties is small, there are also some successful cases. Wuhan Asia Heart Hospital is one of the best in this kind of hospital. In terms of doctor echelon construction, Wuhan Asia Heart Hospital has established a full-time clinical team since its establishment in 1999 and has invested heavily in the training of young doctors. In clinical practice, it started with the initiative and gradually strengthened the ability of clinical treatment. The mortality rate of microvascular surgery is far lower than that of general public hospitals and has become the leader of cardiovascular treatment in Central China. The full-time business team excavates the needs of patients, establishes a referral network through a regional academic platform, and becomes a basic designated medical insurance institution to relieve patients' concerns. In addition, LUDAOPEI Hospital, which focuses on blood diseases, and Sanbo Brain Hospital, which focuses on brain tonic diseases, have also achieved great success by focusing on specific diseases (Table 2).

Table 2: Three differentiated competition modes of private medical care in China

Differentiated competition model	Features	Cases
Traditional scale leader	● By building or integrating different types of hospitals and clinics, the large-scale operation can be realized ● The network covers a wide range of patients and provides high-quality medical services at a low cost ● Realizes effective cost control through centralized management	China Resources Medical
Focused specialist leaders	● Focus on specialties and diseases that require high professional ability, and make use of the accumulation in clinical practice to form an advantage that competitors can't match ● Create a better curative effect for patients, to obtain significant growth of business volume	Wuhan Asia Heart Hospital, Sanbo Brain Hospital
Whole course management provider	● To achieve the maximum value of prevention and treatment for patients with a complete disease course and rehabilitation ● Acts as an intermediary to help patients find the best independent medical institution	There is no mature case yet

Source: Annual report on China's private hospitals development (2019)

With the implementation of hierarchical diagnosis and treatment, the chain of primary clinics has developed rapidly [1]. Many clinics aim at high-end customers, focusing on a certain area and providing general clinic services. Taking Johnson Medical as an example, since its establishment in Xi'an in 2014, it has more than 30 community chain clinics and has successfully expanded to Chengdu and Chongqing markets. Johnson Medical is based in the new urban area which has not been touched by public clinics. It integrates community, family and clinic organically. It aims at the elderly, children and women. It provides diagnosis and treatment of common diseases, frequently occurring diseases and chronic diseases, as well as family doctor services, and has gained certain popularity.

In terms of medical tourism, Suifenhe, a Sino-Russian border port city, is becoming a popular desalination choice for Russian customer patients. Many Russians have come in droves, making this town the port city with the largest number of Russian medical tourists in China, and the number has been refreshing. According to the statistics of the Suifenhe Municipal Health and Family Planning Commission, the number of medical tourists reached more than 30000 from 2014 to 2018, including 10013 in 2017.

The People's Hospital of Suifenhe City keeps abreast of the Russian medical tourists at any time and is equipped with a special bus to meet and send the Russian medical tourists. The international medical examination center of the hospital is equipped with a European style reception room and service room for Russian patients, which provides free breakfast for Russian patients; the center employs Russian beauty translators and several other proficient in both Chinese and Russian from Vladivostok, being responsible for medical Russian translation and accompany Russian patients to complete the physical examination project. Russian patients can communicate with Chinese medical staff here without obstacles. According to the Russian patients' age, occupation and high incidence of diseases and other different conditions, they design physical examination project, for the Russian patients with suspected disease, special diagnosis and treatment green channel is provided, expert consultation is arranged, and health records are established. When medical tourists come again for treatment, the past disease routine will help doctors to save a lot of inspection process. The international physical examination center of Suifenhe People's hospital has also set up orthodox prayer rooms for Russian patients, so as to calm the mood of patients in need.

Facing Russian patients, the international physical examination center of Suifenhe People's Hospital is committed to promoting traditional Chinese medicine therapy. TCM healthcare, acupuncture, Chinese medicine fumigation, Chinese medicine decoction and other health recuperation methods are widely spread among Russian patients because of their remarkable curative effect. The international physical examination center of Suifenhe People's Hospital plans to display and teach Chinese calligraphy and traditional tea ceremony for Russian patients, hold lectures on health knowledge of traditional Chinese medicine, and carry out teaching activities such as traditional Chinese Taiji boxing in the health corridor so that Russian patients can experience high-end integrated medical tourism services.

As the second issue, with the gradual entry of various types of capital, the participation of private hospitals in China is building a new market pattern._Globally, value-based healthcare has become one of the most important trends. Some leading private medical institutions in China began to pay attention to the medical effect and medical value, and realized the real transformation from "quantitative change" to "qualitative change" by focusing on the curative effect of specific diseases [5]. Value-based healthcare is very attractive for a global healthcare system that pursues sustainable development. Many medical institutions and even medical networks are transforming to value-based medicine. However, only when the patient-centered medical system is implemented at the regional, national and even global levels, the potential huge power of value-based healthcare can come into play.

