China’s health care reforms

China wants to establish a basic health system to provide effective, low-cost health services to its more than 1.3 billion citizens. Can it succeed at this ambitious goal?

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China's macroeconomic growth has enabled it to make significant progress in many aspects of public health. Over the past 20 years, life expectancy has risen significantly, and childhood mortality rates have plummeted by more than half.[1] The country also has markedly more hospital beds than it did only a decade ago.

Nevertheless, China still faces a number of challenges. Health care resources are unequally distributed across the country—wealthier cities tend to have good hospitals, but many other cities and most rural areas lack them. The country also lacks an effective primary care system. As a result, patients often find it difficult to get access to care. Among those who can get treatment, dissatisfaction is high. Patients frequently complain that health care is too expensive, that most health facilities are in bad condition, and that the services delivered are poor. Furthermore, the population is aging, and the prevalence of "modern" chronic diseases is rising.

In response to growing social pressures, China's central government announced a series of health care reforms last year. Its goals are ambitious: it wants to establish a basic, universal health system that can provide safe, effective, convenient, and low-cost health services to all of China's more than 1.3 billion citizens. The reforms therefore affect most facets of health care delivery, including health insurance, primary care, hospital management, medications, and public health.

To support the reforms, the government has promised 850 billion renminbi—about $125 billion—in incremental spending by 2011, a substantial increase. (In 2008, it spent approximately $52 billion on health care, about one-quarter of the country's total health care costs that year.[2]) While the government is focusing its efforts on ensuring that all citizens gain access to basic health care services, it is also permitting private payors and providers to play a role in health care delivery, especially by addressing the additional needs of higher-income patients.

The reforms will greatly expand access to health services in China. Many of them will also improve quality of care and encourage the delivery of more cost-effective care. However, it remains unclear how quickly the reforms can be implemented and how effective they will be in improving health outcomes. We believe that there will be dramatic differences in the reforms' pace and impact, largely because of funding availability (which varies significantly among China's regions and cities, the entities responsible for implementing many of the reforms) and the institutional capability of various stakeholders to execute the needed changes.

Health insurance reforms

On the face of it, China is well on its way to achieving perhaps its most ambitious goal: to provide near-universal health insurance coverage by the end of 2011. Only about 45 percent of its population had coverage in 2006.[3] By the end of 2009, about 400 million urban residents and 833 million rural citizens—about 90 percent of the population—had health insurance (Exhibit 1).

[1] World Bank's World Development Indicators.
[2] China's total health care spending in 2008 was 1,453 billion renminbi (approximately $213 billion), 4.8 percent of its GDP.
[3] Unless otherwise noted, all statistics quoted in this article are from the China Health Statistics Yearbooks (for data from 2008 or earlier) or the *China Health Statistical Digest 2010* (for more recent data). All of these books are produced by the Chinese Ministry of Health.

Exhibit 1

Almost all of China's population is now insured.

		Covered population (million)	
	Eligibility	**2006**	**2009**
Urban Employee Basic Medical Insurance (UEBMI)	• **Mandatory** basic health insurance for **urban employees** of state-owned or private enterprises • Funded by employers and employees • Current annual premiums are $100–250	160	220
Urban Resident Basic Medical Insurance (URBMI)	• **Voluntary** basic health insurance for **urban residents** not eligible for UEBMI (eg, seniors, unemployed, children, students, disabled) • Funded by government and individuals • Current annual premiums are $20–100	10	181
New Rural Cooperative Medical System (NRCMS)	• **Voluntary** basic medical insurance for **rural residents** • Funded by government and individuals • Current annual premiums are $20–50	410	833
	Total population covered	**~45%**	**~90%**

Source: Ministry of Human Resources and Social Security; Ministry of Health

To accomplish this feat, China created two insurance programs for low-income citizens: Urban Resident Basic Medical Insurance (URBMI) and the New Rural Cooperative Medical System (NRCMS). In addition, an increasing number of Chinese—those working for private or state-owned enterprises—are eligible for Urban Employee Basic Medical Insurance (UEBMI), the country's most established and comprehensive health insurance plan.

