McKinsey&Company

China Healthcare

Healthcare in China: ‘Entering uncharted waters’

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Healthcare in China: 'Entering uncharted waters'

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China's healthcare sector continues to develop at an astonishing rate. The nation's healthcare spending is projected to grow from $357 billion in 2011 to $1 trillion in 2020. Across key categories, from pharmaceuticals to medical products and consumer health, China remains one of the world's most attractive markets, and is by far the fastest-growing of all the large emerging markets. It is not surprising that multinationals are flocking to take advantage of the opportunities, but long-term success for all participants is by no means assured. Although we remain optimistic about the overall outlook for the healthcare market in China, we believe it will become more difficult for multinationals to compete. We expect a clearer separation between winners and laggards, and late entrants could face a struggle to achieve real traction.

At a high level of analysis, three themes will shape China's healthcare market in the coming years: the continuation of economic and demographic trends, further healthcare reform, and the policies articulated in the government's 12th Five-Year Plan (FYP). Some of these forces will have positive implications for multinational companies, for example, improvements in infrastructure, the broadening of insurance coverage, and significant support for innovation. Some of them will have negative implications, for example, pressures on pricing, and the rise of local champions. In some situations the forces come into direct opposition, for example, in the bid to reconcile universal healthcare coverage at low cost with rewarding innovation. To paraphrase vice-premier Li Keqiang, the country's healthcare system reform has entered "uncharted waters."[1]

In this context we identify eight principles that are essential for long-term success in China's healthcare market. Although we are not suggesting that these principles comprise a one-size-fits-all prescription for success, ambitious multinationals should nonetheless consider them when formulating their China strategies for the coming decade.

The forces behind a *bona fide* boom in China's healthcare market

Healthcare companies have celebrated China's robust market in recent years; it is a bright spot compared with the lackluster markets they have had to contend with in many other countries.

What a difference just a few years can make. Strong growth in the healthcare sector is fueled by favorable demographic trends, continuing urbanization, increasing disease burdens, the healthy expansion of the overall economy, growth in incomes which allow greater awareness of and access to treatments, and the government's focus on healthcare as both a social priority (as seen in the 2009 healthcare reform) and a strategic one (in the 12th FYP on

1 Li Keqiang made this remark during the China national conference on the deepening healthcare reforms as China's vice-premier and leader of overall healthcare reform agenda.

Exhibit 1: What a difference five years have made

		2006	2011
Overall	Total healthcare expenditure	$156 bn	$357 bn
	Per capita healthcare expenditure	$119	$261
	Population with health insurance	43%	95%
Pharma-ceuticals	Market ▪ Size[1] ▪ Global ranking	▪ $27 bn ▪ Number 9	▪ $71 bn ▪ Number 3
	Combined revenues of top 10 pharmaceutical multinationals	$4 bn	$10 bn
	Number of sales reps from top -10 multinationals	6,000	25,000
Other categories	Traditional Chinese Medicine, market size[1]	$6 bn	$13 bn
	Vaccines, market size[1]	~$1[2] bn	~$2 bn
Medical products	Market ▪ Size[1] ▪ Global ranking	▪ $8 bn ▪ Number 6	▪ $20 bn ▪ Number 3

1 Value measured at ex-manufacturer price
2 Year 2007
Note: At a constant exchange rate of $1 = 6.3 renminbi

Source: Ministry of Health year book; SFDA Southern Medical in Economics Research Institute; industry association; literature search; McKinsey analysis

biomedical industry). Expenditures on healthcare have more than doubled, from $156 billion in 2006 to $357 billion in 2011, inching closer to 5 percent of the country's gross domestic product (GDP). From pharmaceuticals to medical devices to traditional Chinese medicine (TCM), virtually every health sector has benefited (Exhibit 1).

The size and the sustained momentum that are resulting from these shifts have given China new prominence among multinational healthcare companies. For several leading pharmacos, such as Bayer HealthCare and Novo Nordisk, China already ranks among the top three markets in total revenue contribution. Others expect China to reach that ranking by 2015 and already see China as their number-one contributor of absolute revenue growth. Medical devices and equipment companies, such as GE Healthcare and Philips, have built China businesses that now have annual revenues of more than $1 billion, and they are still expanding rapidly.

The steady growth of China's market stands in stark contrast with those of the United States, Japan, and Western Europe; these have traditionally been the focus of healthcare companies, but are less attractive now that the companies are having to contend with declining R&D productivity, the ongoing expiration of patents for many blockbuster drugs, and significant pressure on costs as governments clamp down on spending. Many companies have resorted to rounds of downsizing, shrinking their R&D and manufacturing footprints, as well as their commercial operations, especially in the United States and Europe.

It is therefore not surprising that multinationals are ramping up their investments in China, tapping into the huge population's unmet needs, the nation's manufacturing and emerging R&D ecosystem, and the government's support for the biomedical industry. Following the early movers that started investing heavily more than a decade ago (for example, AstraZeneca), other large global pharmacos, including Merck, GlaxoSmithKline, and Eli Lilly, have embraced the China growth story, significantly increasing their commitments over the past five years. Since 2006, 13 of the top 20 pharmacos have established R&D centers in China, and several have announced major manufacturing investments. On the commercial side, China's 10 largest multinational pharmacos now field a total sales force numbering more than 25,000, even as they have downsized sales forces in the United States and Europe. According to recent research by Cegedim, China has now overtaken the United States in terms of the total number of pharmaceutical medical sales representatives employed by multinationals.

Medical devices companies are not far behind, and on some dimensions are even leading the way: for example, GE Healthcare, Medtronic, Johnson & Johnson, and Covidien are setting up or expanding R&D centers and manufacturing sites, and are pushing ambitious strategies to expand their market reach.