With the improvement of social and economic level, the continuous development of medical globalization and the awakening of people's health risk awareness, the construction of a multi-level medical system is more and more important to meet the diverse needs of the domestic market and international market customers. China's Private Wealth Report 2019 points out that by 2018, the number of high nets worth people in China reached 1.97 million (with more than RMB 10 million investable assets). In terms of the demand of the high net worth population, the survey results of the "White Paper on Medical Care of High Net Worth Population in China" in 2017 show that health is the most concerning risk, and medical service is the most popular type of value-added services.

China has long targeted the development of value-based healthcare to promote its healthy development. For example, in 2016, the "Opinions on Promoting the Price Reform of Medical Services" was issued to limit the proportion of special medical services to less than 10%, and guide public hospitals to moderately develop medium and high-end value-based healthcare. In addition, in view of the current situation of patients going overseas to seek new technologies and new drugs, the pilot project of value-based healthcare tourism was carried out in Boao, Hainan. At the same time, the Chinese government has continued to introduce policies to gradually benefit foreign-funded and private-owned hospitals. At present, several foreign top-level medical groups have cooperated with domestic capital to build an international value-based healthcare center. However, in general, the development of medium and high-end value-based healthcare in China is still in its infancy, and there are still many problems, such as lack of human resources, hindering the development of private medical institutions, low coverage of commercial insurance, low medical quality of private hospitals and vague service orientation. In contrast, the medium and high-end value-based health care institutions and models in developed countries have become mature, and the value-based healthcare services of Southeast Asian countries are also unique, which has certain development experience for reference [6].

Public hospitals are the main providers of basic medical services, and their essential level needs to ensure public welfare. Therefore, the supply subject of value-based healthcare should be private medical institutions, and most of the medium and high-end value-based healthcare in western countries take private hospitals as the main supply body [7]. India has made great achievements in promoting private value-based healthcare. In order to promote the investment of social capital in hospitals, the Indian government gives tax incentives to companies that provide loans to hospitals with more than 100 beds, gives tax relief when hospitals purchase medical equipment, and provides private hospitals with cheap land and water and electricity concessions, so as to build private hospitals in high-quality areas.

However, only supporting the establishment of private medical institutions is a necessary factor but not a sufficient factor to achieve the goal. The competitiveness of private hospitals in the medical market is particularly [8]. From the experience of neighboring countries, the Malaysian government allocated RM15 billion in the plan for 2015-2020 to support private medical institutions to improve medical and health facilities, increase drug imports and develop human resources, so as to enhance the medical service capacity of private institutions and ensure the quality of their services. In order to achieve large-scale benefits, Thailand's private hospital group has formed a high-end private hospital group pattern dominated by Bumrungrad International Hospital, Bangkok Hospital and other giants through a merger. In India, good money drives out bad money through hierarchical evaluation management. India's Ministry of Tourism and Ministry of Health and Family Welfare rated medical structure as three-star to five-star based on the hardware conditions of medical structure and the level of nursing service. Therefore, international experience shows that value-based healthcare should take the top quality private medical institutions as the main supply body, and use policies to promote the quantitative and qualitative changes of the remaining private hospitals.

The service objects of medium and high-end value medicine are mainly the people with strong economic bearing capacity, providing them with relatively differentiated, personalized and high-quality services, so it needs to match the corresponding talent supply [9]. At the main medical business level, most of the doctors in India's medium and high-end private medical institutions have received relevant medical education and training in the United States, Europe and other developed countries, and most of the medical staff have excellent doctor-patient communication skills, including English level and communication skills, which are competent for the development needs of medical globalization. Similarly, in Thailand, which focuses on medical tourism, at least 450 hospitals have international talents in neurosurgery, stomatology, cardiac surgery and medical cosmetology, and their services can cover 26 languages.

In terms of additional business, South Korea, as the pioneer of medium and high-end value-based medical cosmetology, took the lead in certification of "International Medical Travel Coordinator (IMC)" in 2013, established a clear assessment system, and granted professional certification certificate. It is mainly committed to coordinating the schedule, guidance and translation services for foreign customers to receive medical services in Korea. Therefore, from the perspective of international experience, the development of medium and high-end value-based medicine should first ensure the professional and diversified talent supply and ensure that the medium and high-end value-based medical services have the corresponding product value.

The increase in commercial insurance coverage can reduce the consumption of public basic resources and guide patients from public medical institutions to private medical institutions. The Australian government has been committed to increasing the coverage of national commercial medical insurance [10]. Relevant studies have shown that the coverage of commercial insurance reduces the admission rate of public medical institutions by 13%, and increases the private medical institutions by 16%. Therefore, the coverage of commercial insurance will guide patients to flow to private medical institutions, thus reducing the pressure on public hospitals, and driving an additional 3% growth of private medical service consumption, which plays an important driving role in the development of medium and high-end value-based medical services.

