China Health & Wellness Market

Independent Market Research

Confidential For

熙康
XIKANG

Frost & Sullivan
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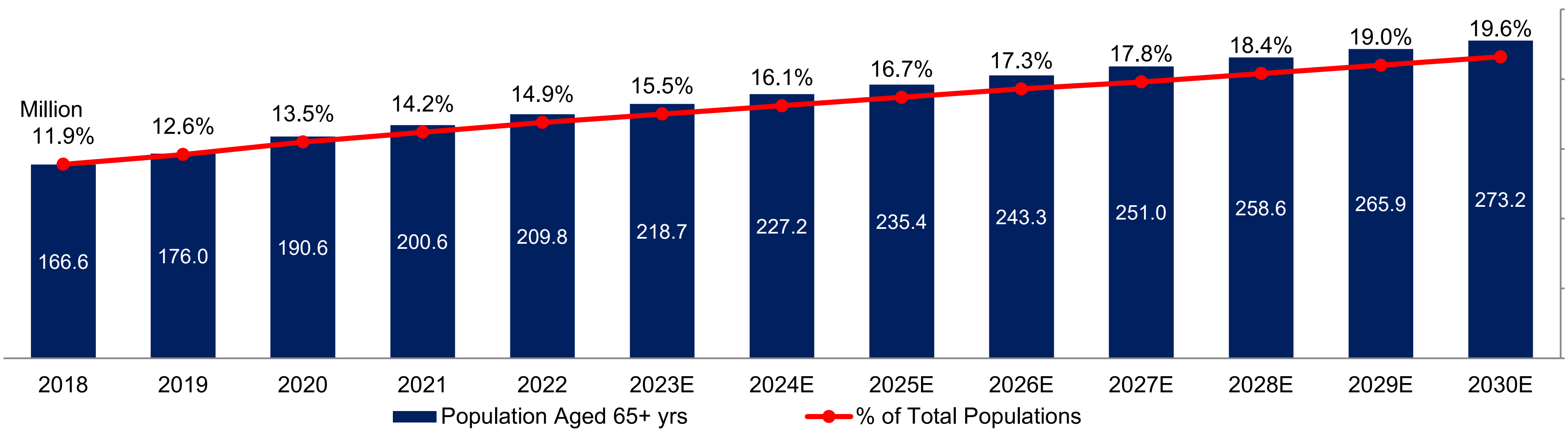
China Aging Population Trend, 2018-2030E

- With the implementation of the 'One Child Policy' and increasing life expectancy, China has entered an aging society. From 2018 to 2022, the population is aging rapidly in China with people aged above 65 growing at a CAGR of 5.9%. According to the National Bureau of Statistics of China (NBSC), the number of individuals aged above 65 years old is estimated to be 209.8 million in 2022. 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 is expected to reach 273.2 million by 2030, representing a CAGR of 3.4% from 2022 to 2030.

China Aging Population Trend, 2018-2030E

Period	CAGR
2018-2022	5.9%
2022-2030E	3.4%



Source: NBSC, Frost & Sullivan Analysis

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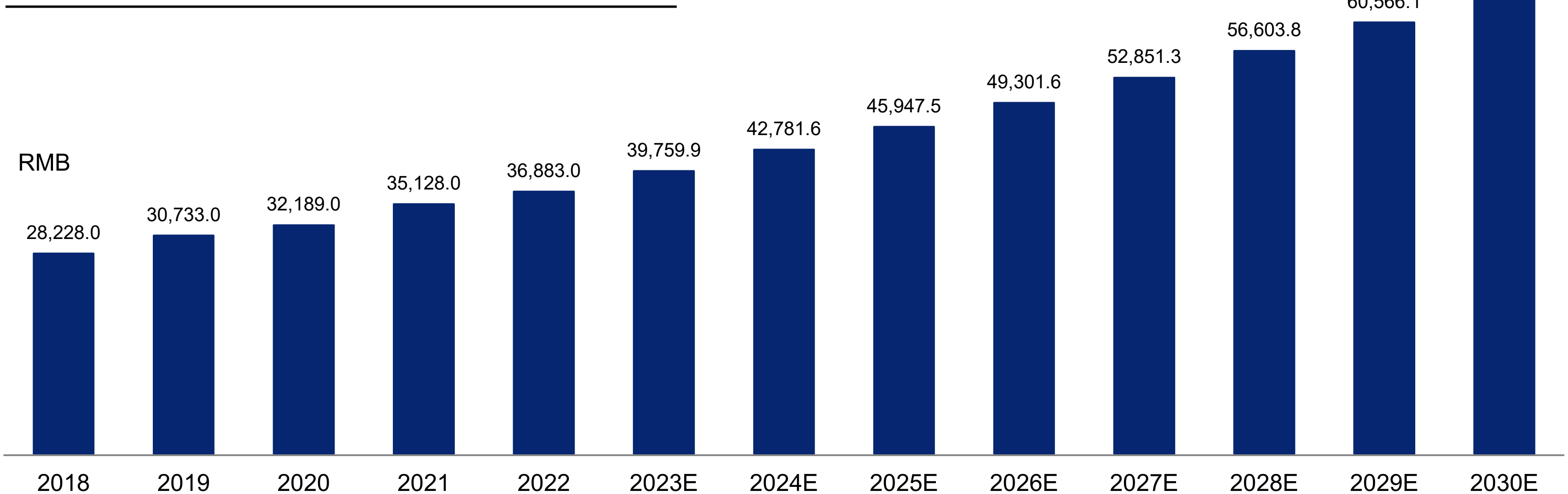
China Per Capita Disposable Income, 2018-2030E

- The per capita disposable income in China was only RMB36,883.0 in 2022, which is expected to grow at a CAGR of 7.3% from 2022 to 2030 and reach RMB 64,745.1 in 2030.

China Per Capita Disposable Income, 2018-2030E

Period	CAGR
2018-2022	6.9%
2022-2030E	7.3%



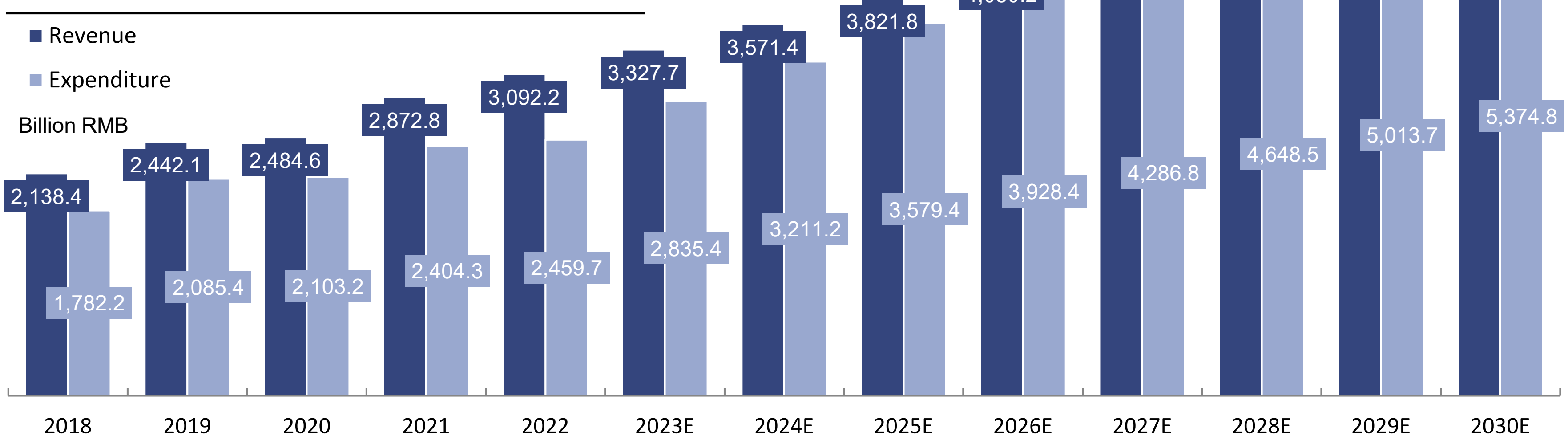
Source: World Bank, Frost & Sullivan Analysis

Basic Medical Insurance Fund in China

- The revenue of basic medical insurance fund has increased from RMB2,138.4 billion in 2018 to RMB3,092.2 billion in 2022, with a CAGR of 9.7%.
- The revenue is expected to continue its growth while the expenditure will experience a much higher growth if no intervention is implemented. The revenue and the expenditure is projected to reach RMB5249.3 billion and RMB5374.8 billion in 2030, respectively. Therefore, there is a high willingness to control the expenditure of basic medical insurance fund, which can be achieved through digital technologies.

Revenue and Expenditure of Basic Medical Insurance Fund[1], 2018-2030E

Period	CAGR	
	Revenue	Expenditure
2018-2022	9.7%	8.4%
2022-2030E	6.8%	10.3%



- *Note 1: basic medical insurance includes URBMIS, UEBMIS and NRCMIS.*

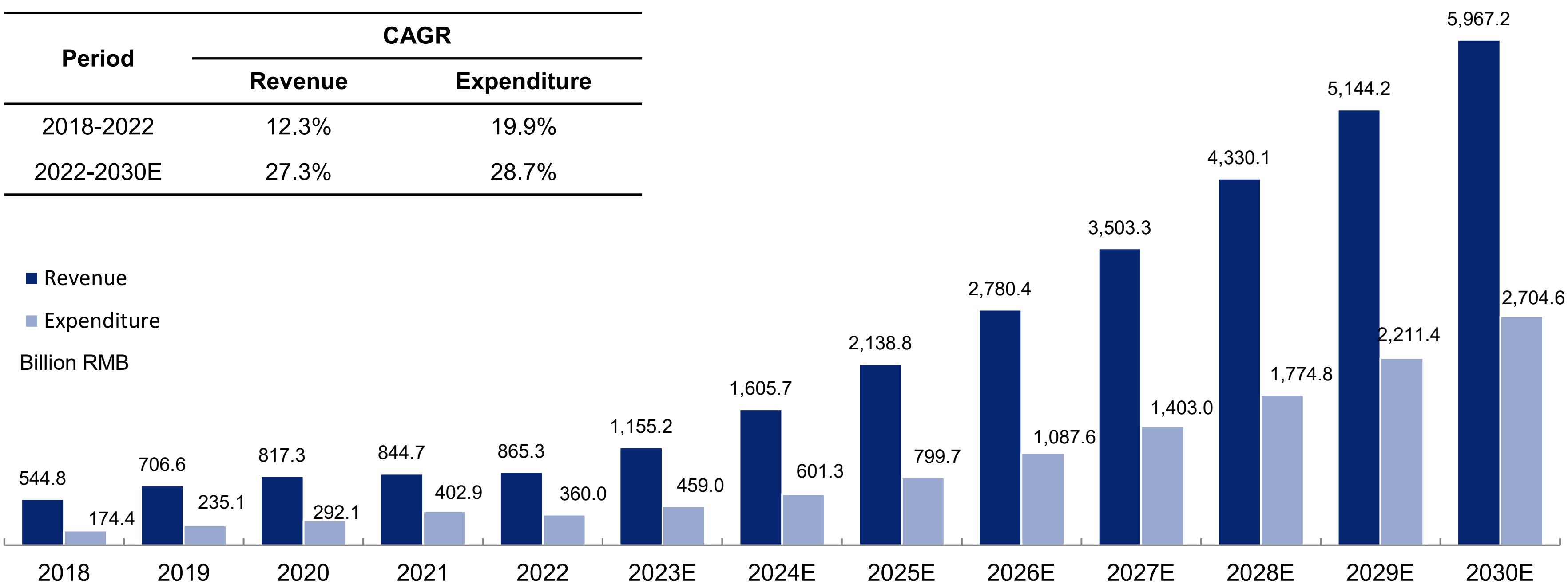
Source: NMPA, Frost & Sullivan Analysis

Commercial Health Insurance Fund in China

- According to China Insurance Regulatory Commission, the revenue of commercial health insurance fund has increased from RMB544.8 billion in 2018 to RMB865.3 billion in 2022, with a CAGR of 12.3%, while the expenditure has increased from RMB174.4 billion in 2018 to RMB360.0 billion in 2022, representing a CAGR of 19.9% 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 the expenditure is projected to reach RMB5,967.2 billion and RMB2,704.6 billion in 2030, respectively.