China's rise in prominence has prompted organizational changes, too. A few companies, of which Baxter is an example, have moved their Asia-Pacific regional headquarters to Shanghai. Some have even relocated the global headquarters for select business units to China: GE's X-ray business and Bayer's business for general medicine, for example. Roche is planning to make Shanghai one of three global strategic-operations centers, alongside Basel and San Francisco. Many companies have changed their reporting lines such that their China operations report directly to the chief executive or to the global head of pharmaceuticals or medical devices.

Further cementing China's new status, the nation is the focus of presentations by multinationals to the healthcare investment community, with executives keen to promote the China success story as a counterpoint to flat sales and declining investments in Europe and North America.

Time for a reality check?

China is still in the early stages of its economic and social development. Extraordinary boom times have been the backdrop for significant investment, but at this point multinationals should be prudent, stepping back and considering the forces that may impact the attractiveness of the China market in the years ahead.

Healthcare reform is progressing with significant government intervention in areas such as pricing; competition from local companies is intensifying; and the pace of the nation's economic growth is easing. In this context, several questions arise. Will China deliver on high expectations of growth? Are companies being too bullish? Are they investing at the right pace and scale? Have they adapted their operating models sufficiently to match local conditions? Have they identified and evaluated the many challenges ahead, and are they prepared to address them?

Overall, we remain optimistic about the outlook for healthcare in China. With expenditure projected to grow from $357 billion in 2011 to $1 trillion in 2020, China remains one of the world's most attractive healthcare markets and offers by far the largest growth opportunity of all the large emerging markets. However, we believe that it will become more difficult, even for large-scale operators, to compete. We anticipate the increasing divergence of winners and laggards, and it will become harder for late entrants to gain traction.

In the coming years, China's healthcare market will be shaped by the three macro-trends of continued economic and demographic development, further healthcare reform, and the direction of the nation's 12th FYP (Exhibit 2). Here we look at each in turn.

Economic and demographic development: Strong support for volume growth

Growth in demand for care will remain strong for several reasons. First, chronic conditions such as diabetes and hypertension are proliferating rapidly, as the population ages, as many more people move to cities, and as their lifestyles change. The *New England Journal of Medicine* reported in 2010 that there are already 92 million diabetic patients and a further 150 million prediabetics in China. By comparison, the United States has 26 million diabetic patients. The proportions of urban and elderly in the population are predicted to continue to increase. The McKinsey Global Institute (MGI) projects that 61 percent of China's total population will be urbanized by 2020, up from 52 percent in 2012, as 142 million people migrate from the countryside to cities. The population of those aged 65 and older will almost double by 2030, from the current 122 million to 223 million.

Exhibit 2: Three major forces are shaping the direction of healthcare in China

Source: McKinsey analysis

Exhibit 3: Growth in the future will be supported by increased ability to pay by urban households

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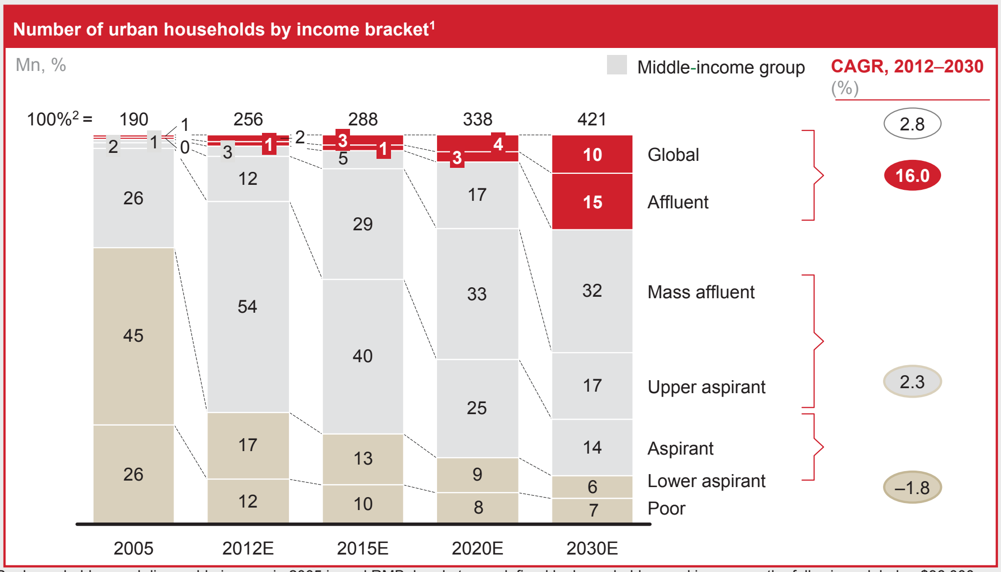


1 Per household annual disposable income in 2005 in real RMB; brackets are defined by household annual income as the following: global: > $36,000; affluent: $27,000–$36,000; mass affluent: $18,000–$27,000; upper aspirant: $13,000–$18,000; aspirant: $7,000–$13,000; lower aspirant: $4,000–$7,000 RMB; poor: < $4,000
2 At a constant exchange rate of $1 = 6.3 renminbi
Note: As a result of rounding, totals may not equal 100
Source: McKinsey Insights China – Macroeconomic model update (Apr 2012)

A second basis for growth in the demand for care is the increasing incomes and more extensive insurance coverage that will steadily improve patients' ability to pay. The urban, middle-class population (defined by MGI as households with annual disposable income ranging from $7,000 to $27,000) is projected to increase from 29 percent of urban households in 2005 to 75 percent in 2020, and the upper-class group from 1 percent to 7 percent (Exhibit 3).

