



# China Health Ecosystem 2030

## A Scenarios Analysis





# Contents

Section 1:

**China's Health Care System – Where Do We Go from Today** 2

Section 2:

**Framing the Future – Critical Uncertainties and Resulting Scenarios** 8

Section 3:

**Perspectives from Extended Health Ecosystem Players** 23

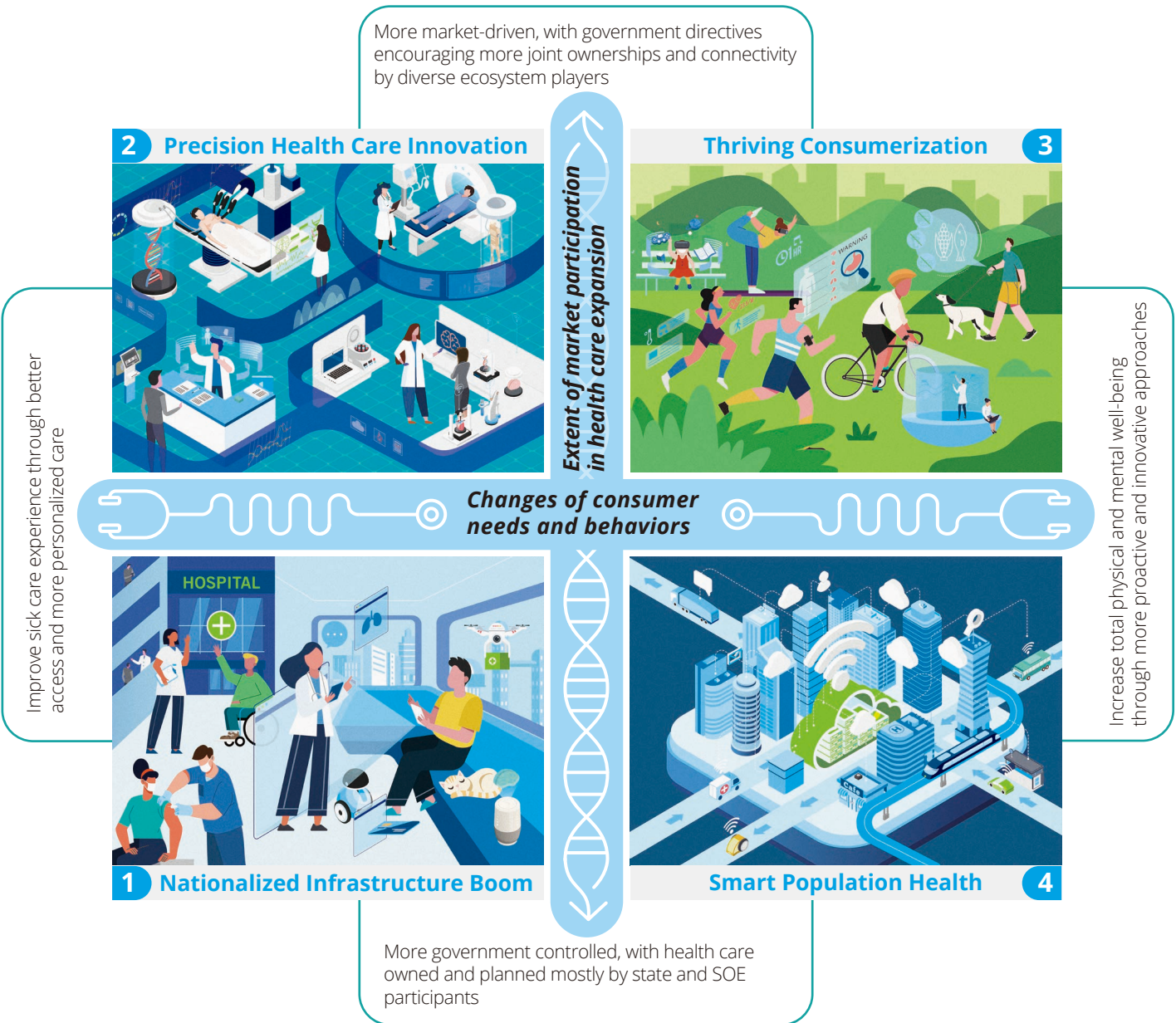
Section 4:

**Implications Across the Scenarios – Common Themes** 31

Section 5:

**Building China's Future of Health – Call for Actions** 33

Chart 1 – Four scenarios of China health ecosystem 2030



Source: Deloitte analysis

Section 1

# China's Health Care System - Where Do We Go from Today



## Major achievements and challenges in China health care system

Over the past decade, China has grown to become the second largest global economy by GDP,<sup>1</sup> largely driven by urbanization, integration into the global economy, and increased domestic innovation in the technology sector. Meanwhile, the country's 1.4 billion population continues to age rapidly: about 13.5% is at or over 65 years old,<sup>2</sup> and predicted to grow to nearly 17% by 2030.<sup>3</sup>

Improving health care for the second largest country population that continues to grow and age is an unparalleled

challenge but also a key priority faced by the Chinese government. Major health care system reforms have been carried out over the past decade to drastically expand health care coverage through regulatory reforms, health care infrastructure investments, expanded universal health care funding coverage, and value chain consolidations (Chart 2). The average life expectancy in China has reached 76.6 years in 2020 compared with 70.6 years in 2000.<sup>4</sup> In more economically developed regions such as Beijing, Shanghai, and Chengdu, the local life span already equals or exceeds that of Western countries.<sup>5</sup>

Chart 2 – Major achievements in China health care system



Source: i) Citi Research; ii) National Bureau of Statistics; iii) China Hospital Association Information Committee; iv & v) National Health Commission; vi) National Healthcare Security Administration; vii) GBI; viii) National Health care Security Administration; ix) Ministry of Commerce

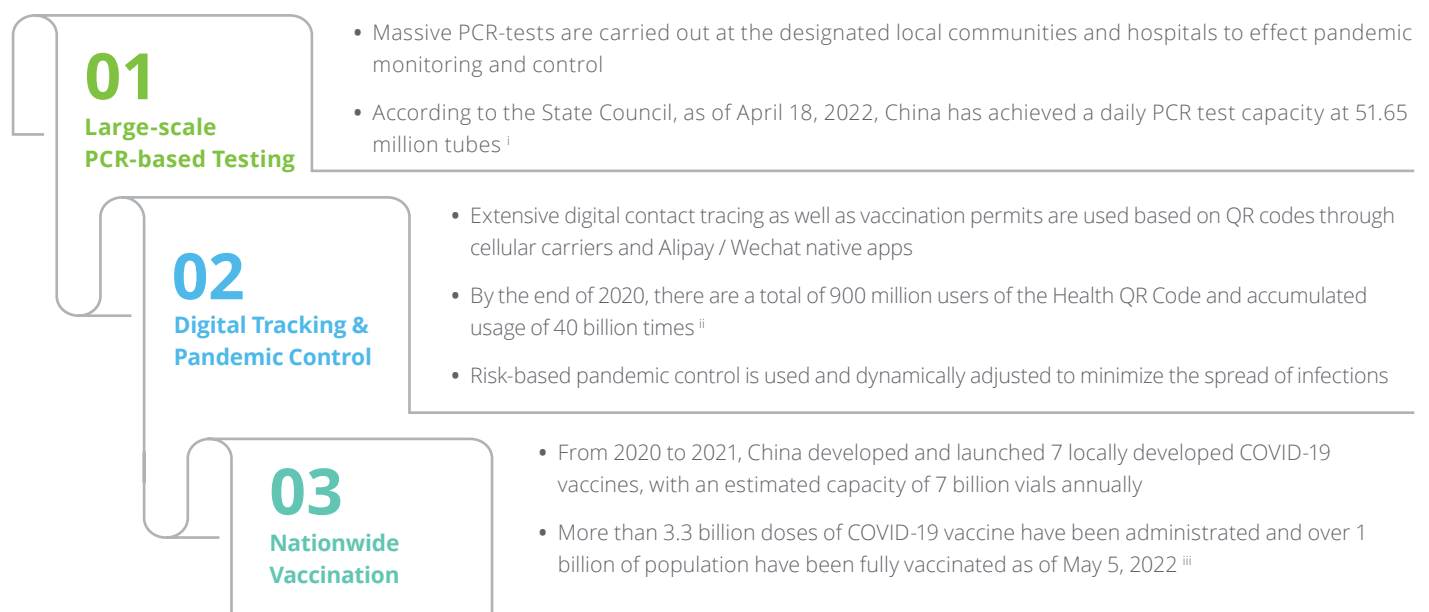
The current COVID-19 pandemic is placing pressure on health care systems around the world. In China, the government has made a strong effort to control this pandemic (Chart 3). Large-scale PCR testing is frequently carried out to detect positive cases, universal contact tracing and pandemic controls have been implemented to contain the spread, as well as the rollout of nationwide vaccination programs to boost population immunity. All of these measures in preventing and controlling the outbreaks put further pressure on medical resources and budgets for public health spending, while exposing the urgency to tackle long standing issues faced by China's health care system, including:

- **Under-developed diagnostic and primary care capabilities.** A large number of community health centers (CHCs) and township clinics across the country have limited capabilities to routinely promote disease prevention, conduct early diagnosis, and provide disease management. This has resulted in an overall health care system that is still largely focused on treating diseases that are often diagnosed late.
- **Strained funding sources.** An aging population has already accelerated health care spending and challenged the solvency of the social security fund. By the end of 2020, the cumulative balance of the basic pension fund was 5,807.5 billion yuan, down 7.6% year-on-year, compared with the 8.1% year-on-year increase in 2019.<sup>6</sup> Meanwhile, average patient out-of-pocket costs still hover

around 30%<sup>7</sup> as compared to 11% in the U.S. and 15% in the EU.<sup>8</sup> An oncology patient, for example, can incur an average out-of-pocket treatment cost of up to RMB 800,000 throughout treatment,<sup>9</sup> 25 times the per capita disposable income nationwide in China.<sup>10</sup> There is a dire need for a more sustainable funding model.

- **Widened gaps in supply and demand.** At 2.0 doctors per thousand people, China has an immense shortage of professional medical talent, as compared to an average of 4.0 doctors per thousand people in Western European countries and 2.7 in the United States.<sup>11</sup> This gap has further led to upticks in long wait time, medical errors, and disputes. In 2020, there were a total of 18,670 cases of medical damage liability dispute cases recorded, an increase of 47% from 2017.<sup>12</sup> The health care system needs to urgently improve trust and enhance the patient experience.
- **Disparities in the quality and accessibility of health care across the country.** The distribution of health care resources varies greatly across the country, with the eastern region home to the highest percentage of Class 3 hospitals and health care professionals (HCPs), at 44.3% and 43.5% respectively in 2020.<sup>13</sup> Although hospitals can admit patients from across the country, practically it is difficult for residents from lower tier cities to access high quality health care due to gaps in knowledge, delays in diagnosis, and lack of effective referrals.

**Chart 3 – Case in point: key Chinese public health measures against COVID-19**



Source: i) State Council; ii) China Internet Network Information Center; iii) State Council



### Future aspirations for China's health care

Building on the progress of the past decade, China aspires to develop a truly healthy and sustainable health care system to an increasingly aging population. First released in 2016 and intensely promoted in 2019, the Healthy China 2030 program unveiled an ambitious blueprint to transform China's health care with a series of core aspirations and principles for the future of health:

- Health and wellness should be prioritized in the future health care agenda. The concept of health and wellness will need to be fully embedded into policy-making across economic, environmental, and public health planning to enable the advancement of both health and the economy.
- Holistic health solutions should be established via a multi-tiered system that can drive health management, disease prevention and diagnosis, rehabilitation, and senior care.
- Equitable access to health and health care services for both urban and rural populations, with minimized gaps in the quality of care.
- Efficient delivery using both government-driven and market-directed mechanisms that support tech, digital, and life sciences innovations and create disruptive and innovative health care models.

These four aspirations are closely interconnected. For example, prioritizing healthy lifestyles for the population would require the health system to provide more holistic health management. In order for such population-wide health management to become truly scalable and equitable, technologies and innovative models need to be heavily leveraged that can deliver efficient and high-quality health care. Together, these four aspirations can reinforce each other to strengthen system resilience against inevitable shocks and stresses of the future. It will take a holistic approach to transform China's health care system and realize all four aspirations.