The high-quality service provided by medium and high-end value-based medicine is reflected in the output of treatment effect [11]. The treatment effect includes many aspects, such as prolonging the survival time, improving the success rate of surgery, accelerating the recovery of prognosis, and good pain management in the treatment and prognosis. As a model of medium and high-end private hospitals in developing countries, the success rate of kidney transplantation (95%), cardiac surgery (98.5%) and bone marrow transplantation (87%) have reached the world advanced level. In addition, the United States has been leading the development of standards in terms of medical quality and safety. Southeast Asian countries such as Thailand, India, Malaysia and Singapore are constantly training relevant personnel to improve their medical quality and ensure the safety of patients by studying in the United States.

In China, the rise of the "four giants" and emerging medical groups represented by China Resources Medical, Fosun Pharmaceutical, Peking University Medical and CITIC Medical is taking shape; the formation of specialty chain leader is represented by Aier Ophthalmology; the participation of various forms of international medical institutions, such as the strategic cooperation between Massachusetts General Hospital and Shanghai Jiahui International Hospital is mature; and the emergence of diversified market participants, covering industry newcomers, insurance companies and medical groups is taking place (Table 3).

Through privatization and acquisition expansion, China Resources Medical, Fosun Pharmaceutical, Peking University Medical and CITIC Medical have achieved enormous national distribution and developed into industry leaders. They all aim at the mass market and build a medical system covering large general hospitals, specialized hospitals and primary medical clinics. Emerging medical groups, such as Green Leaf Medical Group, have developed rapidly through international mergers and cooperation with foreign leading hospitals.

Among all kinds of specialized chain hospitals, the specialized chain hospitals represented by physical examination, ophthalmology and stomatology department have the strongest integration strength [12]. Meinianda, Aikang Guobin and Ciming have occupied about 40% of the market share of private capital for physical examination. In the field of ophthalmology, Aier

Ophthalmology has set up a number of merge funds since 2014. Through radical market merge, it has expanded its service network at the speed of increasing 15 chain hospitals annually and has rapidly become the leading chain of ophthalmology in China. In the field of stomatology, leading specialty chain hospitals such as Riel, Baibo and Tongce have also emerged.

Table 3: Four major types of private medical service providers in China

Type of providers		Representative cases
Four giants and emerging healthcare groups		China Resources Medical, Fosun Pharmaceutical, Peking University Medical, CITIC medical, Green Leaf Medical
Specialty chains		Riel Dental, Aier Ophthalmology, Tongce Medical
International healthcare groups		Massachusetts General Hospital, Cleveland Clinic, Mayo Medical, Hospital Corporation of America, Artemed Group
Diversified entrants	Pharmaceutical and medical device enterprises	Hengkang Medical, Renfu Medical Equipment, Lepu Medical, Concord Medical Services
	Insurance companies	Taikang Insurance, Sunshine insurance, Ping An Group
	Real estate enterprises	Evergrande Group, Vanke Group, Wanda Group and Ocean Group

Source: Annual report on China's private hospitals development (2019)

In recent years, international leading groups have also focused on China. Most international medical institutions choose to cooperate with domestic public or private hospitals. Massachusetts General Hospital is incorporation with Shanghai Jiahui International Hospital in medical training, tumor clinical experience and operation management system. Some international medical institutions also choose to build their hospitals with a sole proprietorship. For example, the German Artemed Group established China's first wholly foreign-owned institution in Shanghai Waigaoqiao Free Trade Zone.

The vigorous development of China's private medical institutions market has attracted many new participants from related industries [13]. Hengkang pharmaceutical and other new participants from the pharmaceutical and medical device industries use the existing business base in the value chain to join the medical service market; Taikang Insurance and other new participants from the insurance industry invest in hospitals with capital cost advantages in order to explore the relationship between medical services and pension, insurance and other businesses. Vanke Group and other new participants from the real estate industry are also actively trying private hospitals to provide supporting resources for its real estate projects.

Conclusion

In the new era and new pattern, the focus of China's private medical institutions will gradually turn to provide patients with better curative effect and value, and at the same time, promoting operation improvement and improve performance, so as to realize the core value of private medical institutions in a real sense. China's private medical institutions and investors in this field pay close attention to the relevant developments in the fields of value-based medicine, capital market, doctor resources, commercial insurance and internet medical care. They should start from the aspects of business orientation, patient drainage, operation management, diversified cooperation, and combination of medical insurance to build core competitiveness and promote the accelerated development of the private medical care market.

Although the total number of private medical institutions in China exceeds that of public medical institutions, they are still dominated by small-scale and low-level medical technology capacity, and the overall structure needs to be upgraded. In the overall favorable market environment, China's private medical institutions are still faced with opportunities and challenges such as strengthening supervision, lack of trust, talent competition and lagging management. The growth of market demand and favorable national policies will drive the rapid development of private hospitals. At the same time, the new era also puts forward a new topic for private hospitals, which requires all parties to explore, reflect and accumulate experience in the wave of practice.

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Authors' contributions

All authors contributed toward data analysis, drafting and revising the paper and agreed to be responsible for all the aspects of this work.

Conflict of Interest

We have no conflicts of interest to disclose.

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