The third is that many highly prevalent and burdensome conditions such as depression, respiratory illness, and cancer remain underdiagnosed and undertreated in China. Better and

Exhibit 4: Healthcare reform, looking to 2020, focuses on five near-term improvement areas

Overall objective 2020	Establish a basic universal healthcare system that provides safe, effective, convenient, and low-cost healthcare services

5 areas prioritized to seek improvements in the near term

- Medical insurance
  Expand basic medical-insurance programs
- Drug supply security
  Establish national essential drug system
- Medical-service provision
  Develop primary healthcare service system
- Public health service
  Provide equal access to urban and rural residents
- Operating environment
  Accelerate public hospital reform

Source: Healthcare reform 12th Five-Year Plan; McKinsey analysis

earlier diagnosis, combined with higher rates of treatment and compliance to therapies, will significantly expand the volume of patients and improve the clinical benefits of drugs.

Healthcare reform: A top national priority with wide-ranging impact

China's healthcare reform began in earnest in 2009. This far-reaching transformation of the system is expected to be completed by 2020 (Exhibit 4). Progress, already significant, is particularly impressive in areas such as the development of infrastructure in lower-tier cities and rural areas of China, and enrollments in insurance schemes, through which some form of insurance coverage is now provided to more than 95 percent of the population.[2] Elsewhere several key aspects of the reform are still bogged down: programs such as the Essential Drug List (EDL) and the overall reform of public hospitals (for example, with regard to funding mechanisms) are experiencing significant challenges to their implementation. In a speech delivered in late 2011, Li Keqiang underscored the government's commitment to bolstering healthcare reform, whose goal is "to establish a universal basic healthcare system providing safe, effective, convenient, and low-cost healthcare services by 2020". However, he acknowledged the challenges of the process, particularly with regard to public hospital reform (Exhibit 5).

We believe that the next stage of the reform could have a major impact on aspects of the healthcare system that range from insurance coverage and market access to development of the primary care infrastructure. Here we examine each aspect in further detail.

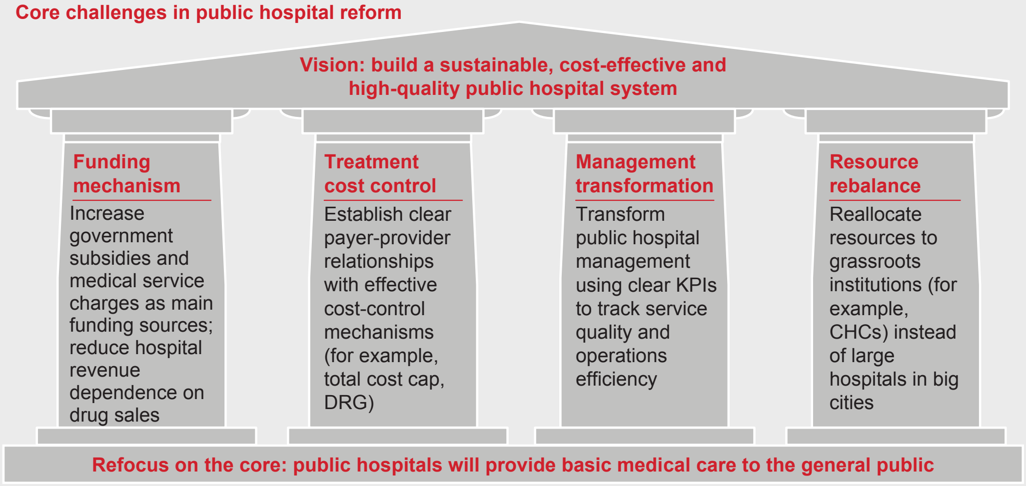
Insurance coverage: broader, but how deep can it reach?

In a few short years, China's government insurance programs have extended their coverage to more than 95 percent of the population.[2] The coverage remains basic rather than elaborate, however. For example, one-third of the country's provinces still do not provide basic medical insurance (BMI) universal outpatient coverage; of those that do, the coverage provided is

2 According to official government statistics, public health insurance had achieved a 95 percent coverage of the population by the end of 2011; the actual figure is likely to be lower because people with multiple types of public health insurance would sometimes have been counted more than once.

Exhibit 5: Public hospital reform, the overhaul of the mainstay of China's medical institutions, remains healthcare reform's most challenging aspect

"The Healthcare Reform is now wading into **uncharted waters**… We will push, in an orderly manner, **pilot programs** in important areas of public hospital reform [and others such as EDL] in the next few years."
– Li Keqiang, Executive Vice-Premier, State Council of the People's Republic of China, Nov 2011



Note: DRG = diagnosis-related group; EDL = Essential Drug List; CHC = community health center; KPI = key performance indicator.

Source: McKinsey analysis

limited, as in Shanghai, where outpatients are covered but with 30 to 50 percent copayments and a $240 deductible. Patients' out-of-pocket expenses remain high overall because there are strict reimbursement caps and little or no reimbursement for expensive drugs.

At the same time, existing insurance schemes are already under pressure as provinces cope with a mismatch between contributing and noncontributing populations, as well as the demand that the rapidly aging population is placing on their resources. For example, the Shanghai government has capped the year-on-year increase in BMI funding to 7 percent in 2011 and has limited pharmaceutical spending as a percentage of the BMI funding to 42 percent, down from 45 percent in the previous year. This is particularly striking, given that Shanghai is one of the nation's wealthiest cities. Similar policies aimed at containing rapidly-rising healthcare costs are being introduced around the country, leading to situations in which pharmaceutical companies find that their drugs are periodically restricted when hospitals manage their own limited budgets.