### Emerging trends in China's health care: forces of change and disruption

The health care industry in China has been facing constant forces for change. Going forward, a number of major global and local trends will present both challenges and opportunities for China's health care system. The most important six mega trends are outlined below (Chart 4).



Chart 4 – Mega trends of future China health care



- **Rapid shift of disease and health conditions with an aging and urbanizing population.**

China's population is expected to reach 1.46 billion by the year 2030, with over 1 billion expected to live in urban areas.<sup>14</sup> By then, China will have the world's largest senior population, at around 247 million people over 65 years old, with many carrying a variety of co-morbidities and chronic illnesses. On the other hand, the younger, middle class population in urban settings, <sup>15</sup>with their changing life styles, will also develop a large number of conditions affecting their quality of life, such as mental, digestive, and immunological disorders. The more diversified needs of these changing disease spectrums will further compound the strain and demand on the health care systems.

- **Tiered expansion of public and private health care infrastructure and services.**

It is predicted that the future health care system will become increasingly interconnected and will expand to cover more holistic care across a patient's lifecycle. We see continued expansion of hospital networks across the country to enable more coordinated primary care, specialty care, as well as rehabilitation. <sup>16</sup>Meanwhile, private health care will continue to expand and address gaps in public health care, such as premium health management services, medical tourism, and aesthetics to name a few.<sup>17</sup>

- **Enhanced roles of consumers and patients in health care journey.**

The large scale dissemination of information through digital social media, social commerce platforms as well as more health care-centric channels will continue to put more information available at the fingertips of average consumers. Take medical cosmetics for example, various online retail and consumer groups, such as Meituan Aesthetic Medicine, So-Young, Tmall Aesthetic Medicine, are already key influencers in consumer decisions regarding treatments and brand selection. <sup>18</sup>As the rising middle class and high-income population pay more attention to their health and well-being, more diversified information will enable but also challenge Chinese consumers and patients to be the guardians of their own health and well-being.

- **Diversification of health care funding models and integration with care.**

Diversification of funding as well as payment models are expected to persist in order to achieve sustainable funding for China health care. Today, on the private side, more than

100 cities have offered so called city-sponsored health insurance,<sup>19</sup> and more than 300 million "critical illness" commercial insurance policies have been sold.<sup>20</sup> On the public side, Volume Based Procurement (VBP), National Reimbursement Drug List (NRDL), Diagnostic Related Group (DRG), and Capitation have all been actively piloted or rolled out.<sup>21 22 23 24</sup> The proportion of private funding and public-private partnerships will likely continue to grow in the coming years, and the criteria for funding will go far beyond just cost containment to enable more value-based care.

- **Proliferation of digital, technology and data to enable smart health care.**

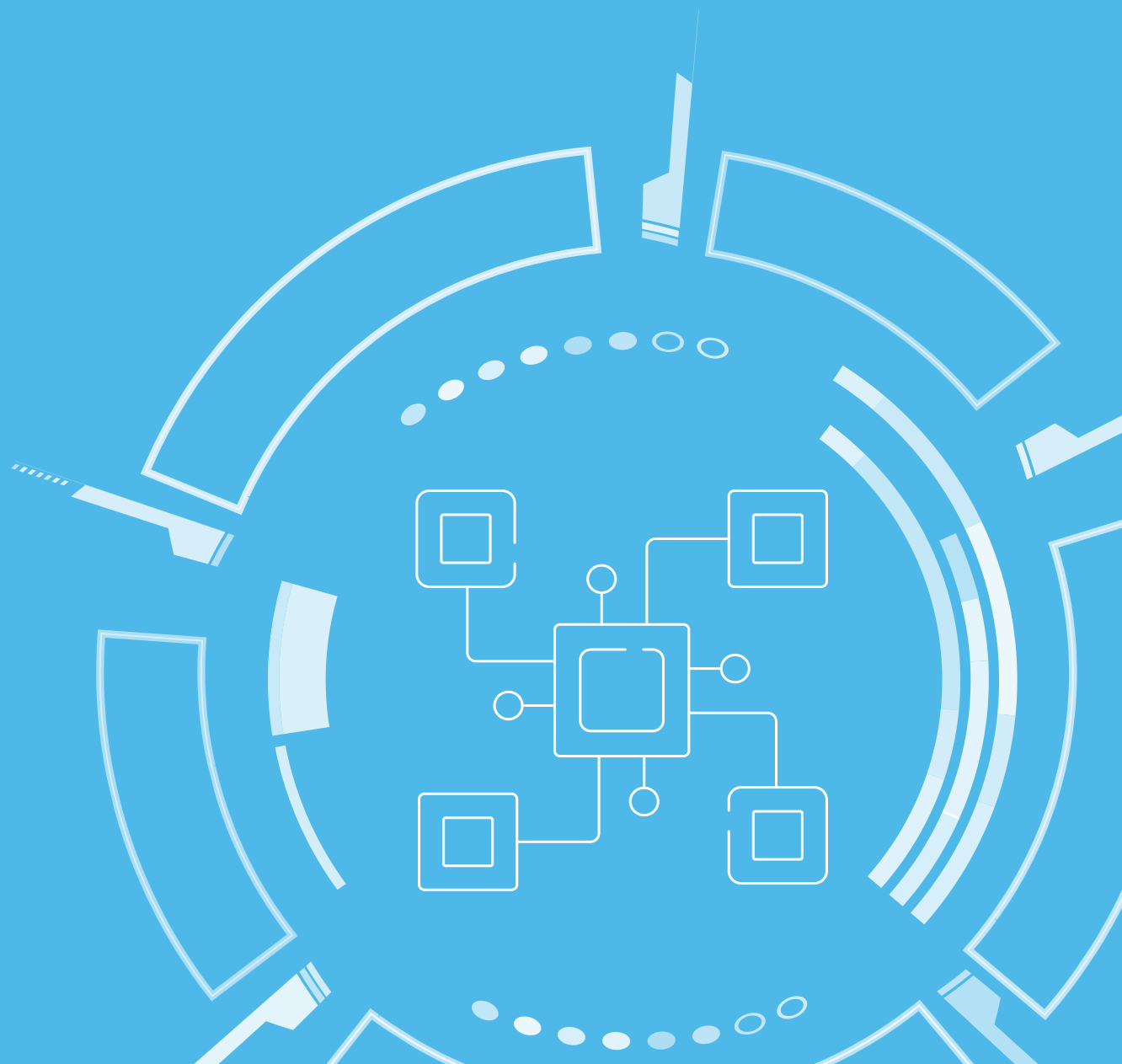
With over 1 billion mobile internet users (99.6% of total internet users) by the end of 2021, China has one of the largest digitally savvy populations on the planet. Recent years have seen an accelerated shift to smart health care enabled by internet and new technologies, and increased integration of virtual with traditional health care: as of 2021, the digital health care user population has reached 298 million, and over 1,600 internet hospitals were established as of H1 2021.<sup>25</sup> Going forward, the promotion of the internet with smart health care will continue to benefit from increased adoption of technologies such as AI, wearable devices, 5G and block chain in health care settings, as well as more data connectivity to bring more de-centralized, innovative health care models.

- **Formation of local ecosystems for breakthrough health care innovations and their industrialization.**

Increased R&D funding and favorable policies into biomedical research topics such as genomics, stem cells, synthetic biology, and gene editing, etc., have so far accelerated the growth of local innovation clusters, such as Bohai, Yangtze River Delta, Greater Bay, and Hainan BoAo.<sup>26</sup> They each have attracted an ecosystem of multi-national companies, local biotechs, translational centers, and contract services organizations. These local clusters will continue to draw upon their geographical, political, and talent advantages to expand. As such, it is expected that China's role in the global R&D value chain system will continue to evolve, with more participation in the development of next-generation cell and gene therapeutics, the revitalization of traditional Chinese medicines (TCMs), and the ability to provide precision manufacturing at scale. More Chinese life sciences companies may also emerge as leaders of innovation on the global stage in the next 10 years.

Section 2

# Framing the Future – Critical Uncertainties and Resulting Scenarios



### The purpose of scenarios

Despite the mega trends identified above, predicting and planning for the long-term future of health in China is still challenging for two reasons. First, the speed and extent to which the mega trends are occurring can still vary greatly, for example, the extent of adoption of disruptive technologies, such as AI, Blockchain, and 5G, in health care settings by 2030. Second, there are still many uncertainties that can pivot the direction of the health care system. For example, the magnitude and intensity of geopolitical and economic tensions over the long term will directly impact China's ability to integrate with and influence global or regional health care systems.

Scenarios inform present-day decision-making by exploring different possible futures. In contrast to forecasting, scenarios examine what is most uncertain and surprising, as a mechanism to generate insight and provoke action regarding future-focused risks and opportunities. Scenarios can stretch our thinking about divergent plausible futures. Importantly, the value of scenarios analysis is to examine all of the possible futures identified – rather than focusing on the more desirable ones – with the understanding that any scenario may occur. Thus, scenarios are a tool for the decision makers to uncover blind spots and broaden perspectives about alternative future environments in which today's decisions might play out. The implications drawn from the scenarios are designed to trigger discussion, rather than serving as prescriptive outcomes. For leaders whose organizations are highly impacted by evolving changes, scenarios can provide unique contextual intelligence to inform choices, reduce risk, improve strategic contingency planning, and pursue mutually desired outcomes.

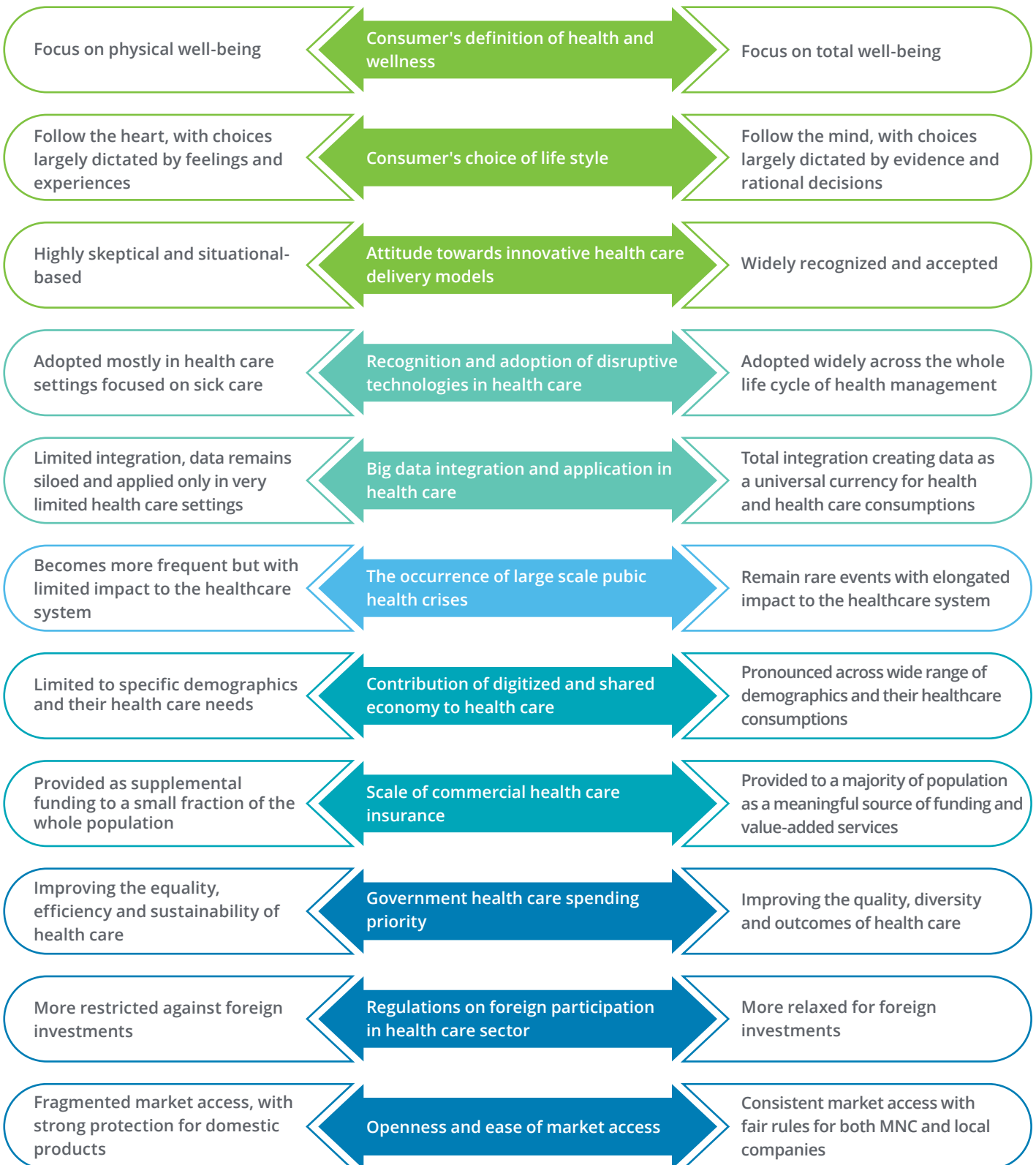
### How to build scenarios

The focal question of a scenarios analysis captures the core issue to be explored through the scenarios. Deloitte identified the focal question for this analysis to be: **how will China's health care evolve by 2030 and how might this affect the extended health ecosystem?**