Nevertheless, health care remains a major expense for most Chinese. Although coverage depth (the scope and percentage of expenses reimbursed) appears to be increasing, especially for people with UEBMI, it still varies

Exhibit 2

URBMI[1] coverage varies depending on a city's wealth.

Renminbi

	Wuxi Jiangsu province	**Shaoxing** Zhejiang province	**Nanchang** Jiangxi province	**Guiyang** Guizhou province
2009 disposable household income	25,900	25,420	17,175	15,040
Annual premium[2]	350–550	400	150–260	120–180
Inpatient				
Annual cap	100,000	80,000	35,000	50,000
Co-payment	**30–60%**	**45–55%**	**20–40%**	**30–60%**
Outpatient				
Annual cap				
Regular	900	N/A	50	100
Catastrophic	100,000	80,000	110,000	N/A
Co-payment	**30–60%**	**50–100%**	**50%**	**60–70%**

[1]Urban Resident Basic Medical Insurance.
[2]Regular adult coverage; premiums are lower for elderly, students, and low-income households.
Source: City yearbooks; literature search

significantly, depending on the type of insurance each person has and where that person lives. Furthermore, co-payments and deductibles remain high, even for people with UEBMI. As a result, the Chinese pay 40 percent of all health care costs themselves as either premiums or out-of-pocket payments.

Funding is the key challenge. UEBMI can provide more comprehensive coverage because employers are required to contribute at least 6 percent of an employee's annual salary to it; in wealthy cities such as Shanghai, they may contribute as much as 12 percent. (Employees contribute 2 percent of their salary to the program.) In contrast, URBMI and NRCMS are funded by the central government, local governments, and individuals (through premiums). None of these groups can afford to provide anywhere near the same level of investment. Furthermore, the amount that local governments contribute to URBMI and NRCMS depends on the wealth of each region, which is why the coverage depth provided in different

regions varies widely (Exhibit 2). We anticipate that for at least the next five years, the gap in coverage depth between UEBMI and the other programs will persist. And because the disparities in economic development among China's regions are unlikely to disappear soon, significant geographic variations in coverage depth are likely to continue as well.

Another challenge China faces is to build up institutional capabilities so that the public health insurance programs can effectively manage the increasing amount of money flowing through them. As part of its effort to acquire the needed capabilities, the government has begun to outsource the administration of some forms of health insurance to commercial payors. These companies also have a second opportunity in China: they can compensate for some of the coverage imbalances among the public programs by offering consumers supplemental insurance. (For a closer look at the opportunity for private payors, see the sidebar on p. 62.)

Primary care reforms

Until recently, China lacked an effective primary care system, and thus most people sought medical care in hospitals, especially the large hospitals in big cities. Because these facilities are believed to provide the best care and China has no gatekeeper system, they are usually severely overcrowded, a problem that has been exacerbated by rising health care demand and the recent expansion of health insurance coverage. (Between 2008 and 2009 alone, the number of hospital inpatients increased by 15 percent.) As a result, the hospitals have been markedly overstretched, and many patients have been unable to gain access to treatment. The government therefore wants to improve medical care at the grassroots level by establishing a primary care system with two components: community health centers (CHCs) in urban areas and small hospitals with higher standards in rural areas. Because the government has not yet released specific plans for the rural hospitals, we focus here on the CHCs. The government has promised to establish about 7,000 of them by 2011, which will require it to develop the necessary infrastructure and train general practitioners (GPs) to work in them.

Infrastructure

When the CHCs were first piloted about five years ago, both the name and the concept were new to China. However, the facilities that have been created since then have rarely been new; in many cases, the CHCs are simply converted and rebranded small (class I and II) hospitals. (China's hospitals vary widely in size and quality but are generally grouped into three classes, as shown in Exhibit 3. Among other differences, the class I and II hospitals are smaller and have lower clinical staffing levels than the class III hospitals.)

In the past, comparatively few patients sought treatment in class I and II hospitals, largely because the facilities were thought to deliver poor care (as defined by doctors' skill levels, the facilities' equipment, and their physical condition), and there were no meaningful differences in pricing or reimbursement between them and the class III hospitals. These issues remained in place when the class I and II hospitals were converted to CHCs and indeed often still remain in place.

Exhibit 3

Hospitals in China vary in size and quality.