Now that the national government has achieved remarkable progress in the breadth of insurance coverage, it will likely focus on improving the quality of its provision to patients. Reimbursement copays will continue to decrease while annual caps continue to rise. For example, in order to further reduce inpatient copays and raise the annual cap, central-government funding for the New Rural Cooperative Medical Scheme (NRCMS), which covers more than 800 million people, will increase from $20 per person annually to $40. Outpatient coverage will also improve, with more provinces introducing universal outpatient coverage and more diseases being included in reimbursement schemes for treatment of outpatients with chronic diseases. However, as is the case around the world, increased government contribution to healthcare spending will also lead to a greater focus on controlling spending growth and increasing levels of intervention at various points of the healthcare system.

Market access: getting more complex

Multinationals have to contend with a market-access environment that is becoming more complex. Spanning the whole range of commercial activities—product registration, reimbursement, tendering, pricing, and distribution—the market-access picture in China is one of increasing fragmentation, with variations in access conditions at the provincial, the city, and even the hospital level. This affects pharmaceutical and medical products companies alike.

For pharmaceutical companies, the increasing complexity and uncertainty stem from the growth in the number of reimbursement categories and the continued government pressure to reduce prices and ease the burden on patients. Most pharmacos' product portfolios include plenty of drugs that are on the all-important National Reimbursement Drug List (NRDL), and some have quite high exposure on the EDL. Many expect contributions from new drugs to increase significantly by 2020. For example, 12 of the top 15 multinational pharmacos derive more than half of their sales in China from drugs on the current NRDL, while for 6 of the top 15 pharmacos, sales of EDL-listed molecules account for more than 10 percent. Each category (NRDL, EDL, and new drugs) will see different pricing trends. The NRDL will see continued pressure on the price premiums that are granted to drugs from multinational companies, the EDL will expand in scope, and reference pricing could impact the pricing of new drugs at launch. (See sidebar, *Pharmaceutical pricing: Under pressure.*)

For medical products companies, uncertainties result from the more stringent product registration processes, changes in the tendering process, the fragmentation of reimbursement, and increased scrutiny of pricing. Tendering, for example, which has historically been quite fragmented, has recently been moved to the provincial level with a readily observable impact. In 2011, Guangdong and Henan held provincial tenders that led to price cuts of 20 to 30 percent in several categories of medical products. The Beijing government is said to be aiming for 20 to 30 percent price reductions on high-value consumables such as drug-eluting stent products.

China's system of service charges and reimbursement adds to the complexity. Policies in these areas are formulated and applied at the local level and will likely remain in force for a while. For example, usage fees for an energy-based surgical-device procedure range from 200 renminbi in Yantai to 30 renminbi in Changzhou, and in Shenyang the process is not chargeable. Similarly, reimbursement for medical products varies by city, and the processes for obtaining reimbursement vary significantly at the local level. The decentralized reimbursement process can involve even hospital-specific policies. For example, at the beginning of 2012, Xuanwu Hospital was the only hospital in Beijing that had managed to secure reimbursement for computed-tomography-guided radio-frequency ablation.

Primary care infrastructure: quickly emerging

The chronic imbalance of resources has long been a problem in China's healthcare system. The largest Class 3 hospitals in big cities (about 1,350 institutions in all) tend to have the highest-quality physicians and equipment, and capture the lion's share of patient flows. By contrast, grassroots facilities such as urban community health centers (CHCs) and county hospitals tend to be underdeveloped, poorly funded, and disconnected from larger hospitals. This gap impedes the achievement of the strategic goal of broad and effective care. Patients are inclined to visit the best hospitals in the largest cities, regardless of the severity of their illnesses; this causes overcrowding at the big hospitals and underutilization at the grassroots facilities.

One major goal of healthcare reform, therefore, is to develop a primary care infrastructure that includes development of CHCs and community health stations (CHSs), combined with a three-tier rural medical network comprising county hospitals, township health centers (THCs), and village clinics. The government also aims to improve the service standards and quality of primary care institutions (primarily through the education and training of general practitioners) and to establish a two-way referral system between primary care facilities and hospitals.

Reform efforts to date have included the significant development of grassroots infrastructure, with the number of urban CHCs/CHSs, increasing by 20 percent in 2010 and affluent regions seeing even faster development. For example, Zhejiang and Beijing have, on average, respectively 168 and 119 CHCs/CHSs per million urban residents, compared with 17 in Guangxi and 22 in Yunnan. This gap will likely shrink as underdeveloped regions invest to catch up.

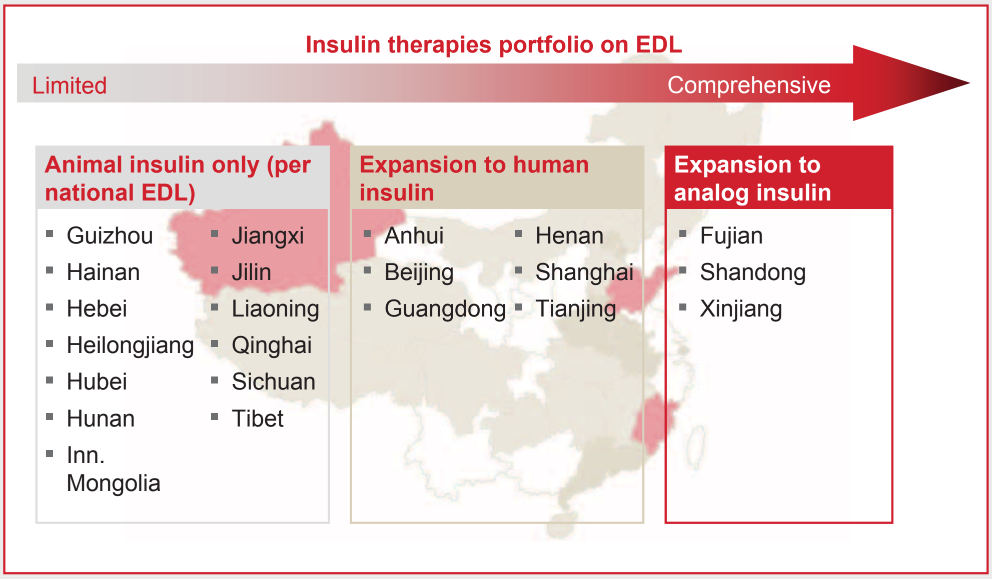
The government has also been working to improve physician quality at primary care institutions. For example, the Central Government Healthcare Reform Office recently announced that on-the-job training of urban community-health physicians is being rolled out across the country, and that 5,000 physicians are being trained and will be sent to support the