### Identifying uncertainties

The critical uncertainties for a scenarios analysis are the most important yet unpredictable driving forces that will significantly impact the focal question. Complementing an analysis of relatively predictable mega trends outlined in the previous section, an initial list of over 80 uncertainties was compiled through robust desktop research as well as interviews with both Deloitte subject matter experts and executives from China's health care industry. We further distilled and identified the 10 most critical uncertainties covering topics across social, technological, environmental, economic, and political aspects (Chart 5):

**Chart 5 – Most critical uncertainties impacting China's health ecosystem in 2030**



- **Social:** China has a culturally and geographically diverse population. Consumer attitudes towards health care and behaviors vary greatly and are strongly shaped by local factors, such as cultural beliefs and the influence of TCMs. On the other hand, more evidence-based medicine rather than traditional ideas and experience is gaining ground where people rely on increasingly popular information channels, such as Wechat and WeDoc, to manage their health. These observations imply several long-term uncertainties in China's future health care system on the social and demographic front: how will Chinese consumers define health and wellness, will the definition be more focused on physical well-being mostly, or more on total well-being? Will consumer lifestyle choices be dictated by feelings and experiences, or by evidence and rational decisions? Will consumers hold highly skeptical attitudes towards innovative health care delivery models, or will they highly recognize and accept them?
- **Technological:** Despite the multiple innovation frontiers China is actively participating in, such as quantum computing, AI, and gene editing, there are still uncertainties as to the speed and scale at which these innovations will see large-scale adoptions in the health care sector. There are common challenges similar to those in the developed markets, such as access to top R&D talent and a supportive regulatory framework required for disruptive innovations. Other challenges are more pronounced in China, for example, whether large-scale health data can be integrated to support life sciences R&D and even health care decisions. Hence, the key technological uncertainties are: will disruptive technologies be adopted in a small number of health care settings or widely across the whole life cycle of health care management? Will health care's big data integration and application be limited to only a small number of health care stakeholders (e.g. leading public payers and hospitals), or completely integrated and widely applied across many stakeholders (e.g. insurance, health care organizations, consumers, internet hospitals, retail pharmacies) as a universal currency for health and health care consumption?
- **Environmental:** Though climate change that affects the environment may give rise to more global scale public health events, the science and management approaches are improving. The severity of future universal public health events as well as the ability to manage them effectively and in a coordinated manner will have a large impact on both global and China's future health care systems. Hence, the key environmental uncertainties here are: will large scale public health crises become the norm in the following decade or will they remain as black swan events? Will they be well controlled and managed in most parts of the world within 3-5 years or will their taxing effects drag on for an extended period of time that over 5 years.
- **Economic:** Powered by big digital, mobile internet and 5G infrastructures, China has already grown a significant digital economy at 11.8 trillion RMB (ca. 1.8 trillion dollars) in 2020.<sup>27</sup> Large-scale and more China-unique or originated digital consumption models such as social commerce like live streams have proven quite successful but also have significantly raised the expectations of customers. Applications of digital consumption models in China's health care space, so far, is mainly concentrated in areas such as disease education, e-prescriptions, online medical consultations, to name a few.<sup>28</sup> For the next decade, it remains to be seen whether this digital and shared economy will see much more ubiquitous adoptions within health care consumption, both in terms of population coverage as well as the breadth of such coverage across the health care journey. In addition, the roles and extent of traditionally underplayed but increasingly encouraged private health services and funding can also influence the size and structure of the health care sector significantly. Hence the key economic uncertainties are: will the digital and shared economy contribute significantly to the health care sector or will its contribution be limited? Will private health care be limited to a small fraction of the whole population, or will it become a more universal part of the health care system?

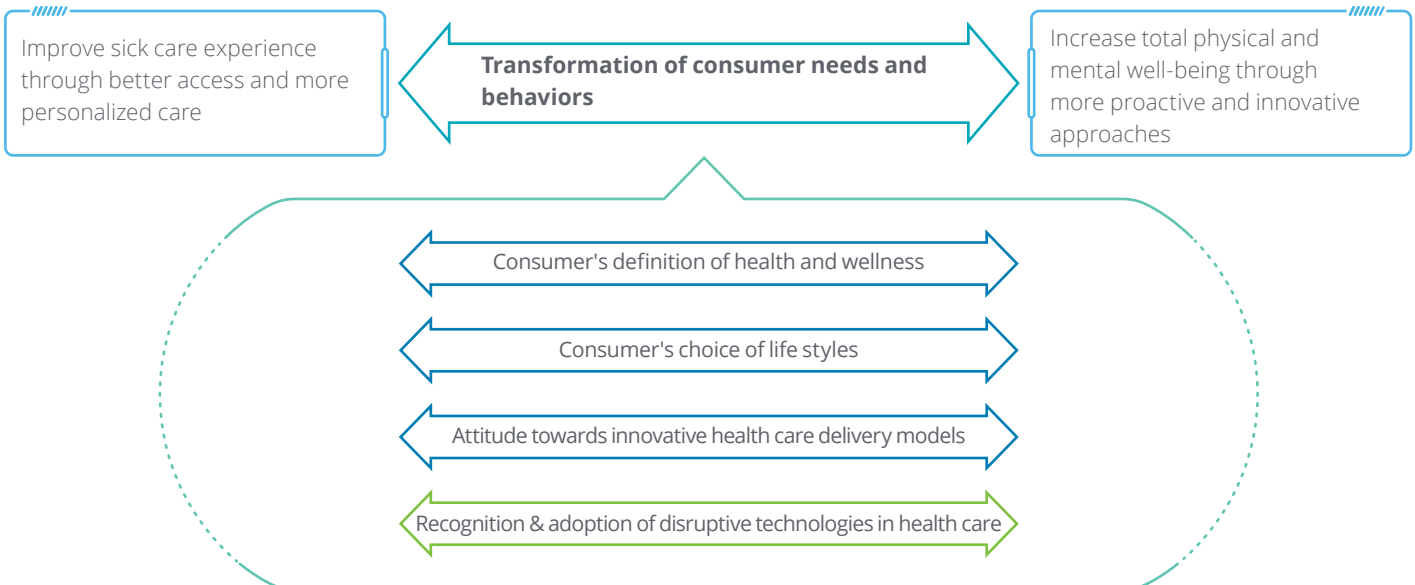
• **Political:** Globally, all major economies' health care policymakers are grappling with the challenges of increased disease burdens, rising cost pressures, and promoting innovations to address the unmet medical needs of the century. However, policies and approaches differ significantly among countries. US health care policies, for example, tend to direct health care spending more towards the recognition of true health care innovations, with regulations generally providing a transparent market access environment that encourages healthy competition and cooperation among players. India health care policies, on the other hand, more heavily prioritize the use of high quality generic and low-cost alternatives to address health care needs, with market access regulations favoring more domestic players and heavily adapted to different regions.<sup>29</sup> China's policies today do carry a mix of what's available in other markets, including regulatory reforms that accelerate medical innovations, cost controlling policies such as the central and regional VBP, more value-based funding measures such as NRDL, as well as the "Made in

China 2025" localization initiative. The long-term policy directives, if pivoted toward one direction or the other, can carry significant impacts on the mixture of health care products and services and how they are delivered. These key uncertainties are defined as follows: how will the Chinese government prioritize health care spending, will the government aim to improve equal access through scalable, cost-effective spending, or to improve outcomes through more diversified spending to increase quality? Will regulations on foreign investment be more relaxed or become highly restricted? Will market access be more transparent with fair rules for both MNC and local companies, or will they be fragmented with strong protection favoring domestic products?

**The two scenario dimensions**

Based on inputs from a diverse group of experts, a list of critical uncertainties were clustered to form two distinct axes with respective extremes that will subsequently formulate future scenarios. These two axes of critical uncertainties are:

**Chart 6 – Demand: transformation of consumer needs and behaviors**





• **Demand – Transformation of consumer needs and behaviors.** This axis is an aggregated uncertainty from the four critical uncertainties that were identified. Collectively, it represents the demand side shift in terms of the needs and behaviors of consumers' in the future health care system in two ends:

– **Improve sick care experience through better access and more personalized care**

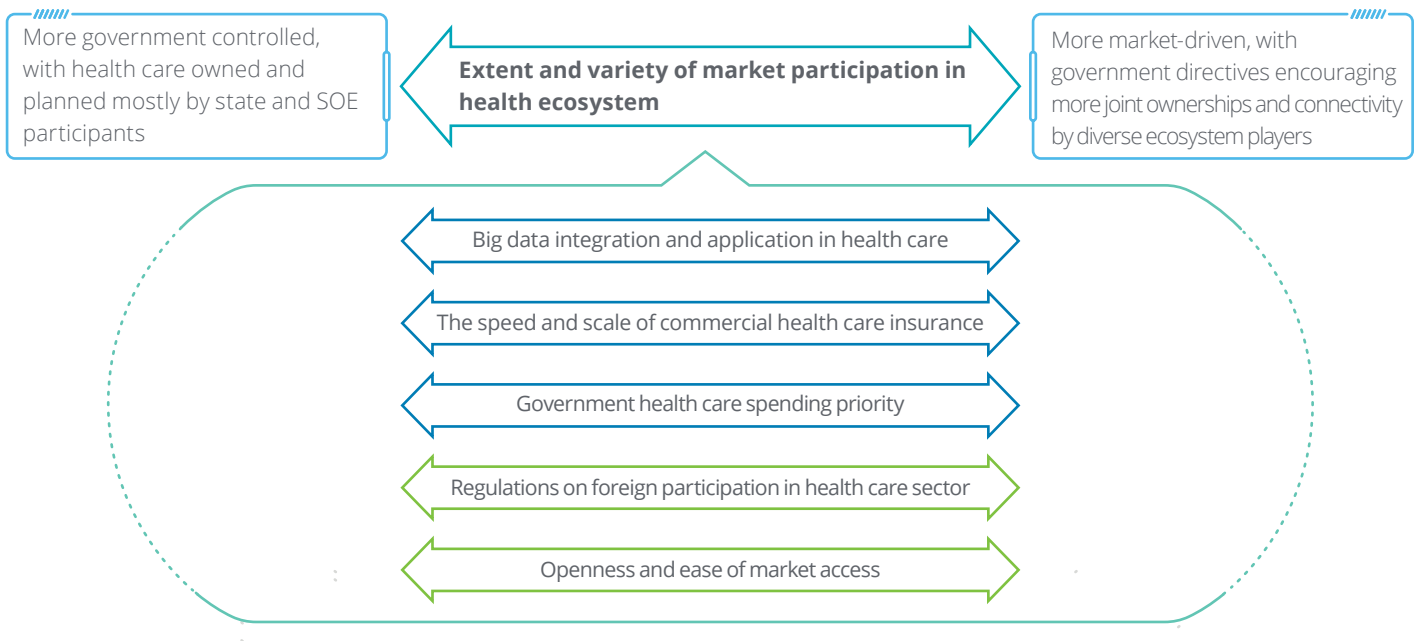
– In this extreme, consumers largely base their lifestyle on experiences and regard health as an issue mostly when they get sick. They mainly rely on professionals for health care delivery and are generally slow in adopting innovative health delivery

models. The value of disruptive technologies has yet to be widely recognized, though those enabling significantly better patient experience will be highly valued, e.g., gene editing as a curative treatment for rare diseases.