	Number	Beds	Bed utilization (%)	Average number of outpatients per year (thousands)	Area	Personnel
Class III hospitals	~1,230	>500	~100	~520	• >60 square meters per bed • Net utilization area: >6 square meters per bed	• >1.04 doctors per bed • >0.4 nurses per bed
Class II hospitals	~6,520	100–499	~80	~120	• >45 square meters per bed • Net utilization area: >5 square meters per bed	• >0.88 doctors per bed • >0.4 nurses per bed
Class I hospitals	~5,110	20–99	~55	~30	• >45 square meters per bed	• >0.7 doctors per bed • >3 doctors, >5 nurses in total
Unclassified hospitals[1]	~7,430					

[1] Including both public and private/joint-venture hospitals. Most have scale similar to class I or II hospitals.

Source: *China Health Statistics Yearbook*, 2008; Ministry of Health; literature search

To make the CHCs more attractive, some governments, especially those in China's largest, wealthiest cities, are spending heavily to upgrade the facilities. In addition, they are subsidizing the price of drugs dispensed at the CHCs and raising the reimbursement rates for care delivered there. However, several factors, most notably a lack of well-trained GPs, are hindering China's efforts to shift patients to the CHCs.

Medical training

China has about 2.3 million doctors, 90 percent of whom are trained in Western medicine rather than traditional Chinese medicine. However, the medical education they receive is highly variable: in many cases, doctors undergo only a three-year postsecondary certification program; eight-year MD training comparable to the training offered in many Western countries is available only in two universities.

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Furthermore, medical education in China focuses on specialists, not GPs. Chinese medical students, in contrast to their colleagues in many Western countries, choose a specialty quite early (in the second year of a four-year undergraduate program, for example). Upon graduation, new doctors become salaried employees of the hospitals or clinics where they work. Since most hospitals in China, even class I facilities, are structured by department (cardiology, gastroenterology, and so on), most doctors function as specialists throughout their careers. And until recently, doctors were forbidden to practice at more than one facility; thus, their overall mobility and opportunities to train in new areas have been low.

As a result, the vast majority of doctors now working at CHCs are not GPs by training, and they may not be capable of diagnosing and treating many of the common diseases that patients at those facilities have. Also, many CHC doctors are less well educated than their colleagues at class III hospitals. Only about 22 percent of them have an undergraduate or advanced degree; in comparison, almost half of hospital-based doctors do.

If China is to adequately staff the CHCs it has promised to build by 2011, it needs to retrain at least 50,000 doctors as qualified GPs. It also needs to alter its medical education system dramatically if it is going to educate enough GPs to sustain a primary care system. China has already begun both of these processes; many of its wealthier cities, in particular, are investing heavily in GP training. To further support its new GPs, China is establishing training links between its class III hospitals and the CHCs. In addition, some pharmaceutical companies are now offering GPs additional training in the management of common chronic diseases. We therefore anticipate that over the next three to five years, China will achieve some success in establishing a primary care system, but that it will take several more years before the GP shortage is resolved.

Gatekeeping

Despite China's efforts, a broad shift in patient volumes to CHCs has yet to occur, and thus it is not clear how quickly the CHCs can take on a gatekeeper role. Interviews we conducted suggest that most CHCs have seen only a 10 percent to 15 percent increase in patients

following conversion from class I or II hospitals—an insignificant rise given the previous low utilization rates and the 11 percent overall increase in outpatient visits to all health care sites that occurred in 2009 alone.

A few cities have tried to force more patients to go to CHCs, but these efforts have generally been unsuccessful. In January 2010, for example, one local government implemented a policy of requiring patients with certain chronic diseases to be treated at a CHC before they could receive care at a class III hospital. However, the local department of health withdrew this policy one month later, saying that the quality of the CHCs needed to be improved before the policy could be implemented.

Another factor hindering the shift of patients to the CHCs is the essential drug list (EDL) that China is beginning to implement. The EDL is designed to make medications more affordable for Chinese citizens, but it restricts the number of expensive drugs that can be prescribed at the CHCs. (For example, the first national EDL, released in September 2009, lists only about 300 medications selected to meet basic disease prevention and treatment needs; many of them are generics or traditional Chinese medicines.[4]) All CHCs must stock and prescribe the drugs included in the EDL, and their ability to use other medications (innovative drugs with much higher prices, for example) is very limited. Large hospitals, however, have greater latitude in what they can stock and prescribe.