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

Period	CAGR	
	Revenue	Expenditure
2018-2022	12.3%	19.9%
2022-2030E	27.3%	28.7%



Source: CIRC, Frost & Sullivan Analysis

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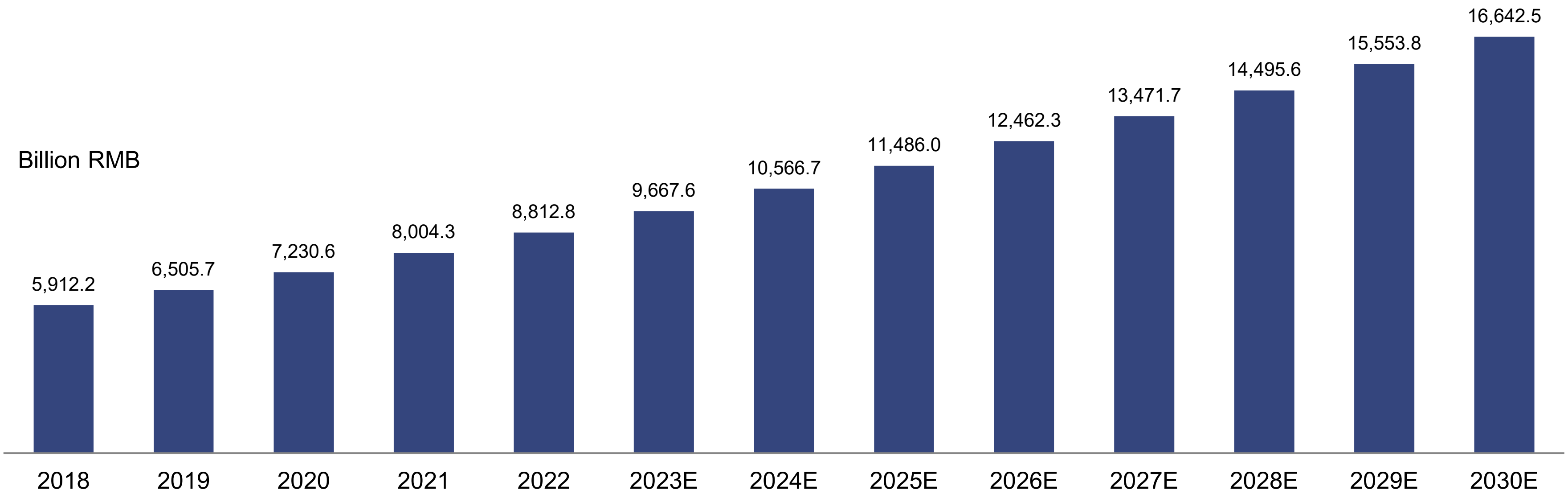
China Healthcare Expenditure, 2018-2030E

- The total healthcare expenditure of China has experienced steady growth. From 2018 to 2022, the total healthcare expenditure of China has increased from RMB5,912.2 billion to RMB8812.8 billion, representing a CAGR of 10.5%. Furthermore, the rapid increase in China's healthcare expenditures will continue in the near future. The total healthcare expenditure of China is forecasted to reach RMB12,462.3 billion and RMB16,642.5 billion by 2026 and 2030 respectively, at a CAGR of 8.3% from 2022 to 2030.

China Healthcare Expenditure, 2018-2030E

Period	CAGR
2018-2022	10.5%
2022-2030E	8.3%



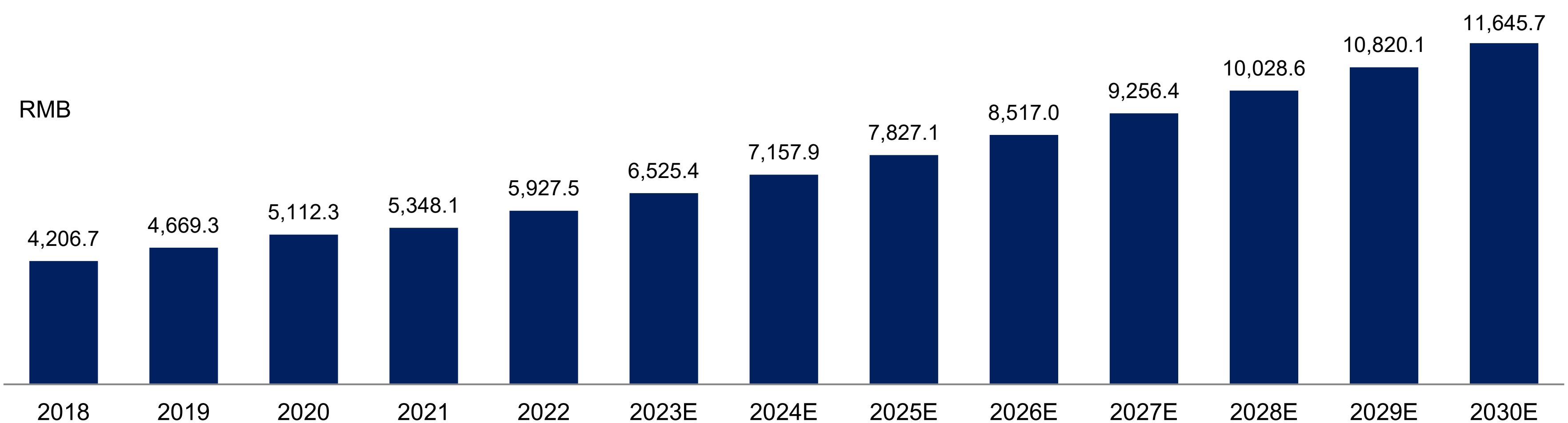
Source: World Bank, Frost & Sullivan Analysis

Healthcare Expenditure Per Capita in China, 2018-2030E

- The per capita healthcare expenditure in China has grown rapidly in recent years.
- According to information from the National Bureau of Statistics and EIU, from 2018 to 2022, the per capita healthcare expenditure has grown from RMB 4,206.7 to RMB 5,927.5, representing a CAGR of 9.0% in this period. And the per capita healthcare expenditure is expected to reach RMB 11,645.7 in 2030, representing a CAGR of 8.8% from 2022 to 2030.

Healthcare Expenditure Per Capita, 2018-2030E

Period	CAGR
2018-2022	9.0%
2022-2030E	8.8%

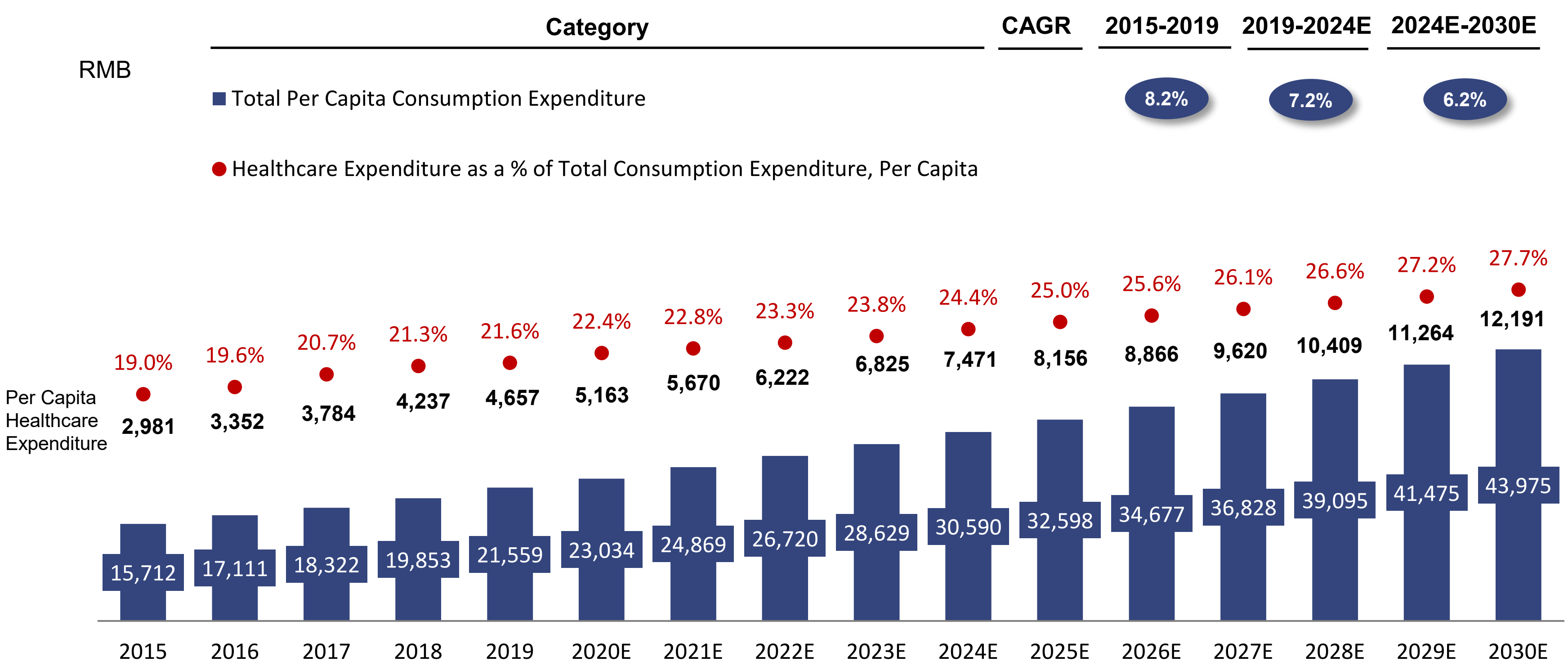


Source: NBSC, Frost & Sullivan Analysis

Per Capita Healthcare Expenditure in Total Consumption Expenditure in China, 2015-2030E

- Per capita healthcare expenditure is an important section of per capita consumption expenditure 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 27.7% of the total consumption expenditure.

China Consumption Expenditure Per Capita, 2015-2030E

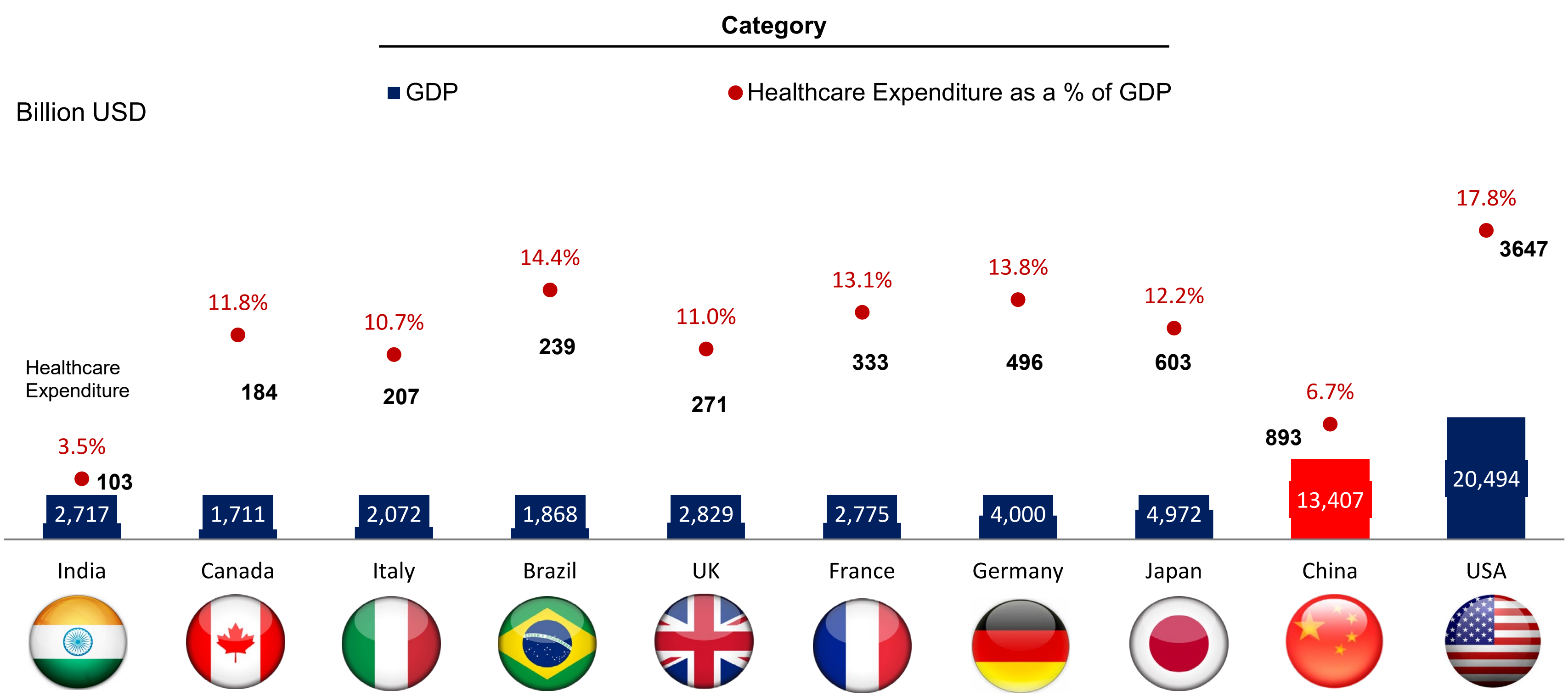


Source: NBSC, BEA, Frost & Sullivan Analysis

2019 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 17.8%. For India and China, the percentages are relatively low, being 3.5% and 6.7% respectively.