– **Increase total physical and mental well-being through more proactive and innovative approaches**

– In this extreme, consumers regard total well-being as the main goal for health care. They are willing to adopt highly innovative and personalized health delivery models to maintain a good sense of health awareness and self-control. Disruptive technologies such as AI, robotics, gene sequencing, etc., also are widely recognized and adopted into health care settings.

**Chart 7 – Supply: extent and variety of market participation in health ecosystem**



• **Supply – Extent and variety of market participation in health ecosystem.** This axis is an aggregate of the five critical uncertainties that were identified. Collectively, it represents the supply side structural shift in terms of the freedom and connectivity between ecosystem stakeholders in providing health care in two ends:

– **More government controlled, with health care owned and planned mostly by state and SOE participants**

– In this extreme, a more government controlled health care system prioritizes public spending on the equitable expansion of care. The consumption and sharing of health care data will be largely constrained to public

entities. Government regulations further scrutinize foreign participation with increased local protectionism.

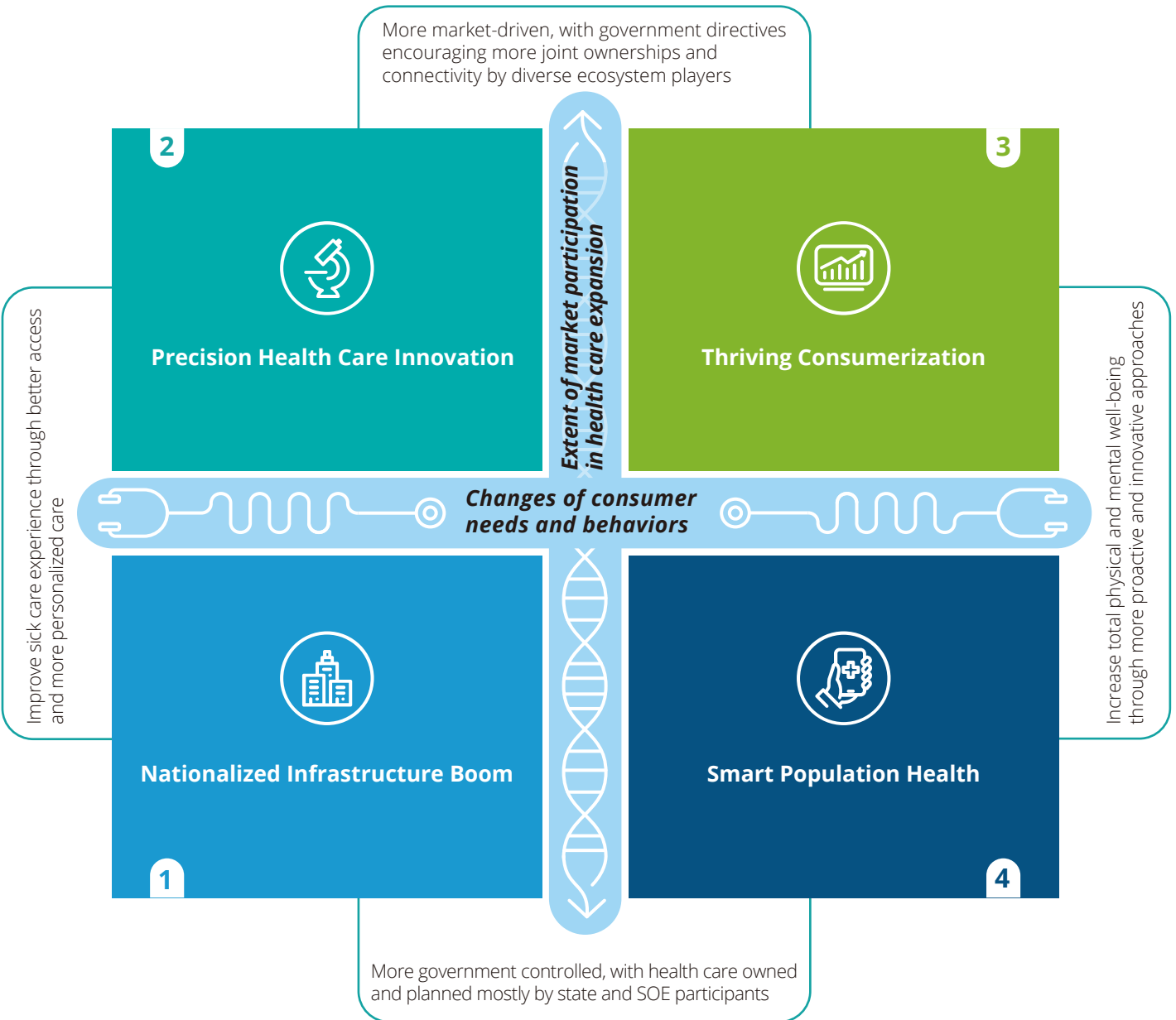
– **More market-driven, with government directives encouraging more joint ownerships and connectivity by diverse ecosystem players**

– In this extreme, government policies encourage participation of all ecosystem players with an open and transparent market access environment, in order to promote multi-tiered health care services and funding model. For instance, a high degree of shared ownership and integration of health care data will take place between public medical institutions, commercial insurance, retail pharmacies and internet hospitals, etc., to enable more informed health care decisions.

**Outcome: our four scenarios**

Pairing these two axes of dimensions, the matrix below, reveals four scenarios for China's future of health:

**Chart 8 – Four scenarios for China's health ecosystem in 2030**



**Scenario 1--Nationalized Infrastructure Boom**

– A future health care system focusing on high efficiency at preventing and managing disease outcomes. Government-directed key capabilities upgrades, as well

as state-owned value chain integrators have created many scalable, value-and cost-effective solutions to drive better patient experience and outcomes.

• **Scenario 2--Precision Health Care Innovation**

– A future health care system presenting abundant innovative solutions to Chinese patients, delivered by public and private health care with funding solutions in total harmony. Patients would seek advanced, precision and personalized medical care from different types of health care providers.

• **Scenario 3--Thriving Consumerization**

– A future world featuring democratized health and wellness consumption. Equipped with disruptive digital and sensory technologies, Chinese consumers become

the guardians of their own health. Seamless cross-sector convergence has created many de-centralized new health and health care settings, delivering solutions across the whole life cycle.

• **Scenario 4--Smart Population Health**

– A future world featuring government-directed population health management. Tiered public smart health care facilities are fully interconnected through massive, regionally interconnected big data hubs that enable fluid and equitable access to health and health care across the whole life cycle.



**Scenario 1: Nationalized Infrastructure Boom**



### Scenario description

This is a future in which large scale and persisting public health issues will further impact the access to the health care system. The rising geopolitical and economic tensions are further constraining China's GDP growth, as a result, the traditional health care and insurance system is outpaced by the growing needs of an increasingly aging and sick population.

In this world, the transformation of the health care system will show a trend of further nationalization, and systemic efficiency improvement and cost management of health care are government's first and foremost priorities. Many state-owned initiatives will be implemented to further drive down costs and improve efficiency. For example, volume-based government procurements will become routine for most pharmaceutical, medical device, and diagnostic products; and generic and local-substitution health care products will be heavily prioritized for funding.

Two types of innovations are mostly recognized in this world. First, niche life sciences innovations that address those populations with lack of effective treatments will be approved, such as rare diseases, severe immune disorders, etc. Second, health care innovations that demonstrate scalable cost-savings and equitable access to care will be recognized and adopted, such as telemedicine in rural and remote areas, AI-powered pathology and imaging centers, and RWE-based referral system for patients, etc. All of them can help drive costs down while alleviating the pressure on the health care system, and enhance the efficiency of treatment.

In terms of China's health ecosystem dynamics, the positions of leading domestic manufacturers of pharmaceutical and medical products with a large portfolio of high quality, competitive cost local alternatives, such as biosimilar and

high quality consumables, etc., will be reinforced. State-owned enterprises become the local champions for the launch of integrated, scalable and cost-effective solutions across the health care value chain. Multinational companies across the different health care-related industry sectors will face increased hurdles to compete in China, and they will seek for more development opportunities by further focusing on specific products and solutions, local R&D and manufacturing, and diversified business models through investment and joint ventures. They also demonstrate to the Chinese government their commitment in bettering the country's health care development.

Consumers/patients have generally effective but limited choices for health care consumption. A number of those who are demanding an alternative, more personalized selection of products and services will be challenged.

### Early signs that signal a shift to this reality

- More frequent and increased number of pharmaceuticals, devices, and diagnostics are subject to national level volume-based procurement with greater emphasis on cost effectiveness
- Government policies demonstrate clear favorability to state-owned and domestic enterprises across the health care value chain, e.g., pharmaceuticals, medical devices, diagnostics, health care providers, commercial insurance, and internet and technology in terms of market access and financial subsidies
- Government implements large-scale initiatives and pilots specifically in equitable health care delivery and solutions (e.g., regional telemedicine and diagnostic hub programs)
- Majority of consumers/patients still seek sick care and rely heavily on the public health care system for both care delivery and insurance coverage





## Scenario 2: Precision Health Care Innovation



### Scenario description

This is a future in which, despite consistent geopolitical and trade tensions, China's GDP growth through the "dual circulation" strategy is largely successful. The biggest middle-class population has therefore thrived in China. Although

the key focus of health care is still around disease treatment and management, Chinese are increasingly demanding more diverse and personalized sick care experiences. Meanwhile, private health care funding has reached a critical mass by contributing significantly to spending on health care.

Recognizing the population's diversified medical needs, the government employs more market-driven incentives to spur health care innovations that can deliver more precision health care. More favorable policies are implemented to encourage foreign companies to introduce precision medicine products in China through local partnerships—such as cell therapy, gene editing, and digital medicine, etc. Large number of industry-academic cooperation are instituted to cultivate the next generation talents for life sciences R&D and management and accelerate translational research—with IP practiced uniformly enforced across the country. China will become a global hub and incubator of many cutting edge innovations in next-generation therapeutics, diagnostics, and medical technologies. The local life sciences sector will thrive, with many domestic companies also emerging on the global stage as leaders in innovation.

From the health care providers' side, more practical policies will be issued to bring in more diverse private health care providers to supplement the public health care. Patients can choose public health care for relatively standardized high quality services and private health care for highly personalized, premium quality services. A variety of care delivery models—such as retail primary care clinics, remote surgery centers, and specialty hospitals—have reached a critical mass, enabling patients to receive de-centralized sick care for their conditions at home, in the community, on the go, or in specialty hospitals.

To enable this diversified sick care delivery experience, the health ecosystem has exhibited an increased level of cooperation between the innovative life sciences players (e.g., biopharma, medtech, diagnostic) and health care players (e.g., public and private hospitals, payers, digital health care). Innovative business models are driven by values and outcomes with alignment of the interests among different stakeholders become more commonplace.

### Early signs that signal a shift to this reality

- The Chinese government lowers the barrier for multinational companies to participate in life science domains traditionally seen as sensitive, such as stem cell and gene therapies, by demolishing regulatory restrictions on foreign investment (e.g., Negative List), negotiating bilateral trade/investment agreements (e.g., EU-China Comprehensive Agreement on Investment), and/or establishing health care foreign investment designated areas (e.g., Free Trade Zone, Pilot Zone, Industry Parks) – all contributing to a rapid increase in market players
- Government further announces increasingly comprehensive and internationally compatible laws and policy frameworks, e.g., in the area of intellectual property and dispute resolution
- Government deregulates the health insurance industry and compels public health care systems to enable more data-sharing with third party institutions such as life sciences and commercial insurance. Subsequently, the percentage of health care funded by commercial health insurance products reach a new high.
- Domestic life sciences companies are contributing to a significant percentage of the global innovation portfolio in terms of next-generation modalities, e.g., cell, gene, digital therapeutics for biopharma, non-invasive and digital diagnostics, robotics for medtech, etc.
- A great percentage of sick care is no longer provided within hospitals, but rather, through outside hospital settings such as retail pharmacies, primary care clinics, supermarkets, remote surgical centers, etc.