Pharmaceutical pricing: Under pressure

NRDL drugs: a gradual phase-out of price premiums? The premium enjoyed by those drugs that have separate pricing will likely be moderated. In recent years, the National Development and Reform Commission (NDRC) has announced several rounds of price-cuts in all major treatment areas. We expect the price-cutting to continue and probably intensify. Specifically, there are new assessments of separate pricing, a policy that has given multinational off-patent originator drugs a price-premium over local generics. The draft NDRC pricing policy suggests that the permitted premium (currently as high as ten-times that for the generic counterpart) will be reduced to 30 percent for newly off-patent drugs and likely to 50 to 100 percent for drugs that are already off patent. Significant variances across brands could persist, however.

EDL drugs: a race to the bottom? Since its introduction in 2009, the EDL has been a source of major uncertainty for many companies, both multinationals and local pharmacos. On paper, the EDL offered multinationals the hope of accessing a much broader market and the threat of significant price-cuts that damaged their capacity to compete with local companies. Today, the government is determined to implement the EDL in all grassroots institutions. With the increasing adoption of the Anhui EDL tendering model, price pressure is intensifying. Furthermore, feedback from patients and healthcare providers suggests that the current 307-molecule national EDL is insufficient. In fact, many provinces have adjusted the national EDL, adding human insulin and even basal insulin, for instance, and the government is now openly discussing the move to a list of more than 800 molecules, with an initial increase to more than 400 this year (Exhibit). It is still not clear how the central government's guidelines will be implemented at the provincial level. On the one hand, there are increasing concerns over the quality of drugs that win tenders under the Anhui model. Local companies that have won EDL tenders on the basis of very low bids have been found to be in violation of China's Good Manufacturing Practice (GMP) standards, and the State Food and Drug Administration (SFDA) has highlighted the importance of 'enhancing

Exhibit: The national EDL references only animal insulin, but several provinces have included a much broader diabetes portfolio in their EDLs



Source: GBI; Interviews; McKinsey analysis oversight of drugs that won tenders based on below-cost prices'. On the other hand, the central government is exploring ways to refine the tendering approach: for example, by piloting uniform pricing for EDL products. Local governments have also explored ways to customize the Anhui model in order to increase the impact of quality in the evaluation process. For example, Shanghai and Jiangsu have introduced tiers for different levels of drug quality in the EDL tendering process, which is allowing higher-quality (and higher-cost) drugs to win EDL tenders. We are optimistic that, over time, the provinces will acknowledge the advantages of EDL drugs with separate pricing and will develop ways to ease market access for drugs of higher quality.

New drugs: high prices, but for how long?
There is still favorable pricing for new drugs introduced into China, despite two critical drawbacks: namely, the need for time-consuming local registration trials (the clinical trials application process alone still takes the better part of a year) and the slow updating of the national reimbursement system. Updates of the NRDL remain infrequent, meaning that five years can elapse between a product launch and actual reimbursement. This situation contrasts with neighboring Asian countries, such as South Korea, where pricing is scrutinized closely at launch but reimbursement is provided much more quickly. Although China's government has not yet taken a position on this topic, it seems inevitable that some type of harmonization through reference-pricing will occur in the medium term. Companies still have relatively good flexibility in their pricing of newly-patented drugs, but the application process and timing will become increasingly complex. In Shanghai, for example, applications concerning new drugs that have higher prices than those of comparable competitors will be subject to review by a panel of experts (adding about 20 percent to processing time) and to more stringent data requirements.

Central-Western region's THCs. These improvements will of course take time, so the significant gap in quality between grassroots facilities and large hospitals will persist for a while.

Although the government is wasting no effort to build up primary care institutions and is providing more incentives for patients to use them, the success of the initiative will ultimately rest on improving the quality of physicians and other medical personnel working there, the availability of effective drugs that patients can trust, and the creation of integrated networks between primary and tertiary institutions for the effective management of patient flow. Clearly, these developments will take some years to play out.

The 12th FYP: The biomedical sector as a strategic industry

In its 12th FYP, which the State Council published in March 2011, China's government identifies the biomedical industry (broadly defined as including biologics and small-molecule pharmaceuticals and vaccines, as well as medical devices, diagnostics, and even TCM) as one of the nation's seven strategic industries. Collectively, these seven industries are expected to account for 8 percent of China's GDP by 2015 and 15 percent by 2020, up from 5 percent in 2010. Historically, government backing has significantly accelerated the growth of designated strategic industries: automotive is an example. With the central government's active commitment to the development of the biomedical industry and local governments quickly following suit, the biomedical sector is poised for rapid growth over the coming decades.

Since the State Council publication, various ministries, including the Ministry of Health (MoH), the Ministry of Science and Technology (MoST), and the Ministry of Industry and Information Technology (MIIT), have contributed their own 12th FYPs for the development of the biomedical industry, and additional detailed plans are expected (Exhibit 6). Collectively, the plans set ambitious objectives and assume that China will have the ability to climb the value chain in manufacturing and R&D at a rapid pace.

