

# Development Strategies for China's Healthcare Industry

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**Abstract:** In 2015, the Chinese Academy of Engineering launched a major advisory project, the “Development Strategies for China’s Healthcare Industry,” to implement the “Healthy China” strategy. Since the start of this initiative, the project team has led 28 academic researchers and more than 150 experts in conducting an extensive social investigation of 12 cities, including Beijing, Shanghai, Guangzhou, Shenzhen, and several other first-, second-, and third-tier cities. Using the findings of that investigation, the present paper explores the conceptual framework, implications, and development features of China’s domestic healthcare industry, while also investigating its development status. This in-depth study analyzes the positioning and development concepts that underpin the healthcare industry, defining the ideal healthcare modes for urban and rural areas. It supports the establishment of a comprehensive healthcare security system that includes full coverage and complete processes. Given the need for a healthcare system that provides care for elderly people and a healthcare management approach that integrates medicine, health insurance, private medical institutions, and financial security, this paper introduces and comments on the security measures needed to secure an effective development strategy for China’s healthcare industry.

**Keywords:** healthcare industry; national health; development strategy

## 1 Introduction

The development of China’s healthcare industry has entered a new, historic stage. By the end of 2010, China had reached a later stage of industrialization; having a high value-added modern service industry is a major trend in the evolution of industrial structures [1]. By 2015, the added value of China’s service industry had reached 50.5%, becoming a leading force driving GDP growth [2]. The modern service industry includes two major engines: high value-added service-producing industries and consumer service industries. As a consumer service industry, the healthcare industry has become the key feature of China’s evolving industrial structure. In October 2013, the State Council issued *Suggestions on Promoting the Development of the Health-*

*care Industry (State Issuance (2013) No. 40)*. The Council proposed that “by 2020, China should establish a healthcare system covering the whole life cycle; the overall scale of the healthcare industry should exceed 8000 billion yuan.” In October 2016, the Central Committee of the Communist Party of China and the State Council clearly proposed, in their *Healthy China 2030 Planning Outline* [3], that the ideology guiding future healthcare should “focus on popularizing healthy lifestyles, optimizing health services, improving health guarantees, building a healthy environment, and developing health-related industries” because “upgrading the consumption structure will create a broad space for developing the health service. [...] By 2030, the total scale of China’s healthcare industry should reach 16000 billion yuan.” In the context of a “Healthy China,” the healthcare industry will

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become the main feature of the country's "13th Five-Year Plan." To achieve "macro health," the healthcare industry must enter a period of economic transition involving vigorous development, as it becomes China's major economic growth point for the future. To achieve this, the Chinese Academy of Engineering has taken the lead, launching its major consultation project, the "Studies on China's Healthcare Industry Development Strategies," in 2015. Systematic research on this topic has resulted in an initial consultation report, which makes several important suggestions for the development of China's healthcare industry.

## 2 Concepts and features of the healthcare industry

### 2.1 Concepts and connotations

The healthcare industry is a service industry cluster. Derived from the medical and life sciences, the industry's main product is medical care services. Its goal is to protect and promote the physical and psychological health of individuals and groups, covering the whole human life cycle. The healthcare industry uses various technologies and products to provide prevention, treatment, recovery, and other services to healthy, sub-healthy, and unwell individuals and groups.

The healthcare industry provides four main types of direct and indirect services to support people's physical and psychological health: ① medical health services that provide care, physical examinations, and prevention, including for chronic diseases; ② health management and promotion services that enable physical and psychological recovery and provide medical R&D, health education, health and vocational training, health journal publishing, leisure activities, and health consultations; ③ health insurance and safeguarding services that provide medical, health, and pension insurance; and ④ services related to medical tourism, nourishing life, pensions, medical information services, medical businesses, and the wholesale, retail, and leasing of health-related products.