### Scenario 3: Thriving Consumerization



#### Scenario description

This is a future in which sustained economic prosperity has caused profound and systemic cultural and behavior shifts in the Chinese people. With elevated wealth and all basic living needs satisfied, the concept of health and happiness

is commonly accepted and universally pursued. People no longer want the best diagnosis and treatment for their diseases, but rather, continued maintenance of well-being in terms of both the physical and mental states.



Chinese consumers in this world desire more health and wellness, as empowered by disruptive technologies, such as AI, wearable devices and block chains, to become their own guardians of health. Most of the activities are decentralized and conducted when consumers are at their homes, in the nearby communities, or on the go. Many virtual and community-based health delivery models become commonplace, such as AI-enabled nutritionists, virtual mental wellness sessions, disease management with sensory technologies, digital therapeutics, and gamified rehabilitation programs, etc. Health care institutions are increasingly being used to treat complicated medical conditions.

In this world, many health care services are directly purchased by the consumers, informed by personal data and using algorithms driven by health big data, potentially through smart devices. Consumers purchase these retail services based on convenience, pricing, outcome, and other personal considerations. If geopolitical tension further eases up, more cross-border consumptions of health and medical tourism will also take place. China can become a regional recipient as well as a provider for many types of cross-border health services, such as medical cosmetics, IVF, gene therapies, or even remote surgeries, etc.

The health ecosystem exhibits unparalleled cross-sector value co-creation. This collaboration is conducted through innovation clusters targeting different health and well-being

issues, such as mental health and behavioral coaching, congenital disease, nutritional health, chronic disease management, rehabilitation, and others. Non-traditional health care players such as internet, e-commerce, retail and others, with an existing outreach to mass consumers and their health and wellness insights, can play an effective role in the orchestration of these innovation clusters to develop and launch compelling consumer health solutions.

### **Early signs that signal a shift to this reality**

- Significant de-regulation in the health care sector that allows for more direct-to-consumer engagement by life sciences companies, commercial licensing for health care data, private health care and insurance, etc.
- Increased number of "hybrid" retail establishments with numerous use cases of disruptive technologies that aim to enhance consumers' total well-being, e.g., fitness and nutrition centers, rapid retail genetics and disease risk testing centers
- Booming number of retail exchanges where health products and services are purchased, e.g., personalized health plans, preventive medicine, virtual fitness, supplements, and wearable devices
- Emergence and maturation of consumer advocacy and social commerce that focus on evidence-based health and wellness management



## Scenario 4: Smart Population Health



### Scenario description

This is a future in which increased macro economical and geopolitical tensions have greatly challenged the health care system's sustainability to serve and finance.

Meanwhile, Chinese consumers' mindsets have greatly shifted due to an increased desire for total health and well-being. The key challenge for this scenario is to balance the limited health care resources and the growing

demand for wellbeing. The health care transformation led by the government will build new population health management model enabled by smart city and smart health, to enhance health service capabilities. A massive, regionally interconnected network of regional owned health management hubs are established. These hubs will be managing a multi-tiered public smart health care infrastructure across local communities, public transportation systems, retail settings, and health facilities to enable timely monitoring of population health and allow for rapid mobilization of health care resources.

Meanwhile, massive integration of public health care and funding will create accountable care organizations (ACO) similar to those adopted in Western markets. Supported by regional health data management, such organizations will provide a full range of population health services, such as wellness management, disease prevention and management, mental and physical rehabilitation as well as senior care services in the communities.

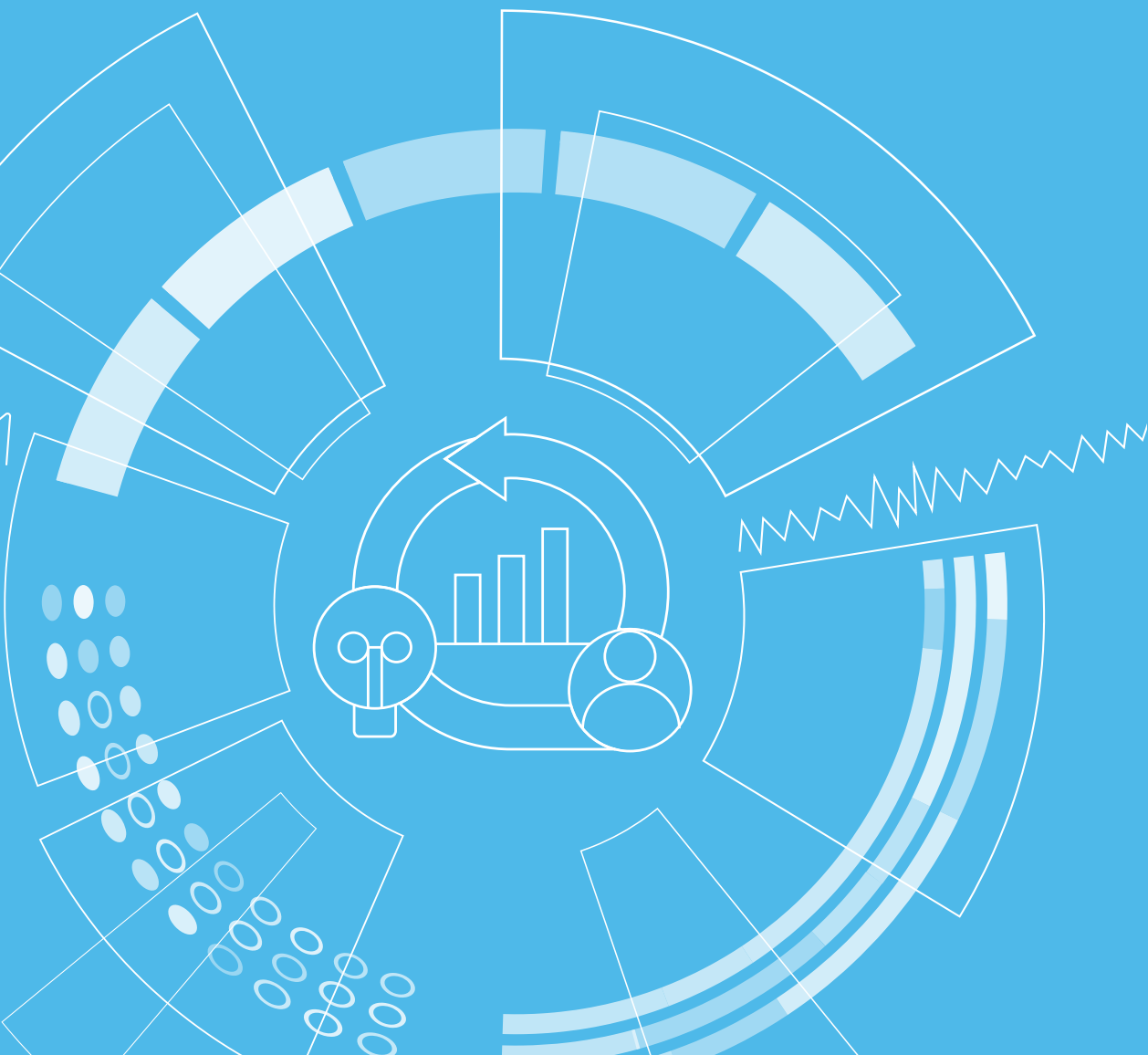
In this scenario, all essential health care products and services are still procured by the government. Scalable health and health care innovations that can demonstrate significant population-wide health and wellness benefits are highly rewarded, for example, an AI platform for lifestyle/nutrition coaching or digital therapeutics that significantly raise the adherence of chronic patients.

### **Early signs that signal a shift to this reality**

- Government spending shifts the focus of health care costs from existing health care services delivery and pharmaceuticals to population-wide preventive medicine, disease management, and rehabilitation
- Creation of more government sanctioned, integrated health care organizations with the focus on delivering accountable care, e.g., improved health and economic outcomes for distinct populations
- Government establishes health care data and technology hubs to enable more seamless data-sharing across government and state-owned health care institutions (e.g., community health centers, clinics, hospitals, rehabilitation centers, elder care centers) and across geographies
- Increase of smart public health care infrastructure that can monitor and intervene based on sensory technologies for a large number of communicable and non-communicable diseases, such as COVID-19, diabetes, cardiac anomalies, neurological/motor neuron diseases, etc.

## Section 3

# Perspectives from Extended Health Ecosystem Players



## Multinational pharmaceutical and medical device companies – a day in the life

### Summary

China's future health ecosystem will further challenge the traditional global-centric business models of MNCs. They will need to build localized capabilities to accelerate new therapeutic and disease-level innovations with agility

and China specificity. **"Nationalized Infrastructure"** and **"Smart Population Health"** scenarios present the challenges to MNCs. **"Thriving Consumerization"** provides a different set of compliance and operational challenges, while **"Precision Health care"** requires MNCs to adopt business models most similar to those found in mature markets.

Chart 9 – Multinational pharma and medical device companies – a day in the life



## Domestic biopharma – a day in the life

### Summary

China's future health ecosystem will offer opportunities for domestic biotechs to become sustainable industry leading players. They will need to either establish the scale required for long-term success or develop specialized innovation capabilities. **"Nationalized Infrastructure"** and **"Smart**

**Population Health"** scenarios present challenges for domestic biotechs to establish scale and innovation quickly. **"Thriving Consumerization"** provides the opportunity for unique business model innovation, while **"Precision Health Care"** contributes to the innovation with value for specific medical needs of different populations, and gains more recognition in the global market.

Chart 10 – Domestic biopharma – a day in the life





**Implications to diagnostic providers (products and services) – a day in the life**

**Summary**

The traditionally underplayed diagnostic sector will see dramatic expansion across all four scenarios. **"Nationalized Infrastructure"** will grant the most benefits to the areas of lower-tier market expansion and domestic substitution

of diagnostic products. **"Smart Population Health"** presents large opportunities for diagnostic innovation to be integrated into smart health care infrastructure. **"Thriving Consumerization"** provides rich opportunities for direct-to-consumer diagnostic solutions, while **"Precision Health Care"** commands diagnostics to play a pivotal role in the R&D and commercialization of personalized medicines.

**Chart 11 – Diagnostic providers – a day in the life**





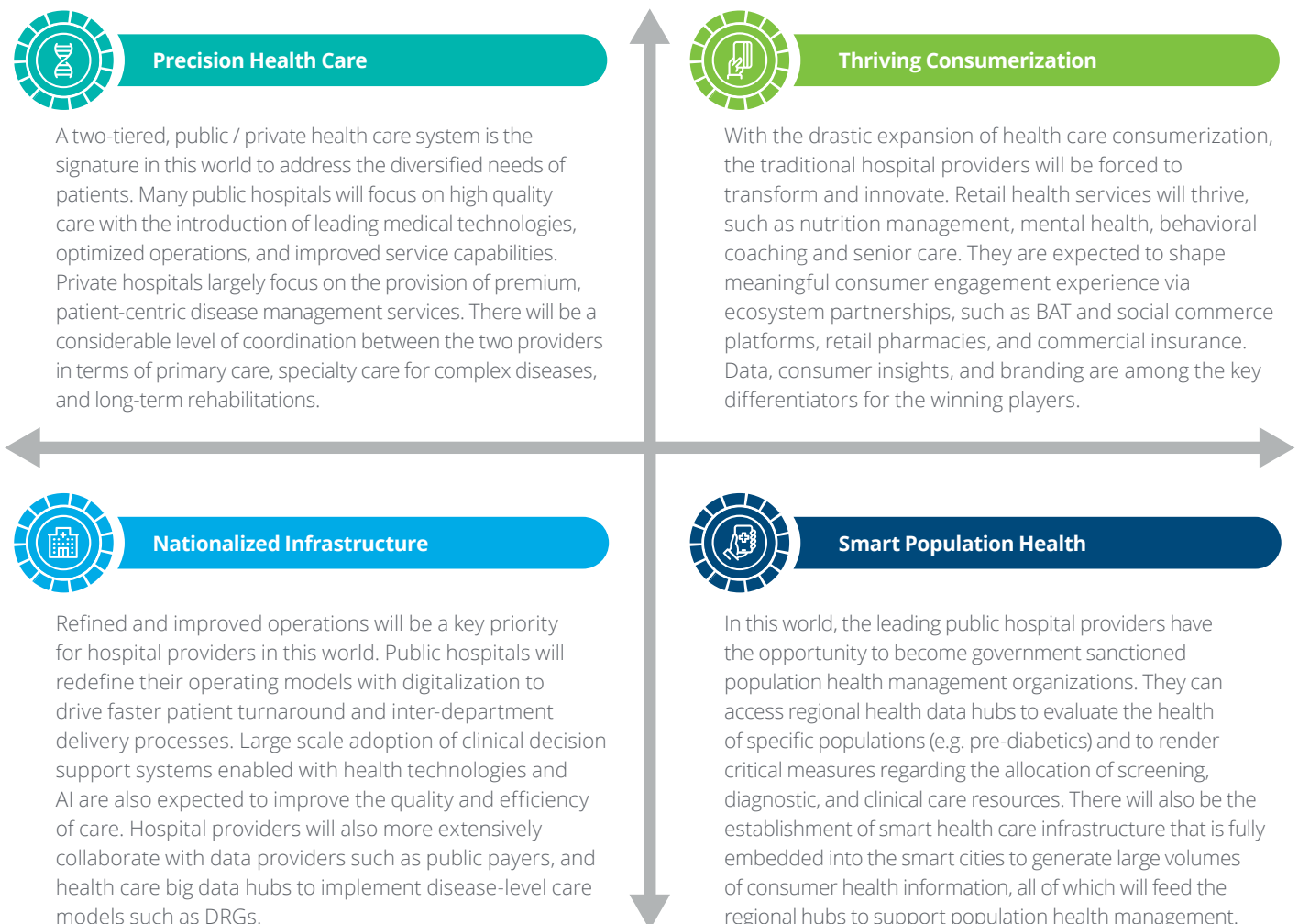
## Implications health care providers – a day in the life