As a result, we do not believe that the CHCs will be able to play a true gatekeeper role for all patient segments in the next three to five years. A key segment they are currently serving is low-income patients with limited insurance coverage who are seeking low-cost primary care services. In addition, the CHCs are providing follow-up care and prescription refills for many patients with common chronic diseases, such as hypertension and diabetes. Those patients tend to be older, and many of them appear to appreciate the convenience and lower cost of the CHCs. But most wealthy patients and those with better insurance coverage are continuing to seek care in class III hospitals.

[4] Regional and city governments have the right to include additional drugs on the EDLs used in the facilities under their jurisdiction.

Opportunities for private players

The government's reforms—and the $125 billion it has committed to support them—will improve quality of care and enhance health outcomes for the Chinese people. They will also stimulate China's health care market and create opportunities for private payors, providers, and IT vendors.

The size of that market, which we estimate was about $240 billion in 2009 (about 5 percent of China's GDP), could exceed $600 billion within ten years. If China's health care spending simply keeps pace with projected GDP growth, it will increase to $480 billion by 2018. However, we believe that health care spending is likely to rise faster than GDP growth, as a result of better insurance coverage, improved access to high-quality care, and rising demand (due to aging, urbanization, and lifestyle shifts). If health care spending rises to 6.5 percent of GDP by 2018, the market could increase by another $150 billion.

Because the primary objective of the reforms is to ensure broad access to basic health care services, there is no doubt that the market will continue to be dominated by the government, especially from a delivery standpoint. Nevertheless, the reforms make it more attractive for private companies to enter the market. They clarify the roles that public payors and providers will play and identify niches private players can enter. They should also make the operating environment more transparent and fairer for private companies.

Payor opportunities

Although private health insurance currently plays a small role in China, its market size is not insignificant, given the country's population. In 2008, premiums for private health insurance totaled about $8.4 billion. If that spending continues to rise at the rate we anticipate and the role of private health insurance expands (as the government hopes it will), the private insurance market could reach $90 billion by 2020.

For private payors, the best opportunities to capture part of this market fall into two areas: supplemental coverage and program management. Given that the coverage depth provided by public insurance programs will continue to vary significantly, additional products that provide supplementary coverage could be quite attractive to many Chinese consumers. For example, a product tailored to the broad population could offer "safety net" coverage, such as reimbursement beyond the public programs' annual caps. Alternatively, a company could target affluent consumers by offering more comprehensive coverage, including access to high-end hospitals and services.

Private payors also have the opportunity to partner with local governments to help them manage the public insurance programs. In some regions and cities, governments have begun to work with private companies to leverage their expertise in a range of areas, including benefit design, enrollment, and provider management. Private companies can help the governments develop customer insights, optimize product design, and track subscriber data more comprehensively. In addition, they can show the governments how to accelerate the adoption of standard treatment protocols, install performance-monitoring mechanisms, and minimize variations in treatment costs.

A few foreign payors have started to enter the China market to take advantage of the opportunities there. Discovery is acquiring a small stake in PingAn Health, one of the country's largest private health insurers. WellPoint is also entering the China payor market.

Provider opportunities

Although private hospitals have been permitted for more than 15 years, their role is still quite limited: they account for only 6.5 percent of China's hospital beds. At present, the country has three main types of private hospitals: high-end, service-oriented hospitals that target expatriates and wealthy Chinese patients; specialty hospitals that typically focus on elective services (simple dental procedures, for example); and large general hospitals. The first two facility types have clear market positioning but have often been constrained in scale. Hospitals in the third

category, which compete directly with large public facilities, have struggled to come up with a differentiated and competitive value proposition. As a result, most Chinese patients still prefer to go to public hospitals, despite their dissatisfaction with the level of service in those hospitals.

Until recently, all three types of private hospitals were held back by unfavorable government policies—most notably, the government's stipulation that each doctor could register and work in only one facility. Given this restriction, most doctors opted to work in public hospitals because that choice offered them a clear and stable career track. As a result, private hospitals found it difficult to hire medical staff and thus could not compete based on a reputation for high clinical quality.