GDP Breakdown by Healthcare Expenditure Comparison, 2019



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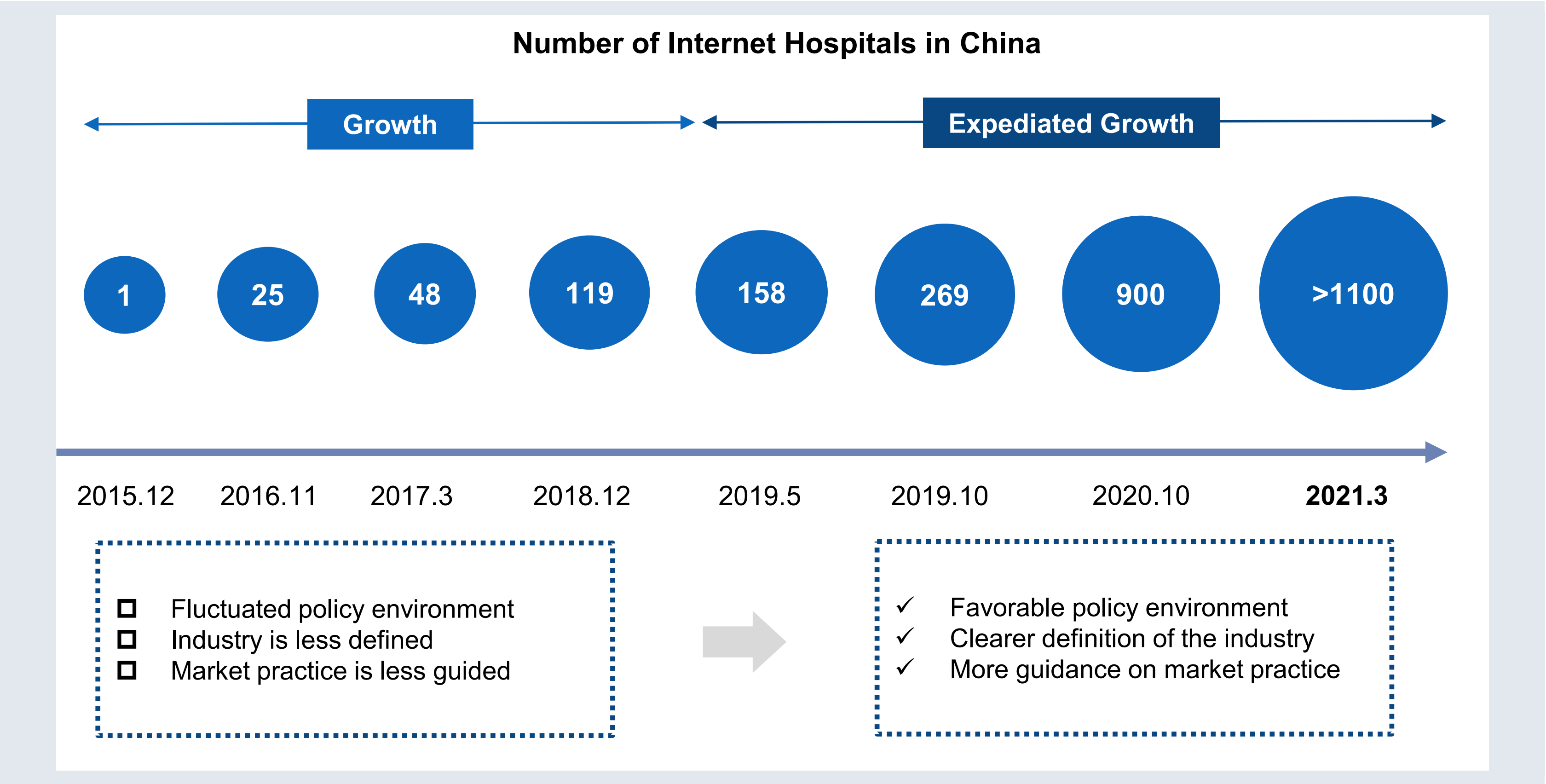
Growth of Internet Hospitals Powered by Favorable Regulations and Policies

- In December 2015, We Doctor established China's first Internet hospital, the Wuzhen Internet Hospital, established the first digital medication service center and generated the first electronic prescription.
- The number of internet hospitals in China has experienced growth since the first one launched in 2015, and the growth has been accelerated in the recent few years. Remarkably, the number of internet hospitals has increased from 158 in May 2019 to more than 1100 in March 2021, with an approximately 7 times growth within 2 years, accelerated by the outbreak of COVID-19 pandemics.



Source: NHC, Frost & Sullivan Analysis

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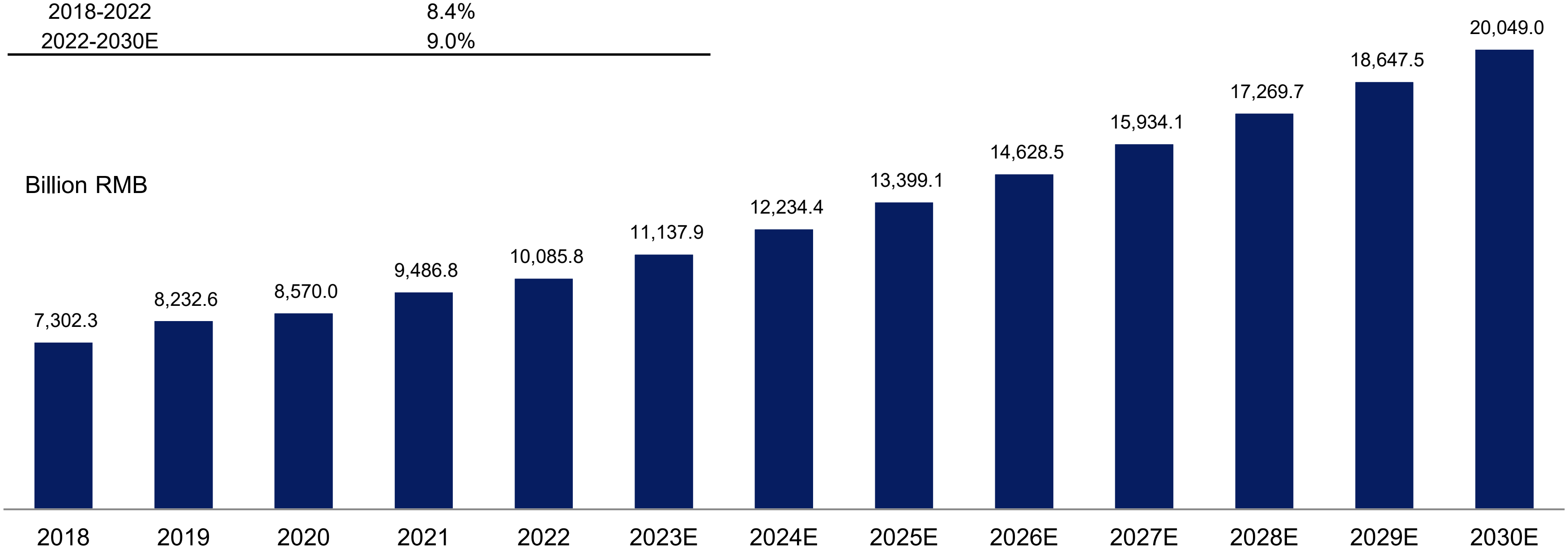
China Health and Wellness Market, 2018-2030E

- The China general health and wellness industry is one of the largest components of the national economy, which refers to services and products related to the maintenance, recovery and promotion of health, encompassing healthcare services, pharmaceuticals, nutrition and health products, medical devices, as well as other services or products such as digital health infrastructure etc.
- The market size of the health and wellness industry in China reached RMB10,085.8 billion in 2022 and is expected to increase to RMB20,049.0 billion in 2030, at a CAGR of 9.0%. The following diagram sets forth the historical and forecasted market size of the health and wellness market in China from 2018 to 2030.

China Health and Wellness Market, 2018-2030E

Period	CAGR
2018-2022	8.4%
2022-2030E	9.0%



Source: Frost & Sullivan Analysis

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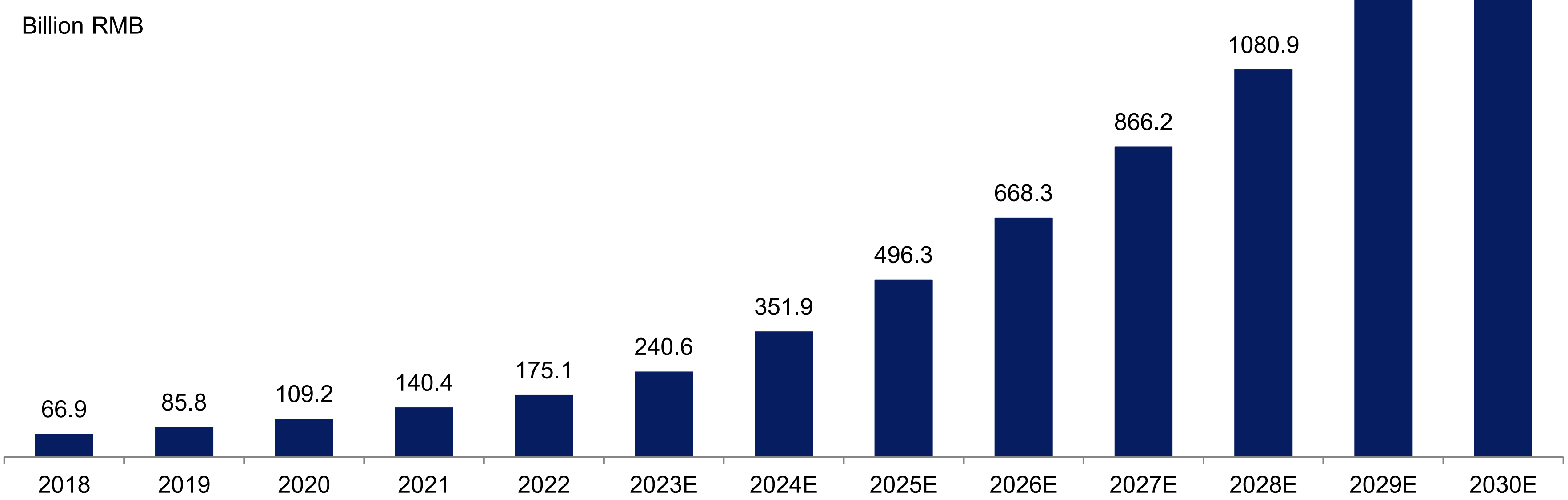
Market Size of Digital Healthcare Service Industry, 2018-2030E

- The PRC digital healthcare services market has developed rapidly in recent years. It covers four key components, (i) digital healthcare infrastructure, (ii) digital medical services, (iii) digital consumer healthcare products and services, and (iv) digital health management. According to Frost & Sullivan, the size of the PRC digital healthcare services market reached RMB175.1 billion in 2022 and is expected to further increase to RMB1,607.4 billion by 2030 at a CAGR of 31.9%.

Market Size of Digital Healthcare Service Industry, 2018-2030E

Period	CAGR
2018-2022	27.2%
2022-2030E	31.9%



Source: Frost & Sullivan Analysis

Trends of China Neo-healthcare Market

Emphasis on Digital Connection

- Of the most outstanding characteristic and trend of Neo-healthcare market in China, digital connection is reflected from the three following aspects: connection between online and offline, connection between inside and outside a healthcare institutions, and connection among healthcare institutions.

Connection between online and offline	• Digital connection between online and offline makes it possible for healthcare service that conventionally take place offline to be enabled online, which allow both healthcare providers and patients to benefit from diversified channel of healthcare service. In specific, from healthcare service provider end, it helps to reorganize and optimize the utilization of healthcare resources; from patient end, it helps to simplify the onerous procedure when the patients are seeking for healthcare service. At higher level, the connection between online and offline healthcare service promote the overall efficiency of healthcare system, improving the accessibility of healthcare resources. .
Connection between inside and outside of healthcare institution	• Digital connection between inside and outside of healthcare institution is to extend the tracking of personal data from inside of a healthcare institution to outside enabled by digital technology. In specific, medical records are records generated within healthcare institutions, tracking the history of care a person received. By connecting such records with personal health data generated outside of healthcare institutions, it creates a continuity of personal health data that captures more accurate and omni-aspect health profile for a person, which forms the basis of improving healthcare quality in terms of better healthcare decisions and more coherent health management and efficient expense control.
Connection among healthcare institutions	• Digital connection among healthcare institutions is the linkage of different tiers of healthcare institutions and formation of regional cooperative healthcare service network realized by digitalization. Through the sharing of medical information and opening of mutual transfer channel, the resulted healthcare service network can assist landing of hierarchical diagnosis and treatment, improve the convenience of patients who need chronic disease management, and provide technical basis for telemedicine.

Source: Frost & Sullivan Analysis

Competitive Landscape of Cities with Strategic Municipal Level Co-operation Among Major Players

- Among all major players in China Neo-healthcare market, diversified cooperation models arise, with totally different contents and methods. As of 2023/03/31, Xikang went ahead of major players with the number of Cities with Strategic Co-operation in Municipal Level.