### Summary

In all scenarios, China health care providers will face an increasing level of demand for worry-free, integrated and tailored health solutions. **"Nationalized Infrastructure"** will boost public hospital expansion and operation upgrade, to enhance the efficiency and accessibility of health care

service. **"Precision Health Care Innovation"** tends to lift the serviceability of entire health care system, while **"Thriving Consumerization"** is likely to promote a diversity of health care solutions tailored to individual needs across the life cycle. **"Smart Population Health"** scenario presents the greatest opportunity for government-directed regional accountable medical organizations and health centers.

Chart 12 – Health care providers – a day in the life



## Implications to SOEs – a day in the life

### Summary

Chinese SOEs will face increasing market demand for efficient, scalable access to health care products and solutions. **"Nationalized Infrastructure"** scenario leverages the core strength of SOEs to boost value chain integration for cost-effective access to care. **"Smart**

**Population Health"** scenario further strengthens the SOEs role in operating government-owned smart health care facilities. **"Precision Health care Innovation"** and **"Thriving Consumerization"** scenarios both significantly challenge the SOEs to up their organizational agility as well as innovation capabilities to thrive in a more market-driven competitive environment.

Chart 13 – SOEs – a day in the life



## Implications to internet health players – a day in the life

### Summary

Internet health players will play their disruptive roles in health care across all four scenarios. Both **"Nationalized Infrastructure"** and **"Smart Population Health"** provide

more opportunities to participate in national health care infrastructure development and operations. **"Precision Health care Innovation"** provides personalized health care delivery to patients with digital therapy and treatment, while **"Thriving Consumerization"** puts the internet at the center of total well-being solutions.

Chart 14 – Internet health players – a day in the life



**Implications to commercial insurance companies – a day in the life**

**Summary**

All four future scenarios can impose higher requirements of operational capability for commercial insurance companies in terms of customer centricity, product innovation, and cost management. However, effects are varied when it comes to SOEs and MNCs. **"Nationalized Infrastructure Boom"**

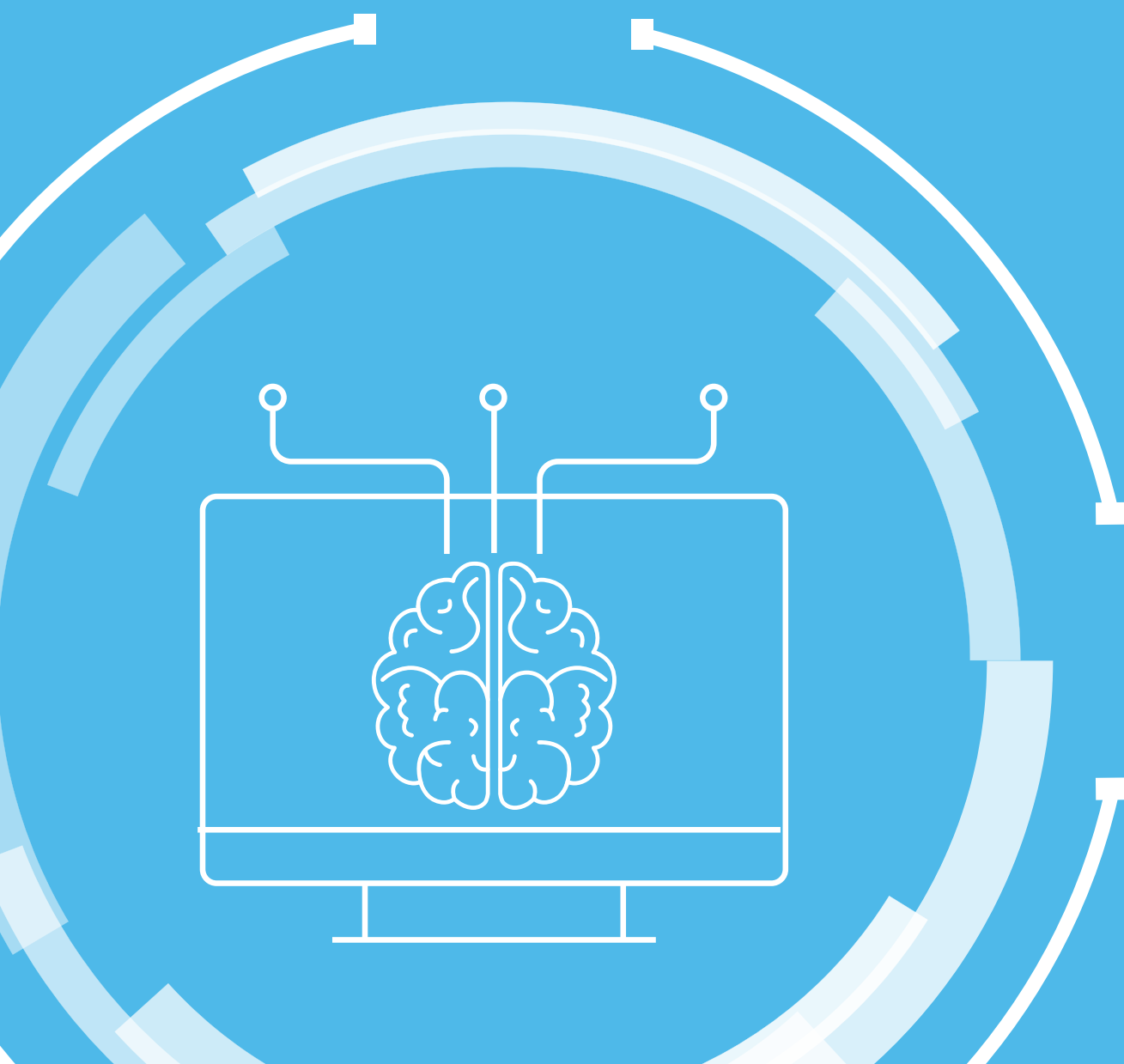
and **"Smart Population Health"** are more favorable for SOEs while creating more pressure to localize for MNCs. **"Precision Health Innovation"** creates a more equitable arena for all types of commercial insurance players where differentiation in the value proposition is the key success factor. **"Thriving Consumerization"** offers the most optimistic market prospect for all commercial insurers and can lead to the most drastic changes in their business models.

**Chart 15 – Commercial insurance – a day in the life**



Section 4

# Implications Across the Scenarios – Common Themes



We are in an increasingly volatile and uncertain world. Any of these potential scenarios may occur, and early signs of all four futures are already present today. As we look to 2022 and beyond with increased pressure for China to reopen its economy to overseas and an ever-complicating geopolitical environment, the need for informed, measured long-term thinking for China's health care and its roles on the global scale has never been greater. The following key common themes should serve as the starting point to plan for these future scenarios.



**Consumers and patients will become more active participants of health and health care – designing for a compelling health care experience and empowering the consumers will ultimately drive value and recognition**

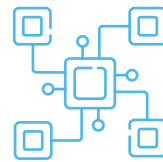
End consumer behaviors and preferences, no matter how varied across these scenarios, will continue to exert a significant effect on the solutions and offerings that the health care system prioritizes for the future. As the education and level of knowledge continue to increase, demand will diversify, and the level of ownership will continue to increase. Regardless of programs that are either heavily centralized by the state or those that are heavily tailored to individual needs, effective consumer or patient engagement, in the form of education, enablement, and intervention will be critical to successful health care products/programs of the future.



**Disruptive innovations are not just knocking on the door – it is already happening at a lightning speed and will be the norm in the future**

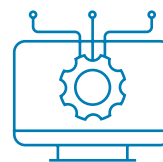
External disruptions from non-traditional innovators are already taking place. Whether tightly or loosely controlled by the government, they will cause continued replacement and substitution of the more traditional health care system. For example, in China, over 30 companies with publicly announced financing rounds have been actively developing next-generation cell and gene therapeutic products.<sup>30</sup> More than 30 companies are in the process of commercializing their AI solutions to accelerate drug discovery and development.<sup>31</sup> According to the National Health Commission, online consultations increased 20-fold year-on-year during the COVID-19 pandemic in 2020, accelerating the evolving from traditional medical

service to smart health management.<sup>32</sup> Regardless of the future scenarios, all health care system players will have to re-imagine their innovation agenda to access and incubate more disruptive innovations that can yield more speed, quality, and efficiency to the health care system.



**New business models are essential to truly prepare for a more customer-centric future of health**

All four scenarios will see the future health care value chain become more integrated and customer-centric. New business models will take root and shift the basis of value creation/value capture in certain areas of the market. For example, traditional life sciences companies will have the strongest imperatives to shift from selling products to integrated service offerings that can help customers and patients attain a unique product experience. SOEs and internet health care companies are more likely to become on-demand platform co-operators, serving to optimize health care deliveries to the consumers/patient population. Commercial insurance players may very well become professional health and wellness managers with innovative pay-for-performance and gamified customer loyalty programs. Business model innovation with Chinese characteristics will be essential for health care system players to become truly customer-centric.

