

China Private Cancer Hospital & Oncology Healthcare Service Market Study

Independent Market Research Report

Confidential For



Date : June 13, 2025
For and on behalf of
Frost & Sullivan International Limited

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Title: Executive Director

Frost & Sullivan
May 2025

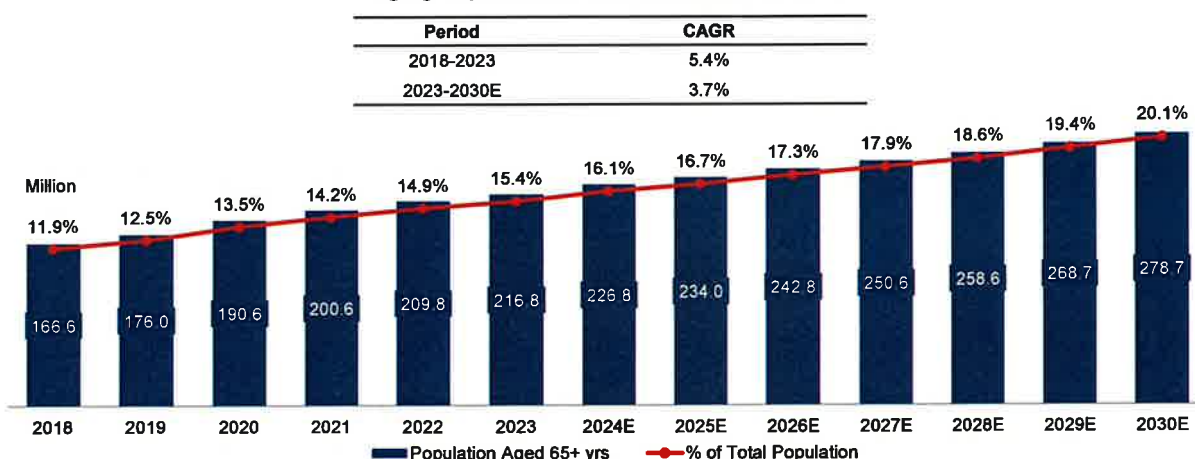


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Aging Population Trend in China, 2018-2030E

- With the implementation of the 'One Child Policy' and increasing life expectancy, China has entered an aging society. From 2018 to 2023, the population was aging rapidly in China with people aged above 65 growing at a CAGR of 5.4%. According to the National Bureau of Statistics of China (NBSC), individuals aged above 65 years old were 216.8 million in 2023. The number of individuals aged above 65 years old is growing at a fairly fast pace and is expected to continue its growth momentum into the future. This number of people is expected to reach 278.7 million by 2030, representing a CAGR of 3.7% from 2023 to 2030.
- China's demographic shift offers immense opportunities for healthcare market, as elder people generally have a greater need for medications and scientific disease management.

Aging Population Trend in China, 2018-2030E



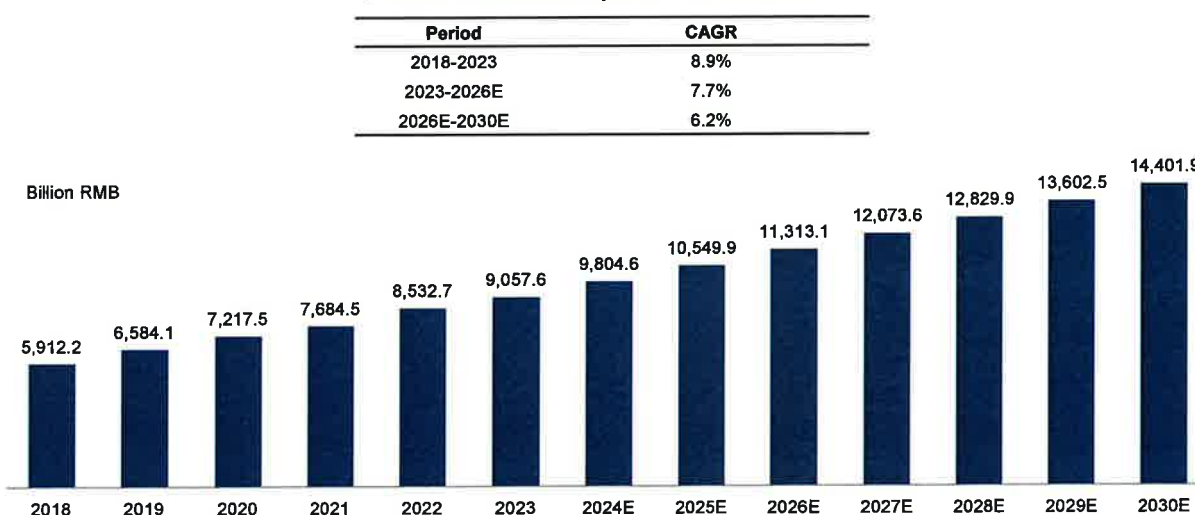
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Total Healthcare Expenditure in China, 2018-2030E

- In 2023, China ranked 2nd largest globally in terms of total healthcare expenditure, amounting RMB9,057.6 billion in total healthcare expenditure in the same year, compared to RMB5,912.2 billion in 2018, a CAGR of 8.9% is presented over this period. With the increase of health awareness and personal disposable income, the total expenditure is projected to boost up to RMB14,401.9 billion in 2030 with a CAGR of 6.2% from 2026 to 2030.

China Healthcare Expenditure, 2018-2030E



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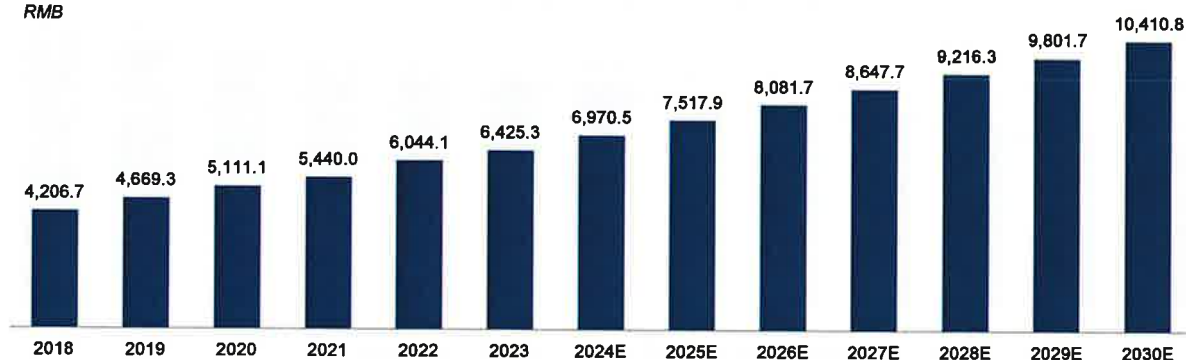
Per Capita Healthcare Expenditure in China, 2018-2030E

- The per capita healthcare expenditure in China has experienced steady growth. From 2018 to 2023, the per capita healthcare expenditure in China has increased from RMB 4,206.7 to RMB 6,425.3, representing a CAGR of 8.8%. Furthermore, the rapid increasing trend in healthcare expenditure per capita will continue in the near future. The per capita healthcare expenditure in China is forecasted to reach to RMB 10,410.8 by 2030, which represents a CAGR of 7.1% from 2023 to 2030.

Per Capita Healthcare Expenditure in China, 2018-2030E

Period	CAGR
2018-2023	8.8%
2023-2030E	7.1%

RMB



Source: NHC, Frost & Sullivan Analysis

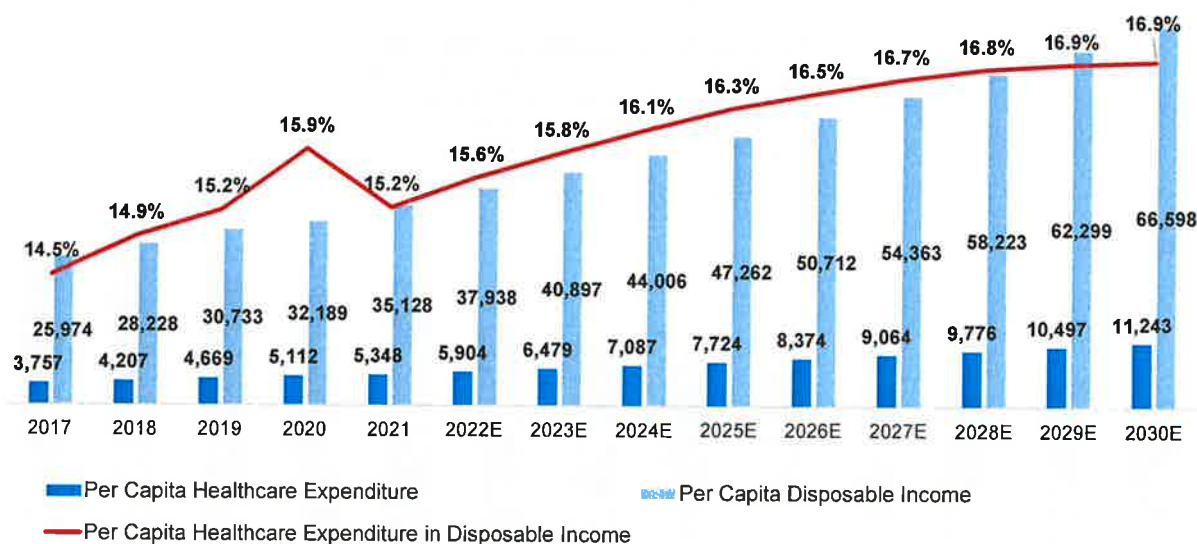
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Per Capita Healthcare Expenditure in Disposable Income in China, 2017-2030E

- Per capita healthcare expenditure is an important section of per capita disposable income in China and its proportion is expected to grow in the future. By 2030, the total per capita healthcare expenditure is projected to account for 16.9% of the total consumption expenditure.

China Per Capita Healthcare Expenditure in Disposable Income, 2017-2030E



Source: NBSC, BEA, Frost & Sullivan analysis

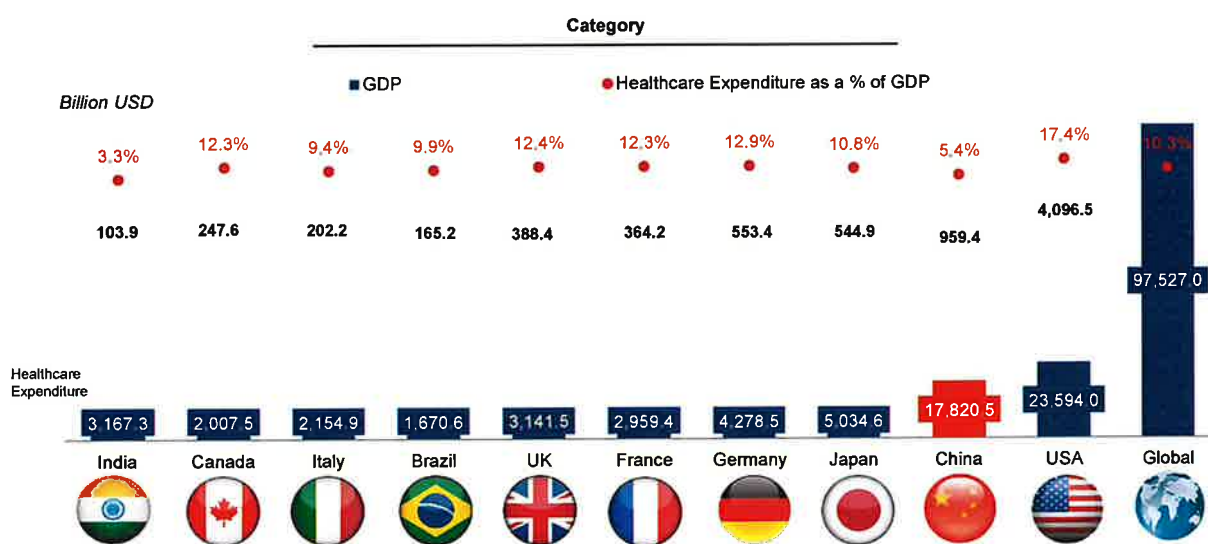
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2021 GDP Breakdown by Healthcare Expenditure Comparison, GDP Top 10 Countries

- The chart below presents the healthcare consumption expenditure and its percentage of GDP among GDP Top 10 countries. The percentages of most countries are around 10%. However, the US has the highest percentage of healthcare expenditure 17.4%. For India and China, the percentages are relatively low, being 3.3% and 5.4% respectively.

GDP Breakdown by Healthcare Expenditure Comparison, 2021



Source: NBSC, BEA, Frost & Sullivan Analysis

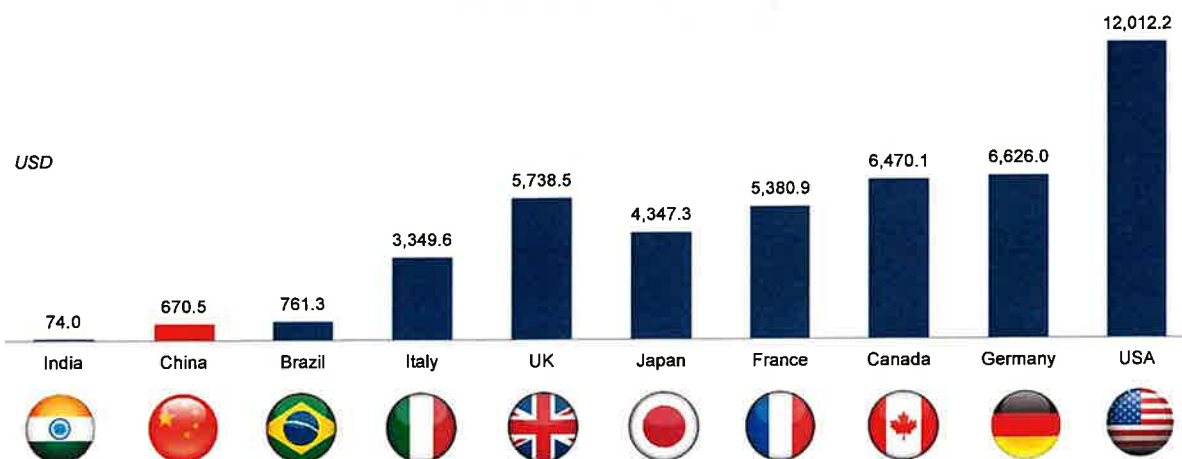
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2021 Per Capita Healthcare Expenditure Comparison, GDP Top 10 Countries

- In contrast with the total healthcare expenditure, the per capital national healthcare expenditure in China in 2021 ranked 9th in the selected 10 countries, only surpassing that of India. Top 7 countries are developed countries with either national medical insurance (e.g., NHS in the U.K.) or robust private medical insurance system. The per capita national healthcare expenditure of China neighboring countries/areas (e.g., Japan) are much higher than that of China.

Per Capita Healthcare Expenditure, 2021



Note: USD-CNY Yearly Average Exchange Rates: 6.283627 (2015), 6.643058 (2016), 6.756806 (2017), 6.619897 (2018), 6.909792 (2019)

Source: WHO, NBSC, OECD, Frost & Sullivan Analysis

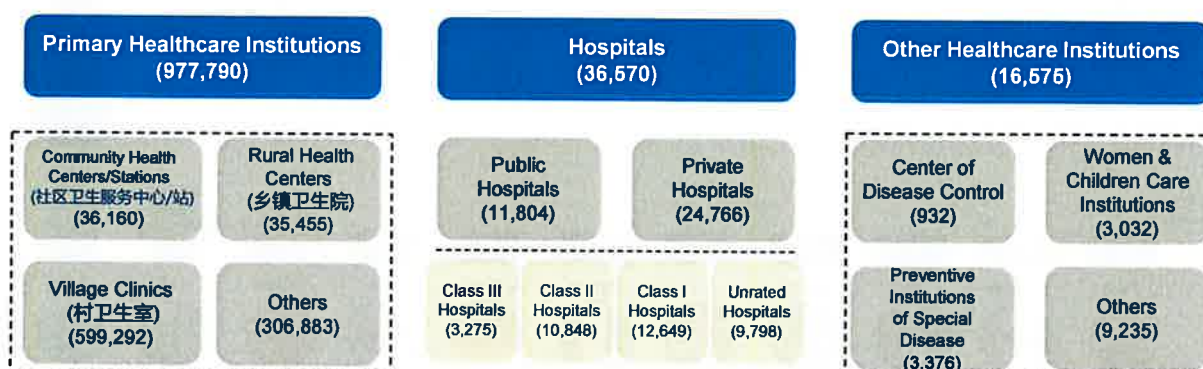
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Overview of Healthcare Service System in China, 2021

- At present, China's healthcare providers consist of hospitals, primary healthcare institutions, and other healthcare institutions, among which hospitals play the most important role.
- There were 36,570 hospitals in China by the end of 2021. With regards to the ownership, China's hospitals are mainly categorized as public hospitals and private hospitals. With regards to the specialization, China's hospitals consist of general hospitals, specialized hospitals, TCM hospitals, and other hospitals. With regards to the tier of hospitals, China's hospitals are categorized as Class I hospitals, Class II hospitals and Class III hospitals. Each tier has three levels – A, B and C, for example, Grade A Primary hospital, Grade B Primary hospital. Class and levels are evaluated according to the hospital's size, technique level, medical equipment, management level, service quality and etc.

Chinese Healthcare Service System, 2021



Source: NHFPC, Frost & Sullivan analysis

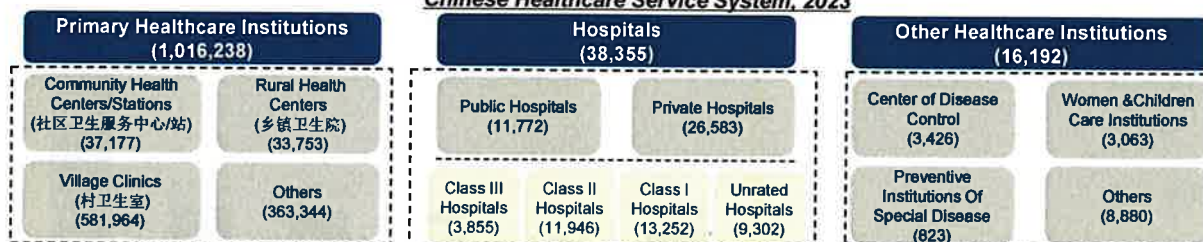
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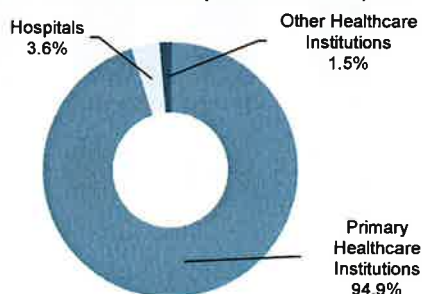
Overview of Healthcare Service System in China

- At present, China's healthcare providers consist of hospitals, primary healthcare institutions, and other healthcare institutions, among which hospitals play the most important role. There were 38,355 hospitals in China by the end of 2023. With regards to the ownership, China's hospitals are mainly categorized as public hospitals and private hospitals. With regards to the specialization, China's hospitals consist of general hospitals, specialized hospitals, TCM hospitals, and other hospitals. With regards to the tier of hospitals, China's hospitals are categorized as Class I hospitals, Class II hospitals and Class III hospitals. Each tier has three levels – A, B and C, for example, Grade A Primary hospital, Grade B Primary hospital. Class and levels are evaluated according to the hospital's size, technique level, medical equipment, management level, service quality and etc.

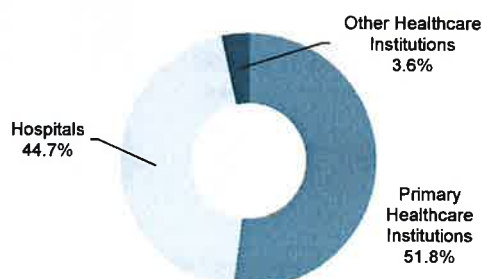
Chinese Healthcare Service System, 2023



Proportion of healthcare providers in China, 2023



Proportion of outpatient visit in healthcare providers in China, 2023

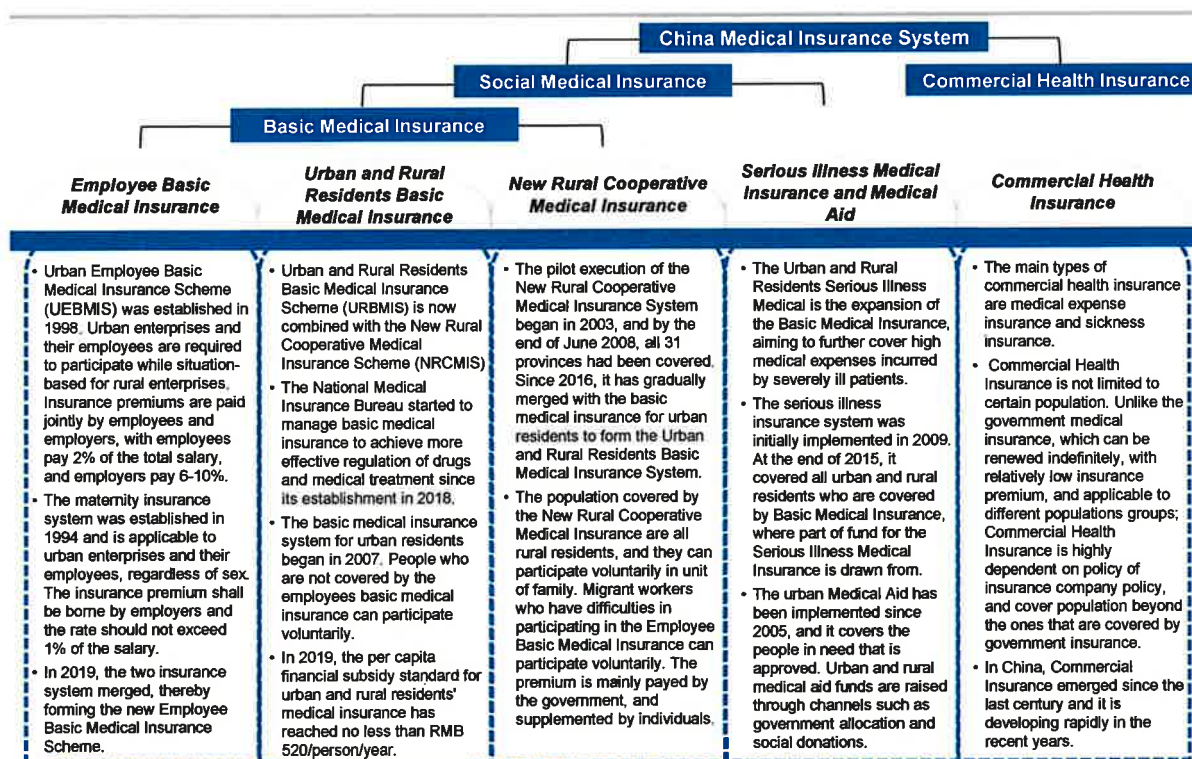


Source: NHFPC, Frost & Sullivan analysis

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Overview of Medical Insurance System in China



Source: Frost & Sullivan analysis

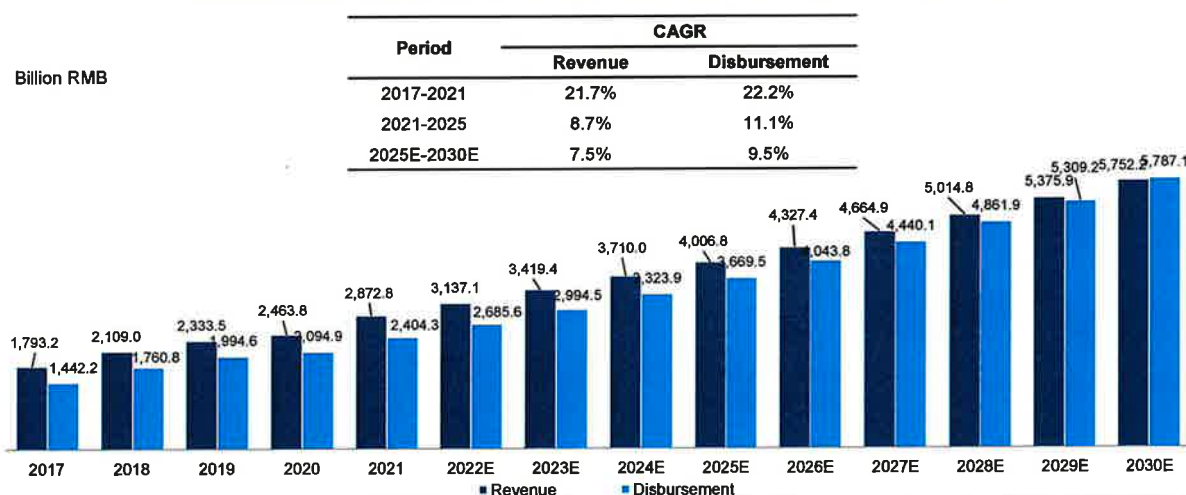
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Revenue and Disbursement of Basic Medical Insurance Fund in China, 2017-2030E

- The revenue of basic medical insurance fund increased from RMB 1,793.2 billion in 2017 to RMB 2,872.8 billion in 2021, with a CAGR of 21.7%, while the disbursement increased from RMB 1,442.2 billion in 2017 to RMB 2,404.3 billion in 2021, representing a CAGR of 22.2% during the indicated period.
- The revenue of the basic medical insurance fund in China is projected to finally reach RMB 5,752.2 billion in 2030, with a CAGR of 7.5% from 2025 to 2030, and the disbursement will reach RMB 5,787.1 billion, with a CAGR of 9.5% during the same period.

Revenue and Disbursement of Basic Medical Insurance Fund in China, 2017-2030E



Source: Frost & Sullivan analysis

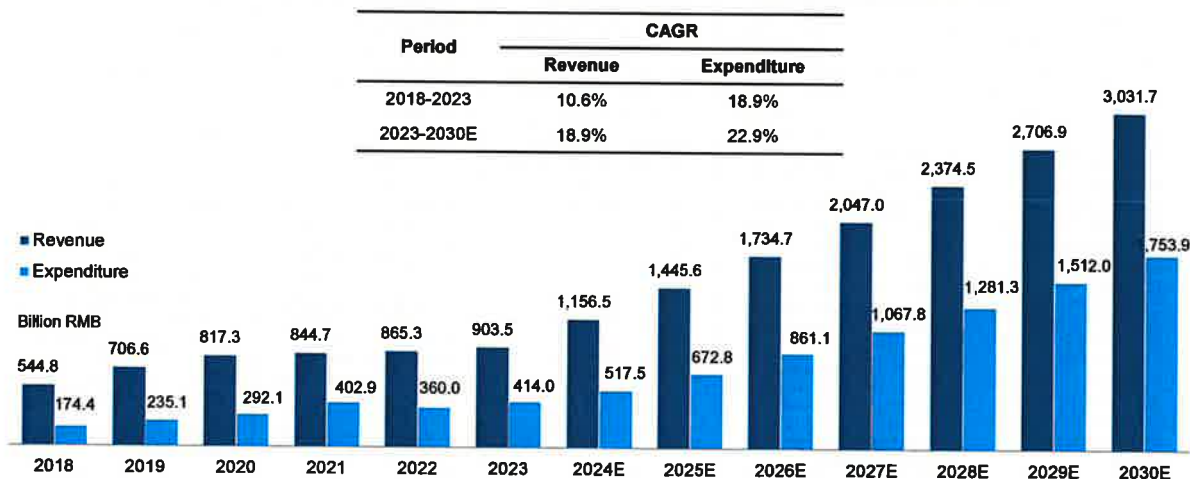
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Commercial Health Insurance Fund in China, 2018-2030E

- According to China Insurance Regulatory Commission, the revenue of commercial health insurance fund has increased from RMB544.8 billion in 2018 to RMB903.5 billion in 2023, with a CAGR of 10.6%, while the expenditure has increased from RMB174.4 billion in 2018 to RMB414.0 billion in 2023, representing a CAGR of 18.9% during the indicated period.
- Commercial health insurance fund in China has shown explosive growth before 2017 due to the absence of regulation. After the introduction of a series of regulatory measures by China Insurance Regulatory Commission, commercial health insurance premiums began to reflect the real demand for health insurance. Along with demographic changes and increasing health awareness, the commercial health insurance is expected to continue its growth. The revenue and expenditure is forecasted to reach RMB 3,031.7 billion and RMB 1,753.9 billion by 2030.

Revenue and Expenditure of Commercial Health Insurance Fund, 2018-2030E



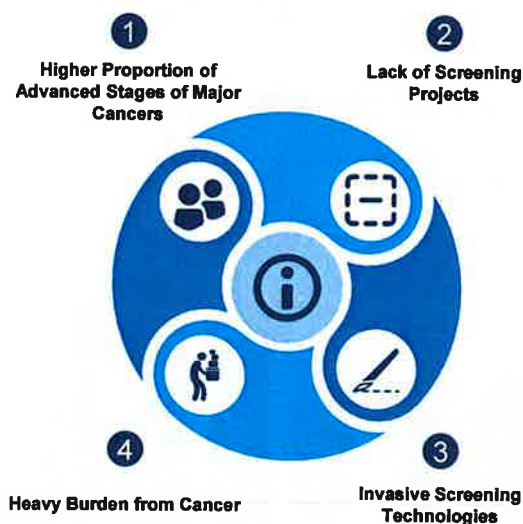
Source: CIRC, Frost & Sullivan Analysis

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Analysis of Current Situation and Pain Point of Cancer Screening and Diagnosis in China

Pain Point Analysis



① **China has less cancer screening projects than developed country like the U.S..** Comparing with developed countries like the U.S., China started the screening projects later. Besides, cancer screening typically requires additional medical resources which could impose additional burdens on China's already distressed healthcare system. Therefore, the screening projects are still preliminary and limited in China.

② **Most cancer screening technologies in China are invasive, which leads to a low patient compliance.** The low patient compliance keeps population with high risk factors away from the screening projects, which led to a late diagnosis and higher proportion of advanced cancer in turn. Considering the large basis of people with chronic diseases in China, the invasive screening technologies sometimes cannot be applied as well.

③ **Most Chinese cancer incidence are in the late stages when they were diagnosed.** China top 3 cancer by incidence is Lung cancer, gastric cancer and colorectal cancer. 76% of the lung cancer patients in China are in the advanced stages when they were diagnosed. The proportion of the advanced gastric cancer and colorectal cancer cases is 79% and 89%, respectively.

④ **Cancers have brought heavy economic and social burden not only to specific patients but also to the country.** Late diagnosis leads to huge cost for the treatment to advanced cancer, which can easily tear apart a family. Besides, the whole country needs to relocate a lot of healthcare resources to resolve the problem.

Source: WHO, GBD, Frost & Sullivan analysis

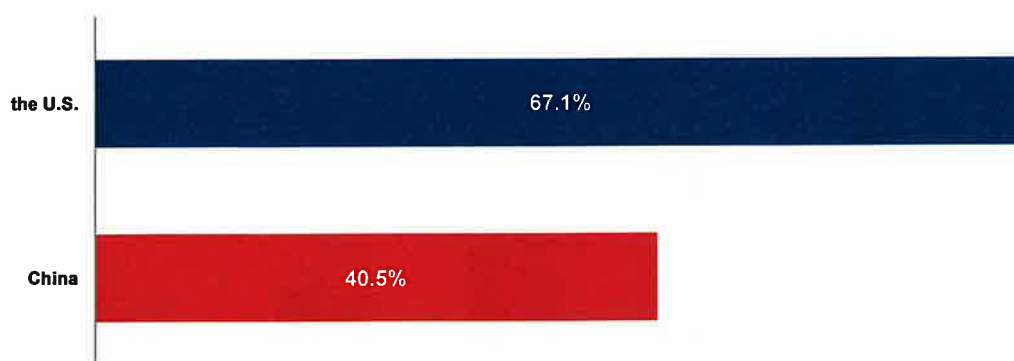
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Five-year Survival Rate of Cancers Between China and the U.S.