Major Player	Background and listing status	Business Model Description	Cities with Strategic Co-operation in Municipal Level (2022)	Strategic Co-operation Contents	Year of Establishment
熙康 XIKANG Xikang	Mainly focused on the provision of cloud hospital platform services, cloud healthcare services and smart healthcare product	Providing cloud hospital platform operation services, cloud hospital healthcare services and smart healthcare products and solutions	**29 Cities**	*To be aligned with business backpart.*	2011
微医 WeDoctor Wedoctor	Established and operated the first online hospital in China, with an innovative model of "Internet + Medical Health"	Providing online medical services and health maintenance services	**17 Cities**	Launch digital chronic disease management service model empowered by the Internet hospitals, with direct settlement by public health insurance in China. Under this model, citywide digital consultations, treatment and management services to subscribers with certain chronic diseases can be provided.	2010
JDH 京东健康 JD Health	Was committed to building a health management platform that takes medicine and health product supply chain as the core, also concentrated on digital-driven medical services; listed in Hong Kong	Providing retail pharmacy operation services and online medical services	**10 Cities**	Regional Internet Hospital establishment to improve accessibility of comprehensive healthcare service including medical consultations, health management, chronic disease management. Digitalization of primary healthcare institutions to improve management capability and further utilize big data to cooperate with local medical insurance to better supervise and prevent medical insurance abuse and fraud, and better guarantee the safety of medical insurance funds.	2019
阿里健康 Alibaba Health	Mainly concentrated on the fields of pharmaceutical e-commerce, medical services and digital healthcare; listed in Hong Kong	Pharmaceutical direct sales business, pharmaceutical e-commerce platform business, medical and healthcare services business and pharmaceutical products tracking and consumptive healthcare	**7 Cities**	Ali Health established cooperation at municipal level to improve the accessibility of healthcare services including medical consultation, drug prescription, health management and etc, thereby forming the basis to manage the citizens' health data at a regional level, which help the region better control the healthcare expenditure, balance the healthcare resources, facilitate commercial healthcare insurance development and etc.	2014
平安好医生 PAGD	Operated as one of leading companies in the Internet healthcare industry; listed in Hong Kong	Providing online healthcare services, consumer healthcare services, health e-commerce and health management and wellness services	**5 Cities**	In the co-operation, Internet hospital platform is formed to connect with local healthcare institutions. The platform consists of 5 modules of services, namely, online diagnosis, prescription circulation, health management, data monitoring and back-office management.	2014

Entry Barriers of China Neo-healthcare Services Market

Capabilities to empower multiple participants	• Market players' capabilities to serve and empower multiple participants in the healthcare system are important to attract participants to their digital healthcare solutions and platforms to achieve growth. New entrants to the market may experience difficulties in developing such capabilities in a short period of time. • For example, it is difficult to establish a platform that integrate patients, healthcare institutions, medical insurance (payer) and regulators together. Other platform providers usually focus on one or two factors. For instance, PAGD focus merely on doctors and patients to achieve online consultation.
Comprehensive healthcare service offerings for the full healthcare cycle	• The failure to provide comprehensive healthcare services over digital healthcare platforms that cover the full cycle of healthcare may risk discouraging new and losing existing users, thereby reducing the activeness of such platforms. Existing market players are often equipped with well-established service offerings and may find it easier than new entrants to maintain user satisfaction and attract and retain users.
Healthcare quality management capabilities	• The establishment of a comprehensive and effective healthcare quality management system is crucial to the user experience and satisfaction of healthcare services provided, as healthcare services are treatment outcome oriented. New market entrants may not be able to so establish such system in an early stage of their business.
Data accumulation and platform technological capabilities	• The access to large volumes of medical data and technological capabilities to ensure the scalability and reliability of digital healthcare platforms are vital to the continuous development of digital healthcare solutions and platforms. In contrast, it is relatively difficult for new market entrants to acquire such access and capabilities within a short period of time.

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Impact of COVID-19 on Health and Wellness Industries

- Both traditional pharmaceutical industry and traditional medical service have been negatively affected, while digital healthcare is ushering in a new period of development.

Negative Effect on Traditional Pharmaceutical Industry

- ➢ Manufacturing: Resumption of production is difficult
- ➢ Circulation: circulation is obstructed
- ➢ Retail: Quarantine reduces offline pharmaceutical sales

Negative Effect on Traditional Medical Service

- ➢ Private medical service institutions: Market share is likely to decline.
  - Lack of **government subsidies**
  - Lack of **medical insurance**

- ➢ Public medical service institutions: Suffer from loss of competitiveness
  - Customer churn
  - Profit will be reduced

Positive Effect on Digital Health Service

➢ **Policy: enhanced support**

- National Healthcare Security Administration had introduced "Internet medical service" in the national medical insurance document (国家医疗保障局关于积极推进 "互联网+" 医疗服务工作指导意见) for the first time and implemented detailed policies to support the development of online follow-up medical services for common and chronic diseases provided by Internet medical institutions for insured persons.

➢ **Supply-side: geometric growth**

- Regional expansion of medical institutions and medical resources
- In the first three months of 2020, the number of new digital healthcare companies has **exceeded 11,000**

➢ **Demand-side: increased acceptance**

- The pandemic cultivated consumer habits, thus fostered stable digital health customers

Source: NBSC, Frost & Sullivan Analysis

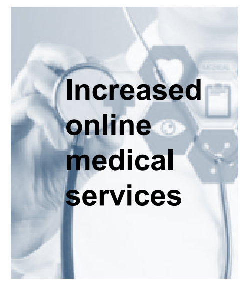
Impact of COVID-19 on Digital Health

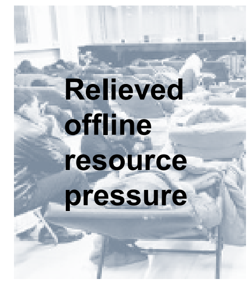
- During the pandemic, digital health development drives policy reconstruction, optimizes supply-side resource allocation, and accelerates demand-side cognitive behavior cultivation.

Favorable policies for digital health have been introduced

Time	Policy Document	Impact
Feb 2020	Notice on Strengthening Informationization to Support the Prevention and Control of Coronavirus	Promote **online voluntary consulting**
	Notice on "Internet + Diagnosis and Treatment" Consultation Service in the Prevention and Control of Coronavirus	Give full play to the role of online consultation in prevention and control, scientifically organize **online diagnosis and treatment**
Mar 2020	Guiding Opinions on Promoting "Internet +" Medical Insurance Services in Coronavirus Prevention	Internet medical treatment is included in **medical insurance**

Medical resources allocation has been optimized





Consumer habits cultivation has been accelerated

➢ The online diagnosis and treatment of the hospitals under the administration of the National Health Commission has increased **17 times** over the same period last year.

Source: NHC, Frost & Sullivan Analysis

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China Healthcare Service System

Overview

- 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.
- There were 977,790 primary healthcare institutions in China by the end of 2021, including community health centers/stations, rural health centers, village clinics and others.

Chinese Healthcare Service System, 2021

Primary Healthcare Institutions (977,790)

- Community Health Centers/Stations (社区卫生服务中心/站) (36,160)
- Rural Health Centers (乡镇卫生院) (34,943)
- Village Clinics (村卫生室) (599,292)
- Others (307,395)

Hospitals (36,570)

- Public Hospitals (11,804)
- Private Hospitals (24,766)

- General Hospitals (20,307)
- Specialized Hospitals (9,699)
- TCM Hospitals (4,630)
- Other Hospitals (1,934)

- Class III Hospitals (3,275)
- Class II Hospitals (10,848)
- Class I Hospitals (12,649)
- Unrated Hospitals (9,798)

Other Healthcare Institutions (13,276)

- Center of Disease Control (3,376)
- Women &Children Care Institutions (3,032)
- Preventive Institutions Of Special Disease (932)
- Others (5,936)

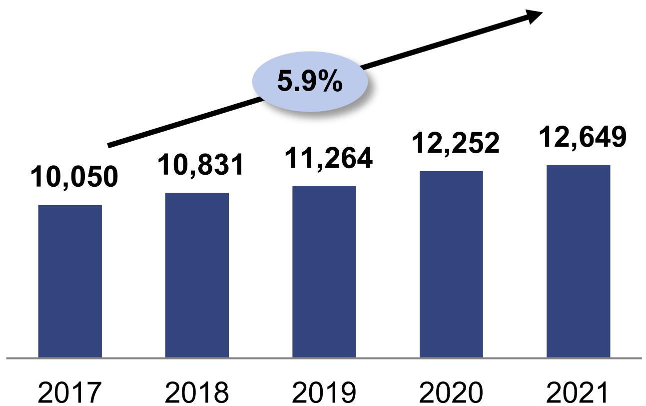
Source: NHFPC, Frost & Sullivan Analysis

Chinese Healthcare Service System

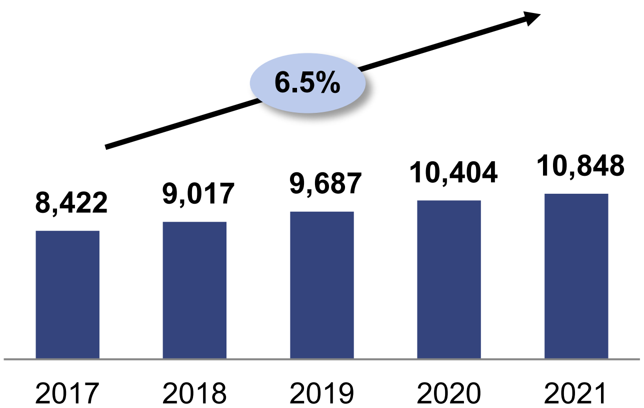
Recent Developments, 2017-2021

- The total number of hospitals in each tier and the total number of primary healthcare institution have both been growing, with the number of hospitals growing at a higher rate.

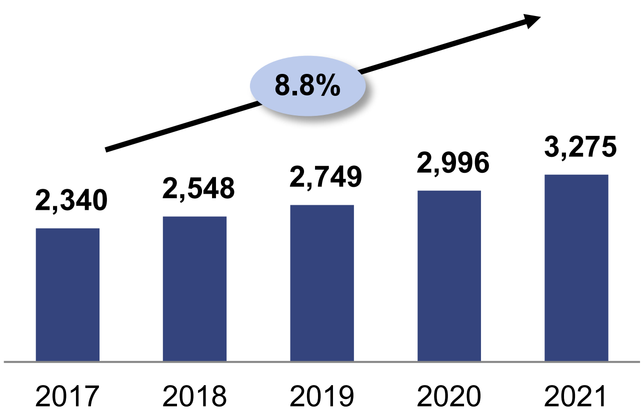
Total Number of Class I Hospitals, 2017-2021



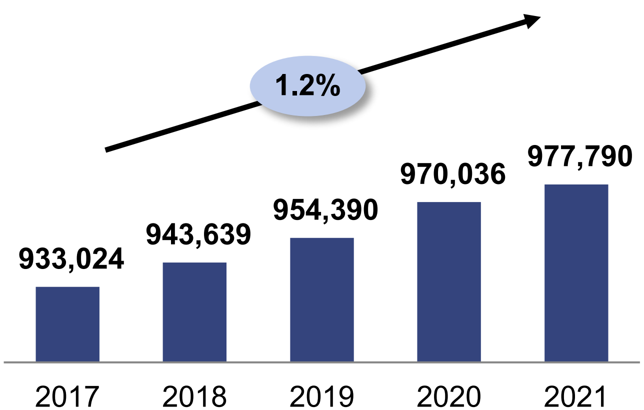
Total Number of Class II Hospitals, 2017-2021



Total Number of Class III Hospitals, 2017-2021



Total Number of Primary Healthcare Institutions, 2017-2021

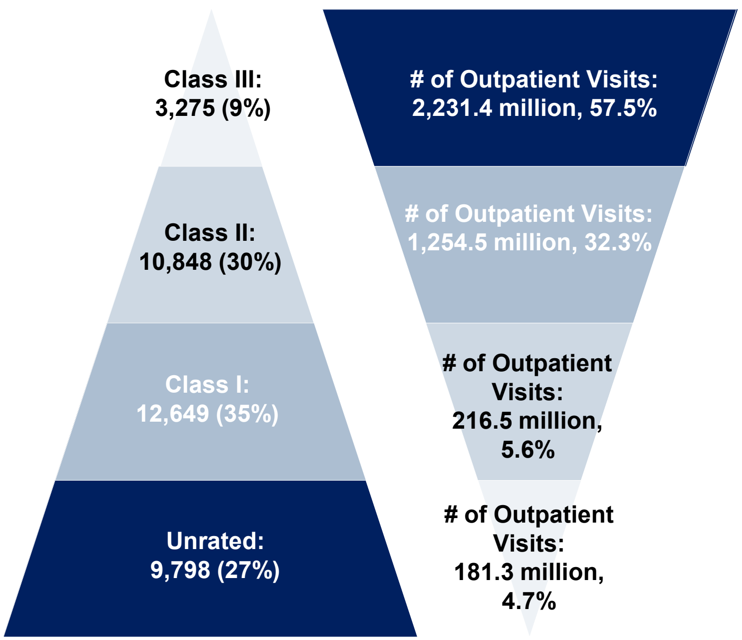


Source: NHFPC, Frost & Sullivan Analysis

Inversion of Medical Resources and Demands

- China's medical resources are concentrated in large Class III hospitals and patients also preferentially seek healthcare services in big hospitals whether they have a cancer or a cold, which leads to the severe inversion of medical resource and diagnosis demands.
- There were only 9% (3,275) Class III hospitals out of 36,570 hospitals in China, and only 14 provinces or municipalities possessed over 100 Class III hospitals in 2021.