Exhibit 6: Multiple stakeholders in the Chinese government have released policies supporting the 12th Five-Year Plan

Government Body	Policy
State Council	▪ Policies to accelerate the development of bioindustry （促进生物产业加快发展的若干政策） ▪ State Council’s decision on cultivating and developing strategic emerging industries （国务院关于加快培育和发展战略性新兴产业的决定） ▪ Healthcare reform 12th Five-Year Plan （“十二五”期间深化医药卫生体制改革规划暨实施方案)
MoST	▪ National MLT science-and-technology development plan （国家中长期科技发展规划） ▪ National MLT biotechnology talent-development plan （国家中长期生物技术人才发展规划） ▪ Biotechnology 12th Five-Year Plan （“十二五”生物技术发展规划） ▪ Medical science 12th Five-Year Plan（医学科学发展“十二五”规划） ▪ Major new-drug-development project（重大新药创制专项） ▪ Science and technology international collaboration 12th Five-Year Plan（国际科技合作“十二五”专项规划） ▪ Science and technology innovation IPR 12th Five-Year Plan（科技创新知识产权工作“十二五”专项规划） ▪ Pilot plan to encourage the combination of science and technology and finance（促进科技和金融结合试点实施方案） ▪ Medical device technology industry 12th Five-Year Plan（医疗器械科技产业“十二五”专项规划）
MoH	▪ Healthcare 12th Five-Year Plan（“十二五”卫生发展的总体目标）
MIIT	▪ Pharmaceutical Industry 12th Five-Year Plan（医药工业“十二五”规划）
NDRC	▪ Bioindustry 12th Five-Year Plan （生物产业“十二五”规划）
SIPO	▪ IP talent 12th Five-Year Plan（知识产权人才“十二五”规划）
MoHRSS	▪ “Thousand Talent Plan”（“千人计划”） ▪ Returnee 12th Five-Year Plan（留学回国人员工作“十二五”规划）
SATCM	▪ Traditional Chinese medicine 12th Five-Year Plan (中医药事业发展“十二五”规划)

- **State Council** defines overall strategies
- **MIIT** – Details policy for pharmaceutical industry
- **MoH** – Details policy for healthcare system
- **MoST** – Details the technology aspect of biotech industry
- **NDRC** – Expected to take lead on biotech industry strategy

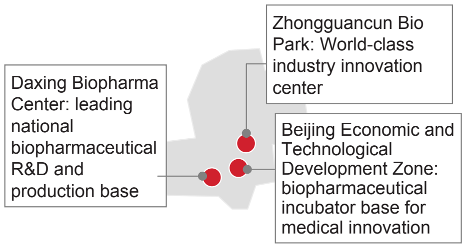
Note: MoST: Ministry of Science and Technology; MoH: Ministry of Health; MIIT: Ministry of Industry and Information Technology; NDRC: National Development and Reform Commission; SIPO: State Intellectual Property Office; MoHRSS: Ministry of Human Resources and Social Security; SATCM: State Administration of Traditional Chinese Medicine; MLT: mid to long term.

Source: Government agency announcements

Exhibit 7: Ambitious Five-Year Plans of local government for the bio-technology, pharmaceutical, and healthcare industries are being published

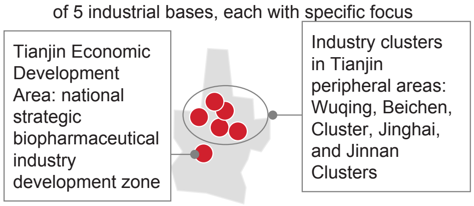
Beijing:

- **Goals** for 2015:
  - Total healthcare industry output: **130 bn RMB (CAGR = 24%)**
  - Establish **more than 100** R&D **centers** and national **labs**
  - **2-3** national new **Class I** drugs
  - New product output > 30% of total pharmaco output
- **Focused areas:**
  - Establish innovation and service platform
  - “Branded Generics Program”
  - Set up CRO centers and distribution centers
  - “Top 10 company Cultivating Program”
- **Industrial bases:**



Tianjin

- **Goals** for 2015:
  - Total healthcare industry output: **100 bn RMB** (chemical drugs: 50 bn RMB; traditional Chinese medicine: 16 bn RMB; Vaccines and biopharmaceuticals: 8 bn RMB; medical devices: 10 bn RMB; healthcare service: 21 bn RMB)
  - Establish **national leading industrial bases** for stem cell, medical device, traditional Chinese medicine and API manufacturing
  - 3 leading companies with revenue > 10 bn RMB
  - More than 100 healthcare products with revenues > 100 mn RMB
- **Industrial areas:**
  - Establish BinHai New Development Zone as national biopharmaceutical industrial base
  - Integrated biopharma development zone consisting of 5 industrial bases, each with specific focus



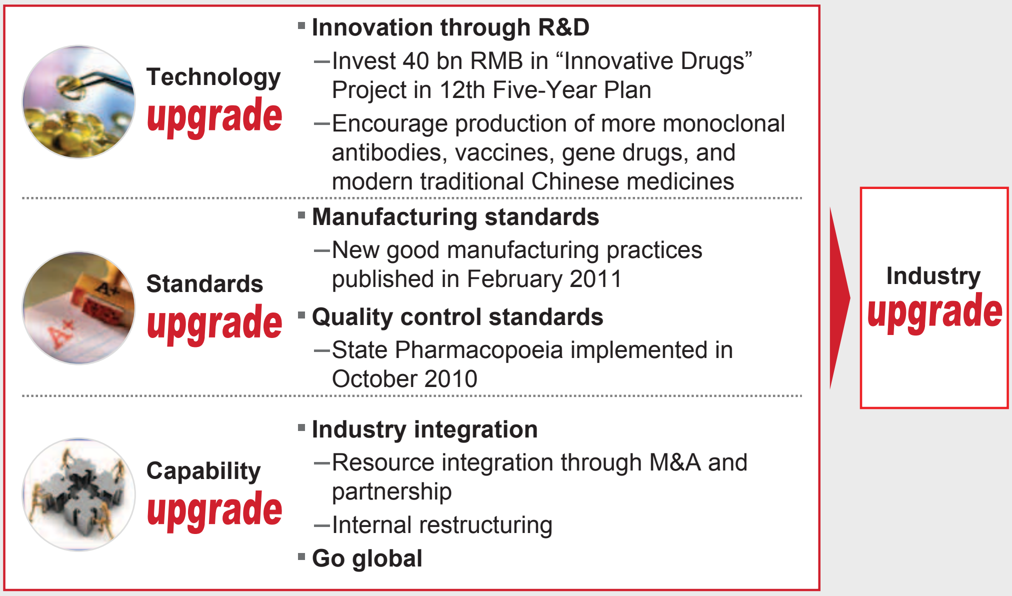
Source: Provincial 12th Five-Year Plan; McKinsey analysis