- The NCCR investigated the 5-year survival rate during 2003 to 2013 of a population pool from 17 cancer registries, and stratified survival estimates by calendar period (2003–05, 2006–08, 2009–11, and 2012–15). The latest 5-year survival rate is 40.5% in China.
- According to the SEER program (Surveillance, Epidemiology and End Results Program) data based on NPCR registries from 2009–2015 and follow-up of patients through 2015, the latest 5-year survival rate is 67.1% in the U.S.
- The overall five-year survival rate from 2003 to 2013 of cancers is 40.5% in China, as compared to 67.1% in the United States, according to Frost & Sullivan. The higher survival rate in the United States was primarily due to the more developed cancer prevention mechanism, higher public awareness for cancer, stronger government support for cancer screening and early detection, higher penetration rate and broader insurance coverage for cancer screening in the United States as compared to those in China.

Overall 5-year Survival Rate of Cancers in China and the U.S. (2003-2013)



Source: NIH, ACS, NCCR, Frost & Sullivan analysis

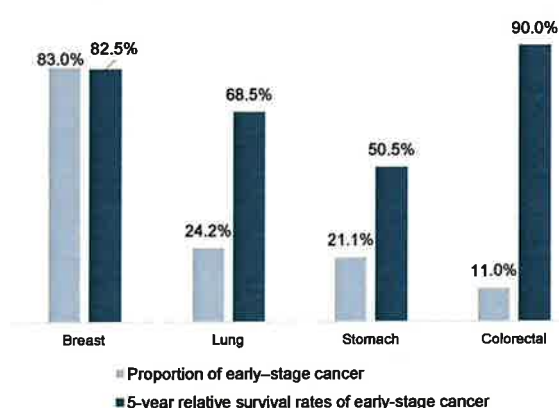
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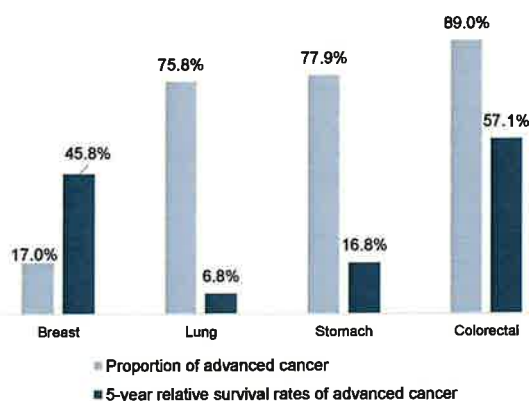
Current Situation of Cancer Diagnosis & Significance of Early Detection in China

- Breast and Cervix cancer patients have a higher possibility of being diagnosed at an early stage due to the implementation of screening programs, with the proportion of early-stage of 83% and 55% respectively. In contrast, Colorectum cancers are usually diagnosed at a later stage, with nearly 90% of them at advanced stage, indicating a huge market potential for cancer detection.
- For colorectum, cervix and breast cancers, the 5-year relative survival rates at early-stage are over 80%, emphasizing the importance of cancer detection. For all selected cancer types, the 5-year relative survival rates at advanced stage decline significantly compared with those at early stage.

Proportion of Early-stage Cancer & 5-year Survival Rate



Proportion of Advanced Cancer & 5-year Survival Rate



Source: Literature Research, Frost & Sullivan Analysis

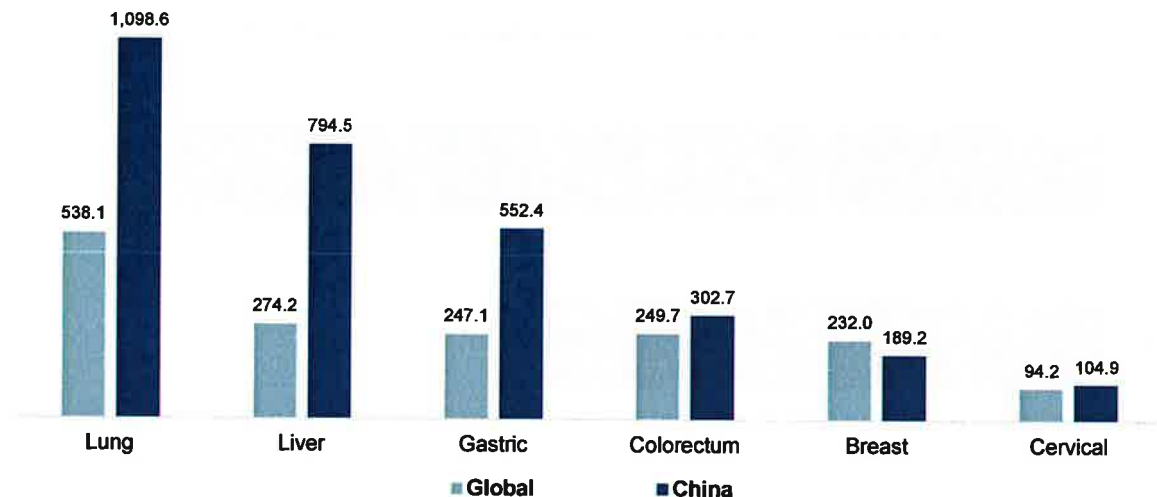
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Analysis of Burden of Disease of Major Cancers in Globe and China by Disability-Adjusted Life Year (DALY)

- Comparing with the DALYs, rate per 100k, of the globe, China has higher DALYs in five of six major cancers. Due to the lower breast cancer incidence in China, the DALYs of that is relatively lower than the global number.
- Cancers have raised heavy burden for Chinese patients, and directly affected the life quality.

Burden of Major Cancers by DALYs, rate per 100k, in 2019



Source: IHME, Frost & Sullivan analysis

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Overview of Healthcare System in China, 2021

- In early 2009, the China Central Communist Party along with the China State Council announced a comprehensive healthcare reform initiative through a program titled "Opinions on Deepening Pharmaceutical and Healthcare System Reform" (关于深化医药卫生体制改革的意见). The plan primarily targets four fundamental healthcare systems in China.

Public Health Services System

This system focuses on preventing disease and promoting health. The public health services system will provide services such as immunizations, regular physical check-ups (for senior citizens over 65 years old and children under three years old), pre-natal and post-natal check-ups for women, prevention of infectious or chronic diseases and other preventative and fitness programs.

Public Medical Insurance System

This system covers drugs and medical treatments for the majority of the population. The healthcare reform plan will retain the framework of the current public medical insurance schemes under the national program, but will be expanded to cover more of the population and increase the scope of treatments, raise the cap on claim payments and cover more claims at higher percentages.

Public Health Delivery System

One of the primary goals of the plan is to build more healthcare facilities and to improve the training of healthcare professionals. Beyond additional public wellness centers, the reform plan aims to place a medical clinic in every village and a hospital in every prefecture by 2011.

Drug Supply System

One of the primary goals of the plan is to build more healthcare facilities and to improve the training of healthcare professionals. Beyond additional public wellness centers, the reform plan aims to place a medical clinic in every village and a hospital in every prefecture by 2011.

Healthcare System

Sources: Government Notice, Frost & Sullivan Analysis

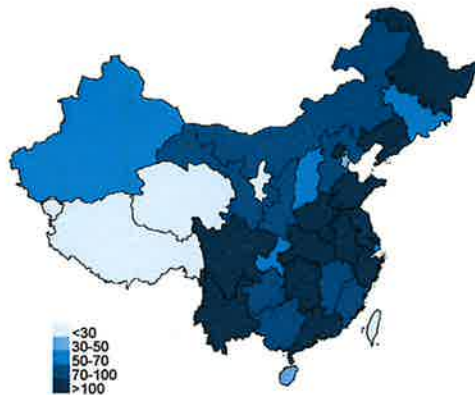
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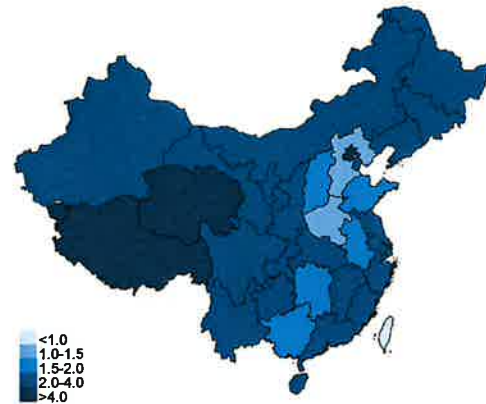
Uneven Geographic Distribution of Hospitals in China

- China is not only in a shortage of medical resource, but also suffer from uneven geographic distribution of existing medical resource. For example, as one of the most developed cities in China, Beijing is abundant in medical resources, indicated by relative high number of Class III hospitals per million population.
- Meanwhile, in those relatively underdeveloped provinces such as Hebei, Henan and Hunan, less than one hundred Class III hospitals can be found in each province and there is on average less than one Class III hospital per million population.

Geographic Distribution of Class III Hospitals in China, 2021



Number of Class III Hospitals Per Million Population in China, 2021



Source: Frost & Sullivan analysis

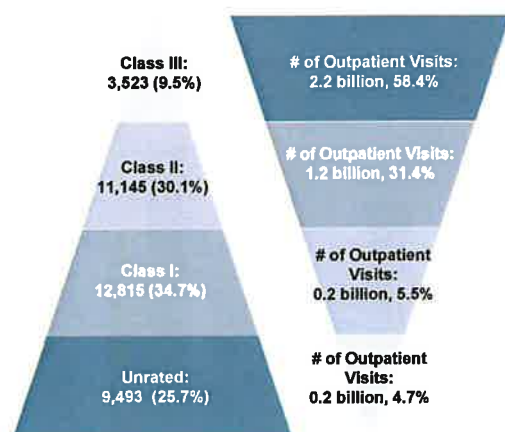
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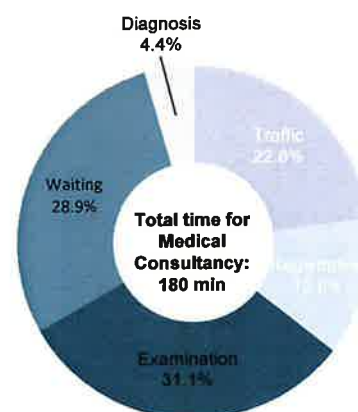
Analysis of the Medical Situation in Hospitals in China, 2022

- China's medical resource are concentrated in large Class III hospitals and patients also preferentially seek healthcare service in big hospitals whether they have a cancer or a cold, which leads to the severe inversion of medical resource and diagnosis demands.
- Due to the scarcity of China medical resource, effective diagnosis time among the total time consumption in diagnosis process only accounts for 4.4%. (8 minutes).

Severe Inversion of Medical Resource and Diagnosis Demand, 2022



Time Structure for a Diagnosis Process, 2022



Source: Frost & Sullivan analysis

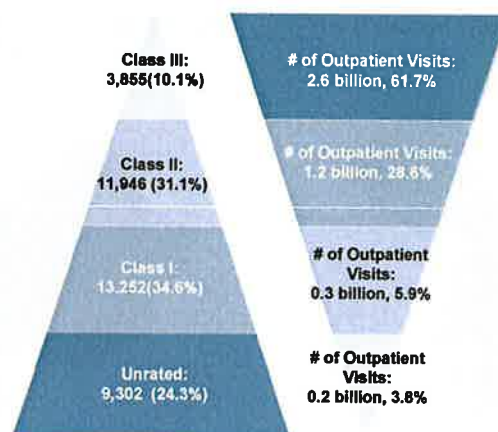
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Analysis of the Medical Situation in Hospitals in China, 2023

- China's medical resource are concentrated in large Class III hospitals and patients also preferentially seek healthcare service in big hospitals whether they have a cancer or a cold, which leads to the severe inversion of medical resource and diagnosis demands.

Severe Inversion of Medical Resource and Diagnosis Demand, 2023



Source: China Health Statistics Yearbook, Frost & Sullivan analysis

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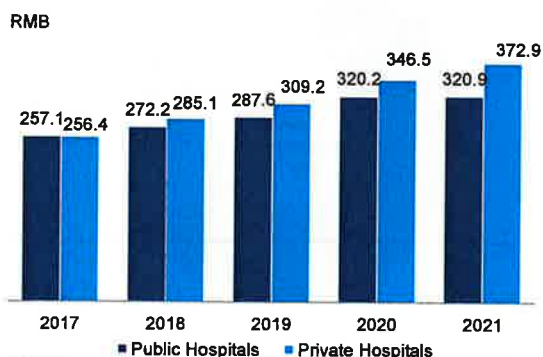
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Per Capita Healthcare Expenditure of Outpatient and Inpatients in China, 2017-2021

- From 2017 to 2021, the Per Capita Outpatient/Inpatient Medical Expenditure in China grew, with the number of outpatients expenditure in both public and private hospitals showing a year-on-year growth trend. The expenditure of private hospital has a higher increasing CAGR of both outpatients and inpatients than public hospitals, with the CAGR of 9.8% and 8.9% respectively.

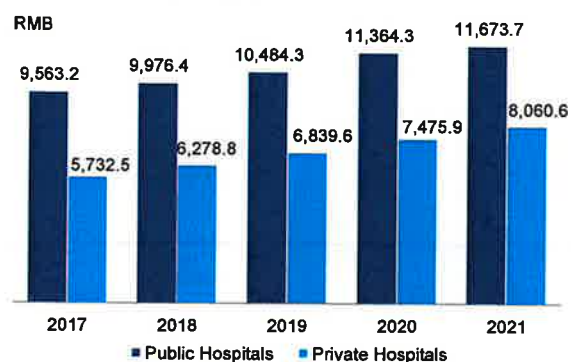
Per Capita Outpatient Medical Expenditure, 2017-2021

Period	CAGR	
	Public Hospitals	Private Hospitals
2017-2021	5.7%	9.8%



Per Capita Inpatient Medical Expenditure, 2017-2021

Period	CAGR	
	Public Hospitals	Private Hospitals
2017-2021	5.1%	8.9%



Sources: NHC, Frost & Sullivan analysis

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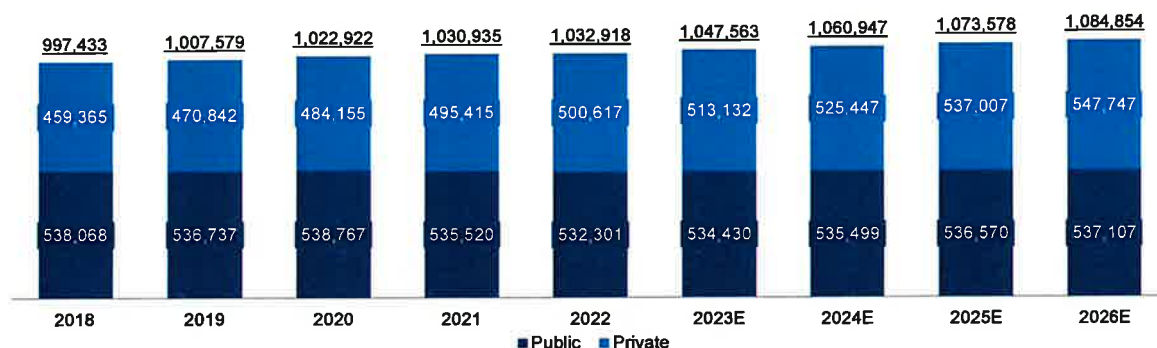
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Number of Healthcare Institutions in China, 2018-2026E

- From 2018 to 2022, the total number of healthcare institutions in China increased from 997,433 to 1,032,918, with a CAGR of 0.9%. Meanwhile, private healthcare institutions has experienced a rapid growth, increasing from 459,365 in 2018 to 500,617 in 2022, showing a CAGR of 2.2%. However, the number of public healthcare institutions decreased from 538,068 in 2018 to 532,301 in 2022. The number of healthcare institutions is estimated to increase to 1,084,854 in 2026, with a CAGR of 1.2% from 2022.

Number of Healthcare Institutions in China, 2018-2026E

Period	CAGR		Total
	Public Institutions	Private Institutions	
2018-2022	-0.3%	2.2%	0.9%
2022-2026E	0.2%	2.3%	1.2%



Note: Private institutions include those that are private as well as those jointly operated by state entities and private entities.

Source: NHC, Frost & Sullivan analysis

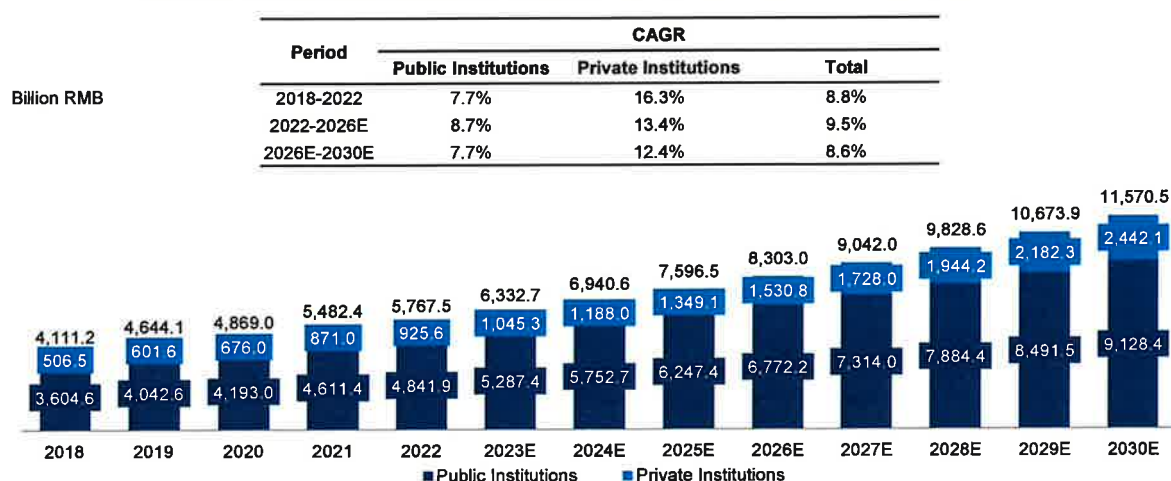
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Revenue of Healthcare Institutions in China - Public and Private Institutions, 2018-2030E

- Revenue of Chinese healthcare institutions grew significantly from RMB 4,111.2 billion in 2018 to RMB 5,767.5 billion 2022. In the future, this revenue is expected to grow at a CAGR of 9.5% from 2022 to 2026 and 8.6% from 2026 to 2030 and reach RMB 8,303.0 billion by 2026 and RMB 11,570.5 billion by 2030.
- Although public healthcare institutions currently dominate China's healthcare services, private institutions in China are expected to make increasingly larger contributions to the overall market growth.

Revenue of Healthcare Institutions in China - Public and Private Institutions, 2018-2030E



Note: Private institutions include those that are private as well as those jointly operated by state entities and private entities.

Sources: NHC, Frost & Sullivan analysis

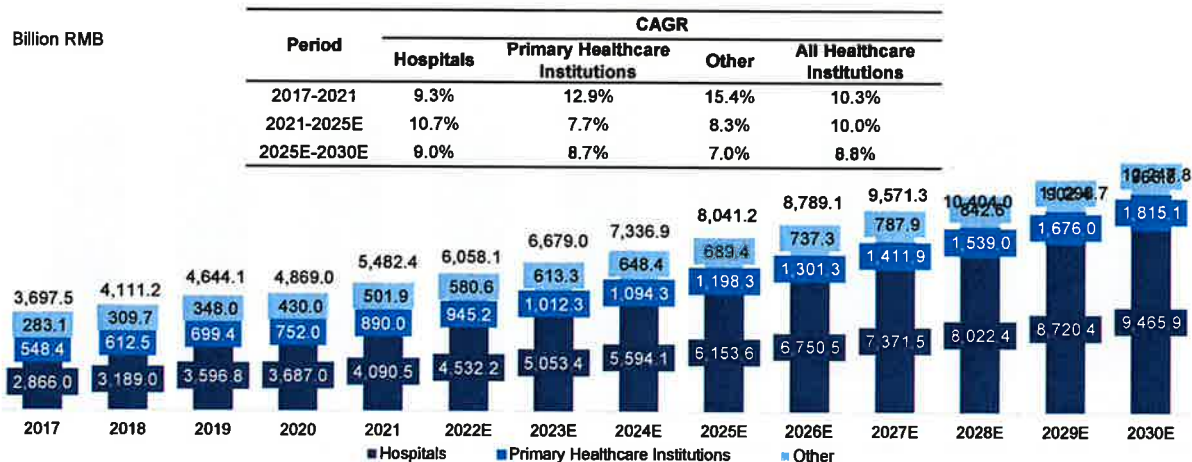
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Revenue of Healthcare Institutions in China - Institution Type, 2017-2030E

- China's healthcare institutions are divided into three big categories. The largest segment of healthcare institutions in China is the hospitals, which include comprehensive hospitals and specialized hospitals. The second largest segment, the primary healthcare institutions, includes mostly local community clinics. Other healthcare institutions include disease prevention and control centers and women's and children's clinics.
- Hospitals accounted for 74.6% of revenue of China's healthcare institutions in 2021. As China's healthcare reform continues and the social insurance scheme strengthens, hospitals will continue to dominate China's healthcare service market.

Revenue of Healthcare Institutions in China - Institution Type, 2017-2030E



Sources: NHC, NHC, Frost & Sullivan analysis

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Government Policies towards Private Healthcare Service Industry - I

Date	Government	Policies	Comments
Jan. 2016	State Council	Opinions on Integration of Basic Medical Insurance for Urban and Rural Residents 国务院关于整合城乡居民基本医疗保险制度的意见	The guideline requires that governments at provincial and municipal level make specific plans for the integration before the end of June 2016. The integration will improve the equality of basic medical insurance by unifying medical insurance coverage, payment standard, medicine catalogue, medical service item catalogue and etc..
Mar. 2016	State Council	2016 Annual Government Work Report 2016年政府工作报告	Encouraging the coordinated reform of healthcare services, medical insurance and pharmaceuticals, and encourage social capital to invest in healthcare service industry.
Apr. 2016	State Council	Notice of Issuance of Key Tasks of Deepening the Reform of Healthcare System in 2016 国务院办公厅关于印发深化医药卫生体制改革2016年重点工作任务的通知	Further deepen the reform of public hospitals, and promote the development of commercial medical insurance. Steadily improve and standardize multi-site license. Encourage social capital to invest in healthcare-elderly care facilities and elderly rehabilitation facilities.
Apr. 2017	State Council	Guidance on Promoting the Construction and Development of the Medical Consortium 关于推进医疗联合体建设和发展的指导意见	Explore the formation of various forms of medical consortium in different regions, and promote the flow of quality medical resources to remote and poverty areas. Encourage the medical consortium to attract private medical institutions to join and play a role through technical support and personnel training; Gradually establish and improve the coordination mechanism with clear objectives and clear responsibilities among different levels and different types of medical institutions.

Source: government announcement, Frost & Sullivan analysis

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Government Policies towards Private Healthcare Service Industry - II

Date	Government	Policies	Comments
May. 2017	State Council	Opinions on Supporting Social Forces in Providing Multi-level Medical Services 关于支持社会力量提供多层次多样化医疗服务的意见	To encourage social forces to focus on specialized medical services. To create a batch of medical service institutions with high-quality brand in the specialized field, including ophthalmology, stomatology, obstetrics and gynecology, pediatrics, etc. To allow public hospitals to cooperate with social forces to establish new not-for-profit private medical institutions.
Aug. 2018	NHC, SATCM	Notice on Key Work Concerning the Construction of Hierarchical Diagnosis and Treatment System 关于进一步做好分级诊疗制度建设有关重点工作的通知	In the process of planning and layout of the medical consortium, private medical institutions should be included in the medical consortium. For those private medical institutions with good conditions, they can also lead the establishment of medical consortiums. In the medical consortium, medical resources can be accelerated and medical resources can be easily connected.
Jul, 2020	NHC	Notice of the National Health Commission on adjusting the allocation plan of large medical equipment from 2018 to 2020 国家卫生健康委关于调整2018—2020年大型医用设备配置规划的通知	support the standardized and healthy development of community run hospitals, accelerate the development of diversified pattern of running hospitals, and meet the diversified, differentiated and personalized medical service needs of the people. support the private hospitals and standardize their healthy development. Implement the notification and commitment system for the allocation of class B large-scale medical equipment for community run hospitals, and support the allocation of large-scale medical equipment for private hospitals
May, 2021	State Council	Deepening the reform of the medical and health system 深化医药卫生体制改革2021年重点工作任务	It is planned to promote the capacity building of clinical specialties during the "fourteenth five year plan" period, and speed up the completion of service weaknesses. Strengthen the construction of public medical and health institutions. Actively support the development of community run hospitals.

Source: government announcement, Frost & Sullivan analysis

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Government Policies towards Private Healthcare Service Industry - III

Date	Government	Policies	Comments
2021.11	CPC Central Committee	《中共中央 国务院关于加强新时代老龄工作的意见》 "Opinions of the CPC Central Committee and the State Council on Strengthening the Work on Aging in the New Era"	"Encourage social investment and other investment to promote pension scheme", and require "the implementation of relevant fiscal and tax support policies, and encourage all kinds of public welfare social organizations or charitable organizations to increase investment in the elderly industry".
2022.2	CPC Central Committee	《“十四五” 国家老龄事业发展和养老服务体系规划》 The 14th Five-Year Plan for the development of the national cause of the elderly and the planning of the old-age service system	"Support social forces to build professional, large-scale, and outstanding elderly care institutions, and promote them to play an exemplary and leading role in improving long-term care service standards, professional talent training reserves, information intelligent management services, and the promotion and application of rehabilitation assistive devices"
2022.5	CPC Central Committee	Notice on the issuance of the 14th Five-Year Plan for National Health 《国务院办公厅关于印发“十四五” 国民健康规划的通知》	Encourage social forces to set up non-profit medical institutions in areas with non-sufficient medical resources and in areas where rehabilitation, nursing, mental health and other areas are in short supply. Guide and promote the standardized development of independent institutions such as medical laboratory centers and medical imaging centers, and encourage experienced practitioners to open clinics. Implement industry supervision responsibilities and promote the development of social medical standards.
2022.12	CPC Central Committee	《扩大内需战略规划纲要（2022 - 2035年）》 Outline of the Strategic Plan for Expanding Domestic Demand (2022-2035)	Supporting social forces to provide multi-level and diversified medical services.

Source: government announcement, Frost & Sullivan analysis

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Methods of Investing in Private Hospitals, the Difficulty of Entering the Market and Expanding

- Investment in private general hospitals is mainly based on the acquisition, investment, and trusteeship of existing hospitals, supplemented by new construction.
- Investment in private specialized hospitals is mainly based on new construction, supplemented by mergers and acquisitions of existing specialized hospitals. For example, specialized hospital chains generally choose first-tier and second-tier cities with better economic development and higher per capita disposable income to build core specialized hospitals and set regional benchmarks. Then focus on the network layout of prefecture-level and county-level hospitals, and rapidly expand across the country with a replicating model.



Considerations for the location and layout of private hospitals



Difficulty of Entering the Market and Expanding

Funding barriers: New entrants need to invest heavily in the purchase of diagnostic and treatment equipment, hire professional doctors and nurses, and continue to invest in academic research platforms, personnel training, and market channel construction.

Barriers to talents: There is a shortage of medical service professionals, especially oncology professionals, and talents are still concentrated in public hospitals. Medical institutions need long-term research accumulation and clinical practice in order to cultivate a high-level medical team.

Brand barriers: Patients are usually very cautious when choosing private hospitals, mainly choosing doctors and hospitals based on their reputation. It also takes a long time to build a hospital's reputation before achieving a steady flow of patients.

Source: Frost & Sullivan analysis

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Growth Drivers of China Healthcare Service Market

Aging Population Trend in China	<ul style="list-style-type: none"> With the increasing life expectancy, China has entered an aging society. From 2015 to 2020, population is aging rapidly in China with people aged above 65 grew at a CAGR of 5.8% over the period. According to the NBSC, individuals aged above 65 years old were 201 million in 2021, which accounted for 14.2% of the total population. The number of individuals aged above 65 years old is growing at a fairly fast pace and is expected to continue its growth momentum into the future. This number of people is expected to reach 247 million by 2025, which represents 17.3% of the total population in China. China's demographic shift offers immense opportunities for healthcare service providers, as elder people generally have a greater need for healthcare services and are more likely to seek healthcare service to fight diseases.
Rising income level of Chinese residents	<ul style="list-style-type: none"> Along with the continuous growth in economy and urbanization, the average income level of the Chinese residents has also increased continuously in recent years. The growth of Chinese per capita disposable income has demonstrated positive effect on Chinese residents' purchasing power. Given the increasing health awareness among Chinese population, the rising purchasing power will continue to drive the healthcare service market to grow in the near future.
Increasing prevalence of Chronic Disease	<ul style="list-style-type: none"> Complex reasons such as unhealthy life-style, high social and living pressure and environmental pollution have led to upward tendency of chronic disease prevalence. For example, the prevalence of hypertension and diabetes have both increased by more than 4 times from 2003 to 2013. Furthermore, chronic diseases have led to more than 80% of deaths in China according to WHO, indicating the management of chronic diseases is one major concern of Chinese residents in modern society. The rising chronic disease prevalence is expected to spur the healthcare spending, particularly to meet the long-term demand for chronic disease treatment.
Advancement of Digital Technology	<ul style="list-style-type: none"> As the technical basis of the digital healthcare service market, digital technologies such as big data, cloud storage and artificial intelligence determine the quality of the healthcare services to be provided. For example, a more advanced artificial intelligence technology can help to ensure the reasonability of diagnosis results give out by radiologists, who will be reminded and have access to further medical assistance through telemedicine. With improved service healthcare quality, more patients are encouraged to seek for digital healthcare service and therefore promoting the market.

Source: Frost & Sullivan analysis

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Future Trends of China Healthcare Service Market

Transformation from Hospital-centered to Patient-centered	<ul style="list-style-type: none"> At present stage, healthcare service market in China is still hospital-centered, where patients seek for treatment by going to hospitals or other healthcare institutions, where they see healthcare service providers and receive streamlined care. With an increasing focus on each patient, active collaboration and shared decision-making are encouraged between patients, families, and providers to design and manage a customized and comprehensive treatment plan, which is realized by digital tools. This will transform digital healthcare service market to be patient-centered.
Lifecycle Management of Chronic Disease	<ul style="list-style-type: none"> Digital technology has already shown its advantage in management of chronic disease in terms of the adequate use of medical resource and good patient compliance. Driven by DRG related policies, it is expected that management of chronic disease will rely more on the digital method to monitor patient biological profile and manage treatment payment throughout the chronic disease period. In this way, digital healthcare service will become a powerful tool in lifecycle management of chronic disease such as diabetes, hypertension and coronary heart diseases.
Personalized Treatment	<ul style="list-style-type: none"> Given an increasing attention to precision medicine, patients can potentially get better treated with treatment tailored to their own condition. With help of digital technology, detailed health profiles are stored online, analyzed thoroughly and kept updated, matching the patient with the best possible therapeutic option available. It is expected that in the future, with more types of data being collected electronically, more information can be utilized and personalized treatment will be applied wider in digital healthcare service market.
Further Regulatory Support for Digitalization	<ul style="list-style-type: none"> Healthcare service is the closely related to human life and health and should always be treated with caution. Digital technology, though brought up a lot of convenience, has inbuilt drawbacks such as lower transparency and lower security. Thus, it is necessary for the government officials to promulgate policies that will standardize the industry practice, increasing the comprehensiveness and security of the digital technologies used. In this way, it is expected that digital healthcare service market will subject to more regulations in the future. This, together with regulations that promote digitalization would accelerate the development of digital healthcare market.