### 2.2 Development features

#### 2.2.1 Economic development is the foundation

The development of the healthcare industry is closely related to people's disposable income and socioeconomic status. When Engel's coefficient is at subsistence level, people consume health service products passively, merely meeting fixed basic demands. The healthcare industry only fulfills the role of a medical service. When Engel's coefficient exceeds subsistence level, health demand expands rapidly—people actively consume products provided by an increasingly rich healthcare industry that extends outward and grows rapidly. When Engel's coefficient indicates wealth, health-related demand becomes individualized and

diversified. At this level, healthcare products intersect, blend, and penetrate into various fields, entering a steady development stage. In 2015, Engel's coefficient for China was 34.8% for urban households and 37.1% for rural households [4]; as these populations have moved from subsistence into wealth, the healthcare demands of China's residents have naturally increased.

#### 2.2.2 The healthcare industry relies on population distribution to form spatial clustering and networks

The healthcare industry has clustering and network development features because it is directly related to people. It is well-structured to meet the needs of cities, in particular, the agglomeration development areas with high population concentrations. The medical service network radiates outward to less populated areas. The central medical region provides various service facilities. In addition to medical organizations, these facilities include parks, zoos, museums, and the apartments of medical staff members. New medical facilities outside the region are gradually extending and moving closer. Houston is the largest city in Texas, the fourth-largest in the U.S., and the largest economic center on the Gulf Coast of Mexico. Houston Medical City has become the world's leading medical service group, forming an interactive and integrated pattern of medical care development in the downtown area by virtue of the spatial clustering and networks provided by superior resources.

#### 2.2.3 Healthcare services have both social and economic benefits

Healthcare services are closely related to people's lives. They have dual attributes as public and private goods. The healthcare industry offers a basic guarantee to improve population-level health, enhance labor-force quality, and promote national levels of good health. As healthcare services are closely related to social stability and sustainable economic development, they have the characteristics of public goods. At the same time, individualized and diverse healthcare services have the characteristics of private goods. During production, healthcare producers need to connect directly with consumers. As a result, the industry has technology- and labor-intensive features that enable it to absorb a large labor force and provide remarkable economic benefits.

#### 2.2.4 The healthcare industry has a long industrial chain, with increased investment and high-risk features

The features of the healthcare industry include a wide range of content, advanced technologies, long timeframes, high risk of failure, and high-cost human resources. An overview of the whole industrial chain shows that the health industry has high-end, medium, and low-end links. From a global perspective, it is clear that each link has a different production factor demand, resulting in cost differences and comparative advantages for dif-

ferent regions. Each link in the healthcare industry can be transferred to different regions.

### 3 The current state of China's healthcare industry

#### 3.1 Overall, China's healthcare industry is not large but is developing quickly

China's current healthcare system covers medical services, health management and promotion, health insurance, and related industries. Its products include drugs, medical devices, healthcare and fitness products, and other supporting industries. Given the size of the health industry, the overall scale is relatively small. However, there has been rapid growth since 2013, suggesting good prospects for development. China's healthcare industry, including the service industry, accounts for only 4%–5% of GDP, a much lower figure than in many developing countries. By contrast, the U.S. healthcare industry accounted for 16.9% of GDP in 2012.

#### 3.2 The healthcare industry has entered a period of rapid growth

In 2013, the State Council held an executive meeting to promote the development of health services and issued *Opinions on Promoting the Development of Health Services* [5]. By 2014, the scale of the overall health industry in China, including the traditional medical service industry and the circulation of medicine, exceeded 5 trillion yuan; the average annual compound growth rate between 2010 and 2014 was 17.89%. The average annual compound growth rate was 18.62% in drug manufacturing, 23.12% in the social health services, 20.88% in the medical device industry, and 30.89% in the medical tourism industry, as shown in Table 1. As service industry promotion policies are issued in quick succession, China's healthcare industry has entered a period of rapid growth.

#### 3.3 The healthcare industry, represented by medical tourism, has enormous development potential

Given the increasing economic globalization of the world,

international medical tourism has been developing rapidly and is now one of the world's fastest-growing industries. In 2011, the global industrial scale of the international medical tourism industry exceeded 750 billion USD [6], supporting industries in 50 nations (regions). According to the Bo'ao Forum for Asia's 2011 AGM report, medical tourism in Asia has become the most high-potential service market in the world, growing at a speed of 20%–30%. There is no national policy regulation on medical tourism in China and no supervision of the scale of development of medical tourism.