Severe Inversion of Medical Resource and Diagnosis Demand, 2021



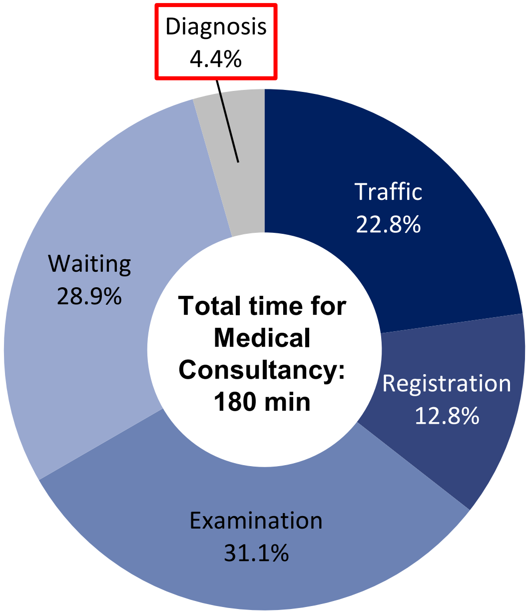
Source: Frost & Sullivan Analysis

Pain Points of China Healthcare Service System – Demand

Poor Consumer Experience of Healthcare Service

- 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).

Time Structure for a Diagnosis Process, 2021



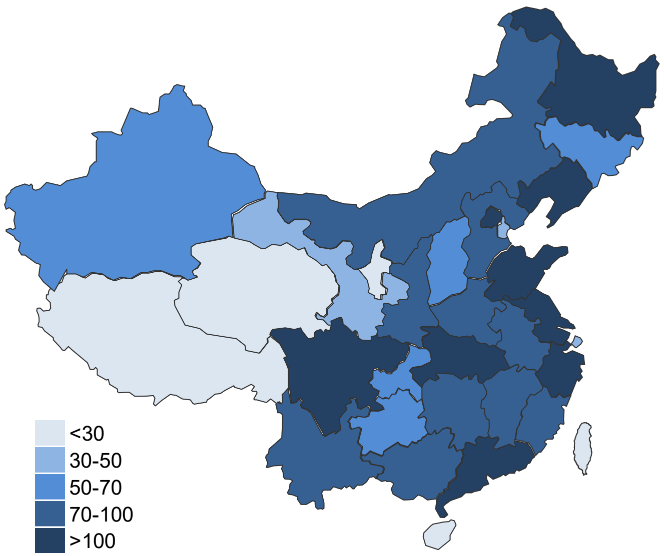
Source: NHFPC, Frost & Sullivan Analysis

Pain Points of China Healthcare Service System - Supplier

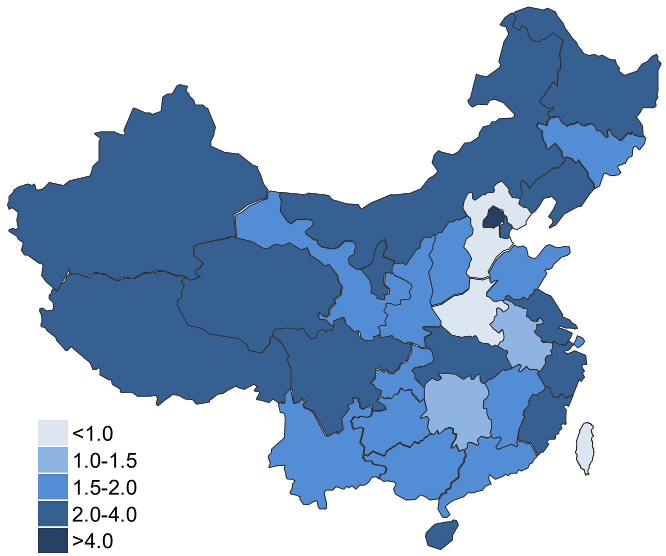
Uneven Geographic Distribution of Medical Resources

- 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, 2019



# of Class III Hospitals Per Million Population in China, 2019



Source: Frost & Sullivan Analysis

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Overview of Digital Healthcare Infrastructure

- Digital healthcare infrastructure industry refers to the infrastructure system that uses digital technology as the core and meets healthcare needs through digital means. The digital healthcare infrastructure serves to develop the healthcare industry, enhance national health awareness, and realize universal and equitable access to healthcare. Digital healthcare infrastructure is the base of neo-healthcare service
- Digital healthcare infrastructure refers to a set of fundamental facilities and systems for healthcare purposes that is based on digital technology, network technology, communication technology, electronic technology and information technology. It is an innovative modern service system that is driven by healthcare digitalization as well as relevant services.

Digital Healthcare Infrastructure

Elementary function

❖ Hospital information system (HIS)
❖ Intra-hospital information

- Carrying out basic functions
- Hospital information system (HIS)
- Experienced the intra-hospital data connectivity and information sharing.

Extended function

❖ Platform & System Construction
❖ Medical data and information management

- Through digital healthcare infrastructure, medical data can be shared among different specialities in medical institutions or even among different medical institutions to diminish the information gap in the healthcare system through such connectivity

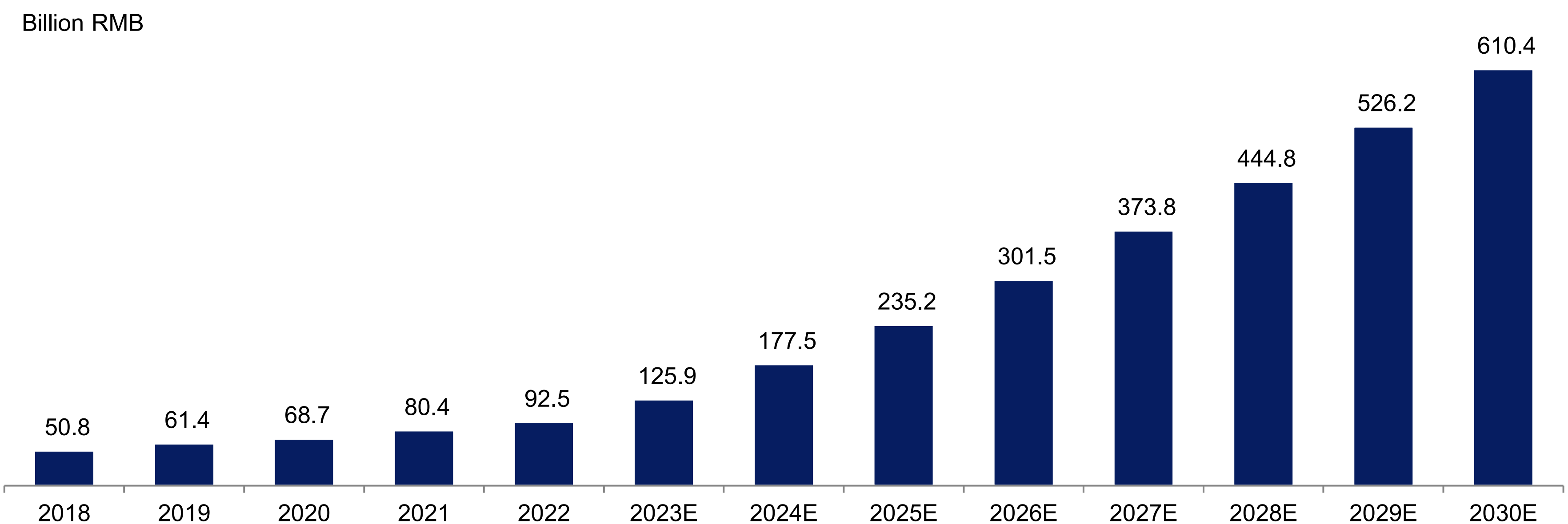
Source: Frost & Sullivan Analysis

Market Size of Digital Healthcare Infrastructure Industry, 2018-2030E

- As currently the largest part of the neo-healthcare market in China, the market size of digital healthcare infrastructure industry in China increased from RMB 50.8 billion in 2018 to RMB 92.5 billion in 2022 with the CAGR of 16.2%. It is expected to reach RMB 610.4 billion in 2030, with the CAGR of 26.6%.

Market Size of Digital Healthcare Infrastructure Industry, 2018-2030E

Period	CAGR
2018-2022	16.2%
2022-2030E	26.6%



Source: Frost & Sullivan Analysis

Future Trends of Digital Healthcare Infrastructure

Platformization	• Plenty of high tier healthcare institutions and primary healthcare institutions are tend to be included into same platform, so that the disequilibrium of healthcare resources can be redistributed. Thus, the number of healthcare institutions on platforms will experience sustainable growth.
Standardization	• As HIS matured increasingly, the standardization and quality of medical data will be improved phenomenally, therefore lead to the standardization of of the cooperation between platforms to payers (National medical insurance) and regulators (administration). Also, hierarchical diagnosis and treatment is advocated by government, which regulate the standard of consultation and referral, furthermore lead to the standardization of diagnosis and treatment process. Additionally, clinical guidelines has establish standard treatment paradigm of different diseases.
Integration	• Various functions are tend to be integrated into Platforms and optimized by information technologies to extend potential value. Thus, intensification of multiple function will be a future trend.
Specialization	• With the need to realize the life-cycle management of different disease and to deliver patient-centered care, healthcare services are becoming more specialized. To align with such trend, it is expected that in the future that healthcare infrastructure providers will be able to offer corresponding software service to facilitate cooperative clinics and whole process management of certain diseases, enhancing the specialization of healthcare.
Securitization	• Protection of patient record and privacy has long been raised as a paramount issue since it helps to maintain the fundamental fiduciary doctor-patient relationship. Thus, in order to maximize the benefit of such infrastructure, it is expected that in the future that infrastructure service providers will enhance the data security, better addressing the existing concerns.

Source: Frost & Sullivan Analysis

Entry Barriers of Digital Healthcare Infrastructure

Capability to Explore Customers	• Public healthcare institutions still dominate China healthcare's system, which makes that digital healthcare infrastructure business heavily relies on public bidding and brand reputation to explore customers. Leveraging medical resource and competent customer acquisition ability, well-established customer group has the potential to further expand business co-operation and also attract more customers, correspondingly.
Multi-disciplinary technique	• The application and operation of digital healthcare infrastructure in healthcare institution not only require the software and hardware technique, but the experience and know-how knowledge to integrate into healthcare service is also important for a market player to serve healthcare institutions.
Service coverage	• Integration of digital healthcare infrastructure with healthcare services enables offline healthcare services to move online, improving accessibility and convenience. To achieve this, a series of functions including digital connection among different entities to break isolation of a sole medical institution and efficient internal informatization, need to be systematically realized. Market players with one-stop service coverage are preferred due to better compatibility among different function modalities and lower vendor management costs from customers' perspective.
First mover advantage	• The platform provider who not only establish platform earlier but also addresses the fundamental demands of customer will take the lead to digital healthcare infrastructure market. • The experience and knowhow required to apply and operate the digital infrastructure for medical institutions.
Capital and investment	• The size of investment for digital healthcare infrastructure is so large and the investment cycle is quite long, indicating the capital thresholds of this market will be high.