Source: Frost & Sullivan analysis

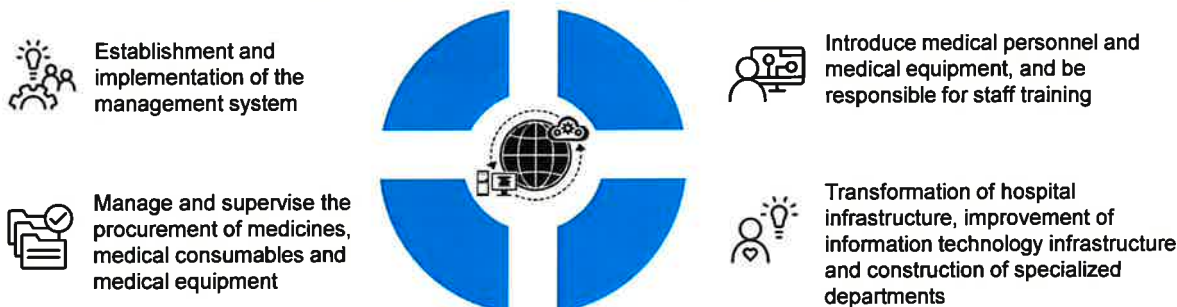
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Hospital Trusteeship Model Analysis

- The hospital trusteeship model means that the owner of the hospital property rights transfers the operation and management rights of the hospital (or department) to a company or hospital group that has strong operation and management capabilities and can bear the corresponding operating risks for paid operation, so as to maximize the benefits of the hospital. Usually the entrusted party charges the custodian a fixed amount or a fixed percentage of operating income as management and operating expenses.
- Entrusted party is responsible for supervision and management of the hospitals' daily operations, including, among others, advising on establishment and implementation of management system, supervising and advising on procurement of pharmaceuticals, medical consumables and medical equipment, introducing medical professionals and medical equipment, staff training, renovation of hospital infrastructure, improvement of information technology infrastructure, and building specialty departments.

Main Services of Hospital Trusteeship Business



Hospital Trusteeship Model Advantages

The hospital trusteeship model can realize the sharing of expert resources, joint construction of departments, and promote the rapid development of hospitals with superior medical and equipment resources. At the same time, it can also guide and divert more patients to the hospitals for medical treatment through balanced allocation of high-quality medical resources, so as to alleviate the problem of "difficulty in seeing a doctor".

Source: Frost & Sullivan analysis

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Number of Hospital Beds per capita in Provinces/Cities that Company Operates in China, 2018

Number of Hospital Beds per capita in Provinces/Cities that Company Operates in China, 2018

Province	Number of hospital beds per thousand people	Number of hospital beds in oncology department per thousand people
Beijing	5.4	0.25
Tianjin	3.9	0.22
Shanxi	4.4	0.15
Henan	4.7	0.21
Anhui	4.0	0.17

Note:

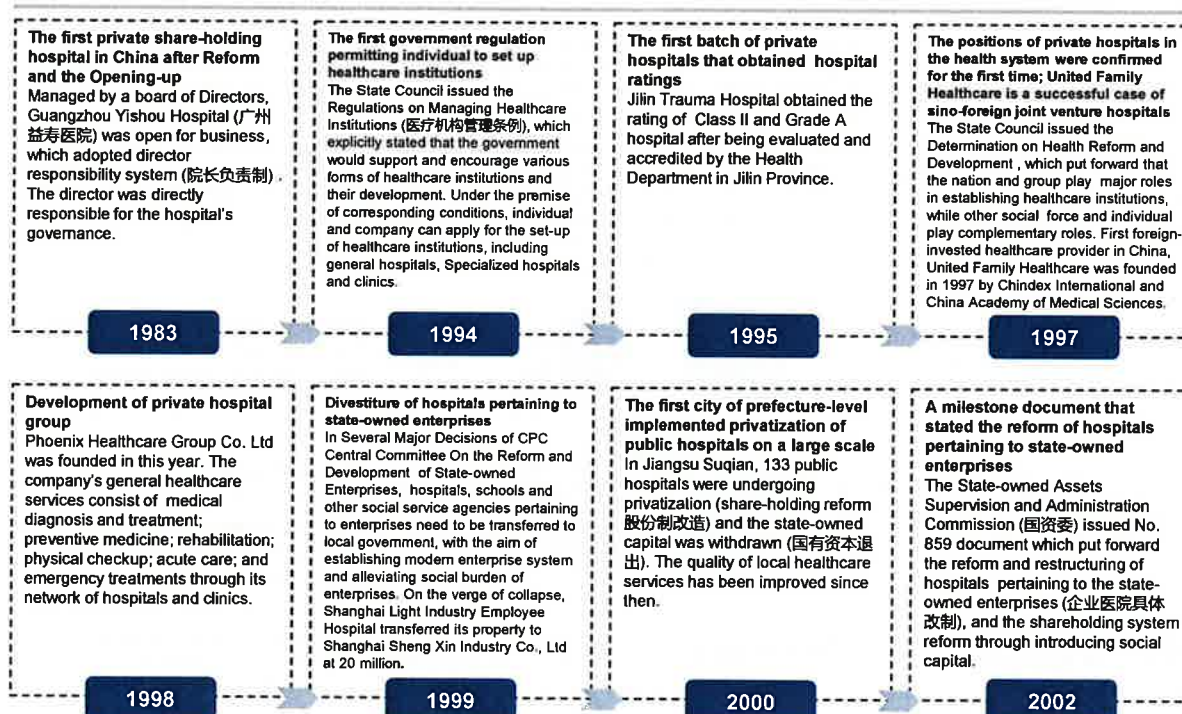
- Number of hospital beds and number of hospital beds in oncology department per each province is collected from NHS (2019), per capita number of beds in each province is calculated using number of beds divided by provincial population.
- Higher number of beds per capita reflects a richer regional per capita healthcare resource.

Source: China Health Statistics Yearbook, Frost & Sullivan analysis

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Key Milestones in the Development of Private Hospital - I

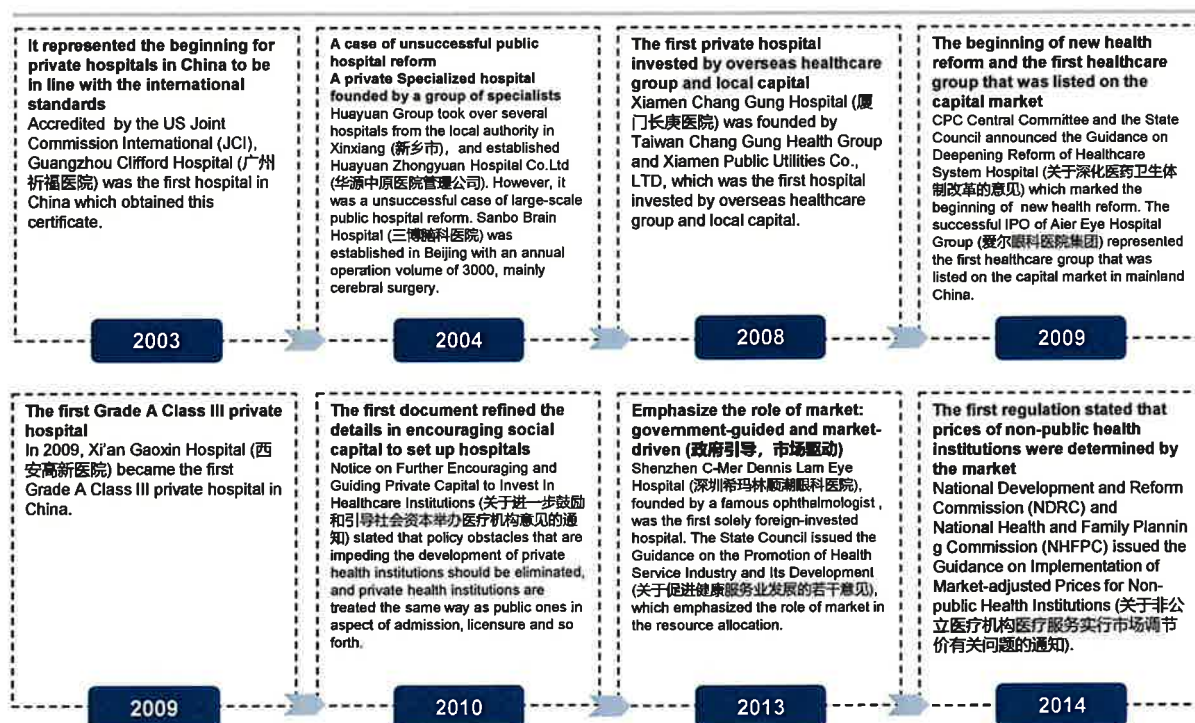


Source: government announcement, Frost & Sullivan analysis

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Key Milestones in the Development of Private Hospital - II

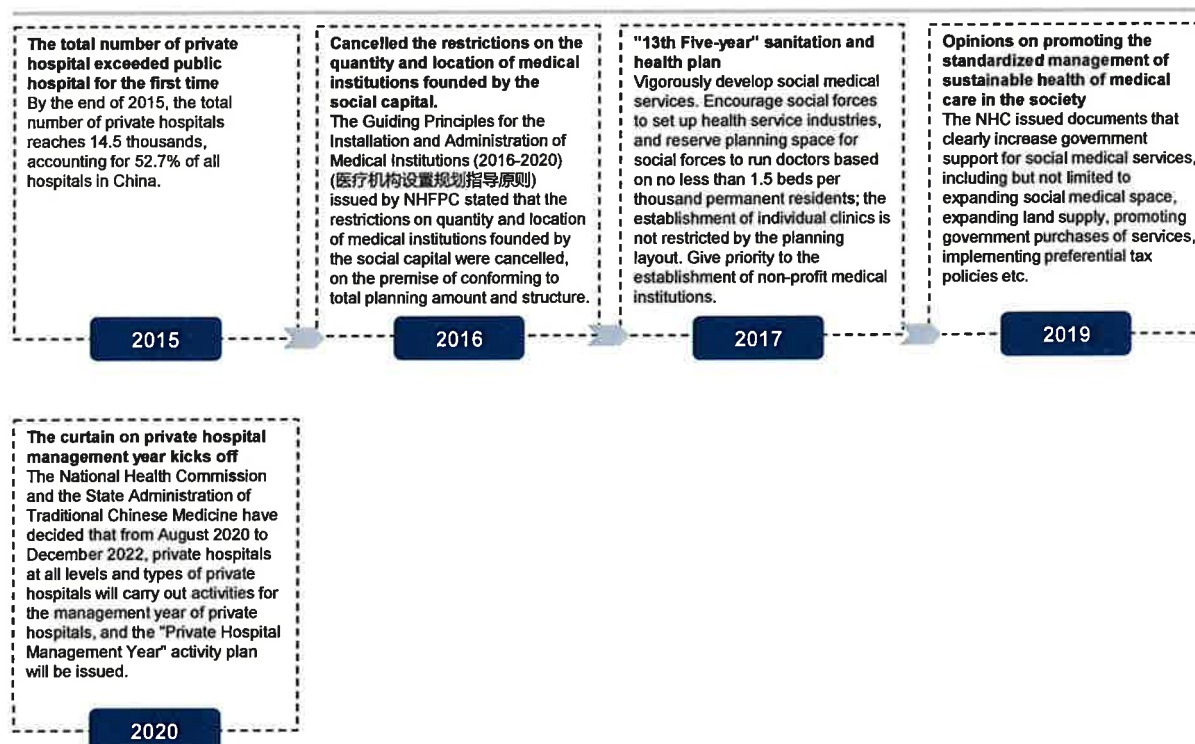


Source: government announcement, Frost & Sullivan analysis

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Key Milestones in the Development of Private Hospital - III



Source: government announcement, Frost & Sullivan analysis

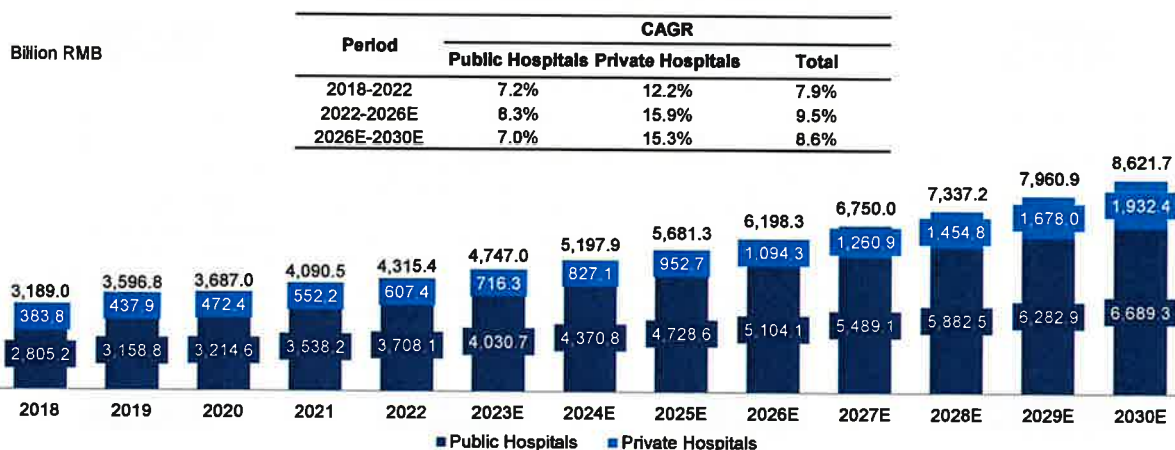
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Revenue of Hospitals in China, 2018-2030E

- Out of revenue of all Chinese hospitals, the private hospital segment is growing at a faster rate than the public segment. Revenue of private hospitals increased from RMB 383.8 billion in 2018 to RMB 607.4 billion in 2022, with a CAGR of 12.2%. In the same period, revenue of public hospitals increased from RMB 2,805.2 billion to RMB 3,708.1 billion, with a CAGR of 7.2%. In the future, the private segment of in-hospital healthcare service will continue to grow at a faster rate than the public segment.
- Although revenue of private hospitals is still small compared to that of public hospitals, private hospitals will play an increasingly important role in China's healthcare market in the future.

Revenue of Hospitals in China, 2018-2030E



Note: Private hospitals include those that are private as well as those jointly operated by state entities and private entities.

Source: NHFPC, Frost & Sullivan analysis

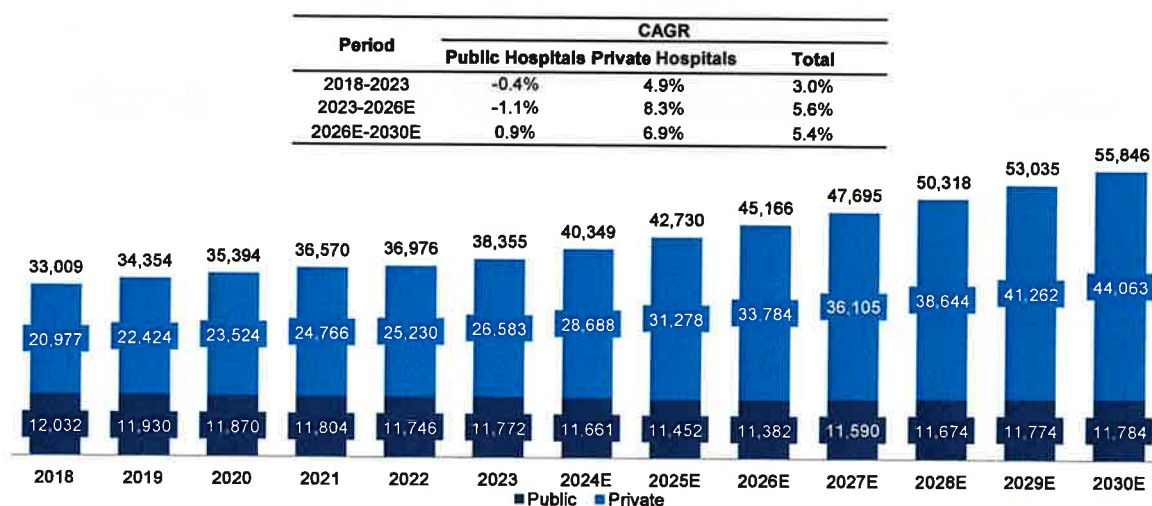
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Number of Hospitals in China, 2018-2030E

- From 2018 to 2023, the total number of hospitals in China increased from 33,009 to 38,355, with a CAGR of 3.0%. With growing demand for medical services, the number of hospitals is estimated to increase to 45,166 in 2026, with a CAGR of 5.6% from 2023. Meanwhile, private hospital has experienced a rapid growth, increasing from 20,977 in 2018 to 26,583 in 2023, showing a CAGR of 4.9%, and it is estimated that the number of private hospitals will continue to grow rapidly in the future. However, the number of public hospitals decreased from 2018 to 2022 and is estimated to continue to decrease in the future.

Number of Hospitals in China, 2018-2030E



Note: Private hospitals include those that are private as well as those jointly operated by state entities and private entities.

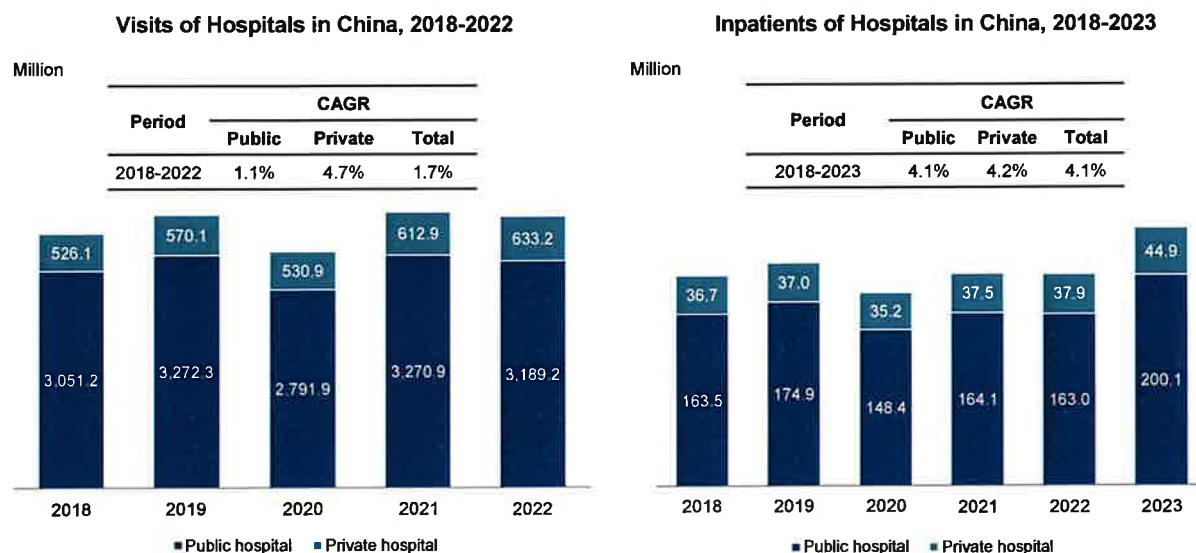
Source: NHC, Frost & Sullivan analysis

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Visits and Inpatients of Public and Private Hospitals in China, 2018-2023

- According to China Health Statistical Digest, the number of hospital visits for private hospitals in China was 702 million in 2023, while that for public hospitals in China was 3,559 million in the same year. The patient visits of public hospitals accounted for 83.5% of the total hospital patient visits in 2023 in China, while the patient visits of private hospitals only accounted for 16.5% of the total hospital patient visits in the same year. Due to the COVID-19 pandemic, visits of both public and private hospitals declined in 2020.



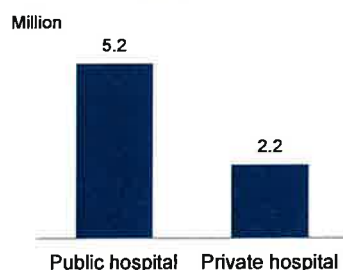
Source: China Health Statistics Yearbook, NHFPC, Frost & Sullivan analysis

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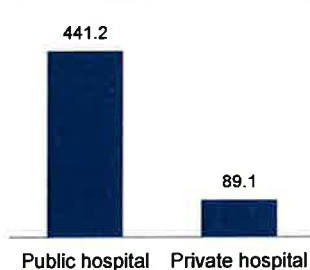
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Public Hospitals vs. Private Hospitals in China - I

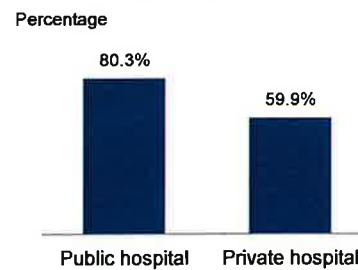
Public vs. Private in Number of Beds in Operation, 2021



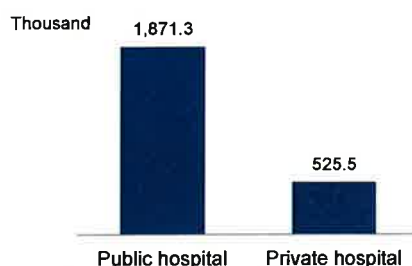
Public vs. Private in Number of Average Beds per Hospital in Operation, 2021



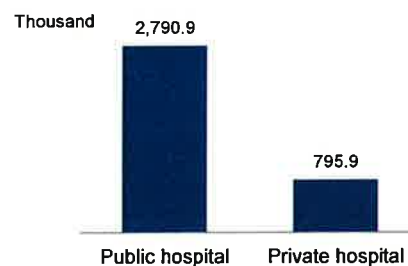
Public vs. Private in Bed Utilization Rate, 2021



Public vs. Private in Number of Doctors*, 2021



Public vs. Private in Number of Nurses, 2021



Note: Include certified doctors and certified assistant doctors.

Source: NHFPC, Frost & Sullivan analysis

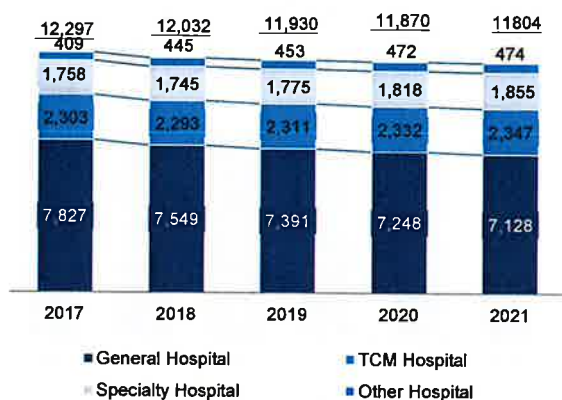
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Public Hospitals vs. Private Hospitals in China - II

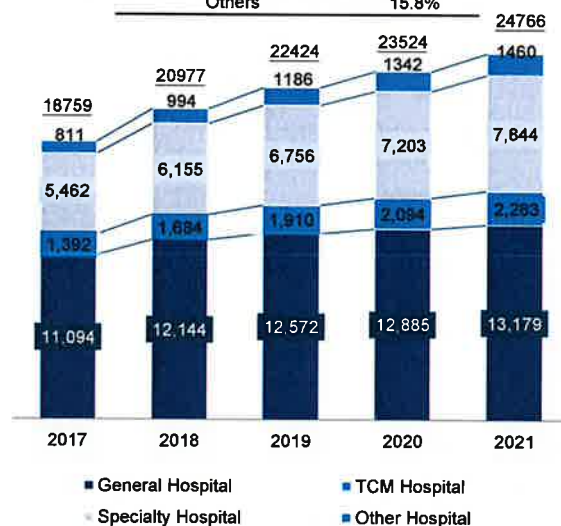
Number of Public Hospitals by Type, 2017-2021

	CAGR	2017-2021
Total Public Hospitals	-1.0%	
General Hospitals	-2.3%	
TCM Hospitals	0.5%	
Specialty Hospitals	1.4%	
Others	3.8%	



Number of Private Hospitals by Type, 2017-2021

	CAGR	2017-2021
Total Private Hospitals	7.2%	
General Hospitals	4.4%	
TCM Hospitals	13.2%	
Specialty Hospitals	9.5%	
Others	15.8%	



Source: NHFPC, Frost & Sullivan analysis

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Growth Drivers of China Private Hospital Market

Increasing demand for healthcare service

Increasing demand for healthcare services in China has resulted in the fact that healthcare institutions in China cannot satisfy all the demand. All the large domestic healthcare institutions are faced with the problems from high load of patients. Thus, the emergence of private hospitals will help solve the problems, creating opportunities for growth.

Uneven distribution of medical resources

Traditionally, large hospitals in China are highly concentrated in the center of large cities. However, with the progress of urbanization, it's necessary to build more hospitals in emerging urban areas and suburbs of various cities to satisfy medical care needs from local residents, which provides impetus for the rise of private hospitals.

Favorable policies by the government

In 2011, development of private hospitals has been set as a priority in the Government Work Report and the "12th five-year" healthcare planning. The government prioritizes building new private hospitals in many regions. The government is making efforts to eliminate unfair factors between public hospitals and private hospitals, creating a more favorable policy environment for private hospitals in tax and other areas.

Privatization trend of public hospitals

Although healthcare resources in China cannot meet rapidly growing medical demand, part of poorly-managed public hospitals and those controlled by large state-owned enterprises are facing transition problem. The privatization and transfer of trusteeship of private hospitals will provide opportunities for rapid growth.

Source: Frost & Sullivan analysis

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Future Trends of China Private Hospital Market

Expanding scale and group management

Although private hospitals have proliferated rapidly in recent years, they still provide less than 20% of total services due to their smaller size and lower utilization rates. However, with the increasing investment from society capital, the scale of private hospitals is becoming larger. At the same time, hospital groups will emerge to achieve the economy of scale and improve their reputation among patients.

Wave of M&A activities

Many small, lower-end private hospitals will be gradually phased out as government supervision strengthens and competition intensifies, and some private hospitals will be merged or acquired by larger ones and hospital management groups. In addition, more and more companies are entering the market and expanding their hospital investments through various means, including acquisitions and joint ventures, creating a wave of merger and acquisition activities in healthcare service market.

Better regulatory environment

The policies regulating investment in private hospitals are improving, bringing with them significant long-term opportunities to participate in public hospital reform or greenfield establishment. As a result, more players will become involved in hospital investment, and private hospitals' contribution to overall healthcare services volume is projected to increase steadily.

Greater diversity of services

As China develops, its people are growing more aware of their healthcare needs, demanding more preventive care and a greater diversity of healthcare services. Premium healthcare service, rehabilitation service, senior care service may become the new attraction to investors.

Source: Frost & Sullivan analysis

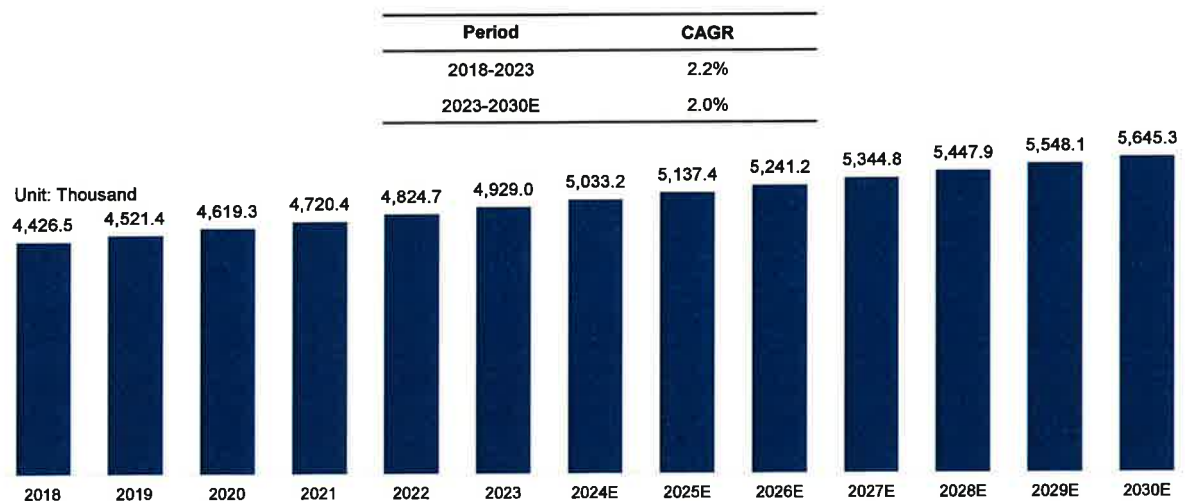
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Incidence of Total Cancer in China, 2018-2030E

- Cancer has been the second largest disease in China, the new cases is growing to 4.4 million in 2023 from 4.9 million in 2018 with the CAGR of 2.2%. Due to the awareness and diagnosis for cancer, the number of new cases will increase to 5.6 million in 2030 with the CAGR of 2.0%, from 2023 to 2030.

Total Cancer Incidence in China, 2018-2030E



Source: Frost & Sullivan Analysis

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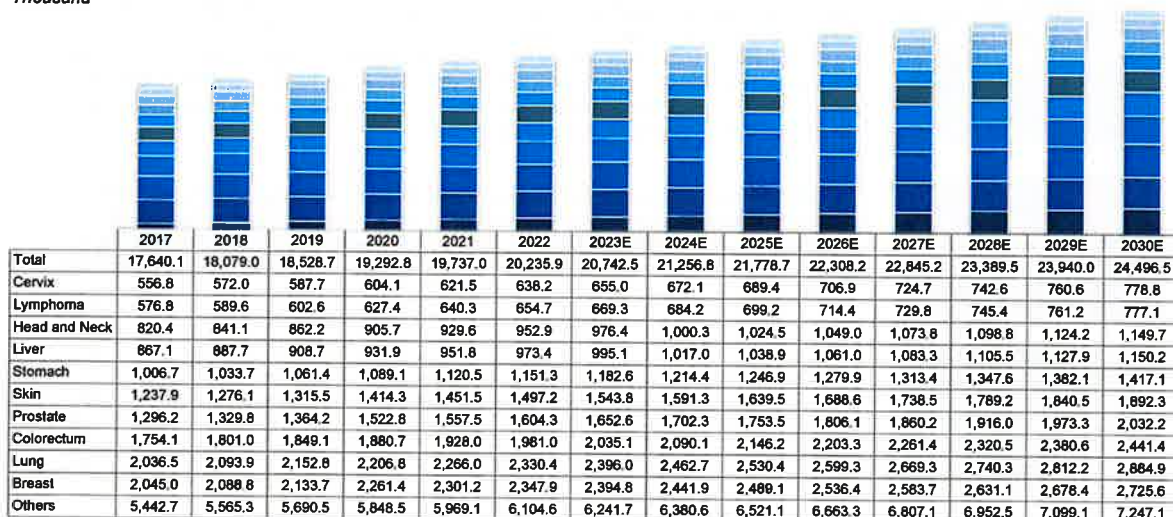
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Global Incidence of Cancer, 2017-2030E

- Global top 10 cancer type by incidence structure have minor difference with China. Top 10 cancer accounting over 60% of all incidence shows a higher concentration than China cancer.