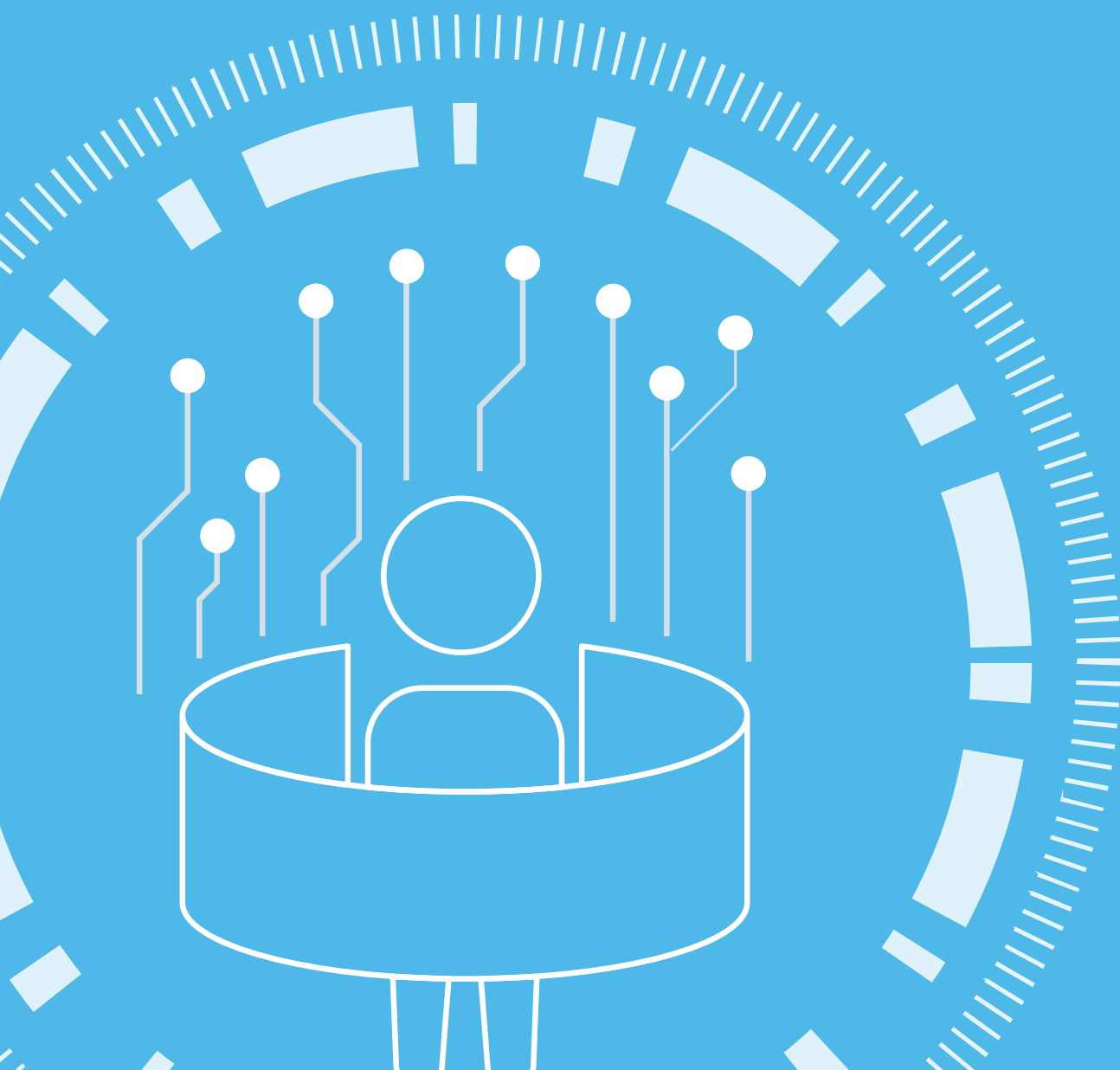


**Data, Technology & Analytics are becoming a core competency for health care system players**

In all scenarios, health data, as well as data analytics technologies, are required to generate individual and population health insights. Various data types—e.g., clinical trials, electronic health records, individual and population-wide real world health data, multi-omics, insurance claims data—will all be of critical value to health care players in products R&D and commercialization. In terms of data asset acquisition, all players will likely make efforts to instill more connectivity across different data sources and data types, and strengthen the integration of data to improve data quality; in terms of data asset application, all players will develop use cases rooted in health data with specific and measurable values to the health care system, and at the same time navigate China's complex and ever-evolving regulatory landscape of data access, privacy, safety, and ownership.

## Section 5

# Building China's Future of Health – Call for Actions







The four future scenarios described in this paper showcase fundamentally different pathways towards realizing the Healthy China 2030 aspiration. All require systemic transformations of the current health care system. We would like to finish with the following call to actions for both incumbents and disruptors as they collectively continue to shape this vital industry.

**Aspiring future of health players will have to foster boundless innovations rooted in multi-lateral collaborations.** With changing customer behaviors and increasing cross-sector participation, the health care as we know it will be re-defined as traditional boundaries

blur and even break down. As a result, all scenarios provide rich opportunities for new business models to reshape value creation/capture. Although certain stakeholders are more favored in certain scenarios than others, we do see cross-sector collaboration being a constant theme to drive truly impactful innovations. As a result, having a shared success mindset, actively seeking externalized innovation, and building the right organizational capabilities to enable value co-creation with ecosystem partners will be some of the key steps to take towards more disruptive innovations in the future of China's health care.



**Major digitization of operating and business models is required to fully embrace the new possibilities of digitized and shared health care.** Across all four scenarios, there are rich opportunities to leverage new technologies, such as AI, wearable devices, digital drugs, etc., to increase the efficiency of health delivery and to develop paradigm-changing health solutions. At the same time, data will also increase in importance and value, even becoming a source of competitive advantage for many players in each scenario. All players will have to critically evaluate their enterprise level digital agenda depending on their current digital maturity and what roles they want to play in the future health ecosystem. Although companies' digital maturity may vary greatly, there are several critical dimensions to consider for one's digital agenda, including digitization of operations, access to health data and insights, digitized products and solutions, as well as new business models.

**New and bold policies and regulations are required to catalyze the future health care systems.** Proactive policies and regulations are critical to the transformation of health care systems. They not only influence consumer health decisions but also impact health care players' business strategies. With care, policies can direct the power of these choices towards healthier and more sustainable health care consumption while increasing system resiliency. Policies can also strengthen integrated efforts in infrastructure, innovation, inflow of social and private capital, and other areas necessary to accelerate the transformation of health care. To really land those big, transformational changes described in the four scenarios, both policymakers and health care players will need to work together now more than ever.

- Policymakers have the opportunity to create an enabling environment for more disruptive innovations designed to address fundamental challenges in the health care system. This includes continued public funding of R&D, training of next generation health care talent, more progressive policies to encourage and reward innovations, and more openness towards the private health care sector. On the innovations front, policies that reward the underlying health economic benefits of a product rather than largely focusing on costs can encourage more players to bring their latest innovative products to market. That in turn will create enhanced trust from Chinese consumers and patients.
- Health care players, on the other hand, will need to more proactively collaborate with the government to shape a more forward-looking policy environment. Such collaboration can go beyond the simple advisory role to include substantive partnerships on policy effectiveness research, evidence-based prioritization of health care policies, as well as public-private partnerships to build regulatory assets (such as real world databases and technical standards).

**Social impact should be elevated to become a core design principle for future of health care solutions.** Regardless of the future scenarios, improving the accessibility to health care will always be required. Historically, social impact was largely viewed as a corporate responsibility through philanthropy. However, there is a real opportunity for social impact to drive more sustainable businesses for all players in the health care system.

- For health care product manufacturers, this translates into a more socially responsible commercialization path that grants consumers and patients more accessible, affordable, and high quality products.
- For health care providers, this means addressing the key care gaps in the system to meet the needs not only for the majority of patients, but also for those areas that are under-represented, such as rare diseases. They can also leverage more creative models to improve the accessibility to care in less developed regions, in the ways such as digital pathology, remote surgery, virtual consultation.
- For health care financing companies, such as insurance companies, this means developing funding models that can drive greater accessibility of health care, justly reflect the value of health solutions, and promote the healthy consumption of health care resources.
- Disrupters such as health technology companies will have to consider investing heavily in innovative, scalable solutions, such as telemedicine, on-demand health care services, and health and wellness social commerce to drive the democratization of health care across different demographics.

**Responsive and agile leadership is needed from all sectors in health ecosystem.** All future scenarios of health care described in this paper depend on agile and strong collaboration among all stakeholders in the ecosystem. This requires responsive and responsible leadership that manifests in the following ways:

- Build trust and transparency. In an increasingly dynamic market, the resiliency of health care systems depends on greater trust in governments, businesses and consumers, which must be earned through more responsible and transparent activities. For business, this means that short-term financial gains should not distract from long-term economic prosperity and social welfare. For government, it implies the need for policies that elevate inclusive social, economic, and environmental priorities for today and future generations.
- Exercise system leadership. Creating health care system transformation will require courageous leaders who take a holistic view of the challenges at hand, engage with diverse actors throughout the system to jointly tackle those challenges, and build new alliances to work towards shared goals. Leaders in business, policy and society must step up to cultivate a shared vision for our common aspirations, empower widespread innovation and action, and enable mutual accountability for progress.
- Collaborate across traditional silos. As this scenarios analysis indicates, to sustainably address China's health care needs by 2030 will require unprecedented innovation and coordination by all actors in the ecosystem. Multi-stakeholder collaboration will be needed to achieve joint aspirations, as will the engagement of diverse stakeholders in policy, businesses and key health care systems stakeholders – with particular attention to patients and consumers.

The health care system in China is evolving rapidly, while its long-term future remains highly uncertain. With the right influences and decisions, any scenario elaborated in this paper, or a combination of them, could happen by 2030 or even sooner. The time is now for all stakeholders in the extended health ecosystem to come further together. Collectively, stakeholders have an opportunity to not only get ready but also to shape China's 2030 health care system that can create more demands for domestic and global health care products, healthier competitions that drive more innovation and value recognition, and ultimately a system that improves the health status for the entire China, even global population.

# Endnotes

1. EIU
2. Statistic of Seventh National Census, [http://www.stats.gov.cn/tjsj/zxfb/202105/t20210510\\_1817176.html](http://www.stats.gov.cn/tjsj/zxfb/202105/t20210510_1817176.html)
3. United Nation, [https://population.un.org/wpp/Graphs/1\\_Demographic%20Profiles/China.pdf](https://population.un.org/wpp/Graphs/1_Demographic%20Profiles/China.pdf)
4. EIU
5. National Health Commission, 2021 China Health Statistical Yearbook
6. MORHSS, Statistic Bulletin of 2020 Human Resources and Social Security
7. China Economic News, "Commercial insurance will usher in new development opportunities", <https://finance.sina.com.cn/money/insurance/bxdt/2021-08-30/doc-iktzscyx1151449.shtml>, issued 30th August, 2021
8. The World Bank, <https://data.worldbank.org/indicator/SH.XPD.OOPC.CH.ZS>
9. China Association of Actuaries, "National Health Education Book on Prevention of Major Diseases", issued December, 2020
10. National Bureau of Statistic of China, China Statistical Yearbook 2021, <http://www.stats.gov.cn/tjsj/ndsjsj/2021/indexeh.htm>
11. EIU
12. Medical-legal Forum, "[Blockbuster] 2020 Big Data Report on National Medical Injury Liability Dispute Cases", <https://new.qq.com/omn/20210217/20210217A087QR00.html>, issued 18th February 2021
13. National Health Commission, 2021 China Health Statistical Yearbook
14. <https://www.worldometers.info/world-population/china-population/>
15. European Commission, Knowledge for policy-Growing consumption, [https://knowledge4policy.ec.europa.eu/growing-consumerism\\_en](https://knowledge4policy.ec.europa.eu/growing-consumerism_en)
16. NHC, *China's Health Statistics Yearbook*, [nhc.gov.cn/cms-search/xxgk/getManuscriptXxgk.htm?id=af8a9c98453c4d9593e07895ae0493c8](http://nhc.gov.cn/cms-search/xxgk/getManuscriptXxgk.htm?id=af8a9c98453c4d9593e07895ae0493c8), issued 13rd July, 2021
17. The Central People's Government, *Proposal of the CENTRAL Committee of the Communist Party of China on formulating the 14th Five-Year Plan for National Economic and Social Development and the long-term Goals for 2035*, [http://www.gov.cn/zhengce/2020-11/03/content\\_5556991.htm](http://www.gov.cn/zhengce/2020-11/03/content_5556991.htm), issued 3rd November, 2020
18. Deloitte & Meituan, *China Aesthetic Medicine Market Outlook*, <https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/life-sciences-health-care/deloitte-cn-lshc-china-aesthetic-medicine-market-outlook-zh-210113.pdf>, issued 13rd January, 2021
19. "Benefit the people insurance" summary in more than 100 cities across China, <https://post.smzdm.com/p/a3dr2zn5/>, issued 24th August, 2021
20. Sina Finance, *Why can't major disease Insurance be sold? Talk about the battle between prosperity and decay of major disease insurance* <https://finance.sina.com.cn/money/insurance/bxdt/2021-06-29/doc-ikqciyzk2589778.shtml>, issued 29th June, 2021
21. The National Healthcare Security Administration, Ministry of Human Resources and Social Security, *National Medical Insurance Drug List 2021* [http://www.nhsa.gov.cn/art/2021/12/3/art\\_14\\_7430.html](http://www.nhsa.gov.cn/art/2021/12/3/art_14_7430.html), issued 3rd December, 2021
22. The National Healthcare Security Administration, *Notice on continuing the work after the expiration of the agreement on the state-organized centralized procurement of drugs* [http://www.nhsa.gov.cn/art/2021/11/4/art\\_37\\_7315.html](http://www.nhsa.gov.cn/art/2021/11/4/art_37_7315.html), issued 4th November, 2021
23. The National Healthcare Security Administration, Ministry of Human Resources and Social Security, released the notice on *The catalogue of drugs for national basic medical insurance, work injury insurance and maternity insurance (2021)*, [http://www.nhsa.gov.cn/art/2021/12/3/art\\_37\\_7429.html](http://www.nhsa.gov.cn/art/2021/12/3/art_37_7429.html), issued 3rd December, 2021
24. The National Healthcare Security Administration, *Notice on the issuance of a three-year action plan for DRG/DIP payment mode Reform* [http://www.nhsa.gov.cn/art/2021/11/26/art\\_37\\_7406.html](http://www.nhsa.gov.cn/art/2021/11/26/art_37_7406.html), issued 26th November, 2021
25. CNNIC, "The 49th Statistical Report on Internet Development in China", <https://www.cnnic.net.cn/hlwfzyj/hlwxzbg/hlwjtbg/202202/P020220407403488048001.pdf>, issued 25th February, 2022
26. National Medical Products Administration, *Notice of initiating the response to general technical questions of Drug Evaluation and Inspection in the Yangtze River Delta Center and Greater Bay Area Center*, <https://www.cde.org.cn/main/news/viewInfoCommon/91024ad9fe3abeeee8e32dd67b3bdba0>, issued 30th April, 2021
27. CNBC, From 6G to big data, China is looking to boost tech's share of its economy, <https://www.cnbc.com/2022/01/18/china-looks-to-boost-techs-share-of-gdp-by-2025-through-6g-big-data.html>, issued 17 January 2022
28. Information Professional Committee of China Hospital Association, "2019-2020 China Hospital Informatization Survey for Hospital Information Technology Leaders", March 2021
29. Joshi, S. S., Shetty, Y. C., & Karande, S. (2019). Generic drugs - The Indian scenario. *Journal of postgraduate medicine*, 65(2), 67-69. [https://doi.org/10.4103/jpgm.JPGM\\_420\\_18](https://doi.org/10.4103/jpgm.JPGM_420_18)
30. Pharnex cloud, [https://pharnexcloud.com/zixun/trz\\_3541](https://pharnexcloud.com/zixun/trz_3541)
31. BOC International, "AI aids new drug development report series—Look into industry trends and grasp investment opportunities: (1)AIDD chapter", [https://pdf.dfcfw.com/pdf/H3\\_AP202109031513955656\\_1.pdf?1630758964000.pdf](https://pdf.dfcfw.com/pdf/H3_AP202109031513955656_1.pdf?1630758964000.pdf), issued 3rd September 2021
32. Deloitte, *Internet Hospitals in China: The new step into digital healthcare*, 2021