Furthermore, until recently private hospitals faced reimbursement restrictions. In many cities, they were not eligible to join the hospital networks covered by public health insurance. And in those cities where they were covered, they were reimbursed at rates below those given to public hospitals.

But reforms are starting to remove these constraints. The most important change—included in both the central government's overall reform guidelines and the implementation policies put in place in a number of cities—is that doctors are now allowed to practice at multiple facilities, including private hospitals, making the best doctors more mobile and easier to recruit. As a result, private providers could capture a white-space opportunity by building hospitals (or leveraging existing facilities) that combine high clinical quality and high service levels, enabling them to address the needs of the fast-growing affluent-patient segment. There are also an increasing number of signs (a recent announcement in Shandong province, for example) that private hospitals are now being considered for the public health insurance networks based on the same standards as public hospitals.

Once all of these reforms are in place, the role of private hospitals should expand. We anticipate that within the next few years, private facilities could account for at least 8 percent to 10 percent of all hospital beds (up from the current 6.5 percent). We believe that private providers will play an important role in China by creating healthy competition with public hospitals and addressing unmet needs.

A few international providers, such as ParkwayHealth, have established a presence in China and have plans to expand gradually. Several other international providers are looking to tap into the opportunities in China within the next few years.

Health care IT opportunities

The government's reforms clearly articulate the need to improve the health system's IT capabilities, which are currently low. China's Ministry of Health is therefore making a concerted effort to define what it wants in the electronic medical records (EMRs) to be used by payors and providers, as well as in the personal health records for individual patients. However, it has not yet reached alignment with other stakeholders, such as the provincial bureaus of health and industry, about common IT standards and the path for development.

Some regions are moving forward with greater IT adoption nonetheless. Beijing, for example, is piloting a regional health information network that integrates data from different types of providers. Other provinces, including Jiangsu and Fujian, are also launching pilots to speed EMR use.

Thus, China is a nascent market for private health care IT vendors, but it could become an important one. Early entrants have the chance to help develop the platforms that will be used and to standardize the products that will help gather, link, and analyze data. IBM has already entered the market; it is working with a leading Chinese academic medical center to develop an evidence-based patient care system.