Incidence by Cancer Type of Global, 2017-2030E

Thousand



Source: Globocan, IARC, Frost & Sullivan Analysis

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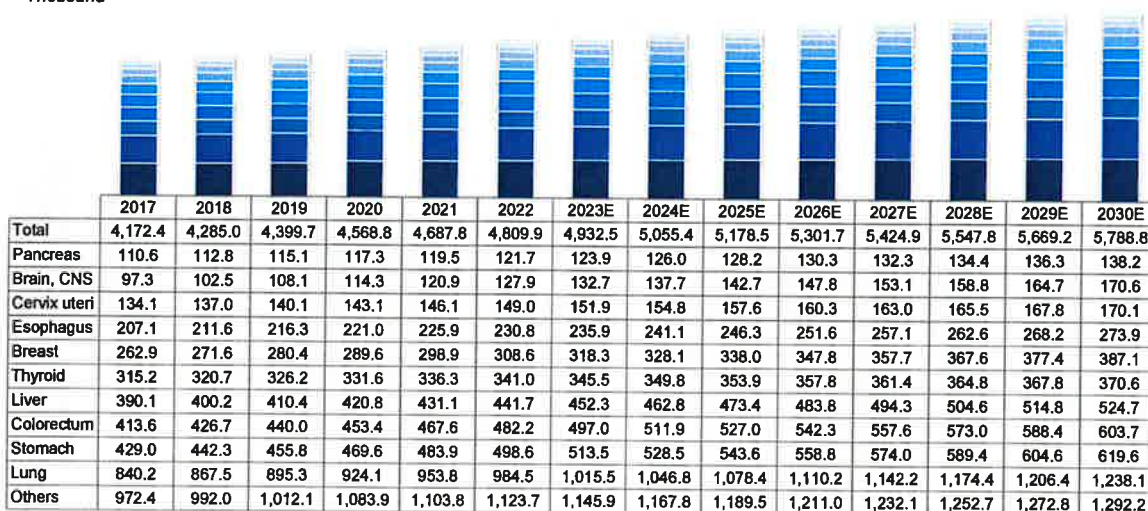
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Incidence of Cancer in China, 2017-2030E

- Different from the global situation, among all types of cancers, lung cancer, stomach cancer, colorectal cancer, liver cancer and thyroid cancer are the top 5 in China in 2021, together they can hold a proportion more than 50% of each year's new patients.
- The incidence of lung cancer, colorectal cancer and esophagus cancer has higher CAGRs than others.

Incidence of Cancer in China, 2017-2030E

Thousand



Source: NCCR, IARC, Frost & Sullivan analysis

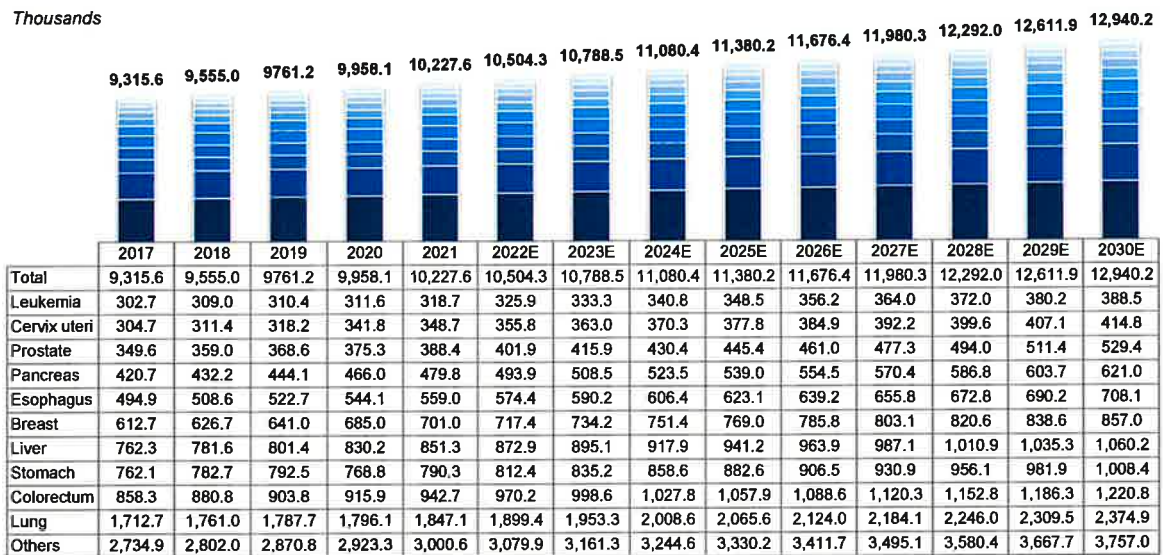
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Mortality of Cancer Globally, 2017-2030E

- Global top 10 cancer type by deaths are slightly different with China, including lung cancer, colorectal cancer, stomach cancer, liver cancer, breast cancer, esophagus cancer, pancreas cancer, cervix cancer and leukemia.

Mortality of Cancer Globally, 2017-2030E



Source: Globocan, IARC, Frost & Sullivan analysis

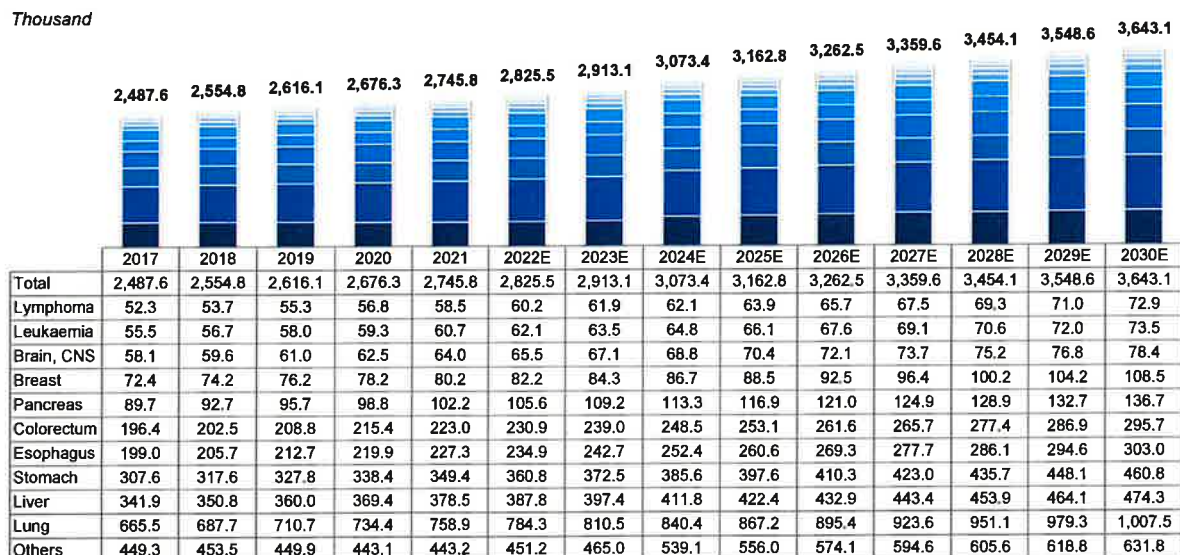
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Mortality of Cancer in China, 2017-2030E

- Among all types of cancers, lung cancer, liver cancer, stomach cancer, esophagus and colorectal cancer are the top 5 cancer deaths in China.

Mortality of Cancer in China, 2017-2030E



Source: Globocan, IARC, Frost & Sullivan analysis

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Five-year Survival Rate of Selected Cancers Between China and the U.S.

- China's 5-year survival rate lags far behind the U.S. in prostate cancer, testis cancer, melanoma of skin, lymphoma and leukemia, according to the investigation in China (2012-2015) and the U.S. (2011-2017).
- For lung cancer which has the largest patient pool in China, it has equivalent survival rate when comparing to the U.S. This is because the much higher EGFR mutation rate among China patients.

Five-year Survival Rate of Selected Cancers in China and the U.S.

	Thyroid	Breast	Bladder	Kidney	Prostate	Cervix	Larynx	Colon-rectum	Testis	Oral cavity and pharynx	Nasopharynx	Melanoma of skin	Ovary	Non-Hodgkin Lymphoma	Stomach	Esophagus	Brain	Leukemia	Lung	Liver	Pancreas
China	84.3%	82.0%	72.9%	69.8%	66.4%	59.8%	57.7%	56.9%	55.2%	50.4%	45.5%	45.1%	39.1%	37.2%	35.1%	30.3%	26.7%	25.4%	19.7%	12.1%	7.2%
the U.S.	98.3%	90.3%	77.1%	75.6%	97.5%	66.3%	60.7%	64.7%	94.9%	66.9%	62.0%	93.3%	49.1%	73.2%	32.4%	19.9%	32.6%	65.0%	21.7%	20.3%	10.8%

Source: NIH, CDC, NCCR, Frost & Sullivan analysis

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Incidence and Mortality of Main Cancers in Provinces that Company Operates in China, 2018

Incidence of Main Cancers in Provinces that Company Operates in China, 2018

Thousand	Beijing	Tianjin	Shanxi	Henan	Anhui
Lung	16.2	11.7	21.4	51.2	33.3
Colorectal	5.5	4.0	9.1	18.9	14.5
Stomach	6.8	4.9	10.3	31.6	26.2
Esophageal	3.9	2.8	6.4	28.2	15.9
Liver	8.2	6.0	9.8	25.1	16.2
Breast	12.0	8.7	15.1	43.3	20.3

Mortality of Main Cancers in Provinces that Company Operates in China, 2018

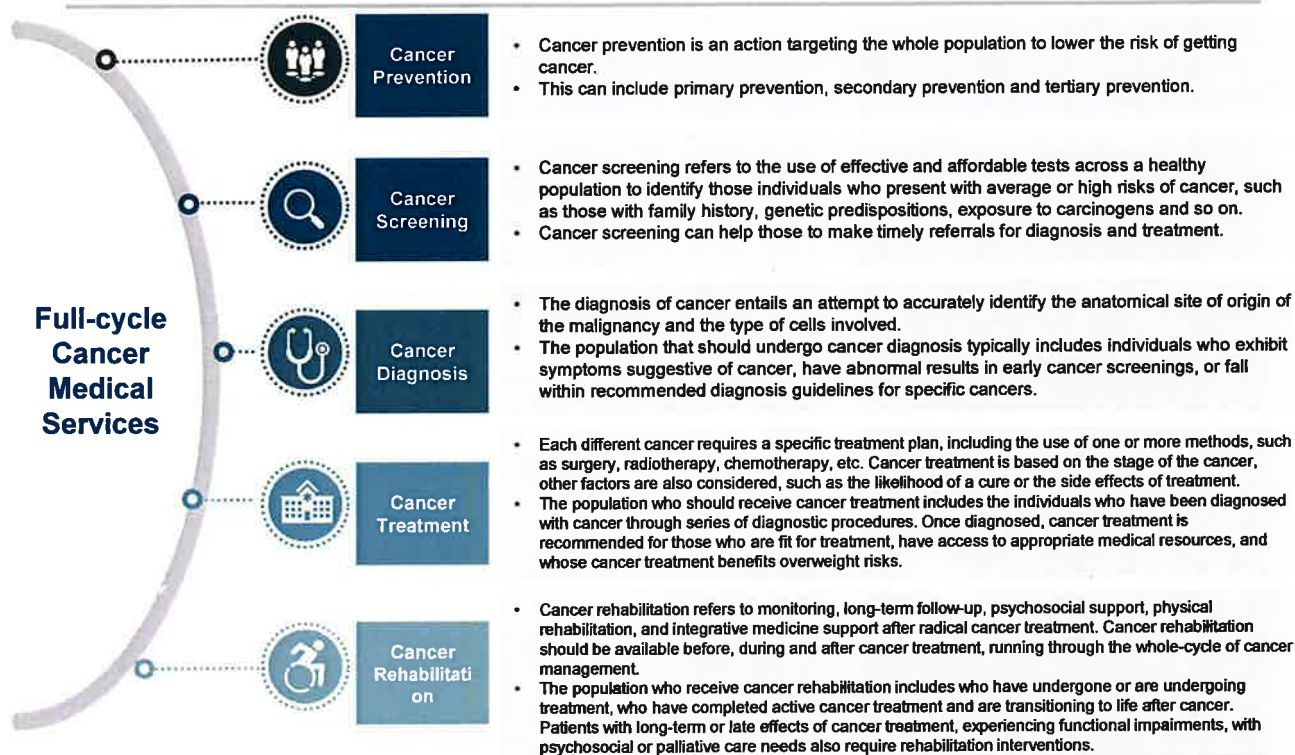
Thousand	Beijing	Tianjin	Shanxi	Henan	Anhui
Lung	11.4	8.2	16.9	38.7	27.0
Colorectal	3.7	2.7	4.4	9.0	6.7
Stomach	4.9	3.5	7.6	24.3	18.7
Esophageal	3.2	2.3	5.0	21.5	11.6
Liver	4.9	3.5	8.5	21.2	14.3
Breast	2.5	1.8	3.5	10.2	4.7

Source: National Cancer Center, China Cancer Registry, Frost & Sullivan analysis

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Full-cycle Cancer Medical Services

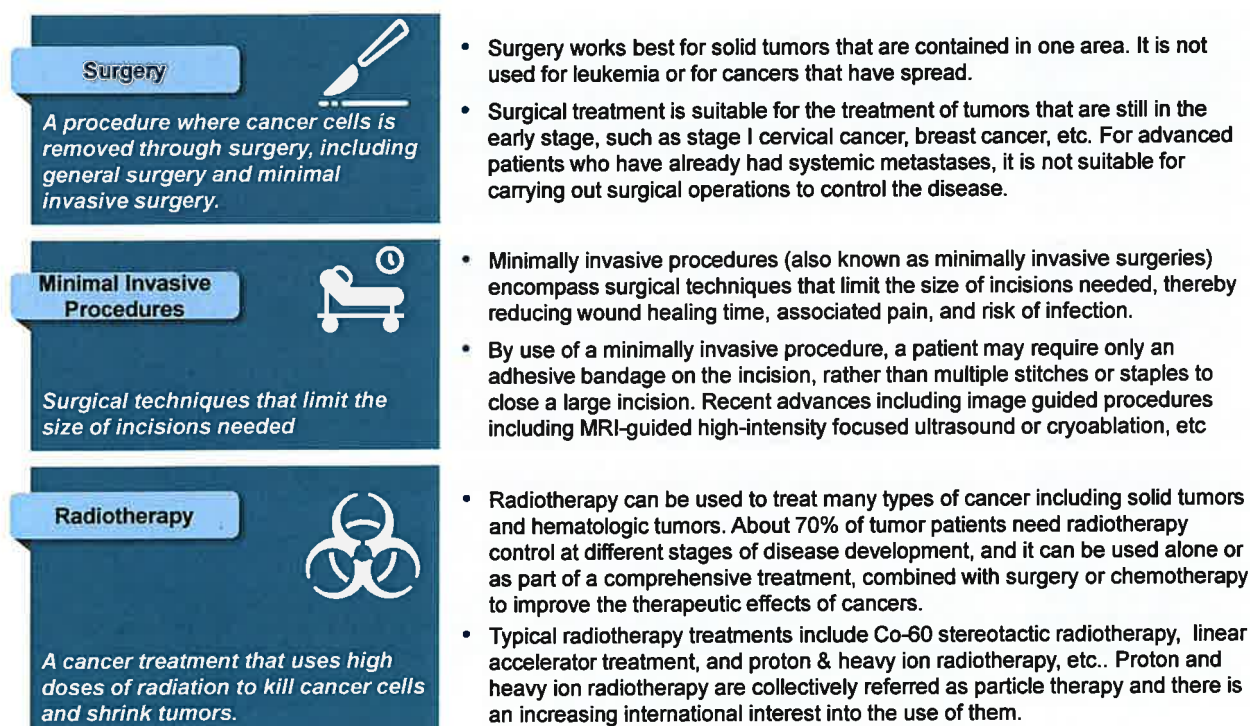


Source: NIH, CDC, Frost & Sullivan analysis

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Overview of Main Treatment Methods for Cancer - I



Source: Frost & Sullivan analysis

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Overview of Main Treatment Methods for Cancer - II

Chemotherapy



A cancer treatment that uses chemical substances, especially one or more anti-cancer drugs to stop or slow the growth of cancer cells.

- Chemotherapy can be used to treat many types of cancer alone or in combination with other treatments.
- Chemotherapy is a systemic treatment. Most early, middle, and advanced cancer patients require chemotherapy, especially chemotherapy-sensitive tumors such as lymphoma and leukemia.
- Typical chemotherapeutic drugs include alkylating agents, antimetabolites, anti-tumor antibiotics and etc..

Targeted Therapy



A cancer treatment that targets the changes in cancer cells that help them grow, divide, and spread.

- Most targeted therapies are either small-molecule drugs or monoclonal antibodies. Targeted therapy works by helping the immune system destroy cancer cells, stopping cancer cells from growing, stopping signals that help form blood vessels, etc..
- Targeted therapy is suitable for cancers that have targets for certain drugs, includes a variety of solid tumors and blood cancers. The targets are tested by biopsy.
- Typically targeted therapy drugs include Apatinib, Axitinib, Aflibercept, Sorafenib, Pertuzumab, etc..

Immunotherapy



A cancer treatment applies biological agent to induce the patient's own immune system to fight cancer.

- Suitable for a variety of solid tumors and blood cancer, such as liver cancer, leukemia. Biological agents mainly include cytokines, monoclonal antibodies, tumor vaccines.
- Biological agent therapy is a relatively new treatment and also a better choice for older patients with poor immunity and fear of side effects of radiotherapy and chemotherapy. Side effects of biological agent therapy are related to the health status and disease type of the patient, including diarrhea, abnormal blood routine results and autoimmune myocarditis.

Source: Frost & Sullivan analysis

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China Oncology Medical Service Industry Features

Low Cancer Early Screening Rate

In China, the number of new cancer patients keeps increasing every year. The therapeutic efficacy of cancer is related to the time of diagnosis. If tumors can be detected early, monitored and treated in time, the five-year survival rate will be greatly improved. At present, the five-year survival rate in China is only about 40.5%, which is much lower than that of the United States, which is around 67.1%, mainly resulting from the insufficient awareness of cancer prevention and low cancer early screening rate.

Shortage and Uneven Distribution of Cancer Medical Resources

China's cancer medical resources are unevenly distributed, where high-quality medical resources are concentrated in large cities, and medical resources in second- and third-tier cities are relatively scarce. For example, the number and advanced degree of radiotherapy equipment is significantly higher in developed cities than in underdeveloped cities. At the same time, compared with developed countries, China's cancer medical resources are short-handed. The number of radiotherapy machines per million people was around 1 to 2 in China, much lower than that of the United States.

Public hospitals place more attention on cancer treatment, but not screening and rehabilitation

Under current situation, public hospitals are undertaking more tumor medical service needs. However, these hospitals mainly focus on tumor treatment, but usually allocate less medical resources into the cancer screening and post-treatment rehabilitation part. This contributes to the fact that many of the patients are diagnosed at later stage of tumor and miss the best treatment window. On the other hand, the physical and mental health of the patients after cancer treatment, which affects the quality of life of patients, are also under shortage of professional staff and facilities.

Long Treatment Cycle and Heavy Burden

Due to the lack of early cancer screening, many cancer patients are diagnosed at late stage of cancer, the treatments are usually more complicated and requires longer hospital stay. Besides, due to the unevenly distributed medical resources, patients usually need to be transferred to hospitals in other cities with better treatment facilities and more skilled medical professionals. The results in higher treatment cost and a heavy financial burden on the patients.

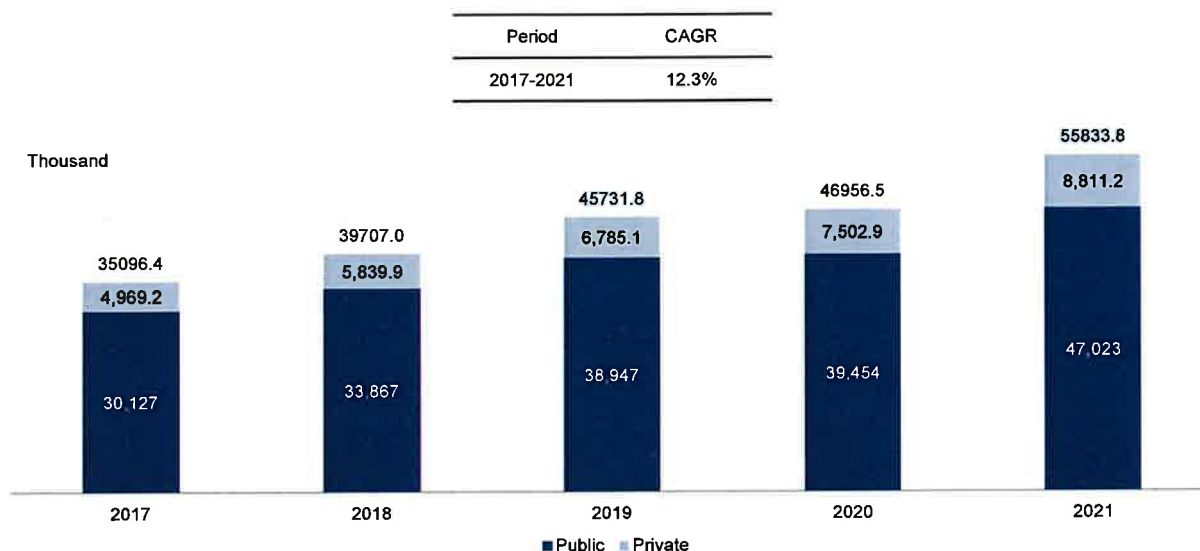
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Number of Oncology Outpatient Visits in Medical Institutions in China, 2017-2021

- Oncology outpatient visits in medical institutions in China were 35,096 thousand in 2017 and then increased at a high speed in next few years, reaching 55,834 thousand in 2021 with a CAGR of 12.3%.

Number of Oncology Outpatient Visits in Medical Institutions in China, 2017-2021



Source: NHC, Frost & Sullivan analysis

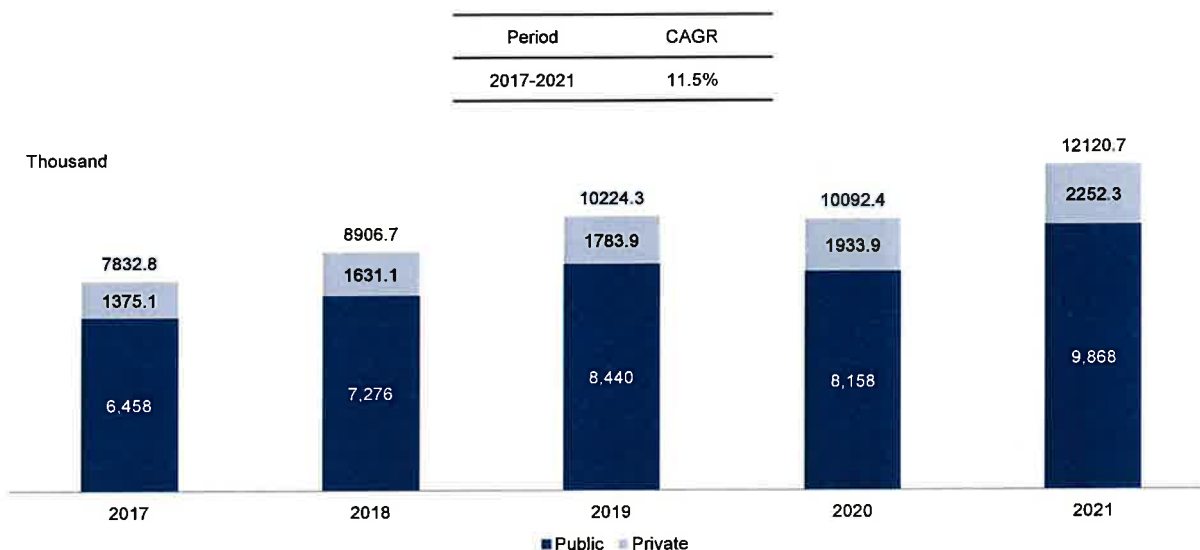
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Number of Oncology Inpatient Visits in Medical Institutions in China, 2017-2021

- Oncology inpatients in medical institutions in China were 7,833 thousand in 2017 and then increased at a high speed in few years, reaching 12,121 thousand in 2021 with a CAGR of 11.5%.

Number of Oncology Inpatient Visits in Medical Institutions in China, 2017-2021



Source: NHC, Frost & Sullivan analysis

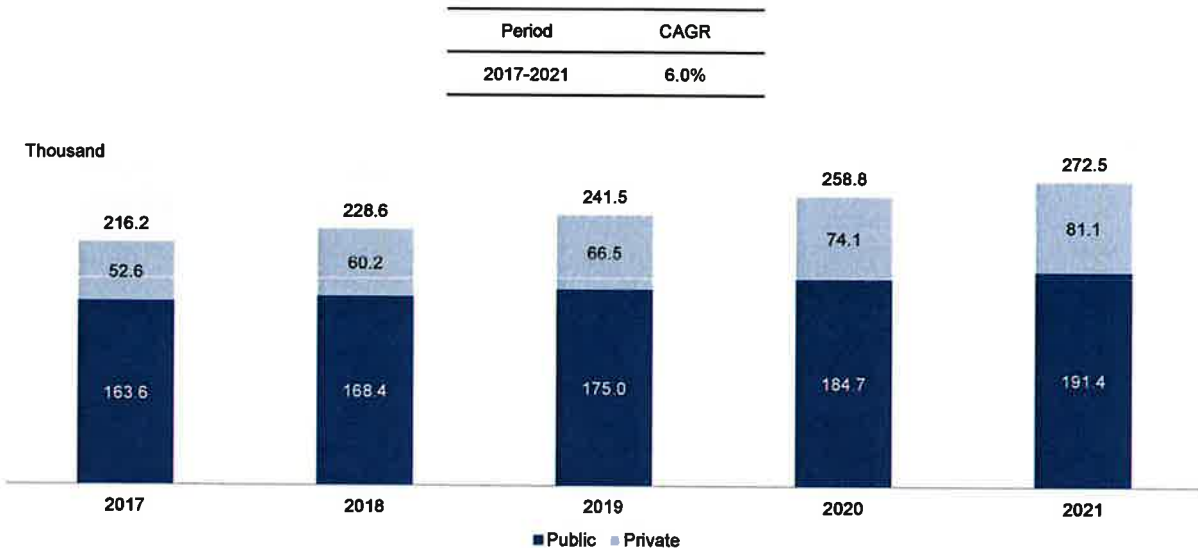
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Number of Oncology Beds in Medical Institutions in China, 2017-2021

- In 2017, there were 216.2 thousand beds in oncology medical institutions in China. From 2017 to 2021, the number of beds in oncology medical institutions experienced rapid growth, reaching 272.5 thousand in 2021 with a CAGR of 6.0%.

Number of Oncology Beds in Medical Institutions in China, 2017-2021



Source: NHC, Frost & Sullivan analysis

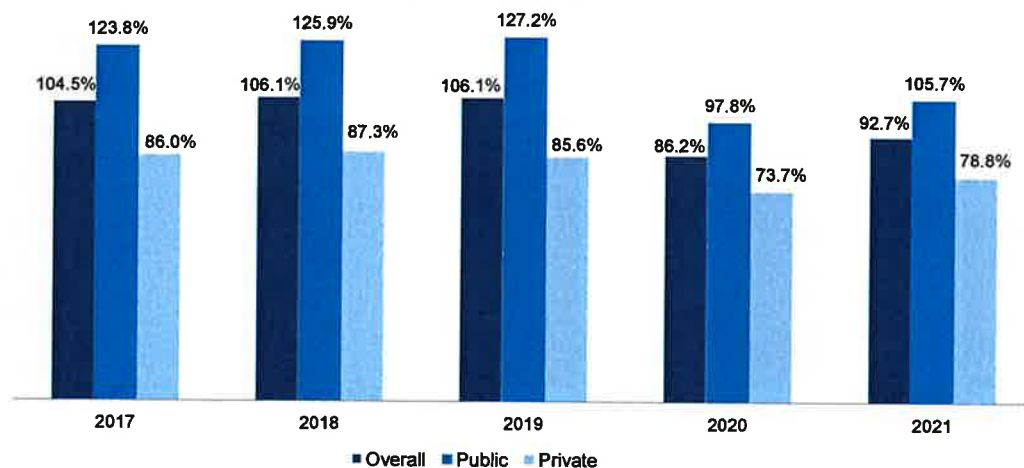
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Specialized Oncology Hospital Bed Occupancy Rate

- In China, the bed occupancy rate in specialized oncology hospitals are among the highest across all specialized hospitals, indicating the shortness of medical resource in oncology treatments. From 2016-2019, the bed occupancy rate have been over 100%. The temporary decrease in 2020 was due to COVID-19.

Specialized Oncology Hospital Bed Occupancy Rate, 2017-2021



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Source: NHC, Frost & Sullivan analysis

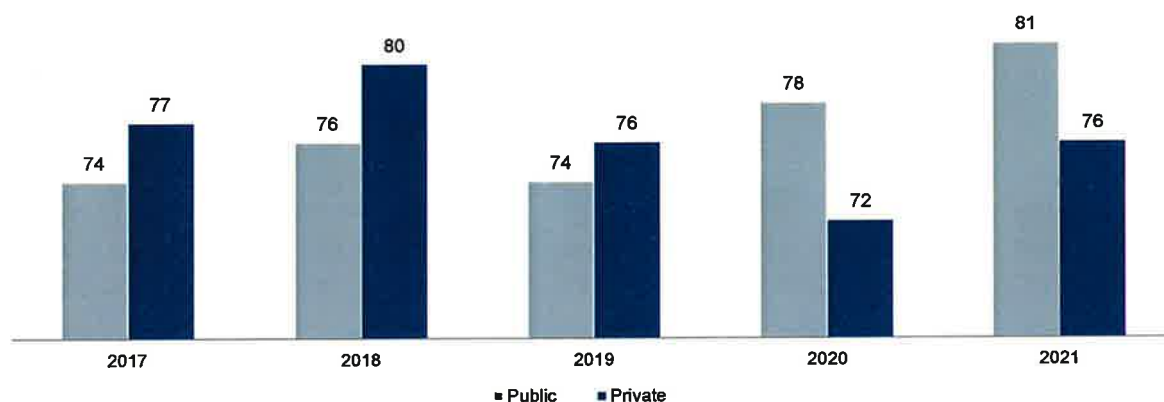
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Number of Specialized Cancer Hospitals in China, 2017-2021

- In 2017, there were 74 public oncology hospitals in China, and 81 in 2021.
- Between 2017 and 2018, the number of private oncology specialized hospitals in China experienced rapid growth. However, the number of private specialized cancer hospitals is 76 in 2021.