#### 3.4 Problems exist in China's healthcare industry

##### 3.4.1 In the healthcare industry, demand is growing faster than supply

Although the Chinese population accounts for 22% of the total population of the world, China accounts for only 2% of the world's total expenditure on healthcare. In 2016 the national fiscal health expenditure (including family planning) was 1.3154 trillion yuan, 4.1 times that of 2008, up 10% from 2015. Accounting for 7% of the proportion of fiscal expenditure, this number is far lower than the developed countries and significantly lower than developing countries such as Brazil and South Africa. The economic development of the healthcare industry is falling behind owing to a serious lack of superior health resources and health-related public infrastructure construction. Prevention services, a key aspect of the healthcare industry, account for only 7% of China's total health funding. Only 6.48% of Chinese people have a healthy quality of life. Chronic disease prevention is the lowest-ranking service in China, followed by the quality of basic medical care.

##### 3.4.2 Biological medical technology has a weak foundation

Levels of biological medical innovation in China are low, levels of product similarity are inadequate, technological content (especially core technological content) is not high, and biological medicine is insufficiently competitive. When it comes to medicines, China's export and import growth are declining rapidly. Major imported medical products are derived from Western medicine and are mainly exported to emerging countries. In the area of medical devices, China mainly imports high-end

**Table 1.** The industrial scale of parts of China's healthcare industry from 2010 to 2014 (100 million yuan).

Year	Medical service	Drug	Social health service	Medical device	Medical tourism
2010	13 726.28	10 234.85	179.75	1 837.84	139
2011	16 472.99	13 846.29	151.63	2 345.34	176
2012	19 985.79	15 502.90	449.22	2 794.02	205
2013	23 147.55	18 022.46	404.75	3 302.33	286
2014	25 434.89	20 266.84	413.05	3 923.45	408

The data originates from the National Bureau of Statistics and related research reports.

products and exports low-end and medium-range products. For this reason, China is encountering great pressure in its transformation.

### 3.4.3 The Chinese healthcare industry lacks uniform expertise and practical skills

China's administrative laws and regulations are imperfect and lack a policy framework. Various enterprises and investment institutions lack expertise, ignore the self-growth characteristics of the healthcare industry, and cannot create competitive products or core technology or integrate health services to meet the developing demand. The public does not trust the industry or the market. The crisis of trust in medicine and food safety is serious. Healthcare products are overpublicized and China's healthcare infrastructure is very weak.

The purpose of the healthcare industry is to provide health services, but the Chinese service industry is still in the development stage. In addition, human and material infrastructure are still being developed. In particular, the lack of standardized health service information in China has led to a lack of information connectivity and sharing. Overall knowledge is insufficient and must be improved. The government has not fully realized that the healthcare industry has an enormous impact on economic growth and social development. Enterprises do not fully understand the healthcare industry or its huge future development potential. The development pattern is still at a nascent stage. The brand is weak, lacking intermediate industrial services. China's healthcare industry is not yet a magnetic field that can absorb industrial finance or intellectual capital.

### 3.4.4 There is a shortage of professionals

China was late in implementing healthcare-related education, and there is a lack of state-led education and training related to health services. At the same time, the relevant qualifications are not perfect with the phenomenon of "multiple management." This has caused low market acceptance, low levels of participation in training, and confusion among training institutions. The construction of training systems in various industries is weak, development among regions is uneven, and the scope of development is limited. The healthcare industry in China has a huge talent gap. For example, China currently has 222 million old people and needs 49.33 million pension workers. However, according to the statistics of the Ministry of Civil Affairs, in 2015, there were less than 100 000 employees who held certificates [7].