We lay out here a review of ways in which the new policies could play out in the biomedical industry.

Provincial governments will play major roles in implementing the FYP

While the central government can provide broad direction and support for policy changes, the actual implementation of far-reaching reform hinges on the actions of the provinces, where we are witnessing a burst of local investments and ambitious local plans. This activity is likely to lead to significant misallocation of resources, as well as the emergence of a few attractive clusters of biopharmaceutical expertise that will have a significant impact on the industry (Exhibit 7).

Exhibit 8: For the pharmaceutical industry, China's 12th Five-Year Plan puts the emphasis on "upgrade"



Source: Literature search; analyst reports; McKinsey analysis

Local companies will likely move up the value chain

The critical word in the plans released so far is *upgrade* (Exhibit 8). For example, new policies are stretching local companies by raising manufacturing standards: by 2016, all manufacturing lines must fully comply with the standards published in 2011. The government is encouraging rapid consolidation among the thousands of companies that are competing today: the call is for the top 100 pharmaceutical companies to account for 50 percent of total pharmaceutical sales in China by 2015 and for the top 10 wholesalers to account for 95 percent of drug distribution. The national government is also nurturing the emergence of large-scale generic-drug companies, pushing locals to partner with multinationals, to invest more in R&D, and to produce differentiated businesses in generics or biosimilars.

Local competitors will likely continue to try to capitalize on favorable government policy. Only a few will make serious attempts to expand outside China. It will take substantial resources, flawless execution, and great persistence for any of them to become legitimate global contenders.

Multinationals will increasingly team up with local companies

The government's push for healthcare reform and its 12th FYP, combined with unfavorable reimbursement for premium products and cost pressures at the largest hospitals, have prompted multinationals to look more closely at deepening or expanding their presence in China through partnerships and acquisitions, so as to compete in the lower-tier segments and to capture productivity gains.

To take advantage of the experience of local companies, several multinationals have teamed up with them in pharmaceuticals, consumer health, vaccines, and medical devices. Pfizer, for instance, is taking a three-pronged approach to orchestrating its expansion into the broader market. The company is planning a joint venture with Hisun, an active pharmaceutical ingredient (API) manufacturer, and will tap into Hisun's generic-drug portfolio and low-cost manufacturing and R&D capacity. At the same time, it has established a strategic partnership with Jointown Pharmaceutical Group, the third-largest distributor in China, through which it will expand its coverage of county hospitals and its reach in over-the-counter products. Pfizer has also partnered with Shanghai Pharma, making a $50 million investment in the Chinese partner's initial public stock offering.

Ultimately, the success of the biomedical plan will depend on the national government's ability to align the interests of many different stakeholders, and foster a policy environment that better supports innovation and quality without resorting to protectionist measures that are designed to support local champions. While progress in the next five years could prove underwhelming in some aspects of the plan (for instance, the ability to foster real innovation), observers should remember that China is playing a long-term game. We anticipate that China's current healthcare moves will extend far beyond the timeline of the 12th FYP. Furthermore, some market developments (for example, the development of vaccines or the biosimilars industry) could have implications reaching far beyond China, given the scale and speed of development of the Chinese market.

Eight principles for successful growth

The forces at work in China indicate that patient flows will continue their rapid increase, matched by a broadening and deepening market infrastructure. Patients' awareness of and access to modern treatments will increase, as will affordability. However, market access will become more complex, with real uncertainties around pricing trends. Local companies will move up the value chain and rapidly consolidate.

In this context, how should pharmaceutical and medical products multinationals approach the opportunity offered by China? Although each company's strategy is influenced by its global opportunities, portfolio shape, and mindset, and there is no one-size-fits-all answer, companies should heed eight principles that will be essential for success in China's healthcare market over the next decade (Exhibit 9).

1. Adopt a 'second home market' mindset

Although China's reform efforts have made great progress, the healthcare market is still in the early days of its development. The long-term winners will be the multinationals that adopt a "second home market" mindset when dealing with China. This involves setting the right aspirations (for revenue growth, profitability, and also innovation or contribution of sourcing to global operations), continuing to take the long view on investments, assigning more high-caliber talent to China, accelerating the development of certain functions in China (for example, market access and marketing), and carefully weighing the trade-offs in short- and medium-term revenues and profits.

2. Step up engagement with central and local governments to shape the environment

While the Chinese government is playing an active role in shaping the structure of the healthcare industry, differences in policy interpretation and implementation in various locations will continue to lead to variances in policy outcomes from one city or province to another. As a consequence, multinationals will need to understand the government's motivations, engage government stakeholders at central and local levels, and establish internal working models that enhance coordination across functions and locations. Successful companies will take calculated risks by actively shaping therapeutic areas or by partnering with local champions who are supported by the government. Novo Nordisk's moves give an example of effectiveness through their shaping and accelerating of the development of the diabetes market: their consistent investment across the value chain and significant engagement with the central and local governments increased awareness and built up capabilities, and led to their capturing a substantial share of the market.