Source: Frost & Sullivan Analysis

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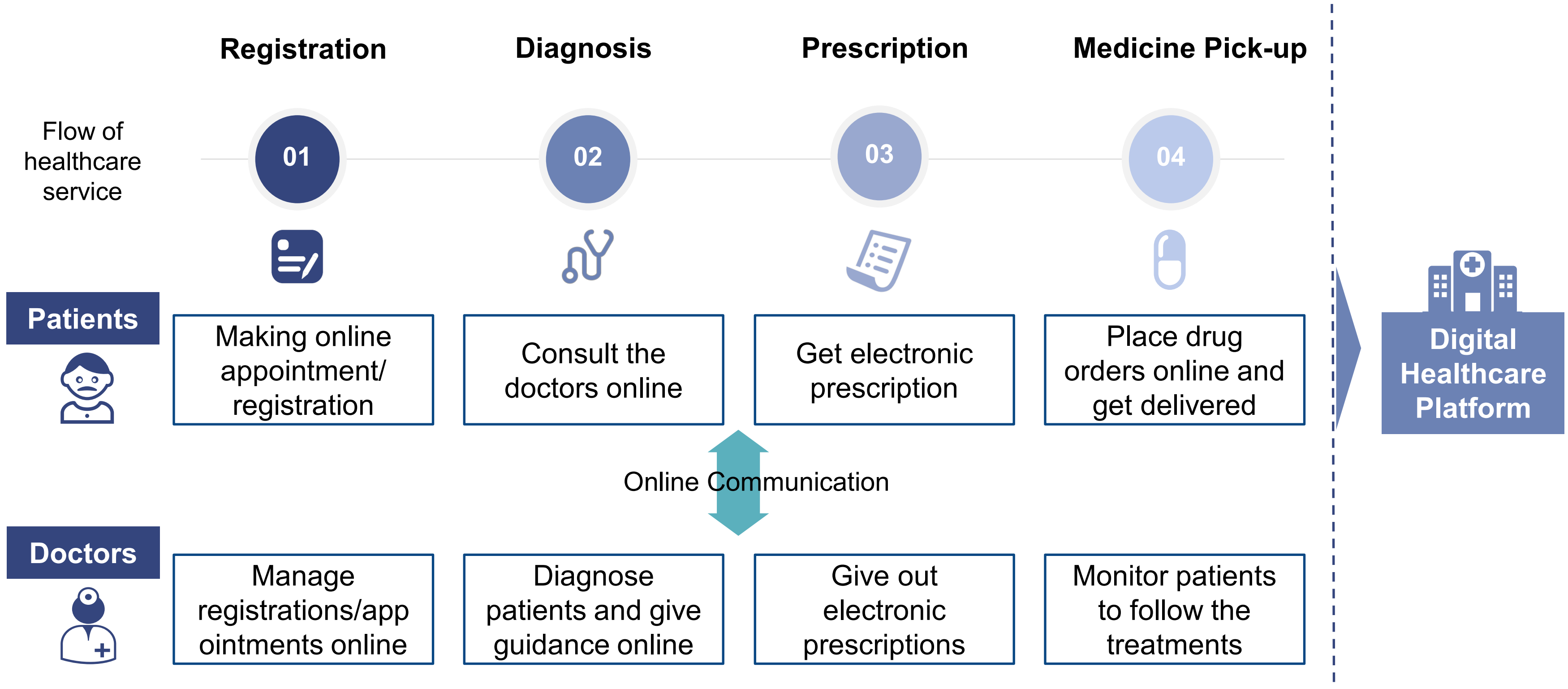
Overview of Digital Healthcare Service in China

- With the advancement of digital technology, healthcare services that conventionally take place offline is enabled online. The entire process from registration to medicine pick-up can be digitalized, resolving the current pain points of healthcare services. In specific, patients from areas with limited healthcare resources will be able to seek for diagnosis online, overcoming the problem of uneven distribution of medical resources. In addition, patients who suffer from less severe disease can ask for diagnosis online rather than go to high class hospitals, which will alleviate stress of top hospitals, sparing more resources for treating intractable diseases and promoting a tiered medical system.



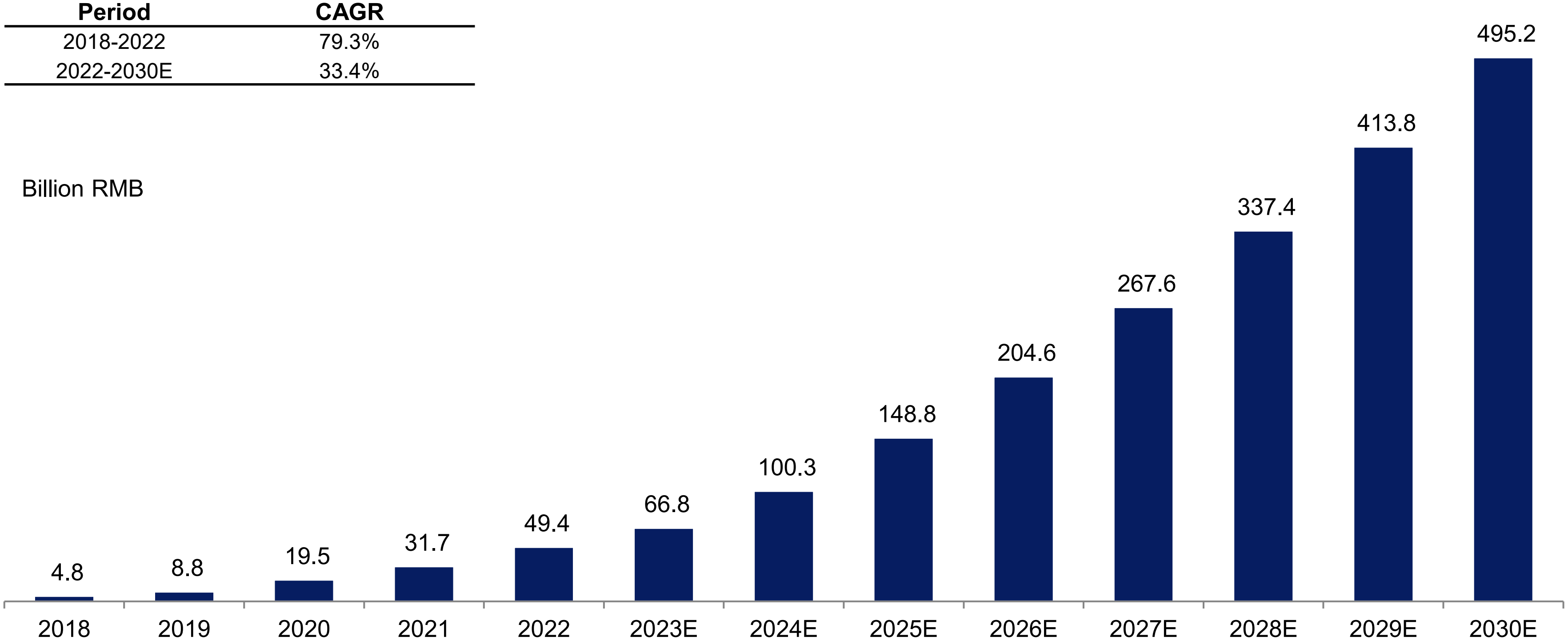
Source: Frost & Sullivan Analysis

Market Size of Digital Medical Services Industry, 2018-2030E

- As one of the four parts of neo-healthcare market in China, the market size of digital medical service industry in China increased from RMB 4.8 billion in 2018 to RMB 49.4 billion in 2022 with the CAGR of 79.3%. It is expected to reach RMB 495.2 billion in 2030, with the CAGR of 33.4%.

Market Size of Digital Medical Services Industry, 2018-2030E

Period	CAGR
2018-2022	79.3%
2022-2030E	33.4%



Source: Frost & Sullivan Analysis

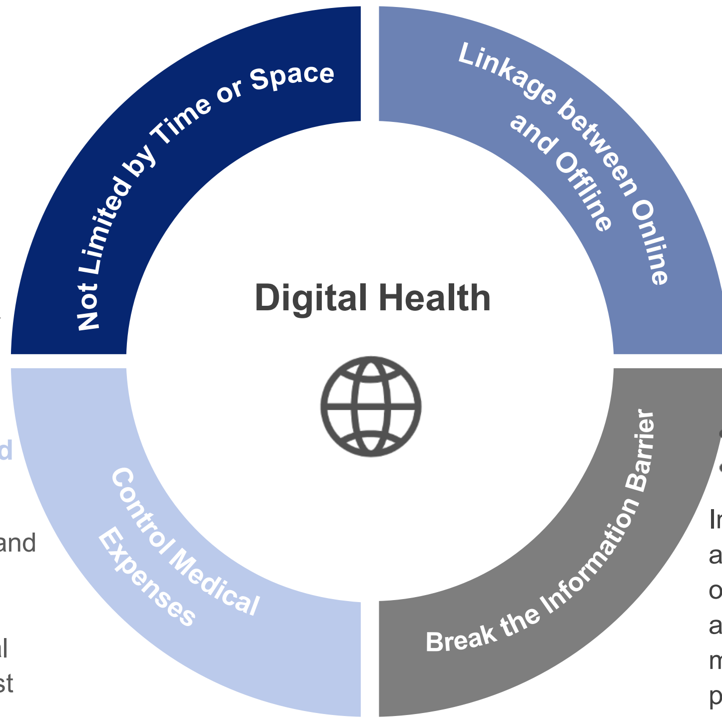
Digital Solution Aiming at Current Industry Pain Points

Improve medical resource allocation

Online medical platforms can effectively integrate resources and break time and geographical restrictions. On the platform, doctors can use debris time for consultation and follow-up, increasing the supply of medical resources. The platform can match supply and demand, so that patients in remote areas can also enjoy high-quality medical services.

Optimize medical procedures

Online medical platforms can realize the transfer of some offline services to online, such as time-consuming and laborious projects such as appointment registration, result check, payment, etc. In the hospital, patients only need to complete the diagnosis and treatment process, which shortens the time for medical treatment and improves the medical experience.



Save costs for insurance fund

The Internet platform can accumulate and store information, such as health data, diagnosis and treatment data etc. Integrating data and leveraging artificial intelligence can provide support for cost containment for medical expense and insurance fund.

Weaken the information asymmetry

Information barriers often exist between patients and doctors, and diagnosis and treatment are often based on patient's preliminary knowledge and previous experience, which may lead to misdiagnosis. Through the online platform, patients can seek experts in different fields for comparative consultation and consultation according to their own needs.

Source: Frost & Sullivan Analysis

Future Trends of China Digital Healthcare Service Market

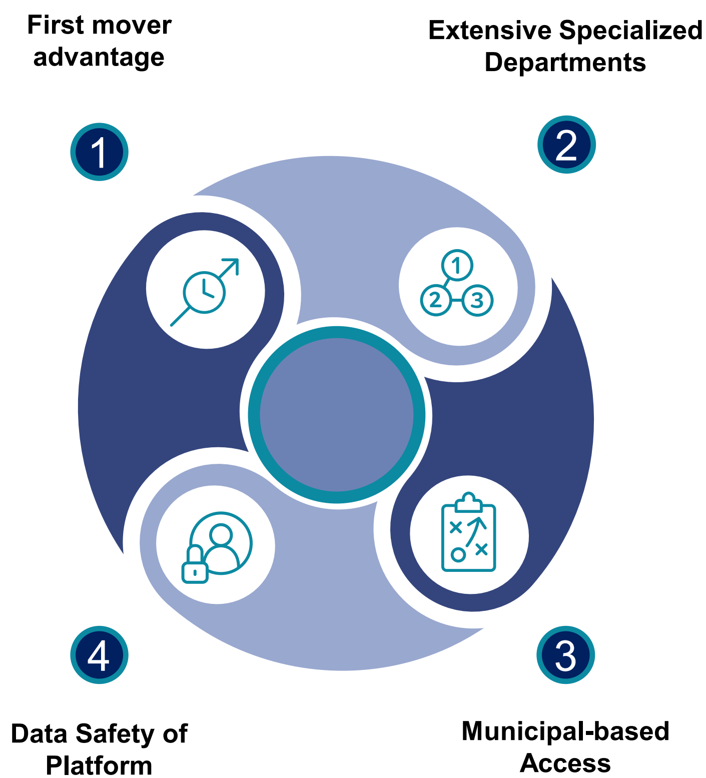
- Through the reform on the supply side of healthcare resources, digital medical service platforms will empower traditional healthcare resources, address industry pain points, and enhance regional healthcare service capabilities.

Further improvement in the medical service payment system driven by further integration with public health insurance and increasing penetration of commercial health insurance	• As the public health insurance and commercial health insurance are gradually integrated, a diversified payment method under which self-payment, public health insurance and commercial health insurance jointly pay the healthcare expenses will be developed, with the payment methods being upgraded and the payment system being improved constantly. Driven by the favorable government policies, it is expected that the integration with public health insurance in various regions will be accelerated. The issuance of such favorable policies will significantly improve the public health insurance system in the future. Public health insurance payment will gradually shift from payment per service type to payment by disease type per person, and more online medical services will be covered by public health insurance.
Increasing prevalence of health oriented digital medical service model and rapid expansion of digital chronic disease management model	• In the future, the health oriented digital medical service model will be extended to more regions and cover population. Specifically, the online + offline digital chronic disease management services are expected to develop rapidly.
Rapid development of membership-based healthcare service and specialty medical service	• With the increase of disposable income per capita and the enhancement of health awareness, future medical service market is expected to gradually evolve into membership-based and customized service model to meet diverse and specialty healthcare needs. Consumer demands are likely to shift from disease treatment oriented to health oriented which focus on high-end or specialty medical services, such as assisted reproductive service. The provision of healthcare and medical services will also develop to be cross-region.

Source: Frost & Sullivan Analysis

Competitive Barriers of China Digital Healthcare Platform

Competitive Barriers Analysis



1 First mover advantage

In order to solve the data isolation problem caused by difference from data access, digital healthcare platform need to be applied by as many hospital as possible to gain sufficient scale of healthcare data. Thus, well-developed platforms are able to occupy larger share of digital platform market, efficiently lower the cost of running platform and avoid the formation of "data islands" between hospital applying digital platforms.

2 Extensive Specialized Departments

Along with the continuous advancing of the medical research, the specialized departments of hospital subdivide, even spun off into separate specialized-hospital. As digital healthcare platforms provide personal healthcare solution to patients, the therapeutic area of digital platforms need to be adequate, and the specialized department need to be extensive.