Number of Specialized Cancer Hospitals in China, 2017-2021

Period	Public	Private	Overall
2017-2021	2.3%	-0.3%	1.0%



Source: NHC, Frost & Sullivan analysis

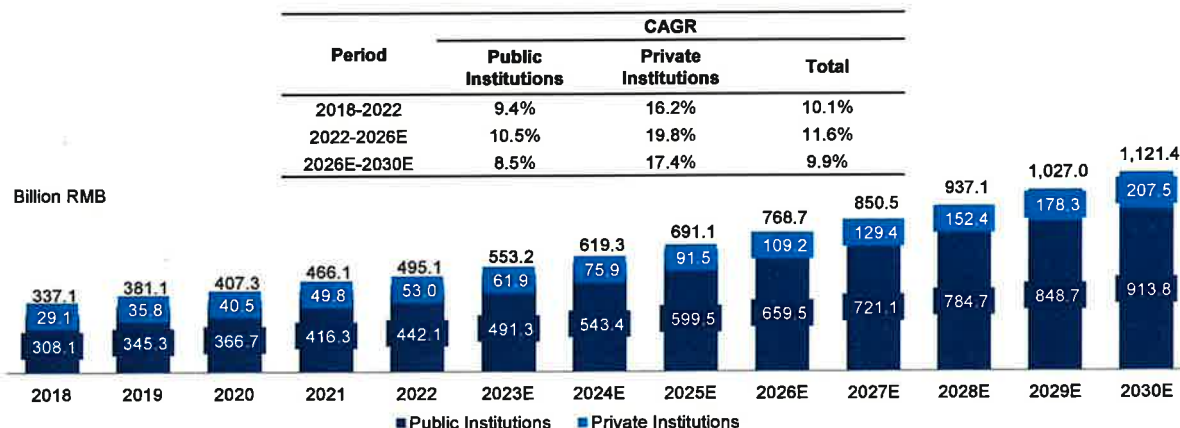
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Oncology Revenue of Healthcare Institutions in China, 2018-2030E Breakdown by Public and Private

- Oncology revenue at healthcare institutions in China increased from RMB 337.1 billion in 2018 to RMB 495.1 billion in 2022, with a CAGR of 10.1%.
- With the growing demand and improving access for cancer treatment, oncology revenue of Chinese healthcare institutions is projected to reach RMB 768.7 billion in 2026, growing at a CAGR of 11.6% from 2022 to 2026. Meanwhile, oncology revenue of private institutions will reach RMB 109.2 billion in 2026, growing at a CAGR of 19.8% from 2022 to 2026. Oncology revenue of Chinese healthcare institutions will continue to grow from RMB 768.7 billion in 2026 to RMB 1,121.4 billion in 2030, with the private sector growing from RMB 109.2 billion to RMB 207.5 billion.

Oncology Revenue of Healthcare Institutions in China, 2018-2030E



Note: Private Institutions include those that are private as well as those jointly operated by state entities and private entities.

Source: NHC, Frost & Sullivan analysis

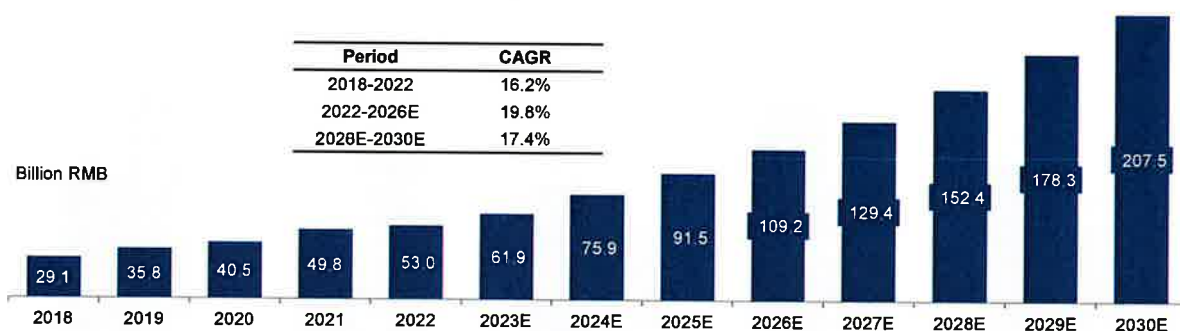
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Oncology Revenue of Private Healthcare Institutions in China, 2018-2030E

- Oncology revenue at private healthcare institutions in China increased from RMB 29.1 billion in 2018 to RMB 53.0 billion in 2022, with a CAGR of 16.2%.

Oncology Revenue of Private Healthcare Institutions in China, 2018-2030E



Note: Private Institutions include those that are private as well as those jointly operated by state entities and private entities.

Source: NHC, Frost & Sullivan analysis

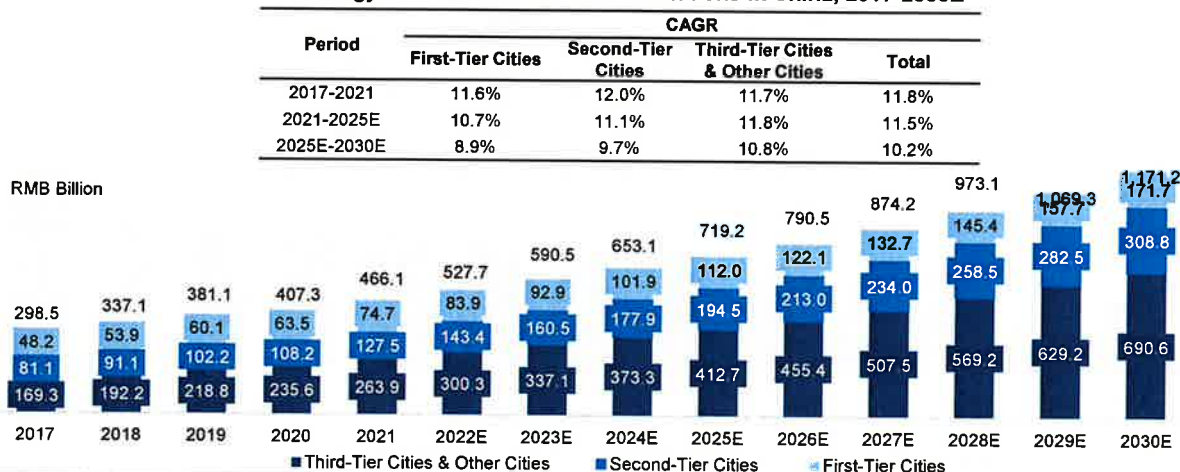
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Oncology Revenue of Healthcare Institutions in China, 2017-2030E Breakdown by First-Tier Cities, Second-Tier Cities and Third-Tier Cities & Other Cities

- Third-tier cities & other cities accounted for the largest proportion of total oncology revenue of healthcare institutions in China, increasing from RMB 169.3 billion in 2017 to RMB 263.9 billion in 2021 with a CAGR of 11.7%. With more construction of local hospitals and entrance of more medical resources the revenue is projected to increase fast and reach RMB 412.7 billion in 2025, representing a CAGR of 10.7% from 2021.
- During 2017 and 2021, revenue of first-tier cities and second-tier cities also increased rapidly, growing from RMB 48.2 billion and RMB 81.1 billion in 2017 to RMB 74.7 billion and RMB 127.5 billion in 2021, representing the CAGR of 11.7% and 12.0%, respectively. It is estimated that the market size in first-tier cities and second-tier cities will continue to grow and reach RMB 112.0 billion and RMB 194.5 billion in 2025, respectively.

Oncology Revenue of Healthcare Institutions in China, 2017-2030E



Source: Frost & Sullivan analysis

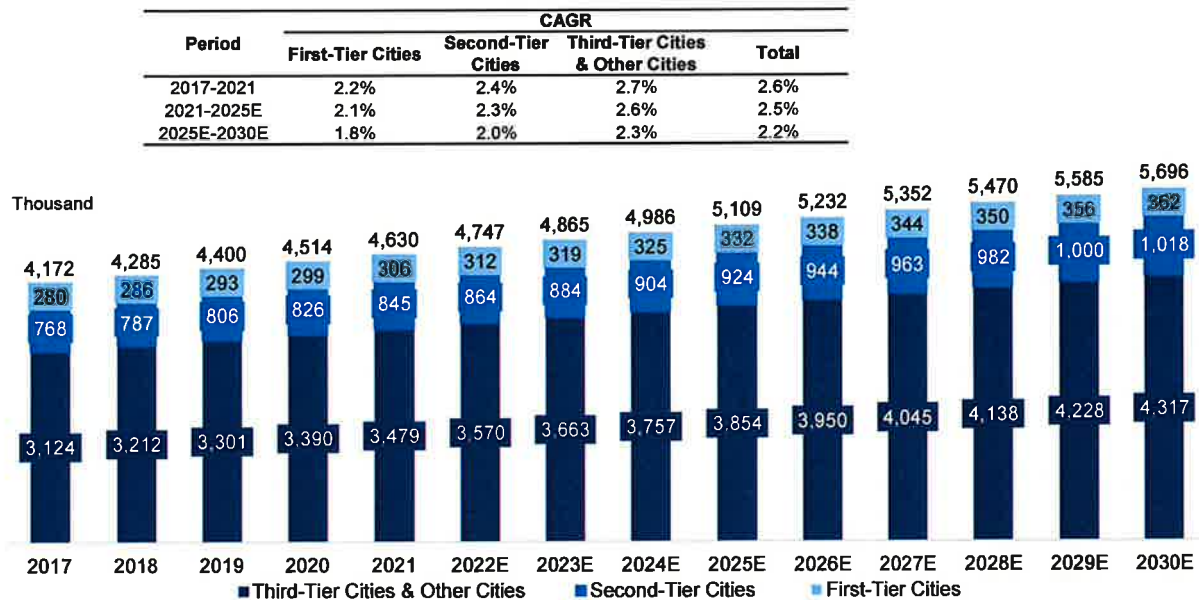
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Incidence of Cancer in China, 2017-2030

Breakdown by First-Tier Cities, Second-Tier Cities and Third-Tier Cities & Other Cities

Incidence of Cancer in China, 2016-2030E



Source: NHC, Frost & Sullivan analysis

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Overview of Specialized Cancer Hospitals in China

- In China, oncology medical institutions consist of public general hospitals with oncology departments, public oncology specialized hospitals, private general hospitals with oncology departments, private oncology specialized hospitals, etc.

Public Hospitals	General Hospitals with Oncology Departments	General hospitals provide patients with basic and comprehensive medical services, including oncology services in the form of specialized departments, such as oncology and oncology surgery. Public general hospitals that open the oncology department are mainly Class III hospitals, and the oncology department opened by the Class II hospital is difficult to cope with serious cancers.
	Oncology Specialized Hospitals	Compared with general hospitals, public oncology hospitals have a higher degree of refinement for tumor treatment. Different departments are set up depending on the specific location and type of tumor. Cancer treatment in these hospitals is more elaborate, usually equipped with large-scale medical equipment.
Private Hospitals	General Hospitals with Oncology Departments	Many private general hospitals set oncology departments as key departments. In order to compete with public hospitals, such hospitals generally rely on the advantages of general hospitals to provide personalized and comprehensive medical services. A team of interdisciplinary experts is usually formed to give different treatment options for different situations of patients.
	Oncology Specialized Hospitals	Private oncology hospitals focus on providing oncology medical services, most of which apply unique treatment techniques and some provide high-end medical services to attract patients. In recent years, many social capital has begun to invest in oncology hospitals. Taking advantage of capital, those hospitals can equip with more advanced large-scale cancer diagnosis and treatment equipment.
Others	Women and Children Hospitals or Pediatric Hospitals	Other institutions include specialized public health institutions or hospitals for special populations, such as maternal and child health centers and pediatric specialized hospitals. The former will provide medical services for gynecologic cancers, while the latter will target pediatric cancers. This type of medical facility can provide a treatment plan that minimizes patient harm for special populations.

Source: Frost & Sullivan analysis

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Advantages of Private Specialized Cancer Hospitals

- Comparison of private specialized cancer hospitals and general hospitals with oncology departments: Public hospitals have comprehensive disciplines and provide convenience for patients to diagnosis disease especially diseases which are still not clear yet. In comparison, private specialized hospitals have higher degree of refinement for tumor treatment, with more flexibility in management systems and services, alternative drugs & equipment and advanced training system.

Flexible Management System & Service

- Private hospitals are originally developed in the form of enterprises, and basically adopt the enterprise management, so they are more adaptable to market development and can make timely adjustments to service content and prices according to the actual needs of patients and changes in the medical market. Private specialized cancer hospitals usually have a higher doctor-patient ratio, improving the patient treatment experience with faster access to medical resources and high-end personalized care.

Alternative Drugs and Equipment

- Public hospitals provide patients with basic and comprehensive medical services. They will procure the bid-winning drugs with the priority and doctors will prescribe the drugs to meet the quantity commitment.
- Patients in private specialized cancer hospitals can also have access to drugs that have not been procured by oncology department of public hospitals. Taking advantage of capital, some private specialized cancer hospitals can equip with more advanced large-scale cancer diagnosis and treatment equipment, such as proton therapy.

Advanced Training System for Oncology Physicists

- Public hospitals focus on training general practitioners through the clinical rotation, professional training and others.
- Under flexible management system, private specialized oncology hospitals can establish a reasonable distribution system according to their own situation and market environment.

Full-cycle Cancer Management

- The complete cancer management cycle usually including cancer screening, cancer diagnosis, cancer treatment and cancer rehabilitation. Traditional public hospital usually focus on cancer diagnosis and treatment, but lack the resources and facilities for screening and rehabilitation.
- Private hospital are more flexible in terms of management systems and department arrangement, and can fulfill the unmet demand of cancer screening and rehabilitation. For example, some private hospital groups, including Bayzed Hospital Group, are building a full-cycle cancer services covering each step from screening to rehabilitation services, providing tailored on-stop service for cancer patients.

Source: Frost & Sullivan analysis

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Rankings of Private Cancer Hospital Groups in China, 2022

Ranking category: Private cancer hospital groups in China

Measure: Medical institutions with oncology

Definition: Any medical institution that provides cancer therapy services; includes both specialized cancer institutions and comprehensive institutions that provide cancer therapy

Rankings by Number of Medical Institutions with Oncology, 2022

Ranking	Company	Number of Institutions	Number of Self-owned hospitals with Oncology services
1	Hygeia Group (海吉亚)	31	12
2	APMG (亚太医疗集团)	8	8
3	Bayzed Medical (佰泽医疗集团)	8	6
4	KeXin Group (珂信健康)	5	4
5	Concord (美中嘉和)	21	3
6	INKON Life (盈康生命)	6	3

Source: Frost & Sullivan analysis

Note: Self-owned hospital refers to those with more than 50% holding

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Rankings of Private Cancer Hospital Groups in China, 2023

Ranking category: Private cancer hospital groups in China

Measure: Medical institutions with oncology

Definition: Any medical institution that provides cancer therapy services; includes both specialized cancer institutions and comprehensive institutions that provide cancer therapy

Rankings by Number of Medical Institutions with Oncology, 2023

Ranking	Company	Number of Self-owned hospitals with Oncology services
1	Hygeia Group (海吉亚)	15
2	APMG (亚太医疗集团)	9
3	Bayzed Medical (佰泽医疗集团)	6
4	KeXin Group (珂信健康)	4
5	Concord (美中嘉和)	3
5	INKON Life (盈康生命)	3

Source: Frost & Sullivan analysis

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Note: Self-owned hospital refers to those with more than 50% holding

Rankings of Individual Private General Hospitals in China, 2022

Ranking category: Individual private general hospitals in China

Measure: Private general hospitals

Definition: Any individual private general hospitals that provides healthcare services

Rankings by Total Revenue of Individual Private General Hospitals in China, 2022

Ranking	Company	Total Revenue (billion RMB)	Market Share
1	Foshan Fosun Chancheng Hospital ^A (佛山复星禅诚医院)	2.15	0.35%
2	Puyang Oil Field General Hospital ^B (濮阳市油田总医院)	1.85	0.30%
3	Dongguan Tungwah Hospital ^C (东莞东华医院)	1.65	0.27%
4	Xi'an International Medical Center Hospital ^D (西安国际医学中心)	1.62	0.27%
5	Nanjing BenQ Medical Center ^E (南京明基医院)	1.43	0.24%

Notes:

- Hospital A is established in 1958 and located in Foshan, Guangdong Province. The hospital is affiliated with a listed company on Shanghai Stock Exchange. Hospital A is a Class III Grade A hospital specializing in spine orthopedics, urology, and women and children's center. It was awarded 'Guangdong Province Bethune-style Advance Collective' (广东省白求恩式先进单位), 'Foshan Enterprise Postdoctoral Workstation' (佛山企业博士后工作站), 'Mother-Baby Friendly Hospital' (母婴友好医院), and etc.
- Hospital B is established in 1975 and located in Puyang, Henan Province. Hospital B is a Class III Grade A hospital specializing in orthopedic surgery, cardiovascular medicine, pediatrics, obstetrics and gynecology, neurosurgery, and etc. It was awarded 'Provincial Civilized Unit' (省级文明单位), 'Advanced Group in the Provincial Health' (全省卫生系统先进集体), 'Innovative Hospital' (创新单位), 'Outstanding Private Hospital in Henan Province' (河南省优秀民营医院) and etc.
- Hospital C is established in 1995 and located in Dongguan, Guangdong Province. The hospital is affiliated with a listed company on Hongkong Stock Exchange. Hospital B is a Class III Grade A hospital specializing in plastic surgery, cardiology, and medical imaging department. It was awarded 'Dongguan Outstanding Social Contribution Award' (东莞市回馈社会杰出贡献奖), 'Dongguan Model Unit for Honest Services' (东莞诚信服务示范单位), and 'Dongguan outstanding Unit for Comprehensive Hospital Management Work' (东莞市综合医院管理工作先进单位).

Rankings of Private Cancer Hospital Groups in China, 2022

Ranking category: Private cancer hospital groups in China

Measure: Medical institutions with oncology

Definition: Any private medical institution that provides cancer therapy services; includes both specialized cancer institutions and comprehensive institutions that provide cancer therapy

Rankings by Total Oncology Revenue of Self-owned Hospitals, 2022

Ranking	Company	Total Oncology Revenue (million RMB)	Market Share*
1	Hygeia Group (海吉亚)	1438.4	2.7%
2	APMG (亚太医疗集团)	1010.0	1.9%
3	INKON Life (盈康生命)	483.6	0.9%
4	Concord (美中嘉和)	248.3	0.5%
5	Bayzed (佰泽)	242.7	0.5%
6	KeXin Group (珂信健康)	146.4	0.3%

Note: *Share of Oncology Revenue of Private Healthcare Institutions.

Source: Frost & Sullivan analysis

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Rankings of Private Cancer Hospital Groups in China, 2023

Ranking category: Private cancer hospital groups in China

Measure: Medical institutions with oncology

Definition: Any private medical institution that provides cancer therapy services; includes both specialized cancer institutions and comprehensive institutions that provide cancer therapy

Rankings by Total Oncology Revenue of Self-owned Hospitals, 2023

Ranking	Company	Total Oncology Revenue (million RMB)	Market Share*
1	Hygeia Group (海吉亚)	1778.4	2.8%
2	APMG (亚太医疗集团)	1344.0	2.1%
3	INKON Life (盈康生命)	505.6	0.8%
4	Bayzed (佰泽)	345.0	0.6%
5	Concord (美中嘉和)	320.0	0.5%
6	KeXin Group (珂信健康)	150.0	0.2%

Note: *Share of Oncology Revenue of Private Healthcare Institutions.

Source: Frost & Sullivan analysis

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Rankings of Private Cancer Hospital Groups in China, 2022

Ranking category: Private cancer hospital groups in China

In terms of cancer screening revenue of private cancer hospital groups, Hygeia Group ranked first with 59.5 million RMB in 2022. Bayzed group ranked 3rd with 16.2 million RMB revenue in 2022.

Rankings by Cancer Screening Revenue of Self-owned Hospitals, 2022

Ranking	Company	Oncology Screening Revenue (million RMB)	Market Share*
1	Hygeia Group (海吉亚)	59.5	2.6%
2	APMG (亚太医疗集团)	23.5	1.0%
3	Bayzed (佰泽)	15.0	0.6%
4	Concord (美中嘉和)	13.0	0.6%
5	INKON Life (盈康生命)	11.8	0.5%
6	KeXin Group (珂信健康)	6.9	0.3%

*Note: *Share of Oncology Revenue of Private Healthcare Institutions.*

Cancer screening services including early cancer screening services and diagnosis services.

Source: Frost & Sullivan analysis

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Rankings of Private Cancer Hospital Groups in China, 2023

Ranking category: Private cancer hospital groups in China

In terms of cancer screening revenue of private cancer hospital groups, Hygeia Group ranked first with 98.6 million RMB in 2023. Bayzed group ranked 3rd with 24.2 million RMB revenue in 2023.

Rankings by Cancer Screening Revenue of Self-owned Hospitals, 2023

Ranking	Company	Oncology Screening Revenue (million RMB)	Market Share*
1	Hygeia Group (海吉亚)	98.6	4.2%
2	APMG (亚太医疗集团)	67.6	2.9%
3	Bayzed (佰泽)	24.2	1.0%
4	Concord (美中嘉和)	18.3	0.8%
5	INKON Life (盈康生命)	17.7	0.8%
6	KeXin Group (珂信健康)	14.3	0.6%

*Note: *Share of Oncology Revenue of Private Healthcare Institutions.*

Cancer screening services including early cancer screening services and diagnosis services.

Source: Frost & Sullivan analysis

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Rankings of Private Cancer Hospital Groups in China, 2022

Ranking category: Private cancer hospital groups in China

In terms of cancer rehabilitation revenue of private cancer hospital groups, APMG ranked first with 110.0 million RMB in 2022. Bayzed group ranked 4th with 26.5 million RMB revenue in 2022.

Rankings by Cancer Rehabilitation Revenue of Self-owned Hospitals, 2022

Ranking	Company	Oncology Rehabilitation Revenue (million RMB)	Market Share*
1	APMG (亚太医疗集团)	110.0	4.9%
2	Hygeia Group (海吉亚)	59.0	2.6%
3	INKON Life (盈康生命)	37.6	1.7%
4	Bayzed (佰泽)	26.5	1.2%
5	Concord (美中嘉和)	23.4	1.0%
6	KeXin Group (珂信健康)	6.3	0.3%

Note: *Share of Oncology Revenue of Private Healthcare Institutions.

Source: Frost & Sullivan analysis

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Rankings of Private Cancer Hospital Groups in China, 2023

Ranking category: Private cancer hospital groups in China

In terms of cancer rehabilitation revenue of private cancer hospital groups, APMG ranked first with 123.6 million RMB in 2023. Bayzed group ranked 4th with 21.4 million RMB revenue in 2023.

Rankings by Cancer Rehabilitation Revenue of Self-owned Hospitals, 2023

Ranking	Company	Oncology Rehabilitation Revenue (million RMB)	Market Share*
1	APMG (亚太医疗集团)	123.6	5.0%
2	Hygeia Group (海吉亚)	78.6	3.2%
3	INKON Life (盈康生命)	44.6	1.8%
4	Bayzed (佰泽)	21.4	0.9%
5	Concord (美中嘉和)	13.5	0.5%
6	KeXin Group (珂信健康)	9.8	0.4%

Note: *Share of Oncology Revenue of Private Healthcare Institutions.

Source: Frost & Sullivan analysis

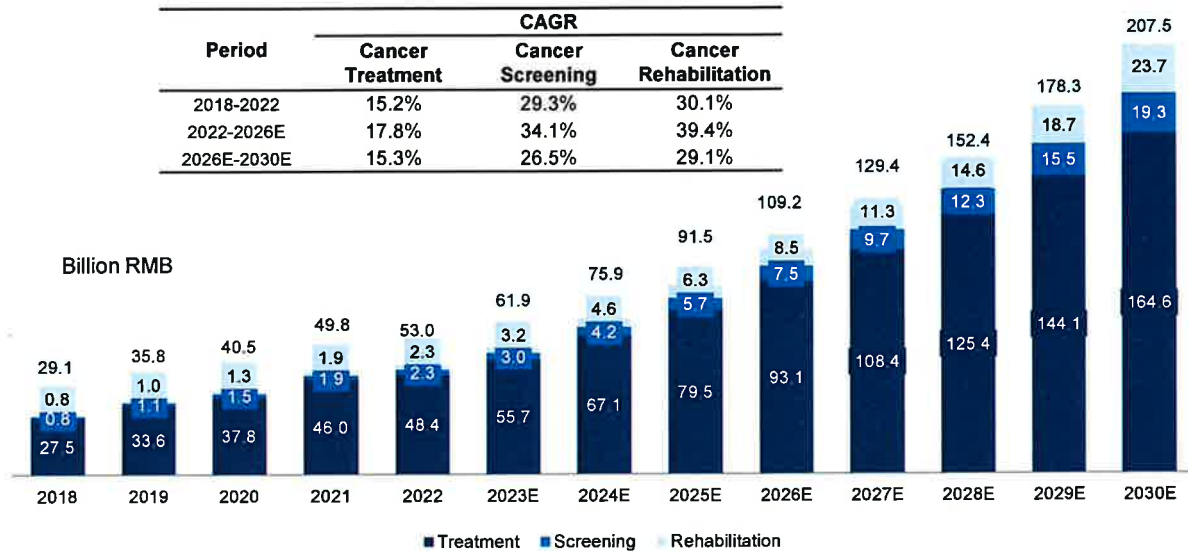
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Oncology Revenue of Private Healthcare Institutions in China, 2018-2030E Breakdown by Cancer Screening, Treatment and Rehabilitation

- Oncology revenue at private healthcare institutions in China increased from RMB 29.1 billion in 2018 to RMB 53.0 billion in 2022, with a CAGR of 16.2%. Oncology rehabilitation service revenue in China increased at a CAGR of 30.1% from 2018 and 2022, pushing the figure from RMB 0.8 billion in 2018 to RMB 2.3 billion in 2022.

Oncology Revenue of Healthcare Institutions in China, 2018-2030E



Source: NHC, Frost & Sullivan analysis

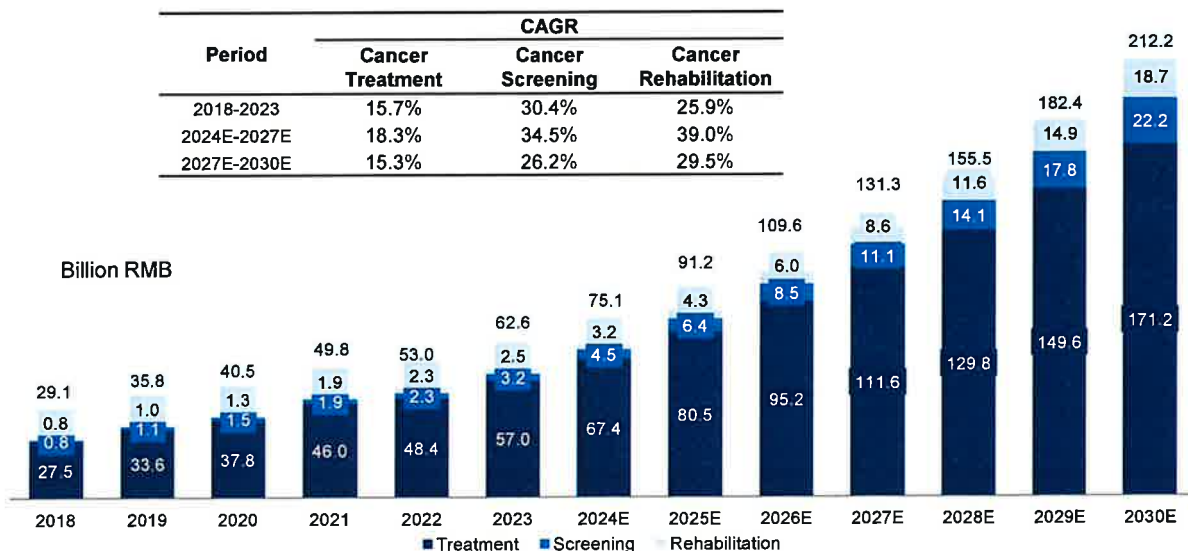
Note: Private Institutions include those that are private as well as those jointly operated by state entities and private entities.

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Oncology Revenue of Private Healthcare Institutions in China, 2018-2030E Breakdown by Cancer Screening, Treatment and Rehabilitation

- Oncology revenue at private healthcare institutions in China increased from RMB 29.1 billion in 2018 to RMB 62.6 billion in 2023, with a CAGR of 16.6%.

Oncology Revenue of Healthcare Institutions in China, 2018-2030E

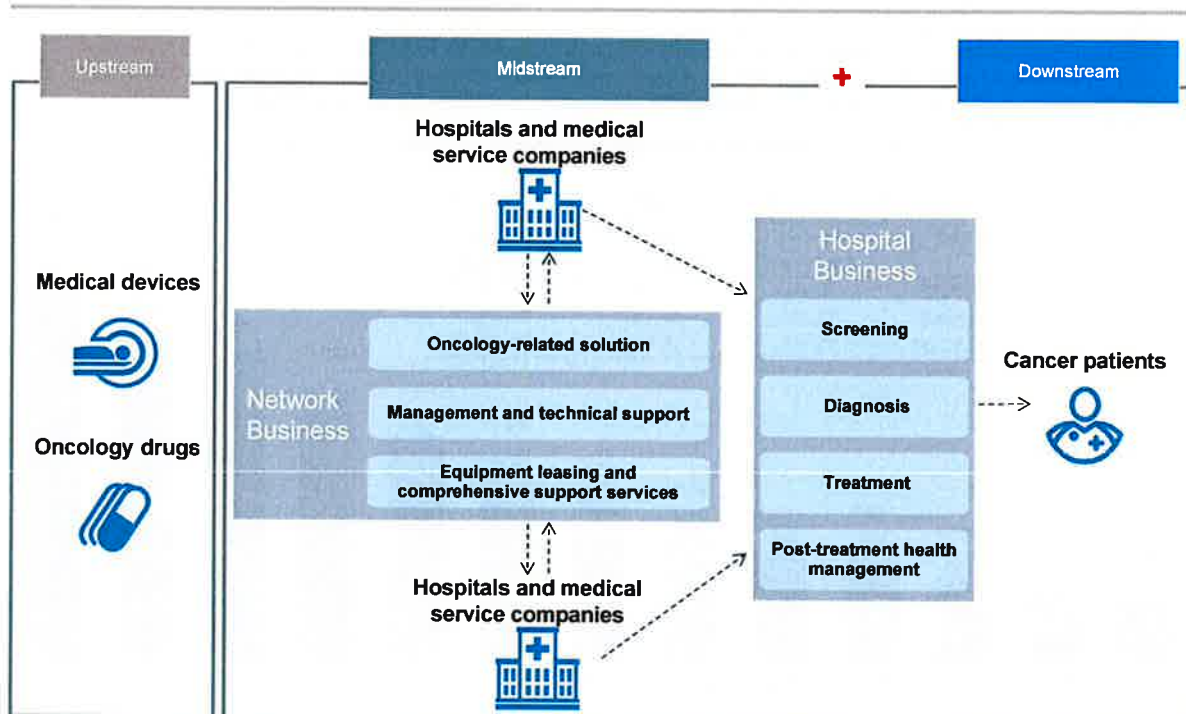


Source: NHC, Frost & Sullivan analysis

Note: Private Institutions include those that are private as well as those jointly operated by state entities and private entities.