3. Tailor business models to better address diverse market needs

Multinationals' businesses are growing more complex. Pharmacos' portfolios are diversifying, as they sell both innovative drugs and branded generics, and medical products companies are pursuing both high-end and midrange value segments. The multinationals' customer segments are evolving and expanding into more fragmented channels and lower-tier cities. A single standard business model cannot successfully address every market segment, so contenders must tailor their business models to fit each distinct opportunity. Such tailoring will

Exhibit 9: Eight principles for successful growth

	**Adopt a “second home market” mindset**
	**Step up engagement with central and local governments to shape the environment**
	**Tailor business models to better address diverse market needs**
	**Drive operational improvements to sustain the economic model**
	**Double down on the role of innovation**
	**Seek out bigger, bolder partnerships**
	**Invest in attracting and developing top talent, and build capabilities that are relevant to China**
	**Have a “through cycle” mentality**

Source: McKinsey analysis

need to address aspects such as portfolio definition, the leverage of distributors, commercial models and capabilities, governance models, and the expectations for returns.

4. Drive operational improvements to sustain the economic model

Until quite recently, improving commercial operating efficiencies has not been a high priority for many executives in China. However, rapidly-increasing labor costs, increasingly complex organizations with regional commercial variations, and renminbi appreciation against the US dollar (25 percent since 2006) have all put upward pressure on the costs of doing business. In parallel, pharmaceutical multinationals face mounting price pressure, especially for the mature brands that still account for the bulk of their China revenues, and medical products makers are facing increasing competition from rapidly improving local competitors. To protect the bottom line and to meet increasing expectations for operating profits, companies will need to scrutinize their cost structures, looking for ways to streamline operations and allocate resources more efficiently and with better informed trade-offs (for example, marketing spend allocation and use of third-party providers to expand reach at lower cost). To that end, some have begun to centralize select back-office functions, moving them to cities with lower costs, and to outsource entire functions.

5. ‘Double down’ on the role of innovation

Innovative new products will do much more to propel growth in China, given that mature products whose patents have expired will gradually take a significant hit on price and that poorly-differentiated medical products will swiftly suffer the erosion of their market share. Historically, multinationals have had mixed track records with their new product launches, often assigning too few resources to new product planning. Companies can no longer afford to stumble out of the gate. For several leading pharmaceutical multinationals, new products are expected to contribute a significant share of revenues: the goal is for new products to produce 20 to 30 percent of total sales by 2020 and a higher share of absolute growth. For medical products companies in particular, China could have a role in shaping global product innovation, given the scale of the infrastructure and need for high-volume and lower-cost solutions to address patients’ needs.

6. Seek out bigger, bolder partnerships

In recent years, most companies have pursued a strategy of purely organic expansion to broaden their coverage of the vast Chinese hospital landscape and to support mature brands. Variations of the model were largely linked to decisions associated with the balance of central and regional emphasis.

The days of being able to do it alone in China have ended. The past year has seen a flurry of deal announcements, reflecting both the increasing range and complexity of business opportunities and the desire of the central government to promote partnerships between multinationals and local companies as part of the industry upgrade. We expect to see a string of major deals over the next few years. The underlying rationale is that companies cannot afford to compete organically across the entire spectrum of opportunities, and having a partner can significantly raise the odds of success, accelerate the uptake of a particular strategic initiative, and even serve as the only realistic entry point for latecomers to the market.

Multinationals should also keep in mind that the windows of opportunity will not be open for long. The effect of years of free-for-all competition in the automotive industry, marked by a large number of joint ventures, led the government to recently conclude that, as a result of the proliferation of companies in the industry, limits need to be placed on the number of partnership opportunities. Over a span of just ten years, the structure of the healthcare industry has been pretty well defined, and outsiders and late entrants now face formidable access barriers to succeed. Moreover, the number of truly attractive partners is inherently limited, and first movers will secure a long-term advantage by choosing the most attractive ones.

7. Invest in attracting and developing top talent, and build capabilities that are relevant to China

As multinationals expand in China, talent gaps are becoming glaringly evident; in many cases, they create critical bottlenecks to higher corporate performance. Companies' talent management is in turmoil: there is high turnover across functions, insufficient leadership development undermines succession planning, and capability gaps may impede expansion and the successful execution of strategy. It will take substantial attention and resources to develop robust strategies for the acquisition and retention of talent and the development of skills and leadership, and all of this must be aligned with the chosen corporate strategy. These strategies must be specifically tailored for China rather than transported wholesale from other regions, especially with regard to the management of front-line sales managers and problem-solving and communication capabilities.

8. Adopt a 'through cycle' mentality

With China's increased contribution to multinationals' global performance (China is often the number-one contributor to absolute revenue growth) changes in the pace of market development will have visible global impact. Positive and negative year-on-year swings of five points in market growth are already typical. Uncertainties about overall economic growth and mounting pressure on cost containment across the healthcare system are bound to increase the volatility. Successful companies will see through the year-on-year ups and downs, manage incentives to keep the management team engaged, resist the temptation to make hasty decisions, and keep focused on the long-term goal.

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China remains a bright spot in the global outlook for healthcare, but the bar to effective competition in this market is being raised as a consequence of increasing government intervention and business complexity, and intensifying local competition. To succeed at scale, then, multinationals will want to increase their investments across the value chain, step up their core capabilities, and explore creative ways of reaching new customer segments through partnerships. The right combination of these methods will allow multinationals the successful navigation of the uncharted waters of healthcare in China.

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