## 4 The development goals, orientation, and core purpose of China's healthcare industry

### 4.1 Overall objective

The *Healthy China 2030 Planning Outline* [3] clearly cites "national health" as "the fundamental goal of building a healthy

China." China's aim in developing its healthcare industry is also national health, with a focus on providing "accessibility" and "system continuity" to meet healthcare demand, intensifying the focus on major health problems, and effectively preventing conditions that affect people at different stages of life. China aims to achieve higher levels of national health, benefiting all people and covering the whole life cycle.

### 4.2 Development orientation

China's development goal is to provide constant innovation in the healthcare industry, enhance its core competitiveness, further consolidate its fundamental, strategic, and dominant position, and provide support for traditional service industries. In this way, China aims to transform the ways in which it develops and adjusts its industrial structure, supporting strategic emerging industries in the health-industrial cluster and health-related big data area. It also intends to support national health and health-related construction and guarantee the stable growth of the national economy.

### 4.3 Development concept

China's overall development goal is to enhance the self-directed development of the service industry and to strengthen international competitiveness through a combination of independent innovation and innovation absorption, government guidance, and market competition. China aims to establish an upstream-and-downstream value chain, integrating the industrial-ecological chain, and building urban healthcare clusters with breakthrough international competitiveness. One major task is to master advanced biological medical technology. China also aims to implement a scientific development outlook, actively promote technology-, mode-, and system-related innovation, and accelerate the transformation of healthcare. Concrete tasks in the overall development of China's healthcare industry include the following:

#### 4.3.1 Building a national service industry cluster

China should integrate the medical and health resources of first-tier cities, make them powerful, and cultivate service industry clusters that are internationally competitive. Based on the available medical, human, and tourism resources in first-tier cities, China should integrate its medical and health resources, organize innovative alliances in the healthcare industry, strengthen the healthcare industry's public service platform, and build a healthcare industrial cluster that will lead in providing high-end medical care to national and even global customers.

#### 4.3.2 Moving toward comprehensive and distinctive development by integrating regional strengths

China should encourage and promote the development of

each link of the healthcare industry in conjunction with its urban regional development strategy. It should meet the demand for healthcare driving the surrounding and downstream service industries. China must also elevate the demand for healthcare to reflect people's comfortable lifestyles, deploy the pattern widely to meet local demand for healthcare services, and enhance the accessibility of health service products. The government needs to consider the resource advantages of different regions and develop diversified health services that incorporate regional features. For example, in western parts of China, the priority is to develop a healthy ecology, sustain agriculture, and produce healthy food; in the southern parts, people need health pensions and health maintenance. The government should focus on preventing sunstroke among tourists and exploiting winter features for tourism. In the middle and eastern parts of China, the priority is to develop medical and biological R&D industrial clusters.

#### 4.3.3 Looking forward to the international market and creating a globalized development path

It will be important for China to develop healthcare and alternative treatment methods that take advantage of traditional Chinese medicine and the "One Belt, One Road" national development strategy. Relying on regional strengths could help the country create high-level medical centers and become more globalized. For example, the northern area, which provides high-end medical services, attracts customers from Central Asia, Korea, Russia, and the ASEAN countries. A rehabilitation-oriented medical tourism center relies on excellent local health resorts and sanatoria. Hainan, Qinhuangdao, and Xiamen can use their existing historic and social landscape to build medical tourism areas.

#### 4.3.4 Allowing the fundamental function of the medical service system to shape the development of the healthcare industry

China should highlight key links in the health service chain, energetically develop diversified medical services, encourage social capital for investment in healthcare, optimize medical service resource allocation, promote the pilot restructuring of public hospitals, and develop medical facilities, including rehabilitation hospitals, geriatric hospitals, nursing homes, and hospices. There is also a need to develop both specialized and standard nursing services. This approach will drive the healthy and sustainable development of the healthcare industrial chain.

#### 4.3.5 Building and strengthening the infrastructure of the healthcare industry

China should strengthen basic environmental construction and promote health service informatization. In particular, the country should speed up information sharing, develop network health, promote telemedicine, introduce e-commerce platforms to sell drugs and medical devices, develop low-cost digital health devices and information systems, and develop portable

data collection devices that can link to the Internet of Things and mobile Internet. Such initiatives will build a system while teaching enterprises and medical personnel the value of integrity and highlighting industrial self-discipline and social supervision.