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Value Chain of Oncology Healthcare



Source: Frost & Sullivan analysis

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Global Development History of Radiotherapy

- Since the discovery of X-ray in 1895, radiotherapy has developed quickly in the world, especially in developed countries. At present, main radiotherapy technologies in developed countries include medical linear accelerator with advanced technologies such as 3D-CRT, Gamma Knife, CyberKnife, TomoTherapy, proton and heavy ion therapy. However, in most developing countries, cobalt-60 teletherapy machine and traditional medical linear accelerator are still the main types of equipment in use. Although the development of radiotherapy technology in China lags behind that of developed countries, it has developed rapidly in recent years and has applied many advanced technologies.

In the 1890s	In the 1950s	In the 1960s	In the 1980s	In the 1990s
Two-Dimensional	Two-Dimensional	Two-Dimensional Stereotactic Radiotherapy	Three-Dimensional Stereotactic Radiotherapy	Three-Dimensional Stereotactic Radiotherapy
<p>Medicine had been using radiation as a treatment for cancer for more than 100 years, with its earliest roots traced back to the discovery of x-rays in by Wilhelm Röntgen.</p> <p>In 1895: Discovery of X rays.</p> <p>In 1896: The world's first medical X-ray was made in the United States.</p>	<p>The radiotherapy experienced rapid development, with two important equipment were invented.</p> <p>In 1951: The world's first cobalt-60 teletherapy machine was invented in Canada.</p> <p>In 1953: The world's first medical linear accelerator was installed in the US.</p>	<p>With the invention of Gamma Knife, radiotherapy turned into the stage of stereotactic radiotherapy.</p> <p>In 1968: The world's first Gamma Knife was installed in Sweden.</p>	<p>The concept of three-dimensional conformal radiotherapy (3D-CRT) was introduced. Its aim is to irradiate a target volume defined in a 3D imaging study, and hence to replace the 2D dose planning system with 3D treatment planning.</p>	<p>In 1990: The world's first completed hospital-based proton facility was constructed in the US.</p> <p>In 1994: The CyberKnife was invented at Stanford Health Care and first debuted. The first implementation of TomoTherapy with the first patient treated in April in the US.</p>



Source: Frost & Sullivan analysis

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Development History of Radiotherapy in China

- In China, radiotherapy has gone through a long process of development, and it will continue to evolve over time with the innovative and hard work of scientists.
- At present, China's main radiotherapy technologies include medical linear accelerator, Gamma Knife, CyberKnife, TomoTherapy, proton and heavy ion therapy. Among them, Gamma Knife and medical linear accelerator are the two main types of radiation equipment applied in clinical use in China.

In the 1930s	In the 1960s	In the 1970s	In the 1990s	In the 2000s
Two-Dimensional	Two-Dimensional	Two-Dimensional	Three-Dimensional Stereotactic Radiotherapy	Three-Dimensional Stereotactic Radiotherapy
<p>Radiotherapy in China began to develop.</p> <p>In 1932: Peking Union Medical College Hospital introduced a 120kV and a 200kV X-ray treatment machine.</p>	<p>The development of Chinese nuclear technology laid a steady foundation for the production of radiotherapy equipment.</p> <p>In 1969: The first cobalt-60 teletherapy machine was successfully invented.</p>	<p>China's radiotherapy turned into the stage of medical electronic linear accelerator as the main treatment equipment.</p> <p>In 1975: The first medical electronic linear accelerator was introduced in China.</p> <p>In 1977: The first domestic medical linear accelerator was successfully invented.</p>	<p>Precise radiotherapy technologies were introduced in China, such as stereotactic radiotherapy and 3D-CRT.</p> <p>In 1993: The country's first head gamma knife was introduced in China.</p> <p>In 1996: China invented the world's first rotary head gamma knife.</p>	<p>More advanced radiotherapy technologies were introduced in China.</p> <p>In 2006: The installation of China's first CyberKnife.</p> <p>In 2007: The installation of China's first TomoTherapy.</p> <p>In 2015: China's first Proton and Heavy Ion hospital opened.</p>



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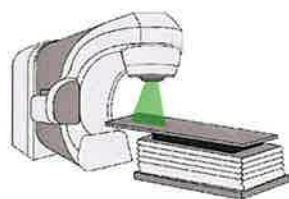
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Application of Radiotherapy in Cancer Treatment

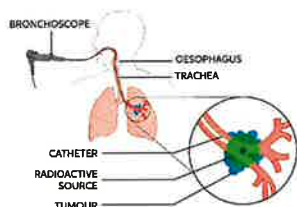
- There are two main sources of radiation beam in radiotherapy, external and internal. The type of radiation to use depends on many factors, including type, size and location of tumor as well as other factors such as age and general health.
- Radiation can be used to treat cancer by killing, stopping or slowing the growth of cancer cells (curative radiotherapy), to raise the effectiveness of other treatments (adjuvant radiotherapy) or to relieve symptoms if a cure is not possible (palliative radiotherapy).

Treatment Strategies of Radiotherapy

External Beam Radiation Therapy



Internal Radiation Therapy



Strategy	Purpose	Scenario
Curative radiotherapy	To eliminate tumor or slow tumor growth	Tumors are found in positions where surgery is not allowed; Or patients who refuse to take surgery. Only some types of cancers can be cured by radical radiotherapy, such as nasopharyngeal carcinoma, tonsil carcinoma, lymph cancer, cervical carcinoma and skin cancer.
Adjuvant radiotherapy	To improve results other treatments	Before surgery: shrink the tumor to a smaller size before surgery, to increase the success rate of surgery. During surgery: increase the effectiveness of surgery in lung cancer and pancreatic cancer After surgery: to kill any remaining cancer cells after surgery
Palliative radiotherapy	To ease pain and relieve symptoms	Pain and other problems caused by the tumor, such as trouble breathing or loss of bowel and bladder control

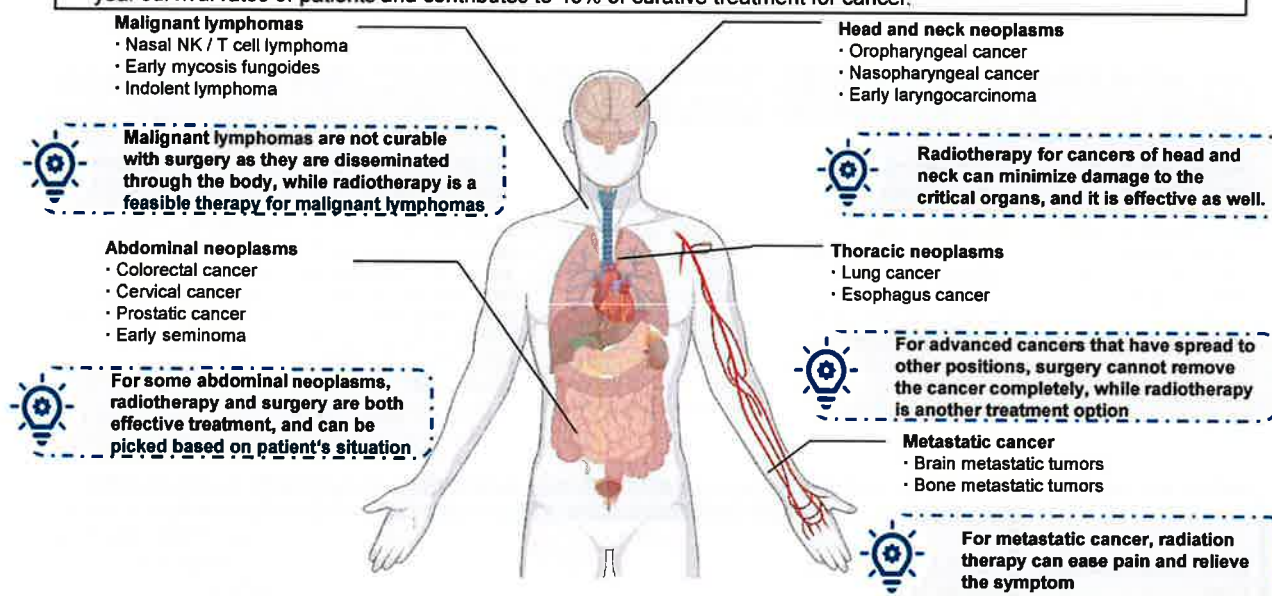
Source: literature review, Frost & Sullivan analysis

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Cancer Types Suited for Radiation Therapy

- Radiotherapy can be applied in treatments of nearly all kinds of cancers. But cancers listed below are more suitable for radiotherapy, because of their radiosensitivity, disseminate ability and location. According to the literature, cure rates of radiotherapy for oropharyngeal cancer and ethmoid sinus cancer are 37%-53% and 38%-40%, respectively. It can also cure 86%-94% of early nasopharyngeal carcinoma and cervical cancer. Radiotherapy is efficacious in raising the 5-year survival rates of patients and contributes to 40% of curative treatment for cancer.



Source: literature review, Frost & Sullivan analysis

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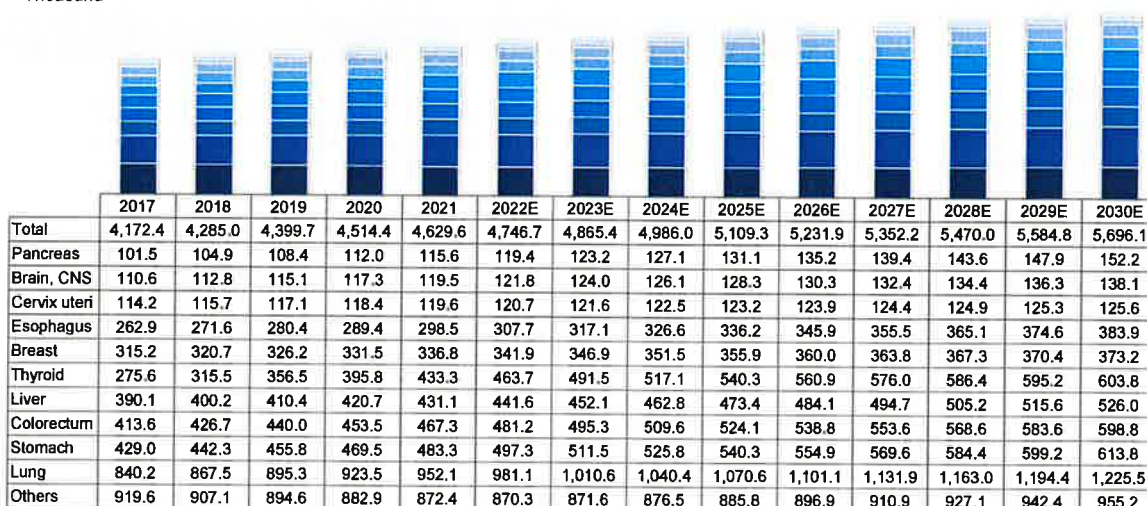
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Incidence of Cancer in China, 2017-2030E

- Different from the global situation, among all types of cancers, lung cancer, stomach cancer, colorectal cancer, liver cancer and thyroid cancer are the top 5 in China in 2021, together they can hold a proportion more than 50% of each year's new patients.
- The incidence of lung cancer, colorectal cancer and esophagus cancer has higher CAGRs than others.

Incidence of Cancer in China, 2017-2030E

Thousand



Source: NCCR, IARC, Frost & Sullivan analysis

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Key Cancer Types Suited for Radiotherapy

- According to WHO, the overall cancer cure rate increases from 45% to 67%, and contribution of radiotherapy to the overall cure rate rose from 18% to 30% from 2002 to 2013. As it is also mentioned, radiotherapy can cover nearly 95% of all cancer treatment, which shows the broad applications and great contribution of radiotherapy. For cancers listed below, radiotherapy shows great effectiveness in the treatment and has been used frequently.

Cancer Type	2021 China Incidence ('000s)	Cancer Subtype	Recommended Treatment Strategy				Cure Rate by Radiation
			Stage I	Stage II	Stage III	Stage IV	
Head and Neck	146.1	Nasopharyngeal carcinoma	RT		CRT		Stage I and Stage II: 88%~96% Stage III: 81% Stage IV: 74%
		Larynx/hypopharyngeal/oropharyngeal carcinoma	Surgery or RT		RT or Surgery + RT or CRT		Early-stage larynx carcinoma: 88% Early-stage hypopharyngeal Carcinoma: 83% Early-stage oropharyngeal carcinoma: 50%
Esophagus	298.5	Esophageal carcinoma	Surgery	Surgery or CRT		CRT	Stage I: 93% Stage II~III: 62%~82% Stage IV: 37%
Cervix uteri	119.6	Cervical carcinoma	Surgery or RT		Stage IIA: Surgery or RT Stage IIB~IV: CRT		Stage IIB: 65%~75% Stage IIB: 30%~50% Stage IVA: 10%~15%
Lymphoma	102.1	Nasal NK/T cell lymphoma		CRT		CT or Palliative RT	Radiotherapy: >65% Radiotherapy + chemotherapy: 77%
Lung	952.1	Lung cancer	Surgery or RT or CRT		CRT	CT	Early-stage small cell lung cancer: 50% Early-stage non-small cell lung cancer: 60%

Note: RT = Radiotherapy, CT = Chemotherapy, CRT = Chemotherapy + Radiotherapy

Source: literature review, Frost & Sullivan analysis

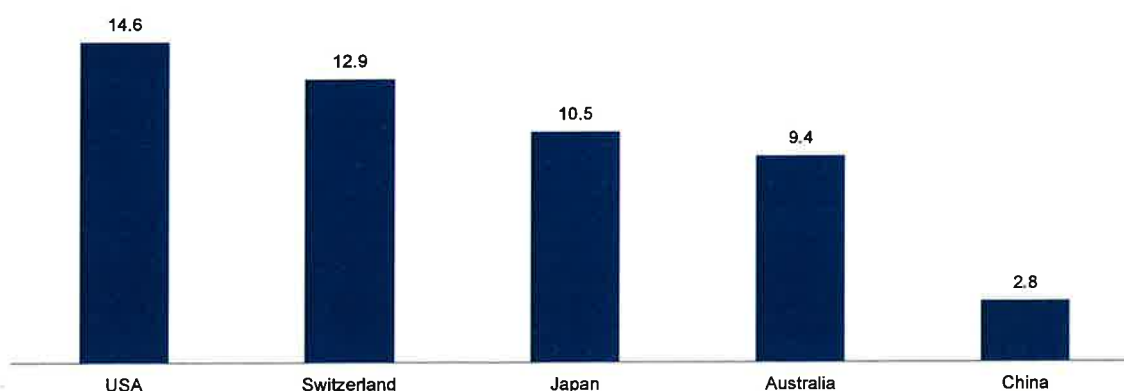
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Density of Radiotherapy Units in Selected Countries, 2021

- The number of radiotherapy units per million population is higher in developed countries. In 2021, the number of radiotherapy units per million population in USA, Switzerland, Japan and Australia were 14.6, 12.9, 10.5 and 9.4 respectively, much higher than that in China, which was only 2.8 in 2021.
- The recommended density of radiation units recommended by the WHO is 2 - 4 units per million population. Developed countries have radiation equipment densities ranging from 6 to 12 units per million population, while China only barely meets that standard. Currently, China's radiotherapy resources are insufficient to meet the growing treatment needs of cancer patients. It is urgent to speed up the development of radiotherapy capabilities, including the number of radiotherapy units and trained personnel.

Number of Radiotherapy Units per Million Population in Selected Countries, 2021



Source: IAEA, Society of Oncology Radiotherapy of Chinese Medical Association, Frost & Sullivan analysis

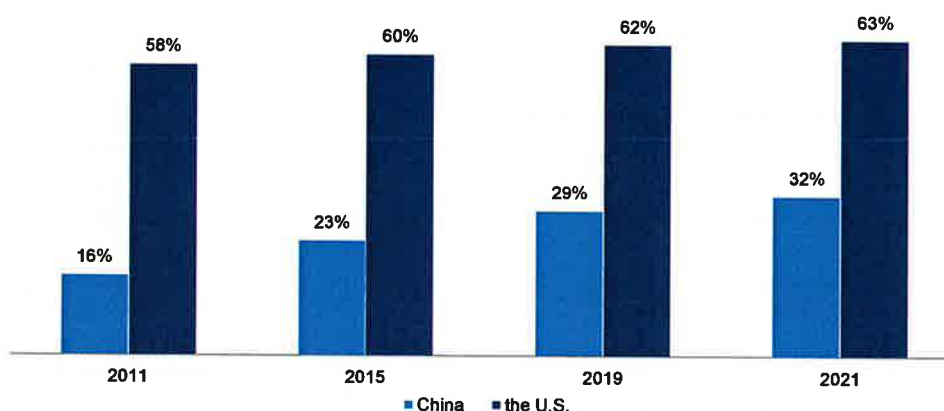
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Penetration of Radiotherapy in China and US, 2011-2021

- The penetration of radiation therapy, defined as the percentage of all cancer patients that receive radiotherapy, in China was only 32% in 2021, based on official government statistics released every four years. In comparison, the percentage of cancer patients receiving radiotherapy in the U.S. was much higher and stayed relatively stable, with the penetration being 63% in 2021. With the advancement of radiotherapy technology and growing acceptance for radiotherapy treatment, the percentage of cancer patients receiving radiotherapy in China will continue to grow in the near future.

Penetration of Radiotherapy in China and US, 2011-2021



Source: Society of Oncology Radiotherapy of Chinese Medical Association, NCCR, NIH, Frost & Sullivan analysis
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Current Status of Radiotherapy in China

Acceptance of Radiotherapy

- In the past, many patients have misconceptions that radiation treatment can cause long-term harmful effects and thus have lower acceptance for radiotherapy. However, people's perception toward radiotherapy has improved in these years.
- Physicians' attitude toward radiotherapy also affects the adoption of radiotherapy. Because radiotherapy department is separated from surgical department and internal medicine department, where most cancer patients get diagnosed and treated, sometimes physicians tend to retain their patients within their own departments and as such, collaboration across different departments is difficult.



Density of Equipment

- The density of radiotherapy units per million population was only about 2.8 in 2021 and far lower than that of developed countries such as the US, Switzerland, Japan and Australia, where the densities are 14.6, 12.9, 10.5 and 9.4 per million population, respectively.
- There is a clear imbalance in the geographical distribution of radiation devices and facilities within China. The density of radiotherapy units in many Midwestern provinces in China is less than 1 per million population.

Access to Advanced Therapies

- Linear accelerators and gamma knives are common in China, while proton and ion therapy facilities are rare. Only 5 proton therapy centers are in operation in China, while that number is 41 in America. However, the number will increase since there are many proton therapy centers that are under construction or in planning stage in China.
- Three-Dimensional Conformal Radiation Therapy (3D-CRT) and Intensity-modulated radiotherapy (IMRT) are used as mainstream methods in hospitals in China. But the application of more advanced techniques like volumetric modulated arc therapy (VMAT) and Image-guided Radiation Therapy (IGRT) needs to be improved.



Availability of Medical Physicists

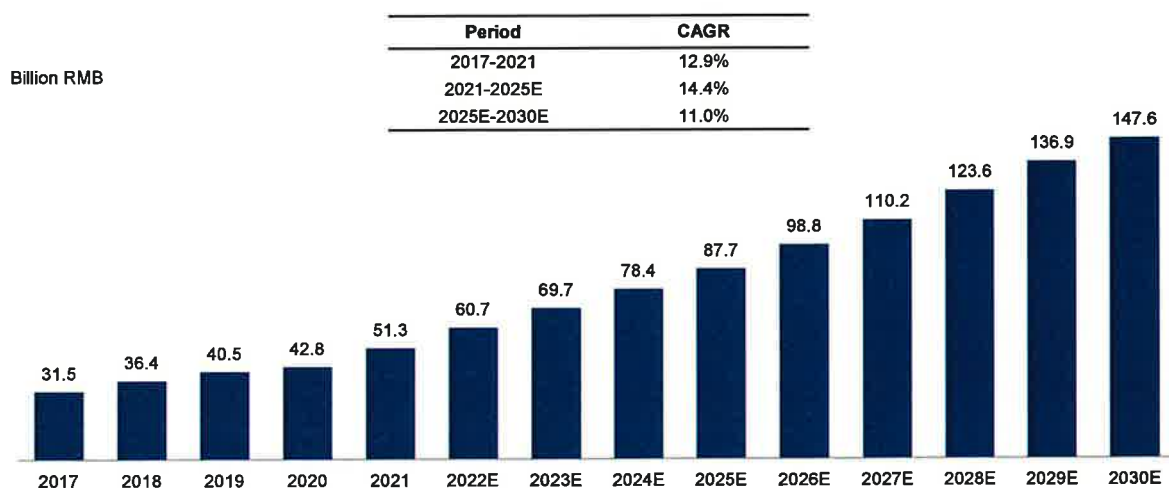
- There are only about less than 3.5 medical physicists per million population in China, much lower than that of America, which is above 30. The number of medical physicists in China is insufficient and this limits the availability of radiation treatment.
- The number of trained physicists is low in China as there had been no official career title for the medical physicist until recently.
- Due to the lack of official recognition, education resources for medical physicists were also insufficient. Nowadays, many universities and affiliated hospitals offer undergraduate and graduate courses in medical physics and training in radiation treatment.

Source: literature review, Frost & Sullivan analysis

China Cancer Radiotherapy Market, 2017-2030E

- Cancer radiotherapy service revenue yielded at healthcare institutions in China increased from RMB 31.5 billion in 2017 to RMB 51.3 billion in 2021, with a CAGR of 12.9%. With increasing prevalence of radiotherapy in China and advancement of radiotherapy technology, the cancer radiotherapy service market is projected to grow at a high speed from 2021 to 2025, reaching RMB 87.7 billion in 2025 with a CAGR of 14.4%, and RMB 147.6 billion in 2030 with a CAGR of 11.0%.

China Cancer Radiotherapy Market, 2017-2030E



Source: Frost & Sullivan analysis

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Overview of Cancer Screening

- Cancer screening is the use of a clinical test among at-risk individuals. If detected at early or precancerous stages, cancer can be prevented or cured with high reliability and at relatively low costs. Therefore, effective cancer screening tests deliver clinical value, economic value and social value. Costs for cancer treatment are generally lower when the cancer is detected at an earlier stage or identified at the precancerous stage. Late detection of cancer leads to significantly higher treatment cost and higher mortality rate, thereby exerting significant economic and social burden. Early detection of cancers generally allows for the option of surgical resection rather than drug treatment, or the use of standard, first-line drugs rather than more expensive, experimental regimens. Precancerous lesions identified by cancer screening can generally be surgically removed, thereby preventing the occurrence of cancer altogether.

Technical Factors

- ✓ **Sensitivity:** Sensitivity of a clinical test refers to the ability of the test to correctly identify the individuals with cancer; a high sensitivity is clearly important where the test is used to identify a serious but treatable cancer (e.g. colorectal cancer and cervical cancer).
- ✓ **Specificity:** Specificity of a clinical test refers to the ability of the test to correctly identify the individuals without cancer.
- ✓ **Positive predictive value:** the extent to which subjects have the disease in those that give a positive test result.
- ✓ **Negative predictive value:** the extent to which subjects are free of the disease in those that give a negative test result.
- ✓ **Acceptability:** the extent to which those for whom the test is designed agree to be tested.
- ✓ **Compliance:** the extent to which the patient's behavior matches the prescriber's recommendations. Poor compliance can lead to disease complications, avoidable exacerbations and frequent hospital admissions for patients, as well as increasing costs for health systems and the community.

Agreement on Guidelines of National Cancer Control Program

- ✓ Popularization of cancer knowledge and the formation of healthy behaviors is the foundation for screening program.
- ✓ The frequency of screening and ages at which screening should be performed.
- ✓ Quality control systems for the screening tests should be established.
- ✓ Mechanisms for referral and treatment of abnormalities should be defined.
- ✓ An information system that can send out invitations for initial screening; recall individuals for repeat screening; follow those with identified abnormalities; and monitor and evaluate the programme.
- ✓ The development of cancer-related disciplines and technologies can strengthen cancer prevention and treatment.
- ✓ Reducing cancer incidence and mortality as the objective of cancer screening.

Source: Frost & Sullivan analysis

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Classification of Methods for Cancer Screening

<ul style="list-style-type: none"> Screening is the use of a test among individuals with a population risk for or higher probability of cancer in order to detect that cancer sooner (secondary prevention) or prevent its complications (tertiary prevention). Sensitivity indicates the ability of the test to identify correctly those who have cancer among the population with cancer (true-positives/[true-positives + false-negatives]), whereas specificity indicates the ability of the test to identify correctly those who do not have cancer among the population without cancer (true-negatives/[true-negatives + false-positives]). 		
Early Symptom Examination		<ul style="list-style-type: none"> Early symptom examination mainly composed of different palpations. Some early signs of cancer include lumps, sores that fail to heal, abnormal bleeding, persistent indigestion, and chronic hoarseness. Early diagnosis is particularly relevant for cancers of the breast, cervix, mouth, larynx, colon and rectum, and skin.
Medical Imaging Examination	Radiographic imaging	<ul style="list-style-type: none"> Screening for cancer using radiographic imaging has been available for decades, and multiple clinical studies having demonstrated its efficacy in specific instances. The two cancers with the best consensus for benefit from cancer screening and detection using imaging include breast cancer and lung cancer.
	Endoscopic exam	<ul style="list-style-type: none"> Endoscopy has a major role in the detection and characterization of neoplastic lesions along the digestive tract in all screening strategies. Typical endoscopic exams include cystoscopy (also called cystourethroscopy), colonoscopy, endoscopic retrograde cholangiopancreatography (ERCP), esophagogastroduodenoscopy (also called EGD or upper endoscopy), sigmoidoscopy, etc.
In Vitro Diagnosis	Exfoliated Cells	<ul style="list-style-type: none"> Exfoliative cytology, represent cells that exfoliate from superficial or deep serosal or mucosal surfaces, which used for the screening of cervical and colorectal cancer screening. Stool-based FIT-DNA testing exams the DNA in exfoliated cells, such as APC, K-RAS, p53 and MSL, etc..
	Tumor Markers	<ul style="list-style-type: none"> Immunoassays are used to test for the presence of a specific antibody or antigen, which involve the testing of PSA for prostate cancer, CA-125 for ovarian cancer, and AFP for hepatocellular carcinoma.
	Genetic testing	<ul style="list-style-type: none"> Tumor genetic testing involves using tissue or liquid sample for genome sequencing to analyze biological markers in the genome, represented by cDNA test and CTC test, which evaluates circulating tumor DNA mutations, and enumerates circulating tumor cells, respectively. The most widely used genetic sequencing technique including PCR and NGS based testing. The later is currently only available in LDT form, where testing are conducted in laboratories. It usually has an increased sequencing speed and higher throughput.

Source: Frost & Sullivan analysis

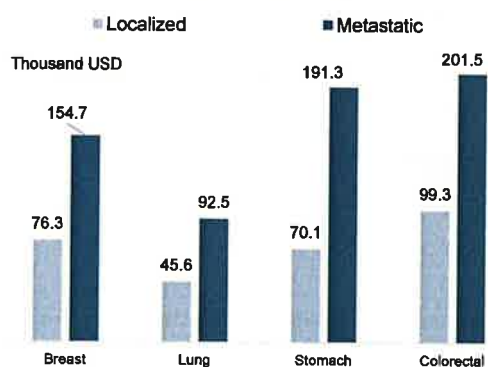
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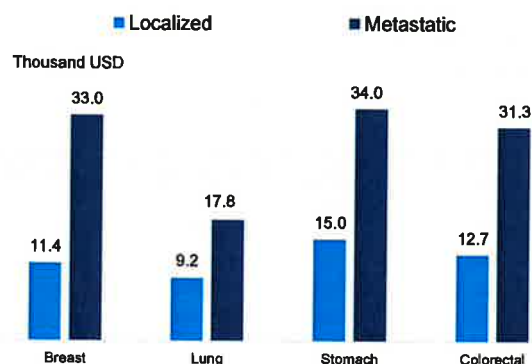
Cost Savings of cancer Detection

- Cost of treating cancer is typically lower when the disease is caught at an earlier stage (e.g., allows the option of surgical resection rather than drug therapies, or the use of standard, front-line drugs rather than aggressive, experimental regimens).
- As illustrated, the estimated lifetime cost of treatment is on average 2x higher for cancer diagnosed at the distant stage of disease vs. at the localized stage.
- Direct cost of treatment in the US is much higher than it in China. Treating colorectal cancer is the most expensive in the US while in China gastric cancer costs the most.

Lifetime Direct Cost by Stage at Diagnosis Per Patient in the U.S.



Lifetime Direct Cost by Stage at Diagnosis Per Patient in China



Source: Literature Research, Frost & Sullivan Analysis

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Comparative Analysis of Cancer Screening Service provided by different institutions

Institution Type	Advantage	Disadvantage
Early Cancer Screening and Prevention Center	<ul style="list-style-type: none"> • Diagnosis-level screening with integrated medical resource from specialized cancer hospitals • Detailed and professional medical report analysis service • Targeting a broad customer base with tailored screening choice based on risk assessment 	<ul style="list-style-type: none"> • Relatively low penetration among healthy population • Standardization of service to be adopted by different centers
Private Medical Examination Institution	<ul style="list-style-type: none"> • More convenient with respect to time and place choice for screening • Enabling data lateral correlation by unified database of chained examination center 	<ul style="list-style-type: none"> • Additional screening may be suggested by specialist and additional cost may be generated • Examinations are not diagnosis-level, patients still need to be transferred to hospitals to confirm
Private Hospital Physical Examination Center	<ul style="list-style-type: none"> • Better service compared with public hospital, e.g. guidance and shorter waiting time • Tailored screening types for high-value customers 	<ul style="list-style-type: none"> • Poor data applicability across different hospitals • High cost due to multiple charges in different stages (i.e. appointment making, testing, etc.)
Public Hospital Physical Examination Center	<ul style="list-style-type: none"> • Relatively reliable testing results • Convenient for subsequent treatment in the same hospital if disease diagnosed 	<ul style="list-style-type: none"> • Long waiting time • Non-tailored types of screening • Limited service due to staff shortness, such as report analysis

Source: Frost & Sullivan Analysis

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Comparative Analysis of Cancer Screening Service provided by different institutions

Institution Type	Diagnostic Level Service Available?	Target Client	Integrated Medical Report Analysis Service?	Medical Resource	Unified Patient Databased	
Early Cancer Screening and Prevention Center	Yes, oncology specialist analysis report can be given directly, patient can be directed to specialized cancer hospitals for subsequent treatment	Healthy people with high-risk influencing factors for tumors and low-risk healthy people with high concern on oncology	Yes, detailed and professional medical report analysis service	High-quality medical resource from specialized cancer hospitals	Enabling data for the screening and early detection of cancer with the capability of lateral correlation by unified database across different centers based on patients' consent	
Private Medical Examination Institution	No, potential patients need to go to hospital to confirm	Usually limited to patients who visit to conduct physical examination	Usually available for high-value customers	Mixed level of expertise	Enabling data lateral correlation by unified database of chained examination center	
Private Hospital Physical Examination Center	No, potential patients need to book separate outpatients visits to confirm	Usually limited to patients who visit to conduct physical examination	Usually available for high-value customers	Mixed level of expertise	Usually not shared across different hospitals	
Public Hospital Physical Examination Center	No, potential patients need to book separate outpatients visits to confirm	Usually limited to patients who visit to conduct physical examination	Limited service due to staff shortness	Reliable medical professionals	Usually shared among some hospitals in the same area	

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Favorable Policies of Cancer Prevention and Control in China

Release Date	Issuing Authority	Policies	Comments
Oct 2012	The General Office of the Ministry of Health	Implementation of Management on Cancer Early Detection and Treatment Projects in Urban Area (《城市癌症早诊早治项目管理办法(试行)》)	<ul style="list-style-type: none"> Explore scientific and feasible management methods for early diagnosis and treatment of common high-risk populations in cities. Carry out health economics research on cancer early diagnosis and treatment. Establish a cost-effective urban cancer early diagnosis and treatment technical solution and management model suitable for China's conditions.
Sept 2015	Jointly issued by 16 authorities	China's Cancer Prevention and Treatment Three-Year Action Plan (2015-2017) (《中国癌症防治三年行动计划(2015-2017年)》)	<ul style="list-style-type: none"> Improve the comprehensive cancer prevention network. Regulate the tumor registration system. Strengthen the promotion of cancer prevention science popularization. Expand coverage of key cancer screenings and early diagnosis and treatment. Promote cancer opportunistic screening and standardized diagnosis and treatment.
Oct 2016	The General Office of the CPC Central Committee, the General Office of the State Council	Outline of Program for "Healthy China 2030" (《“健康中国2030”规划纲要》)	<ul style="list-style-type: none"> Strengthen the cancer screening and diagnosis of chronic diseases, carry out early diagnosis and early treatment for major cancers in high incidence areas, and promote the opportunistic screening of chronic diseases such as cancer. Gradually incorporate suitable technologies for early diagnosis and treatment of major chronic diseases such as qualified cancers into the routine of diagnosis and treatment. By 2030, the overall cancer 5-year survival rate will be increased by 15%.