# Authors and Contacts

## Main author

### David Xie

#### Consulting Partner

China Life Sciences & Health Care

Email: daxie@deloitte.com.cn

## Co-authors

### Jiaming Li

#### Chief Strategy Officer

China Consulting

Email: jiamli@deloitte.com.cn

### Lei Duan

#### Consulting Partner

China Financial Services

Email: lduan@deloitte.com.cn

## Contributing authors

### Andrew Yu

#### Consulting Leader

China Life Sciences & Health Care

Email: andryu@deloitte.com.cn

### Pi Tingting

#### Consulting Partner

China Life Sciences & Health Care

Email: tpi@deloitte.com.cn

### Carrie Xiao

#### Consulting Partner

China Life Sciences & Health Care

Email: carriexiao@deloitte.com.cn

### Jerry Li

#### Consulting Partner

China Life Sciences & Health Care

Email: jerryli@deloitte.com.cn

## Acknowledgements

We would like to thank the global team Neal Batra, Sebastian Sanchez, Justine O'Neill, Elizabeth Henry, and China LSHC team Jens Ewert, Linda Pu, Tony Lin for their overall contributions to this white paper.

## Deloitte China LSHC Industry Leadership Team

### Jens Ewert

#### Industry Leader

China Life Sciences & Health Care

Email: jensewert@deloitte.com.cn

### David Yu

#### Audit & Assurance Leader

China Life Sciences & Health Care

Email: davyu@deloitte.com.cn

### Andrew Yu

#### Consulting Leader

China Life Sciences & Health Care

Email: andryu@deloitte.com.cn

### Bill Yang

#### Financial Advisory Leader

China Life Sciences & Health Care

Email: bilyang@deloitte.com.cn

### Travis Zhu

#### Risk Advisory Leader

China Life Sciences & Health Care

Email: trazhu@deloitte.com.cn

### James Zhao

#### Tax Advisory Leader

China Life Sciences & Health Care

Email: jazhao@deloitte.com.cn

# Office locations

## Beijing

12/F China Life Financial Center  
No. 23 Zhenzhi Road  
Chaoyang District  
Beijing 100026, PRC  
Tel: +86 10 8520 7788  
Fax: +86 10 6508 8781

## Changsha

20/F Tower 3, HC International Plaza  
No. 109 Furong Road North  
Kaifu District  
Changsha 410008, PRC  
Tel: +86 731 8522 8790  
Fax: +86 731 8522 8230

## Chengdu

17/F China Overseas  
International Center Block F  
No.365 Jiaozi Avenue  
Chengdu 610041, PRC  
Tel: +86 28 6789 8188  
Fax: +86 28 6317 3500

## Chongqing

43/F World Financial Center  
188 Minzu Road  
Yuzhong District  
Chongqing 400010, PRC  
Tel: +86 23 8823 1888  
Fax: +86 23 8857 0978

## Dalian

15/F Shenmao Building  
147 Zhongshan Road  
Dalian 116011, PRC  
Tel: +86 411 8371 2888  
Fax: +86 411 8360 3297

## Guangzhou

26/F Yuexiu Financial Tower  
28 Pearl River East Road  
Guangzhou 510623, PRC  
Tel: +86 20 8396 9228  
Fax: +86 20 3888 0121

## Hangzhou

Room 1206  
East Building, Central Plaza  
No.9 Feiyunjiang Road  
Shangcheng District  
Hangzhou 310008, PRC  
Tel: +86 571 8972 7688  
Fax: +86 571 8779 7915

## Harbin

Room 1618  
Development Zone Mansion  
368 Changjiang Road  
Nangang District  
Harbin 150090, PRC  
Tel: +86 451 8586 0060  
Fax: +86 451 8586 0056

## Hefei

Room 1506, Tower A China Resource Building  
No.111 Qian Shan Road  
Shu Shan District  
Hefei 230022, PRC  
Tel: +86 551 6585 5927  
Fax: +86 551 6585 5687

## Hong Kong

35/F One Pacific Place  
88 Queensway  
Hong Kong  
Tel: +852 2852 1600  
Fax: +852 2541 1911

## Jinan

Units 2802-2804, 28/F  
China Overseas Plaza Office  
No. 6636, 2nd Ring South Road  
Shizhong District  
Jinan 250000, PRC  
Tel: +86 531 8973 5800  
Fax: +86 531 8973 5811

## Macau

19/F The Macau Square Apartment H-L  
43-53A Av. do Infante D. Henrique  
Macau  
Tel: +853 2871 2998  
Fax: +853 2871 3033

## Nanchang

Unit 08-09, 41/F Lianfa Plaza  
No.129 Lv Yin Road  
Honggutan District  
Nanchang, 330038  
Tel: +86 791 8387 1177

## Nanjing

40/F Nanjing One IFC  
347 Jiangdong Middle Road  
Jianye District  
Nanjing 210019, PRC  
Tel: +86 25 5790 8880  
Fax: +86 25 8691 8776

## Ningbo

Room 1702 Marriott Center  
No.168 Heyi Road  
Haishu District  
Ningbo 315000, PRC  
Tel: +86 574 8768 3928  
Fax: +86 574 8707 4131

## Sanya

Floor 16, Lanhaihuating Plaza  
(Sanya Huaxia Insurance Center)  
No. 279, Xinfeng street  
Jiyang District  
Sanya 572099, PRC  
Tel: +86 898 8861 5558  
Fax: +86 898 8861 0723

## Shanghai

30/F Bund Center  
222 Yan An Road East  
Shanghai 200002, PRC  
Tel: +86 21 6141 8888  
Fax: +86 21 6335 0003

## Shenyang

Unit 3605-3606,  
Forum 66 Office Tower 1  
No. 1-1 Qingnian Avenue  
Shenhe District  
Shenyang 110063, PRC  
Tel: +86 24 6785 4068  
Fax: +86 24 6785 4067

## Shenzhen

9/F China Resources Building  
5001 Shennan Road East  
Shenzhen 518010, PRC  
Tel: +86 755 8246 3255  
Fax: +86 755 8246 3186

## Suzhou

24/F Office Tower A, Building 58  
Suzhou Center  
58 Su Xiu Road, Industrial Park  
Suzhou 215021, PRC  
Tel: +86 512 6 9 1238  
Fax: +86 512 6762 3338 / 3318

## Tianjin

45/F Metropolitan Tower  
183 Nanjing Road  
Heping District  
Tianjin 300051, PRC  
Tel: +86 22 2320 6688  
Fax: +86 22 8312 6099

## Wuhan

Unit 1, 49/F  
New World International Trade Tower  
568 Jianshe Avenue  
Wuhan 430000, PRC  
Tel: +86 27 8538 2222  
Fax: +86 27 8526 7032

## Xiamen

Unit E, 26/F International Plaza  
8 Lujiang Road, Siming District  
Xiamen 361001, PRC  
Tel: +86 592 2107 298  
Fax: +86 592 2107 259

## Xi'an

Room 5104A, 51F Block A  
Greenland Center  
9 Jinye Road, High-tech Zone  
Xi'an 710065, PRC  
Tel: +86 29 8114 0201  
Fax: +86 29 8114 0205

## Zhengzhou

Unit 5A10, Block 8, Kineer Center  
No.51 Jinshui East Road  
Zhengdong New District  
Zhengzhou 450018, PRC  
Tel: +86 371 8897 3700  
Fax: +86 371 8897 3710





#### About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms, and their related entities (collectively, the “Deloitte organization”). DTTL (also referred to as “Deloitte Global”) and each of its member firms and related entities are legally separate and independent entities, which cannot obligate or bind each other in respect of third parties. DTTL and each DTTL member firm and related entity is liable only for its own acts and omissions, and not those of each other. DTTL does not provide services to clients. Please see [www.deloitte.com/about](http://www.deloitte.com/about) to learn more.

Deloitte is a leading global provider of audit and assurance, consulting, financial advisory, risk advisory, tax and related services. Our global network of member firms and related entities in more than 150 countries and territories (collectively, the “Deloitte organization”) serves four out of five Fortune Global 500® companies. Learn how Deloitte’s approximately 345,000 people make an impact that matters at [www.deloitte.com](http://www.deloitte.com).

Deloitte Asia Pacific Limited is a company limited by guarantee and a member firm of DTTL. Members of Deloitte Asia Pacific Limited and their related entities, each of which are separate and independent legal entities, provide services from more than 100 cities across the region, including Auckland, Bangkok, Beijing, Hanoi, Hong Kong, Jakarta, Kuala Lumpur, Manila, Melbourne, Osaka, Seoul, Shanghai, Singapore, Sydney, Taipei and Tokyo.

The Deloitte brand entered the China market in 1917 with the opening of an office in Shanghai. Today, Deloitte China delivers a comprehensive range of audit & assurance, consulting, financial advisory, risk advisory and tax services to local, multinational and growth enterprise clients in China. Deloitte China has also made—and continues to make—substantial contributions to the development of China’s accounting standards, taxation system and professional expertise. Deloitte China is a locally incorporated professional services organization, owned by its partners in China. To learn more about how Deloitte makes an Impact that Matters in China, please connect with our social media platforms at [www2.deloitte.com/cn/en/social-media](http://www2.deloitte.com/cn/en/social-media).

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms or their related entities (collectively, the “Deloitte organization”) is, by means of this communication, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser.

No representations, warranties or undertakings (express or implied) are given as to the accuracy or completeness of the information in this communication, and none of DTTL, its member firms, related entities, employees or agents shall be liable or responsible for any loss or damage whatsoever arising directly or indirectly in connection with any person relying on this communication. DTTL and each of its member firms, and their related entities, are legally separate and independent entities.

© 2022. For information, please contact Deloitte China.  
Designed by CoRe Creative Services. RITM0915132



This is printed on environmentally friendly paper