## 5 Strategy focus and suggestions for the development of China's healthcare industry

Given the complicated and intersecting regional advantages of the healthcare industry in China, the author suggests further broadening the policy system. This has two aspects: expanding supply and stimulating demand.

### 5.1 To make it easier for social capital to support medical healthcare

Many private medical institutions in China are small-scale and provide weak service; the relevant authorities should expand approval authority and release timely information regarding medical plans. Approval procedures should be simplified, so that scarce medical institutions such as geriatric, children's, and rehabilitation hospitals and nursing homes and hospices can be funded by social capital. It is necessary to expand the number, scale, and layout of profit-making hospitals, make large-scale allocations of medical devices, and allow hospitals to be established as Sino-foreign joint ventures. Relaxing the strict guidelines on qualified overseas capital could stimulate the construction of privately funded medical institutions.

China should issue corresponding specifications and implement its own standards. Introducing an internal management system could help standardize the development of the medical service industry. To design such a management system, China can refer to the practices of foreign companies, improving supervision mechanisms through innovatively designed community interest standards, raising the upper limit for bonus payments, and introducing stakeholder governance and community interest reporting systems to ensure that nonprofit medical institutions serve the public interest. Related authorities need to carry out strict inspections of private nonprofit hospitals to monitor their business goals, profits, reinvested income, and the conditions and outcomes of patients. When it comes to patient diagnoses and treatments, medical service industries should tirelessly promote factor-sharing development strategies to promote the use of social resources.

### 5.2 To manage and promote good health and strengthen disease prevention across the whole population and life cycle

First, China should provide additional support for health management policies, promote relevant legal and regulatory provisions, improve health management processes, establish sound health management standards for industry, and set up data-driven

information systems to evaluate health at the national level. Second, China should strengthen industrial supervision, improve supervisory mechanisms, regulate market actions, promote orderly competition, build health management brands and enterprises, increase support for and build the supply capacity of the health management consumer service market, gradually establish a complete health management service industrial chain, and improve the health service examination process. This process includes evaluation, consultation, education, intervention, a full integration of existing medical and network platform resources, increased development of health management big data, and integration of health management systems. Third, China should increase human resources in the health management industry, analyze and draw lessons from the advanced experience of Xiamen and other centers, and train more healthcare administrators. China must ensure uniform standards for examination and training organizations. Administrative departments should work with industry to formulate training schemes and evaluation standards and methods; it is essential to have well-defined standards for awarding qualifications. Finally, China should link health management and health insurance to reduce medical expense and insurance claims. Early interventions can reduce medical and ethical risks by coordinating the needs of insured people, health management institutions, and health insurance providers. Regulating the health management service structure can ensure that the government, health insurance provider, and individual all make appropriate contributions. For people with various income levels, ages, and medical conditions, China could adjust the standard contributions and levels of service by reviewing the actual situation in order to provide an accessible and appropriate health management service.

### **5.3 To explore an integrated medical pension approach designed for Chinese society**

In developing a strategy to promote modern service industries, China should give pension providers, as a major supporting industry, preferential treatment. First, the government should positively support regions by providing good ecological conditions for trials, building a national pension service experimental area, and exploring ways to develop the Chinese pension industry. The second task is to improve the industrial policy system and implement key policies. At present, a top-level design for the national pension industry has been basic; the government has issued *Proposals for Advancing Pension Providers* and *Proposals for Promoting Healthcare Development*. The next step is to improve the pension industrial policy system, issue industrial subfield special policies, and supervise both policy implementation and practice. China should support such policies, guided by the establishment of a national health investment fund. The government should aim to attract social capital from a wide range of sources. The national health industry can rely on China's