Source: Government Website, Frost & Sullivan analysis

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Favorable Policies of Cancer Prevention and Control in China

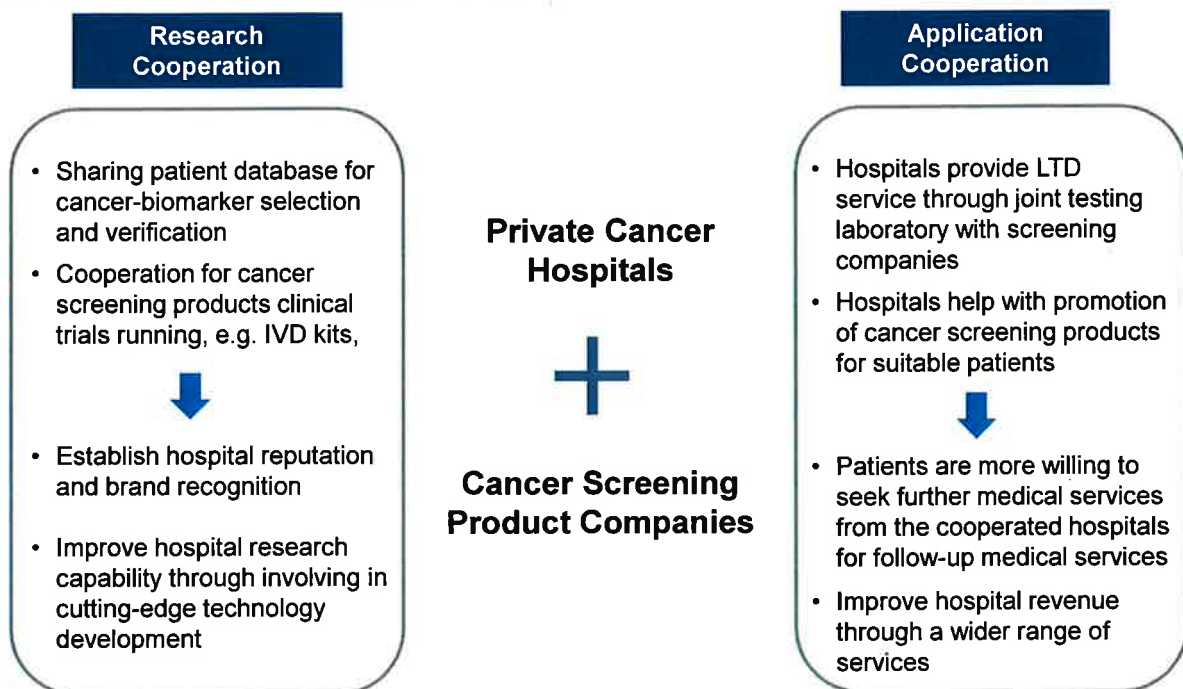
Release Date	Issuing Authority	Policies	Comments
Jan 2017	State Council	China's Medium-to-Long Term Plan for the Prevention and Treatment of Chronic Diseases (2017-2025) (《中国防治慢性病中长期规划(2017—2025年)》)	<ul style="list-style-type: none"> Implement early diagnosis and treatment of cancer to reduce the risk of high-risk groups. Strengthen standardized diagnosis and treatment, promote the use of individualized standardized cancer treatment programs, reduce cancer mortality, and improve treatment outcome. Establish a long-term management mechanism for cancer to achieve full-process health management.
Jun 2019	NHC	Program for Healthy China 2030 (2019-2030) (健康中国行动(2019-2030))	<ul style="list-style-type: none"> By 2022 and 2030, the overall 5-year survival rate of cancer will be more than 43.3% and 46.6%; the awareness rate of core knowledge of cancer prevention and treatment will be no less than 70% and 80%, respectively; the early diagnosis rate of key cancer species in high-incidence areas will reach 55%. And above and continue to improve; basically achieve high-risk groups of people regularly participate in cancer prevention physical examination.
Sept 2019	NHC	Program for Healthy China— the Implementation Plan for Cancer Prevention and Treatment (2019-2022) (健康中国行动——癌症防治实施方案(2019—2022年))	<ul style="list-style-type: none"> Adhere to the principle of prevention, prevention and treatment shall be combined, comprehensive measures shall be adopted. Innovate institutional mechanisms and working models. Popularize health knowledge and mobilize people to participate in cancer prevention. Deploy and strengthen cancer prevention and screening, early diagnosis and treatment, and scientific research. Focus on the difficulties of cancer prevention and treatment, and focus on advantageous forces to make key breakthroughs in key links such as pathogenesis, prevention and treatment technology, resource allocation, and policy guarantee. Effectively reduce the harm caused by cancer.

Source: Government Website, Frost & Sullivan analysis

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Cooperation Model between Private Cancer Hospitals and Cancer Screening Product Companies



Source: Frost & Sullivan Analysis

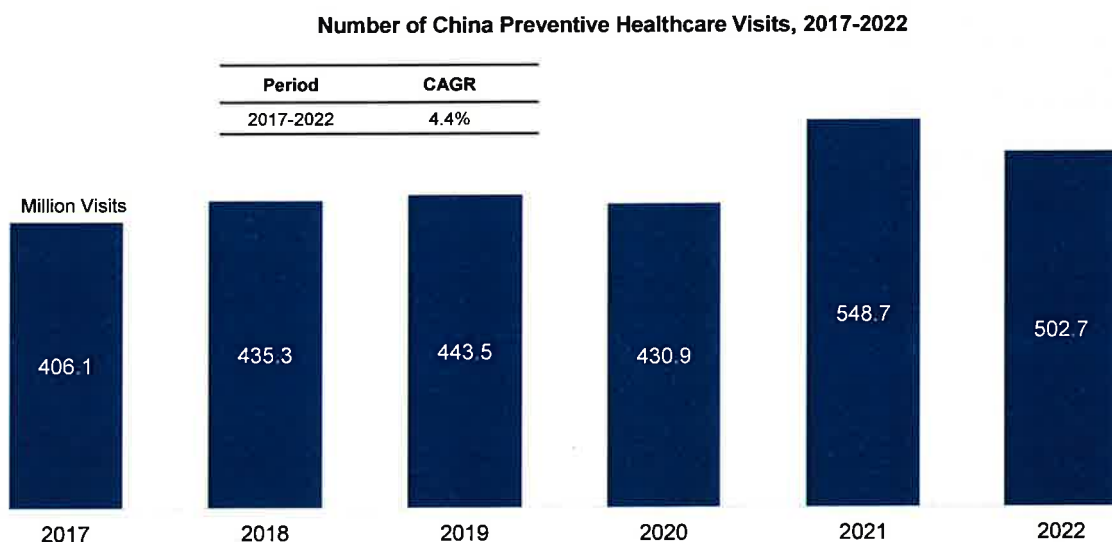
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Number of China Preventive Healthcare Visits, 2017-2022

Public Institutions vs. Private Institutions

- The number of preventive healthcare visits shows a fluctuating trend, and it is expected to show an overall increasing trend from 2017 to 2022. The number of total preventive healthcare visits dropped in 2020 to 430.9million mainly due to COVID-19. However, the number quickly bounced back in 2021 to 548.7 million driven by increasing health awareness.



Source: NHC, Frost & Sullivan Analysis

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Reasons for the Difference of Cancer Five-Year Survival Rate

Earlier started cancer screening projects in the U.S.



The U.S.

- The cancer prevention mechanism in the U.S. is relatively professional. The US Centers for Disease Control and Prevention (USCDC) provides project support for the screening of some cancers, including offering funds and popularizing cancer facts.
- In 1984, the United States Preventive Services Task Force (USPSTF) was established to provide specifications and technical guidance for patient visits and medical diagnosis, which highly increased the public awareness for cancers.
- In 1991, CDC's National Breast and Cervical Cancer Early Detection Program (NBCCEDP) was established to provide free or low-cost breast and cervical cancer screening services for low-income female groups, which has served over 5 million U.S. women.
- Colorectal cancer, cervical cancer, and some cancers that have been proven to improve survival rate through cancer screening are listed by the USPSTF. CDC also has information for other cancers.
- US social insurance can cover most cancer screening fee for people over age of 50, and commercial insurances covers more cancer screening technologies.

Advantage Level

Prevention Mechanism



Public Awareness



Project Support



Screening Scope



Insurance Coverage



China



- The cancer prevention mechanism in China is still in its development stage. The China Center for disease Control and Prevention (CCDC) listed cancer as one of the most important chronic diseases in China.
- In 2018, the National Health Commission of the PRC updated the guidelines for 18 cancers to improve the standardization of related cancer diagnosis and treatment to ensure medical quality and safety. However, public awareness for cancers in China is still preliminary.
- In 2016, the Chinese government issued the Outline of the Healthy China 2030 Plan to carry out early diagnosis and early treatment for major cancers in high incidence areas. The plan has a aim at raising public's awareness for cancer.
- The screening scope in China covers major cancers in China like lung cancer, liver cancer and gastric cancer.
- China medical insurance system covers all patients among different ages for partial cost of some cancer screening technologies. Besides, increasing business insurance in China help reimburse some cost too.

Source: Frost & Sullivan Analysis

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Analysis of Characteristics of Cancer Recommended Screening

Characteristics of Cancer Recommended Screening

Nature of the Cancer

- Evidence before the signs or symptoms of the cancer appear**, such as abnormal cells and biomarker for specific cancer;
- Long tumor development cycle to make a window period for cancer screening**, such as colorectal cancer with around 10 years hidden period.

Benefit or Harm for Participants

- High mortality**
Cancer with high mortality can get attention from public, more people will attend the screening.
- Apparently increased 5-year-survival rate by cancer screening**
Strong connection between improvement of 5-year survival rate and early cancer stage can benefit participants from screening.

Health Economics

- High incidence**
Cancer screening could intended to large group of high-risk population for the cancer with high incidence, considering the significance of health economics.
- Lower Incremental Cost-effectiveness Ration**
Meeting principle of cost effectiveness refers to ICER value is lower than domestic GDP, defined by WHO, which means the ICER of screening lower than GDP should be recommended screening like CRC.

- Cancer recommended screening have the same characteristics, including high incidence, high mortality, long tumor development cycle, hidden onset, high social and economic burden.
- the benefit of cancer screening derives from detecting cancer in earlier and more treatable stages, and thereby, reducing mortality from cancer.

Source: Frost & Sullivan analysis






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Recommended for Cancer Screening by Different Grade

- It is well-recognized that cancer screening is generally correlated with lower cancer incidence, better clinical outcomes and a higher cure or survival rate for many cancer types, including colorectal cancer, cervical cancer and gastric cancer.

The USPSTF Grades Mean and Suggestions for Practice

Grade	Definition	Suggestions for Practice	Recommended Cancers
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.	 Colorectal Cancer  Cervical Cancer
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.	 Breast Cancer  Lung Cancer
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.	 Prostate Cancer

Source: USPSTF, Frost & Sullivan analysis

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Overview of Cancer Rehabilitation Services

- Cancer and its treatment often cause physical, psychological, and cognitive problems. These problems can make it harder to do daily activities or return to work. Cancer rehabilitation is a program that helps people with cancer maintain and restore physical and emotional well-being. It is available before, during and after cancer treatment. Cancer rehabilitation involves many types of specialists working together to develop a personal rehabilitation plan.

Classification	Indication	Contents of Therapy
Physical Therapy (PT)	<ul style="list-style-type: none"> physical disabilities resulting in pain, decreased range of motion, decreased strength impaired ability to perform gross motor skills (transfer from one position to another, stand, walk, etc.) wound care management (inpatient and outpatient) 	<ol style="list-style-type: none"> Kinesiotherapy: remediate impairments and promotes mobility, function, and quality of life through examination, diagnosis, prognosis, and physical intervention (therapy using mechanical force and movements). Physical media therapy: conduct rehab by using electricity, magnetism and ultrasound etc. to stimulate the body in order to partially or fully restore the function.
Organ Rehabilitation Therapy	<p>Cancer induced:</p> <ul style="list-style-type: none"> Organ damage, including impaired lung function, impaired cardiac function, intra-abdominal sepsis, anastomotic leaks, pancreatitis, renal failure, etc.. 	<p>Organ rehabilitation are a comprehensive collection of rehabilitation assessment and treatment to help to develop, recover, or maintain the organ function, including:</p> <ul style="list-style-type: none"> Respiration function restoration training Physical massage treatment Exercise treatment Diet management
Psychology Therapy	<p>Cancer and its treatment induced:</p> <ul style="list-style-type: none"> psychological distress and depression speech-language dysfunction memory loss 	<p>Many cancer patients suffers from depression, anxiety and stress. Psychology therapies aims to reduce the negative psychological effect brought by cancer:</p> <ul style="list-style-type: none"> Education on stress management, integrative therapies such as yoga or massage Speech and cognitive training
Other Therapies	<p>Respiratory therapy: the practice of examining patients who are experiencing issues with their breathing.</p> <p>Traditional Rehab Therapy: Chinese Massage and acupuncture and etc.</p>	

Source: Frost & Sullivan analysis

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Importance of Cancer Rehabilitation Services

Improve postoperative recovery	<ul style="list-style-type: none"> Postoperative exercise such as physical rehabilitation, expectoration training, nutritional support, etc. can promote the healing of surgical incisions, reduce postoperative complications, and restore organ functions.
Cancer pain relief	<ul style="list-style-type: none"> Nearly half of cancer patients experience pain, which can show up in various ways. It may be short-lived or long-lasting, mild or severe, or even affect one or a few organs and bones. In addition to pharmaceutical treatments, non-drug rehabilitation treatment can also help to relieve cancer or cancer treatment induced pain, such as Breathing and relaxation exercises, massage, pressure and vibration treatment.
Physical ability recovery	<ul style="list-style-type: none"> Cancer and its treatments can induce many types of physical problems, including fatigue, muscle degeneration and results in decreased mobility. Physical rehabilitation methods such as guided exercise, strength training can help with the body function restoration and improve quality of life.
Cognitive function restoration	<ul style="list-style-type: none"> Cognitive changes such as memory loss, difficulty multitasking, and "brain fog" are common after chemotherapy as well as other cancer treatments. For example, women who are treated with aromatase inhibitors for breast cancer have also been found to experience cognitive changes. Rehabilitation treatment such as brain training and supplements can help with cognitive function recover.

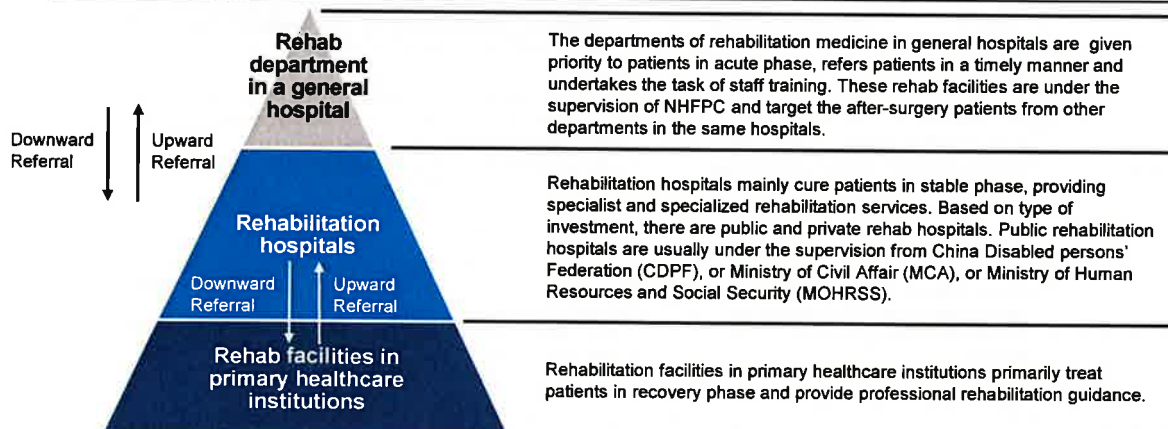
Source: Frost & Sullivan analysis

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Rehabilitation Service System in China - I

- According to the "The Pilot Program of Improving the Rehabilitation Healthcare Service" and "The Guiding Opinions on Rehabilitation Healthcare Work during the 12th Five-year Plan period" issued by the Chinese government, the rehabilitation system in China is constructed based on a tertiary level concept, which includes departments of rehabilitation medicine in the general hospitals, rehabilitation hospitals and rehabilitation facilities in the primary healthcare institutions.
- In order fully utilize the medical resources allocated in such three-level rehabilitation healthcare system, a two-way referral mechanism is introduced by "Outline for the Planning of the National Healthcare Service System (2015-2020)", in which after acute phase, patients should be discharged and transferred to rehabilitation hospitals for following recovery (stable phase). And vice versa, the patients who are diagnosed to be acute should referred to the higher level medical facilities.



Source: Government Announcement, Frost & Sullivan analysis

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Rehabilitation Service System in China - II

- The two-way referral system is further strengthened by forming medical alliances (医联体) among different levels of healthcare institutions. A medical alliance aims to allocate initial diagnosis in communities, severe diseases in hospitals and rehabilitation back to communities. In this way, tertiary hospitals are relieved of the need to treat low-complexity diseases, allowing them to focus on difficult cases. Such a system also allows lower-level hospitals to enjoy improved patient flow, which can in turn improve the efficiency of their resource use.
- Compared with the general three-level system, in the alliance, the hospitals are connected even closer. The patients registered in the alliance enjoyed the preferential referral channel, comprehensive health record and convenient appointment of experts in the primary healthcare institutions etc. The lower-level healthcare institutions also can share the abundant medical resources including professional training and cooperative consultation etc. The concept has been piloted in some cities and Beijing is the most popular one. Below table summarizes a few piloted medical alliances in practice in various regions.

Medical Alliance	Recent Developments
Medical Alliance of Beijing Chaoyang Hospital	The Medical Alliance of Beijing Chaoyang Hospital is comprised of 2 Class III hospitals, 2 Class II hospitals and 7 community health centers with affiliations from the municipal health bureau to the military.
Haidian District Medical Alliance	The alliance comprised of 23 healthcare institutions is the largest medical alliance in Beijing. Led by hospitals of Peking University and Tsinghua University, the alliance serves not only residents but also bring convenient medical service to students in the district.
Maanshan Municipal Hospital Group	Competing with private hospitals, the Municipal Government of Maanshan had the city's public medical institutions consolidated into a hospital group, which is responsible for the investment, management and operation of State-owned assets in the city-level medical institutions, while providing the overall planning for allocation of the medical resources in local area.
Shanghai Ruijin-Luwan Region Medical Alliance	The alliance consisting of 1 Class III hospital, 2 Class II hospitals and 4 community healthcare institutions was founded in 2011 and is the first Shanghai medical alliance. In 2015, Shanghai Ruijin Rehabilitation hospital was incorporated into the alliance in order to relieve the patients burden of Ruijin Hospital which is supposed to focus on complex cases.

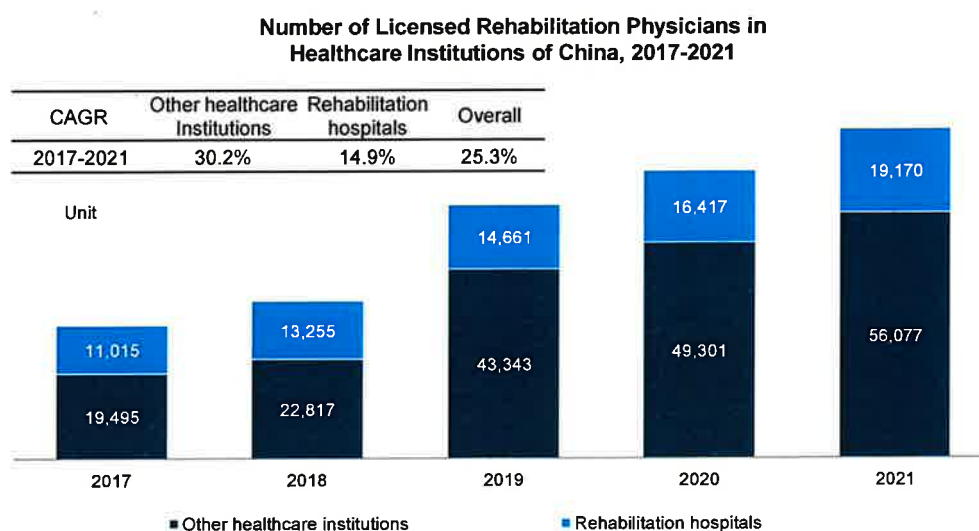
Source: Government Announcement, Frost & Sullivan analysis

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Number of Licensed Rehabilitation Physicians in China, 2017-2021

- Rehabilitation physicians who are responsible of patient admissions, developing rehabilitation plans as well as leading the team to carry out comprehensive treatment are the key elements in the rehabilitation services market. In the past five years, the growth, however, lagged behind the increase of hardware facilities as the professional training is time-consuming.



Source: NHFPC, Frost & Sullivan analysis

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Government Incentive Policies for Rehabilitation Industry - I

Sep. 2010

Notice on Incorporating Some Therapeutic Rehabilitation Items into Basic Medical Insurance 《关于将部分医疗康复项目纳入基本医疗保障范围的通知》

- MoHRSS, NHFPC, MCA, MoF, CDPF
- Nine items of therapeutic rehabilitation service should be included in the basic medical insurance. Starting from 1st January, the cost can be covered by UEBMIS, URBMIS and NRCMIS according to the required ratio. The items covered previously by provincial fund should be kept and more items are encouraged to be added into the pool if the local financial capacity is allowed.

Sep. 2011

The Pilot Program of Improving the Rehabilitation Healthcare Service 《建立完善康复医疗服务体系试点工作方案》

- NHFPC
- The policy encouraged to set out plans according to the principle of building a tertiary rehabilitation service system, which roughly includes three levels medical institutions to provide rehabilitation. The mechanism of two-way referral need to be established in the pilot cities in order to better utilize the medical resources. In addition to the government investment, the private capitals are encouraged to enter the rehabilitation industry in order to satisfy the diverse demand and promote competition.

Feb. 2012

The Guiding Opinions on Rehabilitation Healthcare Work during the 12th Five-year Plan period 《“十二五”时期康复医疗工作指导意见》

- NHFPC
- The policy document pointed out that China should preliminarily build a hierarchical and staged rehabilitation medical service system. Also, the Opinions required to strengthen the management of rehabilitation institutions and team building of rehabilitation professionals. Last but not the least, government should create an environment of fair competition in order to encourage, support and guide social capitals to enter the rehabilitation medical service industry.

Source: Government Announcement, Frost & Sullivan analysis

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Government Incentive Policies for Rehabilitation Industry - II

Mar. 2016

Notice on Incorporating New Items of Rehabilitation into Basic Medical Insurance 《关于新增部分医疗康复项目纳入基本医疗保障支付范围的通知》

- MoHRSS, NHFPC, MCA, MoF, CDPF
- The Notice gave consideration to both evaluation items and therapeutic items. Eight evaluation items and twelve therapeutic items can be reimbursed by basic medical insurance. Combined with previous 9 items supported by another policy issued in 2010, there are total 29 items of rehabilitation services are under coverage of basic medical insurance.

Nov. 2017

Notice on Printing and Distributing Basic Standards and Management Norms for Rehabilitation Medical Centers and Nursing Centers (Pilot) 《关于印发康复医疗中心、护理中心基本标准和管理规范（试行）的通知》

- NHFPC
- "Encourage social forces to set up rehabilitation medical institutions and nursing institutions, connect professional rehabilitation medical services, and extend clinical nursing services to the last mile of community and home-based rehabilitation and nursing".

June. 2019

"Opinions on Promoting the Sustainable and Healthy Standardization of Medical Services in the Society" 《促进社会办医持续健康规范发展意见》

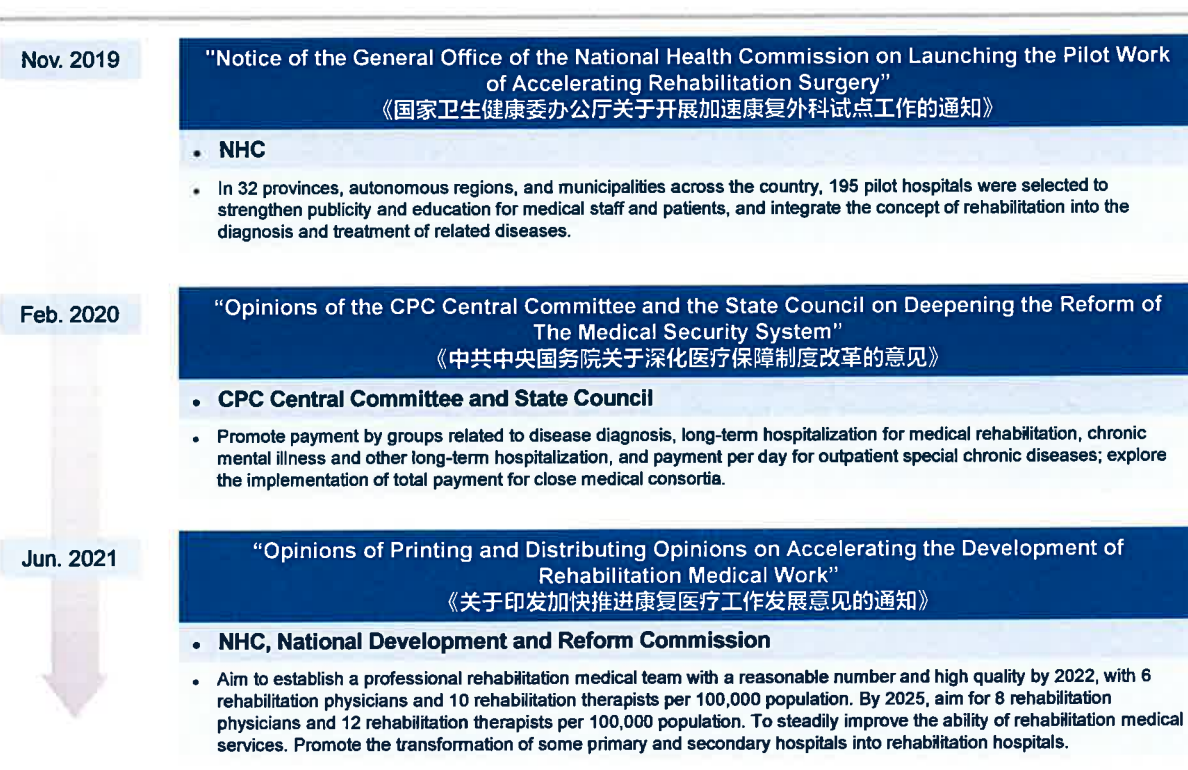
- NHC
- Standardize and adjust the prices of medical service items. Increase the price of five types of medical services in this city, including Chinese medicine, pathology, rehabilitation, mentality, and surgery.

Source: Government Announcement, Frost & Sullivan analysis

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Government Incentive Policies for Rehabilitation Industry - III

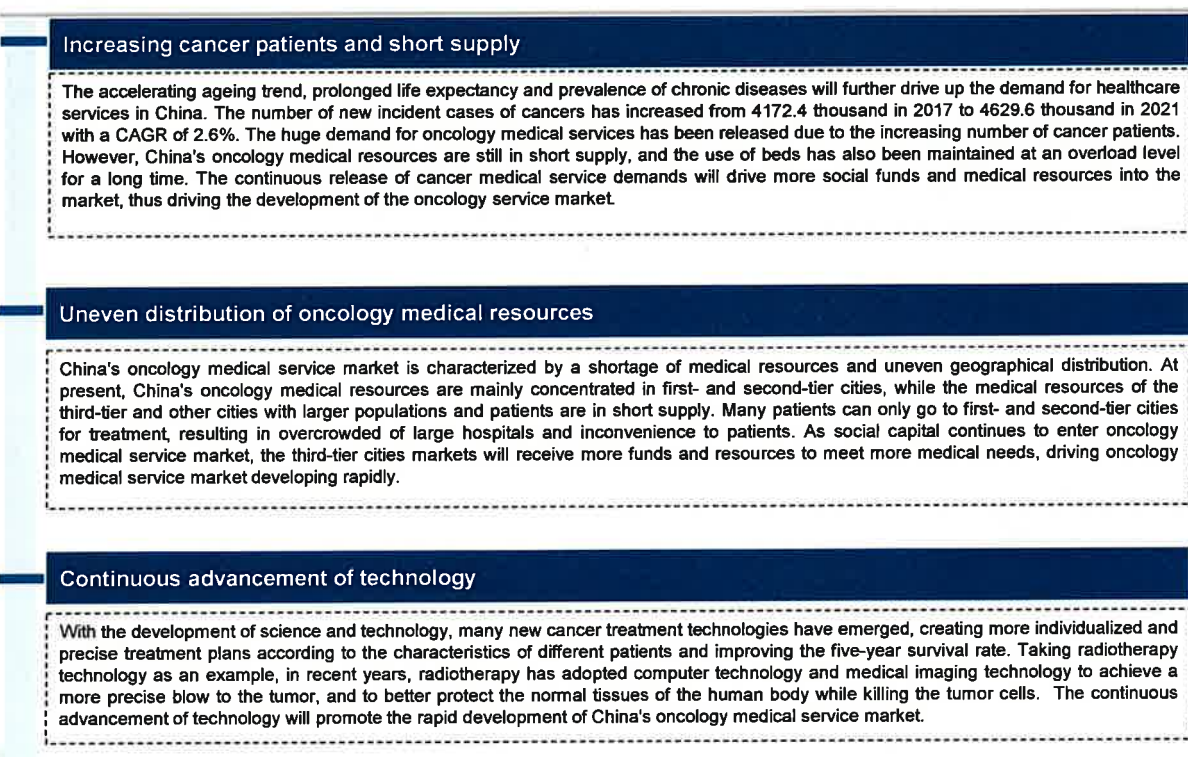


Source: Government Announcement, Frost & Sullivan analysis

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Growth Drivers of Private Specialized Cancer Hospitals Market in China



Source: Frost & Sullivan analysis

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Growth Drivers of Private Specialized Cancer Hospitals Market in China

Increasing income level of residents and expanding coverage of medical insurance

According to the NBS, China's per capita disposable income increased from RMB 25,974 in 2017 to RMB 35,128 in 2021, with a CAGR of 7.8%. With improving income level, more people are able to afford the cost of cancer diagnosis and treatment. Meanwhile, along with the fast development of commercial medical insurance, the coverage of medical insurance has been further enlarged. Commercial insurance companies started to pay more attention to critical diseases like cancer and launched many new types of insurance. The expanding coverage of medical insurance will further increase the affordability of patients in China.