3 Grasping Municipal-based Access

Due to the trend of municipal-based healthcare system, influenced by patient, healthcare institution and healthcare insurance, the basic unit of healthcare process tends to be the city-level. Thus, the city access is becoming a critical factor. A digital healthcare platform is profitable, only if platforms successfully access into city healthcare system.

4 Data & Information Safety of Platform .

As a digital healthcare platforms, huge amount of data from patients and institutions are collected and stored. All these Data and medical information are top secrete for not only patient but nation. Thus, the healthcare data on platforms need to be secured.

Source: Frost & Sullivan Analysis

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Consumptive Health Services

- Consumptive health service is closely related to healthy life, focusing on advocating healthy lifestyle, improving health protection, and building a healthy environment.

Feature

Steady growth rate

Health Insurance exclusion

Large pool of customers

Health insurance exclusion

- Products excluded from health insurance, independent pricing power, unaffected by fee control policy and production barriers

Large pool of potential customers

- The product has a large audience, but the penetration rate is relatively low, and there is more room for growth

Steady growth rate

- With the release of demand, a high growth rate can be maintained.

Category

Medical Cosmetology	Medical Cosmetology refers to a series of treatments for the purpose of changing the external shape and color of the human body and enhancing the beauty of the human body through medical means, including drugs, instruments, and operations.
Medical Tourism	Medical tourism refers to people traveling abroad to obtain medical treatment. The motivation may be also for medical services unavailable or non-licensed in the home country.
Elderly Care	Elderly care is the fulfillment of the special needs and requirements that are unique to senior citizens. This broad term encompasses such services as assisted living, adult day care, long term care, nursing homes, hospice care, and home care.
Health Consultation	Health consultation is a meeting a patient have with a health consultant with the hope of getting advices on health enhancement but not receiving medical treatment.
Postpartum care service	Postpartum care is a service provided to individuals in the postpartum period, to help with postpartum recuperation and restoration.
Rehabilitation service	Rehabilitation encompasses a wide range of activities including rehabilitative medical care, physical, psychological and support services. People with disabilities should have access to both general medical care and appropriate rehabilitation services.

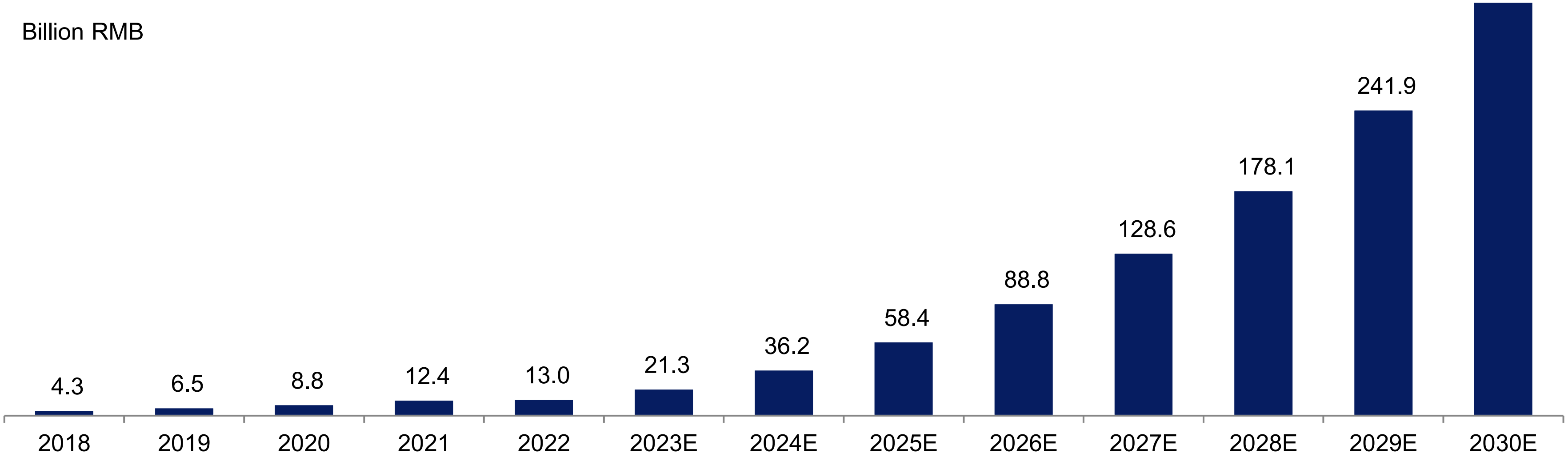
Source: Frost & Sullivan Analysis

Market Size of Digital Consumer Healthcare Products and Services Industry, 2018-2030E

- The market size of digital consumer healthcare products and services industry in China increased from RMB 4.3 billion in 2018 to RMB 13.0 billion in 2022 with the CAGR of 32.2%. It is expected to reach RMB 327.0 billion in 2030, with the CAGR of 49.6%.
- The digital consumer healthcare products and services industry is relatively the smallest part among all neo-healthcare market, while it is expected to expand rapidly in the future with phenomenal potential.

Market Size of Digital Consumer Healthcare Products and Services Industry, 2018-2030E

Period	CAGR
2018-2022	32.2%
2022-2030E	49.6%



Source: Frost & Sullivan Analysis

Future Trends of Digital Consumptive Healthcare Service Industry

Consolidation of Consumptive Healthcare Services	• Offline consumptive healthcare services have the characteristics of specialization, which means the service provider normally is specialized in a specific field, e.g. dental, medical aesthetic etc. With the migration online, the integration process will be accelerated in order to capture the diversified demands from residents.
Synergy with Other Segments in Neo-healthcare Market	• Together with digital healthcare services market, the digital consumptive healthcare services market is expected to play a role of supplement to keep the residents health. Moreover, with the improving health awareness, consumptive healthcare service will be integrated with others in a more convenient manner.
Fast growing market	• Consumptive healthcare services feature high reliance on customers paying willingness. Rising disposable income has a positive effect on the purchasing power and the level of health awareness, which will directly driving the fast growth of the market.

Source: Frost & Sullivan Analysis

Entry Barriers of Digital Consumptive Healthcare Service Market

Coverage of preventive health	• Rather than provide treatment and care upon to ill population that seek for medical intervention, a large part of consumptive healthcare, which is represented by health examination and disease test/screening, provide services ahead of time to orient and screen disease at relatively early time possible. By focusing on the preventive health, more people will be captured at a stage when they bear less disease burden, which increase the possibility of cure if interfere immediately. On the other hand, it allows for the already-limited healthcare resources to be focused on the serious disease. Companies that are able to cover such preventive health sector is able to alleviate the overall disease burden of patients and contribute to the re-organization of medical resources, thereby establishing a core competence in the market.
Capability to establish a continuity of care	• Even though the demand towards consumptive healthcare services are independent from disease condition or immediate demand of medical intervention, it reveals a possible demand that these people might need to seek for serious medical care in the future. For example, healthy people who have escalated level of disease markers detected in their body during health examination might not be diagnosed certain disease immediately, but should be put under supervision and being actively managed to prevent progression. Companies that are able to provide a full cycle from preventive care, health management and serious healthcare will be able to grasp the healthcare need of a person continuously, and differentiate themselves with the competitors given the extra value provided.
Capability to orient and maintain targeted population	• Due to the consumptive nature of the service, and largely because the generated fee are self-paid, consumptive healthcare service rely highly on the autonomy and willingness of the consumers themselves. Thus, compared with the conventional healthcare, consumptive health service providers emphasize more on attracting targeted population and maintaining adhesiveness of the users. Companies utilize digital technology well is capable of keeping omni-rounded health profile, which helps to better orient the targeted population through accurate buildup of user portrait, and to maintain the users by providing precise service. In this way, user adhesiveness is established, increasing the competitiveness of the service providers.

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Overview of Health Management

- Health management refers to a process of comprehensive management of individual or population health risk factors. Its purpose is to mobilize the enthusiasm of individuals and collectives, and to effectively use limited resources to achieve maximum health effects.

Health Management Process

1 Information collection

- Basic Information
- Health checkup
- Family history
- Past medical history
- Current illness
- Living habit

2 Physical assessment

- Current physical condition
- Probability of a certain disease in the future

3 Health education

- Healthy body
- Sound personality
- Mental health

4 Health intervention

- Dietary intervention
- Sports intervention
- Psychological intervention
- Nutritional intervention

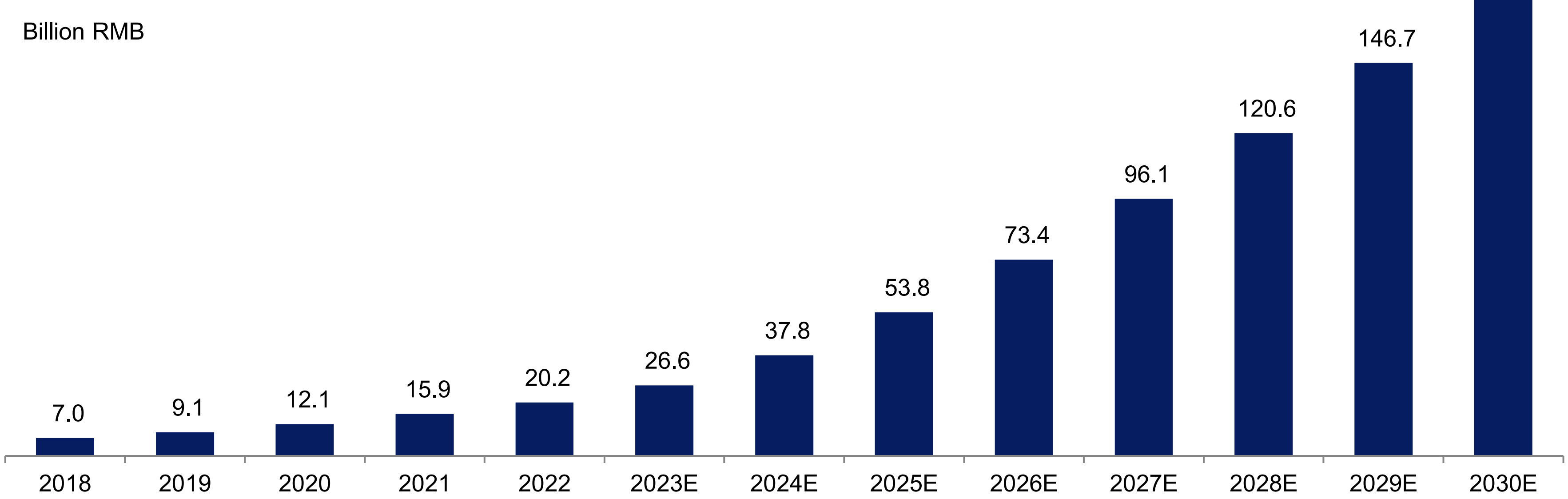
Source: Frost & Sullivan Analysis

Market Size of Digital Health Management Industry, 2018-2030E

- The market size of digital health management industry (realized by smart health products and service) in China increased from RMB 7.0 billion in 2018 to RMB 20.2 billion in 2022 with the CAGR of 30.4%. It is expected to reach RMB 174.7 billion in 2030, with the CAGR of 31.0%.

Market Size of Health Management Industry, 2018-2030E

Period	CAGR
2018-2022	30.4%
2022-2030E	31.0%



Source: Frost & Sullivan Analysis

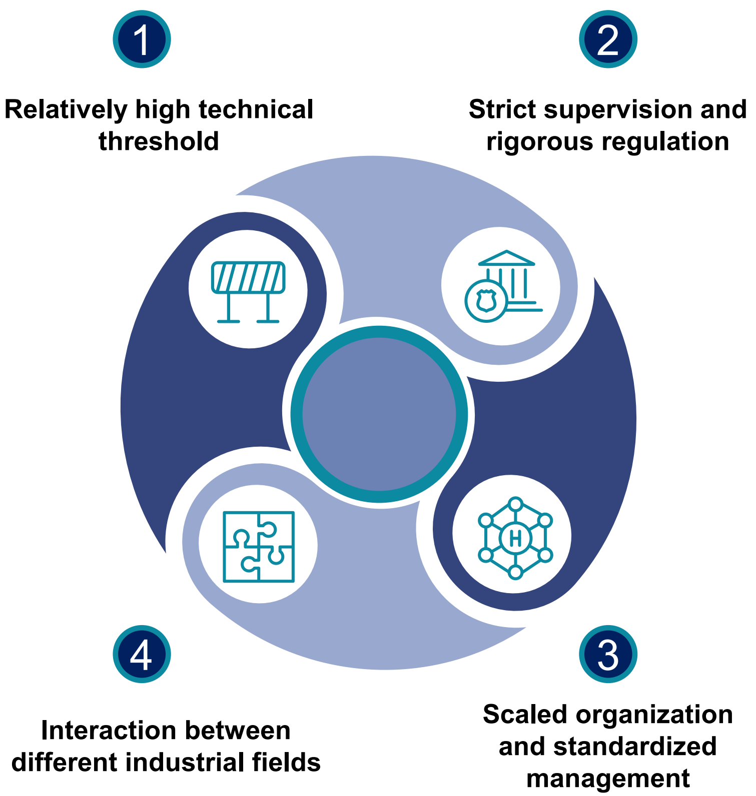
Future Trends of Smart Healthcare Products and Services

Broader scene of application	• Driven by the demand of different people and groups, not only individuals, but also families, and private companies start to use smart health products and services, with the hope of monitoring health and providing light healthcare service in a daily manner. This will lead to an expanded scene of smart health product and service utilization.
Connection to serious healthcare	• Health data generated from smart wears was historially more isolated, without being connected to a person's medical records generated inside healthcare institutions when they are seeking for medical intervention. With the need to establish a continous health profile of patients so that more precise medical decision can be made, smart healthcare products and services is expected to be connected with serious healthcare through digitalization platform.
Emphasis on value of services	• Even though the smart healthcare products, such as wearable devices and automatic medicine pick-up machine, carry certain functions by themselves, the value of them is far beyond that. The increasing use of these products enables data interaction, with which healthcare professionals can utilize to provide personalized healthcare solution service to users in a long term. In aware of this, it is expected that in the future, value of service build upon smart healthcare product is more emphasized.