ecology and environment, incorporating traditional Chinese medicine, while guaranteeing standardized medical resources. The government can also integrate medical services and pension providers, explore new paths, and offer a new standard "combination of medical care and pensions." The third approach involves treating this combination of medical care and pensions as a breakthrough in the developing pension industry. The present study suggests issuing policies to support this breakthrough to promote the creation of nursing/pension providers that can combine medical care and pensions. Increased cooperation between medical institutions and pension providers can be encouraged by ensuring that the services offered by the medical departments of pension providers fall within the scope of medical insurance. Qualified medical institutions must also be encouraged to expand their offerings, providing telemedicine, mandatory administration, health management consultancies, and new branches to build a full medical care/pension service. The fourth approach is to focus on training specialized pension service personnel. It has been suggested that competent education departments and related ministries and commissions should focus on building talented pension teams. Distinguished colleges and social training organizations could establish and improve pension-related vocational education and training systems, guaranteeing that the Chinese pension industry has access to high-quality human resources in future.

### **5.4 To focus on developing health insurance that guarantees cover for the health management and maintenance costs of all Chinese residents**

#### **5.4.1 Improvements have also been proposed to the purchase strategy used by medical insurance agents**

The development trend in international medical insurance is to gradually integrate various types of insurance, arriving at a single insurance payment scheme within a single-provider context. Medical insurers are responsible for residents' medical and prevention services and supervising the quality of medical services. China can hasten the integration of its social medical insurance framework by combining the basic medical insurance systems for urban and rural residents. This will enable the government to streamline the three medical insurance payments into one, achieving an advantage in negotiation and collective and strategic purchasing. The government can then expand the agency of medical insurers, allowing them to take responsibility for managing the health of insured people. The government's public health expenses and the operating expenses of medical institutions should ultimately be paid via medical insurance institutions, in the form of "money allocated to each person."

#### **5.4.2 Commentators have suggested strengthening disease and risk prevention for vulnerable groups**

Improving commercial and social medical insurance or es-

establishing supplementary insurance could cap the costs paid by individuals and families. The World Health Organization's disaster health payment criteria could be used as a reference standard. When annual medical expenses exceed 40% of household income at different levels, people no longer have to make a contribution. China could also establish a medical insurance evaluation system, using the disaster-expense occurrence rate of insured people as the main assessment index.

#### 5.4.3 Others have proposed establishing a suitable health payment strategy

According to the international principle of encouraging healthy lifestyles and associating higher costs with unhealthy lifestyles, this paper explores ways of establishing a suitable health payment strategy, for example, by imposing a basic medical insurance tax or fining people for damaging the environment. In defining the duties of government at different levels, the government could match the tax mechanism to responsibilities. The present paper draws on international experience of replenishing basic medical insurance funds via tobacco taxes. China could explore health risk funds and environmental pollution fines; these fines would ultimately be used to develop health insurance and the healthcare industry.

This paper suggests separating the development of commercial health insurance and basic medical insurance to speed up the process of enriching the Chinese medical health service market by meeting diversified service demands, promoting hospital construction, and developing the healthcare industry.

#### 5.5 To combine sports with medical care, creating a new engine for healthy lifestyles and healthcare development

The integration of sports and medicine can be the technological core of national healthcare provision. By observing the laws of the market economy, China could strengthen and shape the management of its sports and fitness industries. Commentators have suggested that, by normalizing and strengthening the management of fitness and recreation, the government could create beneficial industrial policies and regulation systems, helping strengthen key industrial features. It is essential to enhance people's sports awareness by spreading the idea of "sports as good medicine." People must be encouraged to engage in sports and fitness as a way of fully enjoying work and life. The idea of "lifelong sports" should be injected into the lives and work of people at every age.

Incentives will attract financial managers to join the fitness and recreation industry and improve the business skills of personnel. Although the sports and fitness industry got a late start in China, it has grown quickly, in both content and form. However, there are too few trained personnel to meet development demands. Society and the education system must find ways to cultivate professional personnel who understand sports, marketing,

economics, and management. There is also a need to enhance the quality of existing practitioners.