Incentive policies made by government

In recent years, the government has issued lots of policies to encourage social forces to focus on specialized medical services and create a batch of medical service institutions with a high-quality brand in the specialized field such as oncology. With the implementation of incentive policies, the number of private oncology specialized hospitals increased from 42 in 2009 to 76 in 2021. With landing of more incentive policies, private oncology medical service market will experience fast growth in the near future, also driving the growth of whole oncology medical service market.

Source: Frost & Sullivan analysis

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Future Trends of Private Specialized Cancer Hospitals Market in China - I

Private Hospitals Playing More Important Role

- At present, public hospitals still dominate the oncology medical services market, however, with growing number of patients, public hospitals are often crowded and hard to meet the existing demands. Private hospitals own the advantage of flexible management mechanism and higher service quality, with the incentive policy issued by government and sustained improvement of medical level, more and more patients will turn to private institutions for diagnosis and treatment.

Popularity of MDT Model

- Due to the complexity of cancer treatment, unidisciplinary treatment therapy cannot meet the treatment requirements of complicated cancer patients. However, multidisciplinary treatment (MDT) model, a fixed working group composed of doctors from any related disciplines, can propose a more systematic and comprehensive therapy that is more suitable for cancer patients. In August 2018, National Health Commission (NHC) issued "Pilot Program of Multidisciplinary Diagnosis and Treatment of Tumors (肿瘤多学科诊疗试点工作方案 (2018-2020年))" to guide scientific establishment and promotion of MDT model and further improve the standardized diagnosis and treatment level of tumors in China. Along with government enacting more extension policies for MDT and hospital conducting MDT methods with more advanced concept and in a more mature way, the MDT will be more popularized in the future.

Source: Frost & Sullivan analysis

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Future Trends of Private Specialized Cancer Hospitals Market in China - II

Full-cycle Management of Cancer Disease

- Full-cycle management of cancer includes regular screening and disease prevention of healthy population, standardized and multidisciplinary treatment of cancer population, and health management of chronic rehabilitation population. For chronic rehabilitation population after cancer treatment, attention should be paid by medical institutions and physicians to other diseases associated with or caused by cancer treatment, such as cardiovascular events, fracture risk and mental health. Cycle management of cancer can maximize the benefits of treatment and overall health management for patients, which will attract more attention and implementation. In addition, medical institutions can also develop and apply collected bid data on cancer to improve efficiency and accuracy of treatment.

Patient Flow Brought by Early Cancer Screening

- With the increasing health awareness and the cancer screening technology development, the penetration of early cancer screening service will continue to increase among high-risk and healthy population. For institutions that have integrated medical resources and cancer diagnosis-level screening capability, steady and continuous patients flow will be generated from cancer screening service, representing a great growth opportunity.

More Rational Distribution of Medical Resources

- Oncology departments usually has strong profitability and has attracted much attention from social capital. With more support from government and entrance of capital, private oncology institutions are able to equip themselves with more advanced diagnosis and treatment equipment. In addition, along with private hospitals paying more attention to discipline construction, more medical talents will be appealed to work in private hospitals, which allocates more medical resources to private institutions, to form a more rational of medical resources distribution in oncology medical service industry.

Source: Frost & Sullivan analysis

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Entry Barriers of Oncology Medical Service Market – 1/2

Abundant Capital

- To enter oncology medical service industry, new entrants need to prepare sufficient funds. Tumor detection and treatment usually require high-end and sophisticated equipment, which cost millions or even tens of millions of money. New entrants need to invest a lot to buy diagnostic and therapeutic equipment. Oncology hospitals also need to hire professional doctors and nurses to improve the treatment level and accumulate brand awareness in the industry. Moreover, oncology medical institutions need continuous investment in the construction of academic research platform, personnel training and market channels. Therefore, new entrants have to prepare abundant capital to support the operation of oncology medical service business at the beginning.

Seasoned Talents

- The treatment processes of tumor is complex. Therefore, the requirements for doctors, technicians and other practitioners are higher than those of other specialties. However, at present, the oncology medical service professionals in China are scarce, and talents are still concentrated in public hospitals in the consideration of platform resources and career development. In addition, since tumor treatment often requires multidisciplinary experts, medical institutions also need to strengthen the construction of other disciplines to support the oncology treatment for patients. Oncology medical institutions need to undergo long research accumulation and clinical practice in order to cultivate a high level of medical team. Thus, new entrants will be confronted with difficulties in recruiting and retaining excellent talents.

Brand Reputation and Customer Acquisition

- Cancer is a severe disease which can cause death, and therefore patients are usually very cautious in choosing hospitals, mainly through reputation to choose doctors and hospitals. It also takes a long time to build a hospital's reputation before a stable flow of patients can be achieved. For new entrants, it can be difficult to establish a good brand reputation in a short time.

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Source: Frost & Sullivan analysis

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Entry Barriers of Oncology Medical Service Market – 2/2

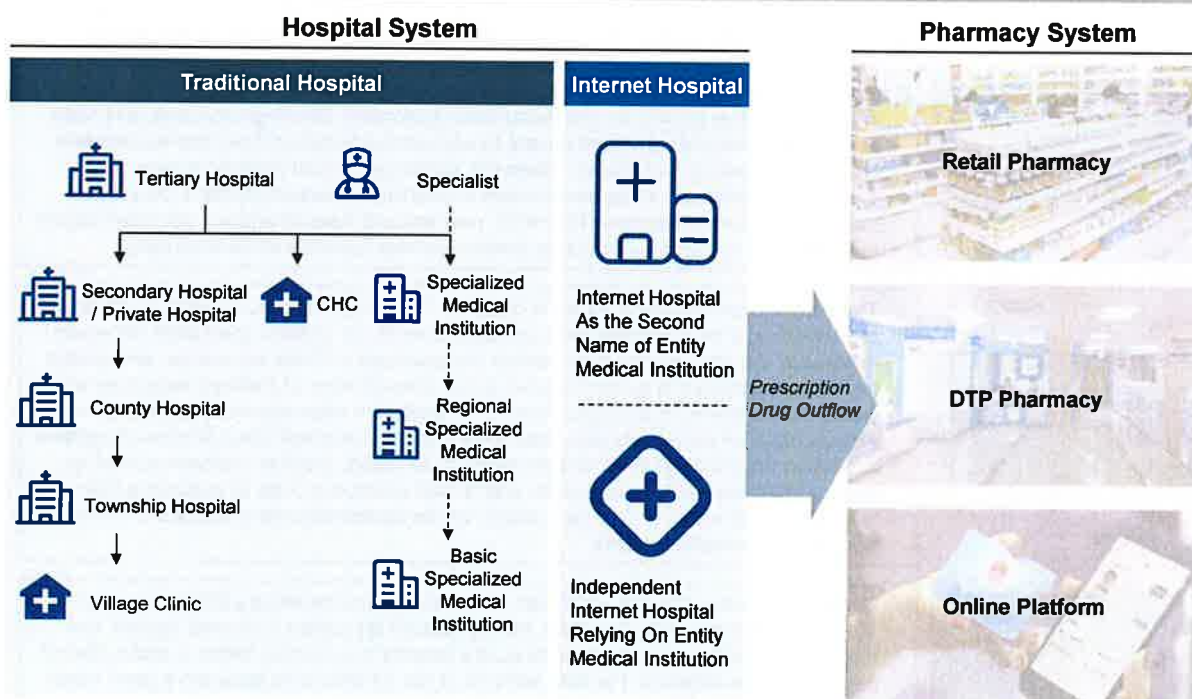
License for Radiotherapy

- The cancer treatment radiotherapy requires high standard of hospital operation environment due to safety and compliance concerns. The China NHFPC issued "Regulation of Radiotherapy Diagnosis and Treatment" (《放射治疗管理规定》), which included requirements on the operation room, the radiotherapy equipment, the standard of medical professionals, and the obtaining of the corresponding license, e.g. the "Radiotherapy License" (《放射诊疗许可证》). The hospitals conducting radiology cancer therapies need to apply for such license from provincial authorities and meet required standards. The process involve strict inspection from many aspects, and can be time-consuming. Therefore, the obtaining of radiotherapy license represents an entry barrier for the new market entrants.

Professional Management

- Hospital management can be challenging in many perspectives, including financial planning, patients recruitment, medical devices supply, medical professional team built, etc. Therefore, a management team with rich relative experiences, proven operating system, efficient decision-making workflow and great foresight are essential for the built and maintenance of successful operating of the hospital. The establishment and training of a professional management team is an entry barrier for the future market players.

Analysis of Healthcare Product Sales Channels in China

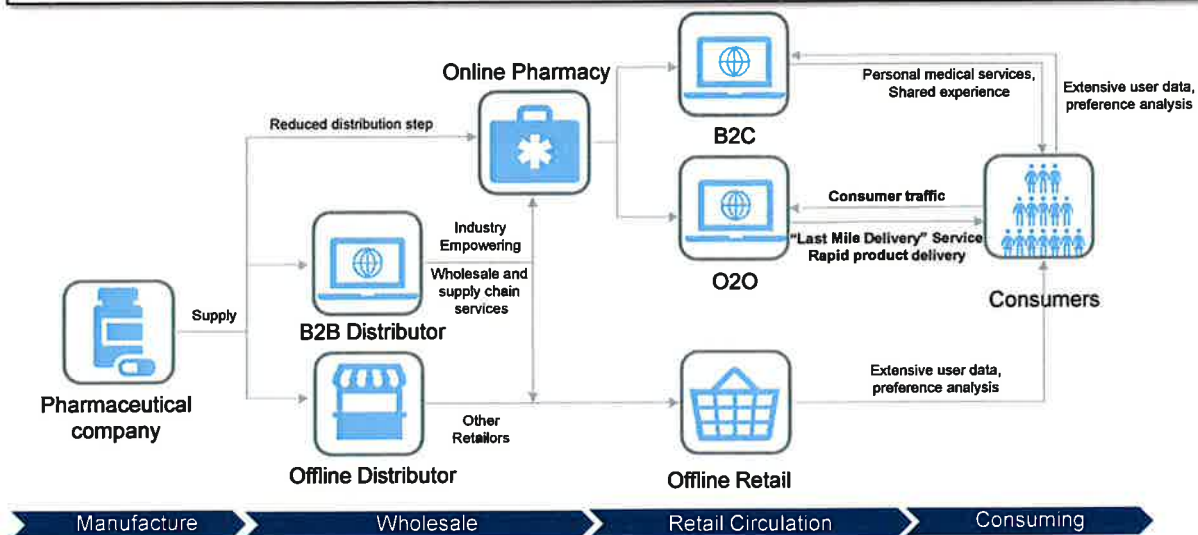


Note: CHC=Community Health Centre; DTP=Direct To Patient

Source: Frost & Sullivan analysis

China Healthcare Product Distribution Ecosystem

- With the government policy liberalized, numbers of pharmaceutical enterprises tend to develop online channels, which efficiently optimizes process and allocations, as well as satisfying the increasing health demand of consumers. Typical pharmaceutical e-commerce includes B2B, B2C and O2O.
- Relying on the inherent advantages of online platform and analysis of market feedback and user data, the pharmaceutical online sales platform based on the Internet technology can directly connect with the upstream brand or large distributors while provide the downstream businesses and consumers with low-cost and high-quality products. The full-process supply system can effectively improve the efficiency of the supply chain, shorten the distance between the brand and consumers, sink the brand's professional service to consumers, and continuously tap new demands while serving consumers well.



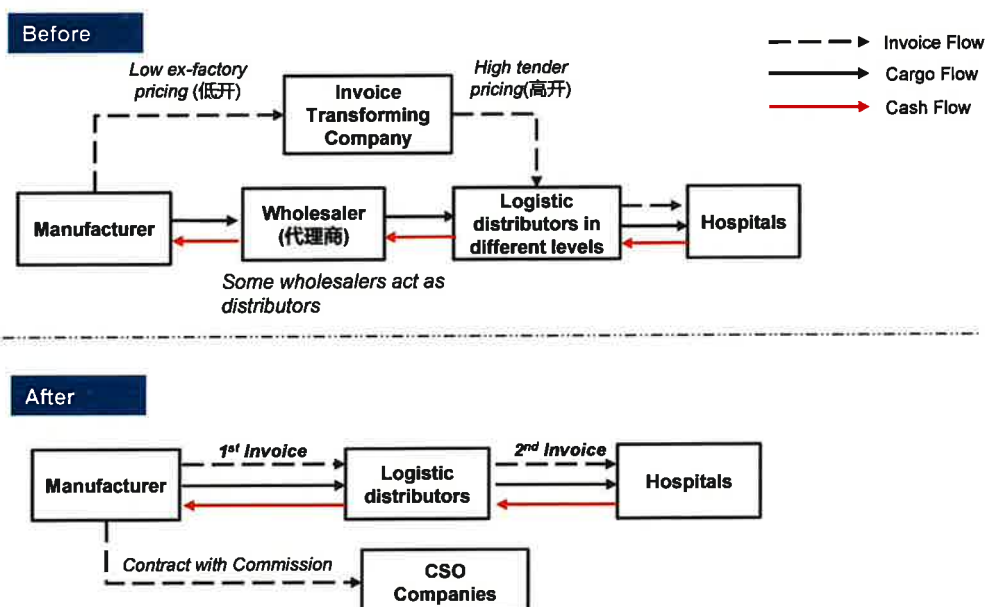
Source: Frost & Sullivan analysis

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The Two-Invoice System

- The two-invoice system, aiming to improve transparency in drug prices and eliminate excessive profit margins associated with multi-tier distribution models, has important implications for pharma companies, distribution companies as well as CSOs.







Source: Frost & Sullivan Analysis

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Zero-markup Drug Policy

Policy Evolutionment	Execution Outcome	Policy Impact for Stakeholders
1964 Establishment of drug markup policy <ul style="list-style-type: none"> Hospitals were allowed to add 15% drug markup to make up for the lack of financial subsidies. 	<ul style="list-style-type: none"> Hospitals prescribed high price drugs to obtain revenue, increasing the economic burden of patients. 	 Patients <ul style="list-style-type: none"> Reduce medical expenditure, soothing the nervous relationship between patients and doctors
2009 NDRC Implementation opinions on the establishment of basic pharmaceutical system 《关于建立国家基本药物制度的实施意见》 <ul style="list-style-type: none"> Zero markup drug policy began to be implemented in primary medical and health institutions. 	<ul style="list-style-type: none"> Due to the lack of government subsidies and the shortage of basic drugs, the implementation effect is not ideal. 	 Hospitals <ul style="list-style-type: none"> Reduce revenue and increase funding gap Lead to the transition of "depending on the drug as main revenue source" to "depending on the medical skill as main revenue source"
2012 NDRC Notice on promoting pharmaceutical price reform in county level public hospitals 《关于推进县级公立医院医药价格改革工作的通知》 <ul style="list-style-type: none"> Zero markup drug policy began to be implemented in county level institutions. 	<ul style="list-style-type: none"> Drugs changed from the source of income to the source of cost. Therefore, hospitals had to purchase drugs independently, so their bargaining power became stronger. 	 Medical Insurance System <ul style="list-style-type: none"> Reduce medical insurance expenditure and expand coverage
2017 NDRC Notice on promoting the comprehensive reform of public hospitals 《关于全面推开公立医院综合改革工作的通知》 <ul style="list-style-type: none"> Zero markup drug policy began to be implemented in all institutions. 	<ul style="list-style-type: none"> All public hospitals at all levels in China had ended the drug markup before the end of September, 2017. 	 Healthcare System <ul style="list-style-type: none"> Conducive to the return of public welfare of public medical institutions

Source: NDRC, Frost & Sullivan Analysis

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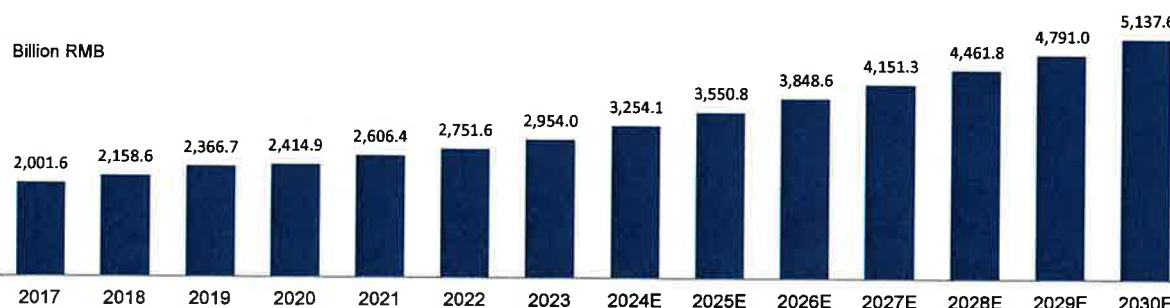
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China Healthcare Product Distribution Market, 2017-2030E

- The market of China healthcare product distribution market, which refers to the revenue of the distribution of pharmaceutical and healthcare products to medical institutions, retail pharmacies, other distributors, other manufacturers. Pharmaceutical and healthcare products mainly include western drugs, TCM drugs, medical devices, etc. The market is highly competitive, with a considerable market share held by the major companies. In 2023, the primary revenue from the top four leading players accounted for more than 40% of the entire China healthcare distribution market. Conversely, smaller and medium-sized companies display a fragmented market by sharing the rest of market with a small market share. The market has increased from RMB 2,001.6 billion in 2017 to RMB 2,954.0 billion in 2023 with a CAGR of 6.7%. The market is projected to be RMB 5,137.6 billion in 2030, representing a CAGR of 8.2% from 2023 to 2030.

China Healthcare Product Distribution Market, 2017-2030E

Period	CAGR
2017-2023	6.7%
2023-2030E	8.2%



Source: MOFCOM, Annual reports, Public information, Frost & Sullivan analysis

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Favorable Policies Regarding Prescription Outflow

Date	Issuing Authority	Policies	Comments
April, 2018	State Council	<i>Opinions of the General Office of the State Council on Promoting the Development of "Internet + Health Care" 关于推进“互联网+医疗健康”发展的国务院意见</i>	<ul style="list-style-type: none"> The opinions state that doctors are allowed to prescribe drugs for some common and chronic diseases online after they have access to the patient's medical records and medical institutions and pharmaceutical companies can entrust qualified third-party agencies for delivery
Oct, 2018	State Council	<i>Notice on the issuance of key tasks for Deepening the Reform of the Pharmaceutical and Healthcare System in the second half of 2018 关于印发深化医药卫生体制改革2018年下半年重点工作任务的通知</i>	<ul style="list-style-type: none"> The policy gives clear requirement regarding prescription outflow that patients are allowed to choose where to purchase drugs, which means hospitals are not the only source
Nov, 2018	Ministry of Commerce	<i>Guiding Opinions on the Classification and Classification Management of National Retail Pharmacies (Draft for Solicitation of Comments) 全国零售药店分类分级管理指导意见（征求意见稿）</i>	<ul style="list-style-type: none"> The opinions divide retail pharmacies into two categories according to the degree of drug safety risk, operating conditions, drug supply capacity, and the ratio of medical technicians The first category pharmacies only deal with category B over-the-counter drugs; the second category pharmacies can deal with over-the-counter drugs, Prescription drugs and Chinese herbal medicines that meet the scope of business license
Mar, 2020	NHC, NMIA	<i>Guidance on the Development of "Internet+" Medical Insurance Services During the Prevention and Control of the New Coronavirus Outbreak 关于推进新冠肺炎疫情防控期间开展“互联网+”医保服务的指导意见</i>	<ul style="list-style-type: none"> The guidance points out that doctors are allowed to provide online prescriptions for the insured. The insured patients are allowed to collect drugs through various flexible ways of offline delivery.
Dec. 2020	NMPA	<i>Notice on Regulating the Use of Licensed Pharmacists in Pharmaceutical Retail Enterprises 关于规范药品零售企业配备使用执业药师的通知</i>	<ul style="list-style-type: none"> The notice persists and supports to improve the professional qualification admission system for licensed pharmacists The target of enhancing supervision and inspection responsibilities are mentioned in this notice, in order to standardize the quality of pharmaceutical professional in the retailing companies.

Source: Government Websites, Frost & Sullivan analysis

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Favorable Policies

Online Prescription

Date	Issuing Authority	Policies	Comments
Apr, 2018	General Office of the State Council	<i>Opinions of the General Office of the State Council on Promoting the Development of "Internet + Healthcare" 国务院办公厅关于促进“互联网+医疗健康”发展的意见</i>	<ul style="list-style-type: none"> Doctors are allowed to prescribe drugs for some common and chronic diseases online after they have access to the patient's medical records.
Aug, 2018	National Health Commission	<i>Notice on Future Promoting the Informatization Construction of Medical Institutions with Electronic Medical Records as the Core 关于进一步推进以电子病历为核心的医疗机构信息化建设工作的通知</i>	<ul style="list-style-type: none"> Doctors are allowed to prescribe drugs for some common and chronic diseases online after they have access to the patient's medical records and pharmacists are allowed to review the patient's prescriptions online and deliver drugs.
Sep, 2019	National Development and Reform Commission	<i>Action Plan for Promoting High Quality Development of Health Industry (2019-2022) 促进健康产业高质量发展行动纲要（2019-2022）</i>	<ul style="list-style-type: none"> Encouraging online prescription service and third-party distribution of drugs and accelerating the development of pharmaceutical e-commerce by supporting pharmacy delivery services.
Mar, 2020	National Health Commission; National Healthcare Security Administration	<i>Guidance on the Development of "Internet+" Medical Insurance Services During the Prevention and Control of the New Coronavirus Outbreak 关于推进新冠肺炎疫情防控期间开展“互联网+”医保服务的指导意见</i>	<ul style="list-style-type: none"> Doctors are allowed to provide online prescriptions for the insured. The insured patients are allowed to collect drugs through various flexible ways of offline delivery.
May, 2021	NHC, NMIA	<i>Guiding Opinions on Establishing and Improving the "Dual Channel" Management Mechanism for Drugs in National Medical Insurance Negotiations 关于建立完善国家医保谈判药品“双通道”管理机制的指导意见</i>	<ul style="list-style-type: none"> "Dual channel" refers to the mechanism through which two channels, designated medical institutions and designated retail pharmacies, meet the reasonable needs of negotiated drug supply guarantees and clinical use, and are simultaneously included in the medical insurance payment mechanism.

Source: Government Websites, Frost & Sullivan analysis

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Favorable Policies

Online Prescription

Date	Issuing Authority	Policies	Comments
Jul, 2021	NHSA	<i>Opinions of National Healthcare Security Administration on Optimizing Convenient Services in Medical Insurance</i> , 国家医疗保障局关于优化医保领域便民服务的意见	<ul style="list-style-type: none"> Promote "Internet + Medical services", follow the principle of online and offline fairness and medical insurance payment policies, improve agreement management and settlement processes based on service characteristics, actively explore information sharing, and realize integrated services of prescription outflow, online payment, and door-to-door drug delivery. The medical insurance departments in each region need to speed up the improvement of local "Internet + Medical services" management of medical insurance payment agreements.
Aug, 2021	NHC, NHSA	<i>Notice on the Issuance of Long-term Prescription Management Standards (Trial)</i> , 关于印发长期处方管理规范(试行)的通知	<ul style="list-style-type: none"> Primary healthcare institutions, which do not meet corresponding conditions qualifications, can prescribe under the guidance of higher tiers healthcare institutions through remote consultations, online follow-ups, and hospital consultation etc.
Dec, 2022	NDRC	<i>Implementation Plan for Expanding Domestic Demand Strategy during the "14th Five-Year Plan" Period</i> , "十四五"扩大内需战略实施方案	<ul style="list-style-type: none"> Develop "Internet + Healthcare" services, promote the development of scheduled diagnosis, e-prescription outflow, and online drug sales etc., and include qualified Internet medical service items into the scope of medical insurance payment.
Feb, 2023	NHSA	<i>Notice of NHSA on Further Improving the Integration of Designated Retail Pharmacies into Outpatient overall Management</i> , 国家医疗保障局办公室关于进一步做好定点零售药店纳入门诊统筹管理的通知	<ul style="list-style-type: none"> Enhance prescription outflow management. Relying on the national unified medical insurance information platform, accelerate the implementation of the e-prescription center of medical insurance information platform, and facilitate the smooth outflow of e-prescriptions from designated medical institutions to designated retail pharmacies. Designated medical institutions can issue long-term prescriptions to eligible patients up to 12 weeks.
Jul, 2023	NHSA, MoF, STA	<i>Notice on the Implementation of basic healthcare security for Urban and Rural Residents in 2023</i> , 关于做好2023年城乡居民基本医疗保障工作的通知	<ul style="list-style-type: none"> To further improve and standardize the management of "dual channels for drug negotiation", establish and improve a province-wide unified, efficient and standardized prescription outflow mechanism to promote "Dual-channel" e-prescription outflow to improve drug supply by relying on the national unified e-prescription center of medical insurance information platform.

Source: Government Websites, Frost & Sullivan analysis

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Favorable Policies

Online Retail of Prescription drug

Date	Issuing Authority	Policies	Comments
Oct, 2016	State Council	<i>Outline of the "Healthy China 2030" Plan</i> "健康中国2030"规划纲要	<ul style="list-style-type: none"> This plan encourages the improvement of "treatment-rehabilitation-long-term care" service chain The plan also promotes pharmaceutical and medical device distribution companies to extend services to the upstream and downstream of the supply chain, and strengthen key technological breakthroughs such as chronic disease prevention and control, precision medicine, and smart medical care
Apr. 2018	State Council	<i>Opinions of the General Office of the State Council on Promoting the Development of "Internet + Healthcare"</i> 国务院办公厅关于促进"互联网+医疗健康"发展的意见	<ul style="list-style-type: none"> This opinion indicates that the prescriptions for perennial diseases and chronic diseases issued online, after being reviewed by a pharmacist, can be entrusted to a qualified third-party agency for delivery
Aug. 2019	SAMR	<i>Drug Administration Law of the People's Republic of China</i> 中华人民共和国药品管理法	<ul style="list-style-type: none"> The law stipulates that vaccines, blood products, narcotic drugs, psychotropic drugs, toxic drugs for medical use, radioactive drugs and other drugs subject to special state management shall not be sold on the Internet, but no restriction to the other drugs
Jul. 2021	NHSA	<i>Opinions on optimizing convenient services in the field of medical insurance</i> 关于优化医保领域便民服务的意见	<ul style="list-style-type: none"> The opinions promote "Internet + medical services", following the principle of online and offline fairness and medical insurance payment policies, including the improvement of protocol management and settlement processes based on service characteristics The opinions suggest actively exploring information sharing, and realization of integrated services for prescription circulation, online payment and settlement, as well as the home delivery of medicines

Source: Government Websites, Frost & Sullivan analysis

F R O S T & S U L L I V A N

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Verifications-I

- The per capital annual disposable income in the non-first-tier cities in the PRC has grown from RMB24,200 in 2017 to RMB34,400 in 2022, with an CAGR of approximately 7.3%.
- For the year 2022, there were approximately 4.8 million new cancer cases and approximately 2.9 million cancer death cases in China, representing approximately 23.8% and 27.4% of global new cancer cases and cancer death cases, respectively, which made China become the No.1 country with the most new cancer cases and cancer death cases in the world;
- First-tier cities refer to four cities including Beijing, Shanghai, Guangzhou, and Shenzhen; second-tier cities refer to 31 cities including Tianjin, Shijiazhuang, Taiyuan, Hohhot, Shenyang, Dalian, Changchun, Harbin, Nanjing, Hangzhou, Ningbo, Hefei, Fuzhou, Xiamen, Nanchang, Jinan, Qingdao, Zhengzhou, Wuhan, Changsha, Nanning, Haikou, Chongqing, Chengdu, Guiyang, Kunming, Xi'an, Lanzhou, Xining, Yinchuan, Urumqi and other;
- With the issue of favorable policies on promoting early cancer screening, such as "Healthy China Initiative - Implementation Plan for Cancer Prevention and Control (2019-2022)", and the increasing awareness of the population on benefits of cancer early detection, together with the establishment and expansion of novel cancer screening institutions such as early cancer screening centers, the cancer screening service market is forecasted to grow at a [high] speed from 2022 to 2026, reaching RMB7.5 billion in 2026 with a CAGR of 34.1%, and RMB19.3 billion in 2030 with a CAGR of 26.5%.
- Bayzed Group ranked 1st among private oncology hospital groups in terms of number of Early Cancer Screening institute.
- Bayzed Group ranked 1st among private oncology hospital groups in terms of total number of gastroenteroscopy.
- In practice, medical land is mainly allocated or granted to non-profit medical institutions.
- The first complete Halcyon 3.0 smart platform accelerator system in China, which is one type of medical electron linear accelerator, was introduced in our Western Beijing Cancer Hospital in October 2021.
- Bayzed Group has taken the lead in conducting clinical practice on oncology rehabilitation in the PRC.
- In May 2018, the NHC and NMPA introduced a large-scale medical equipment quota in the Circular on Issuing the Administrative Measures for allocation and Use of Large-scale Medical Equipment (for Trial Implementation). It indicates that the quota of large-scale medical equipment in China is allocated based on regional demand, such as linear accelerator, which makes it more difficult to apply for a radiotherapy equipment license.
- For example, some private oncology specialist hospitals in China have introduced advanced training system from top specialized hospitals from other parts of the world to train their professionals working in radiation oncology.
- The number of new incident cases of cancers has increased from 4.3 million in 2018 to 4.8 million in 2022 at a CAGR of 2.9%.
- China's per capita disposable income increased from RMB28,228 in 2018 to RMB36,883 in 2022 at a CAGR of 6.9%.

Verifications-II

- With the current policy adjustment of the PRC Government, the policy of private oncology institutions in the allocation of large-scale medical instruments related to oncology is gradually relaxed.
- Combined with the rapid influx of capital, private hospitals will be able to equip themselves with more advanced diagnosis and treatment equipment more quickly than public hospitals. In addition, medical talents are more willing to work in private hospitals as private hospitals have more advantages in salary setting.
- China's cancer medical resources are unevenly distributed, where high-quality medical resources are concentrated in first-tier cities, and medical resources in second-, third-tier and other low-tier cities are relatively scarce.
- As oncology healthcare service market continues getting investments from social capital, the non-first-tier cities markets will be able to receive more funds and resources to meet the rising healthcare services needs, leading to a rapid development in the oncology medical service market.
- Bayzed Group is one of the very few private oncology healthcare groups that have the capability to provide full-cycle oncology healthcare services
- Among all private oncology healthcare groups in China, Bayzed Group ranked the first in terms of the number of screening and early detection of cancer centers as of December 31, 2023.
- Among all private oncology healthcare groups in China, Bayzed Group ranked the first in terms of the number of gastrointestinal endoscopy cases for the year ended December 31, 2023.