Source: Frost & Sullivan Analysis

Entry Barriers Analysis of Health Products and Services Market

Entry Barriers Analysis



1 **The technical threshold of health products and service market is relatively higher than other industries.** As Chinese health market is becoming diversified, various technology has been leveraged. In terms of biologics and medical devices, technical capability is the critical factor of products market performance rather than other products attributes. However, encouraged by favorable policies, some innovative enterprises focus on health market have emerged recently.

2 **Strict supervision and rigorous regulation.** The safety and quality of health products and services are directly related to the quality of lives and health of people, and have always been the top priority of supervision and regulation. Thus, there will be fairly strict supervision and rigorous regulation in health market.

3 **Scaled organization and standardized management.** In the field of health industry especially health services, the content of service is relatively scattered. As it is difficult to form a scale effect, it often requires cross-regional and multination integration to make a profit. Thus, only if the scale of enterprise is sufficient, the health service can be adequate and profitable.

4 **Interaction between different industrial fields.** It often requires cross-industry integration and interdisciplinary collaboration to make a profit. Digital healthcare need not only prescription from professional physicians but also retail pharmacy for sufficient drug supply and express delivery for logistics chain.

Source: Frost & Sullivan Analysis

Entry Barriers of Smart Product and Service Market - Add on

Scientific background of products and services	• Due to the requirement of accuracy in healthcare industry, the quality of data output by many smart healthcare products cannot be directly adopted by healthcare institutions. For example, heart rate detection function of Apple Watch, relying on photoelectric signals to detect heart rate indicators is controversial, which caused the failure of obtaining the qualification of the FDA. Therefore, during the research and development of smart healthcare products and services, the scientific background and the verification and endorsement from well-known healthcare institutions are crucial.
Data safety and privacy protection	• As smart product and service directly act on the patients, relevant smart products and service providers can extract data from user privacy information including but not limited to health information, geographic location information, and personal biometric information. Also, some products are interconnected with data platforms and result transmission systems, which are lacking in official control. Thus, data and privacy need to be protect adequately, which is another entry barrier of smart product and service market.

Verification List (1/2)

1. During the COVID19 pandemic, the acceptance of digital healthcare by both patients and doctors has increased significantly, and digital healthcare platforms supplementary to the traditional healthcare services have also been widely recognized by the PRC government for the value it has brought about.

2. Along with the development of digital healthcare platforms, the payment from medical insurance can be processed and regulated at municipal level, which may achieve the goal of controllable expenses

3. Benefit from the interactions and interlinkages among demand, supplier, payer and regulator via healthcare platforms, the structure of healthcare service tend to be regional. Particularly in suppliers and administrations, local policies of regulatory are diverse between different regulatory regions (usually provincial area), as well as the promotion and salary package of physicians are quite various provincially. As for demands, patients prefer to obtain healthcare services locally in the city they live or nearby rather than top tier healthcare institutions far away. However, disequilibrium of healthcare resource between cities force patients to seek high-class public hospitals far from home. National medical insurance, as the major payer of the healthcare system in China, the reimbursement policy and self-payment ratio is diverse from city to city.

4. Digital technology and model innovation play a crucial role to establish a precise, standardized and measurable healthcare service model, create more medical service resources as a whole where quality hospitals have larger capacity to offer quality services, and extend healthcare services from hospitals to households.

5. With the increasing popularity of Internet and the growing health awareness, digital healthcare services are becoming well-recognized and used by more users

6. Xikang is one of the few companies that integrate information technology systems of medical institutions, policy makers and insurers in China.

7. Xikang commenced the Internet home care services in Ningbo in 2016, which is one of earliest provider of this service in China

8. The primary medical institutions are often equipped with advanced medical equipment, but lack of medical professionals with professional imaging diagnosis capabilities. This is one of problems of primary health institutions.

9. Ningbo Cloud Hospital platform is among the first in the PRC healthcare industry to integrate cloud computing, IoT, mobile Internet, big data and other technology into its infrastructure.

10. EMR is an electronic medical record generated electronically in a medical institution during consultation. Additionally, personal health data records are generated by monitoring physical conditions through smart health products in daily life. Neo-healthcare services cover both digital healthcare services and health management to enable the connection of EMRs through open digital channels and personal health data and doctors can grant access to certain health related data of patients to gain an accurate and comprehensive understanding of patients’ condition.

Source: Frost & Sullivan Analysis

Verification List (2/2)

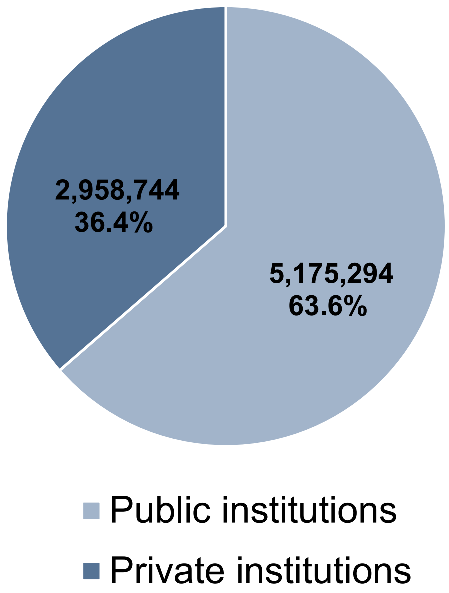
11. These platforms covered a population of approximately 120 million in aggregate and the total medical expenditure in the relevant regions amounted to approximately RMB130 billion in 2019.
12. Favorable policies may set up specific goals and guidelines to be reached in the future, encouraging the digitalization of healthcare going forward
13. Remote diagnosis and treatment have been accepted and will be more widely used after the pandemic due to its high efficiency and convenience. And the positive effect on the neo-healthcare services market is expected to continue in the future after the ease of the COVID-19 pandemic.
14. The price Xikang charge for different types of consultation during the Track Record Period are comparable to the prevailing market price.
15. The platforms of Xikang covered a population of approximately137 million in aggregate and the total medical expenditure in the relevant regions amounted toapproximately RMB165.85 billion in 2021

Appendix I: Patients Visits of Medical Institutions

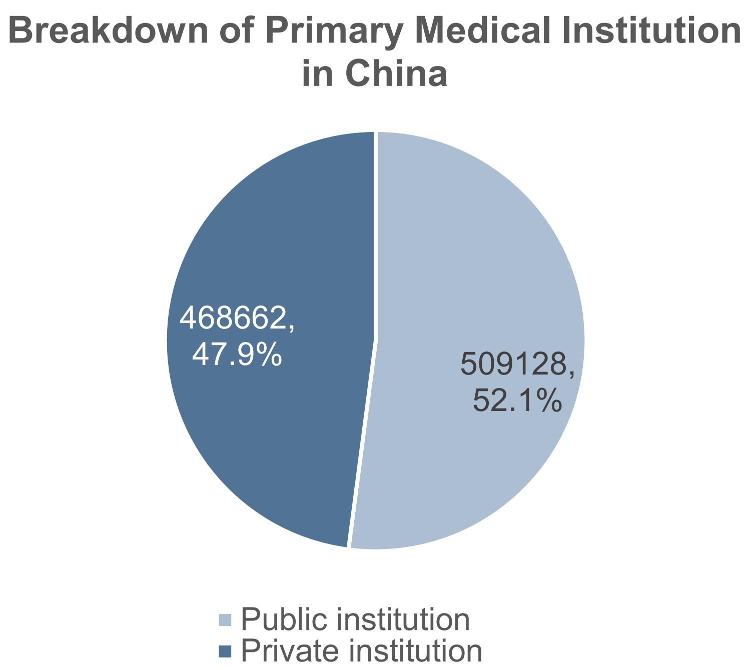
By Public and Private

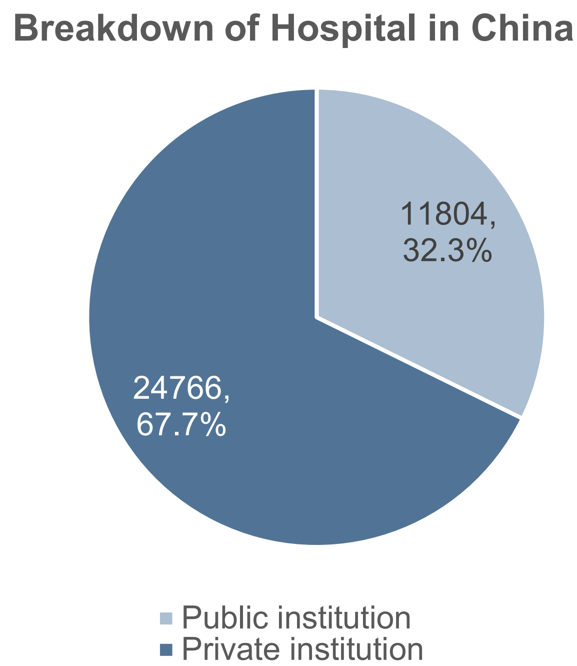
Breakdown of Patient Visits in Hospital and Primary Medical Institutions in China, 2021

Unit: Thousand visits



Appendix II: China Medical Institution Breakdown by Private and Public





Appendix III: Competitive Landscape of the PRC Digital Healthcare Services Market

Sub-Industry	Type of market players	Intensity of competition and Industry position of NEUSOFT XIKANG
Digital healthcare infrastructure industry	Healthcare IT solution providers, such as traditional IT solution companies with business footprint in the healthcare industry as well as specialized health-tech companies	• The company faces competition from competitors across China and the intensity of competition in this market was rather high. There were roughly dozens of competitors in such market, while only very few of them had established strategic cooperation at the municipal level. • The company ranked first in terms of number of cities with city-specific cloud hospital platforms. • The company ranked third in terms of the total number of medical institutions (including both primary medical institutions and hospitals) connected to digital healthcare platforms. Its network of medical institutions covered 3.4% of the total number of medical institutions in China, while the competitor that ranked first covered 12.6% of the total number of medical institutions in China. • The company was also one of the few companies whose platform network was connected to more than 2,000 hospitals in China. Its network has covered 6.6% of the total number of hospitals in China.
Digital medical services industry	Digital medical services companies, such as online medical appointment making and consultation platform companies, online prescription processing platform companies, and other companies providing various digital medical services	• This market is rather crowded as there were around 100 competitors providing digital healthcare platforms. • The company was among the top three players in terms of the number of medical institutions connected to the platform, and among the top 15 players in terms of the number of doctors registered with the platform. • The company ranked 13th among the top 15 players in terms of Internet medical service volume. The annual service volume of the top five players ranged from 84.0 million to 188.1 million.
Digital health management industry	Health management service companies, such as franchise of private health check-up companies and the health check-up departments of public hospitals	• Health management service companies can be divided into private ones operated in a chain manner, and public ones mainly provided by public hospitals. The market is relatively scattered, with top three players contributing to less than 15% of the market share in terms of revenue. This is largely due to offline nature of health check-up service with leads to limitations on geographical service coverage. In different regions, the respective market leaders are subject to restrictions on the number of physical check-up centers of such region, therefore exhibiting regional differences.
Digital consumer healthcare products and services industry	Digital health product companies, such as medical equipment companies and traditional IoT product companies with healthcare offering	• There are a large number of players in this industry, with different specializations and business focuses. Sub-industries within this industry are diversified, including IoT, home-use medical devices, medical-use devices, and physiotherapy equipment industries, among other things, leading to a scattered market. The sub-industries each have their own parameter and criteria with unique weight assignment to evaluate the top players. For example, some of the leading players in the home-use medical devices industry have had little revenue from sales of medical devices to hospitals, and it will fail to show their competitively advantageous position if they are ranked within the larger digital consumer healthcare products and services industry. Meanwhile, the Company focused on smart healthcare products targeted at institutional settings including primary medical institutions and practitioners in rural communities. Compared to the other players, its business focus is relatively unique and thus there is no direct competitor with similar business focus. Accordingly, there is a lack of unified metrics to qualitatively or quantitatively assess the rankings of specific players in this industry to meaningfully and accurately reflect the competitive landscape.