#### 5.6 To provide a traditional Chinese medicine health rehabilitation service with health at its core

The country should be unified in planning and constantly expand the traditional Chinese medicine (TCM) "preventive treatment of disease" healthcare pilot (including social capital medical institutions). TCM hospitals should play a leading role, focus on key areas, play special advantage, and speed up the development of the medicine rehabilitation service system. The country should carry out the pilot program for admittance and standardize management, provide a scientific basis for the formulation and implementation of industry policies and standards, and provide approval for the qualification of relevant institutions and admittance of relevant employees. The country should integrate TCM with the advantages of medical resources and special healthcare resources, actively expand the natural scenery and cultural landscape of TCM in different ethnic areas, and carry out supporting development of the TCM health tourism market. The training for TCM personnel should be strengthened to provide support for setting up a health-service specialty in TCM colleges and vocational schools, speeding up the training of TCM prevention healthcare professionals and technical personnel.

### 6 Safeguards for the developing healthcare industry

#### 6.1 To carry out national fundamental research and strengthen the foundations of innovation

Technology is the leading force in industrial development. By expanding fundamental research, a nation fuels enterprise; distributing bonuses for technological achievement improves the R&D environment, stimulates the production of innovative products in various health service industries, establishes stronger foundations for innovation, makes the healthcare industry more technologically advanced, and helps it become the dominant industry of the national economy. By transforming its development approach, China can focus on innovative R&D and internal management; it can fully integrate the health service demands of residents, develop high-quality, innovative products, and meet public multilevel service demands.

#### 6.2 To focus on applying a third-party management system

China should ensure that enterprises and practitioners are certified by third-party bodies. In addition, it should establish a scientific evaluation system, inspect and evaluate services, and produce products, information, and feedback. The association of industries should extend its guidance and supervisory

function, strengthen industrial self-discipline, and become more government-oriented. Third-party organizations should support management, enable public and societal oversight of the industrial supervision system, and work together to standardize the behavior of firms in the market, thus promoting the orderly development of the healthcare industry.

### 6.3 To circulate information about national healthcare

China should improve platforms that manage information in the following areas: public health, medical insurance, medical services, availability of health service products, and supervision of healthcare platforms. It should define standard data exchange specifications, determine which organizations should disseminate health service information, and use supercomputing platforms to establish interactive information management systems. China should also provide information on data standards, build better information management systems for hospitals and medical security providers, use existing information and networks fully, and integrate information on medical security, medical services, and health management. The nation should embrace online forms of registration, consultation, exchange, interaction, and other health-related services. Remote diagnostic imaging, consultation, monitoring, operation oversight, and education can be used to provide basic levels of care in remote and undeveloped regions; there is a clear need for China to develop telemedicine. Open and transparent guidelines for standard operations are also needed, along with an e-commerce platform to make the sale of drugs and medical devices fair and competitive. The nation should support research, promote low-cost digital health devices, and design an information system that can meet the demands of towns and rural regions. Over time, China should increase the allocation of digital medical devices, and there should be a focus on developing portable data collection devices that can link to the Internet of Things and mobile Internet. These developments will create an automatic, intelligent health information service.

### 6.4 To educate the public about healthy consumption

The healthcare industry relies on public understanding of health and healthy lifestyles. Focusing on health is the correct consumption concept for the public. Since ancient times, Chinese culture has focused on maintaining good health. However, during the recent period of economic and social development, many lifestyles and forms of consumption that damage health have appeared. These include smoking, eating cheap fast food,

and going without exercise. The government must educate the public through various channels and means, promoting sound health information and lifestyles. The Chinese people must learn to be healthy consumers, with a philosophy and culture that treasures, enhances, and invests in health. Commercial medical insurance providers must educate the public about healthy activities and lifestyles, teaching people to take full advantage of societal resources such as school sports facilities.

## 7 Conclusions

As a “sunrise industry” that never declines, healthcare must develop in line with both human and industrial trends, encompassing elements of the technological revolution. As it encounters increasing demand, the healthcare industry will ultimately become the mainstay of the national economy.

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