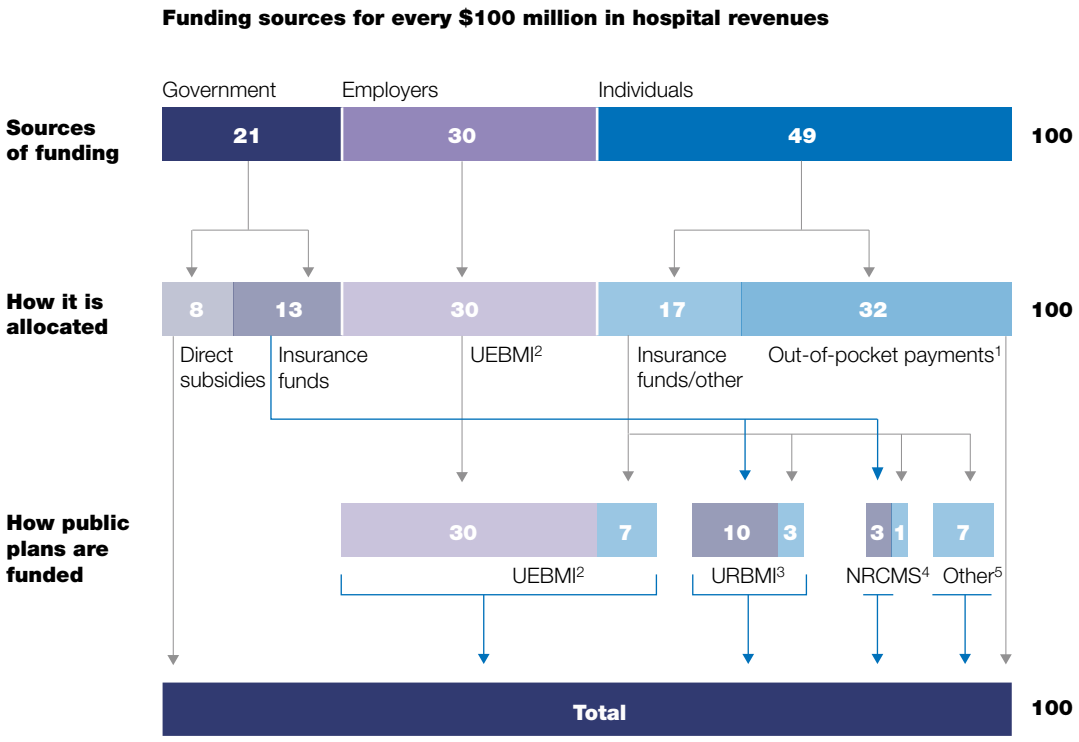
Hospital reforms

By far the most complex challenge China has set for itself is to reform the way it finances its public hospitals, which account for 80 percent of all hospitals in the country and over 90 percent of all inpatient hospital beds. The public hospitals receive funding from a variety of sources (Exhibit 4). However, the government's direct subsidies to them have historically been small,[5] and the fees they could charge for medical services have often been below true costs. (For example, most doctors' consultation fees are still under $2, even in large hospitals.) The health system has been designed to allow public

[5]In 2008, direct government subsidies to all of China's hospitals totaled only about $7.4 billion.

Exhibit 4

Public hospitals receive funding from a number of different sources.



[1]Includes $6 million from the uninsured and $26 million in co-payments from the insured.
[2]Urban Employee Basic Medical Insurance.
[3]Urban Resident Basic Medical Insurance.
[4]New Rural Cooperative Medical System.
[5]"Other" includes private health insurance (both supplementary and stand-alone); employer contribution to group private health insurance, which is ~$1 million, is not shown. Total funding is ~$7 million.

Source: Hospital interviews; government statistics

hospitals to mark up drug prices (by up to 15 percent). However, reliance on pharmaceutical markups to fund operations can create the wrong incentives for doctors and hospitals—it can encourage overprescription. As a result, this funding model has come under sustained, heavy public criticism.

Although the cause of the financial problem is clear, the solution is less so. The government would like to eliminate the drug markups gradually and is launching pilot programs to see whether the lost revenues can be offset through higher subsidies and service fees. However, pharmaceutical markups currently provide more than 40 percent of public-hospital revenues. Our analyses suggest that drug markups contributed more than $5 billion to hospital budgets in 2008 alone and could contribute another $20 billion between 2009 and 2011.

In theory, government subsidies could be used to replace this money, but the government funds allocated to the health reforms do not appear to be sufficient to permit this. Only about $40 billion of the $125 billion in incremental funding is expected to go to providers, and this amount will be split between the public hospitals and new primary care facilities. It is therefore unlikely that the hospitals will be allocated more than $10 billion or $15 billion in incremental funding over the three years, and that sum must cover not only the lost drug markups but also other reforms, such as increasing doctors' compensation and upgrading IT systems.

Other ways to compensate for the lost drug revenues include raising the prices charged for medical services and adding a new fee for drug administration. However, price hikes undercut the government's efforts to raise reimbursement levels. And some have argued that a drug administration fee may simply be window dressing, allowing the hospitals to profit on pharmaceutical sales in a different way. Because of the difficulties involved in replacing drug markups, we expect implementation of the hospital funding reform to be slow and incremental.

The other reforms planned for public hospitals affect their financial management, clinical management, operational efficiency, and performance evaluation. These reforms face fewer financial constraints than the funding reforms do. Nevertheless, we believe that they are also unlikely to happen quickly, because they require a transformation of the mind-set and capabilities of the public-hospitals' managers.

Although public facilities will continue to dominate the provider sector in China, the private hospital market could grow significantly over the next three to five years because the government has loosened its restrictions on where doctors can work and how payors can reimburse for hospital care. Private hospitals could play an important role in China by putting pressure on the public hospitals to improve care quality and efficiency. (For more information on these opportunities for private players, see the sidebar on p. 62.)

Medications and public health

As noted in the introduction to this article, China has announced two other sets of reforms to improve its health system. The first set concerns medications; the second focuses on public health.

Medications

The government has established an essential drug system, which includes the EDL discussed above. To ensure the affordability of EDL medications, the government not only has put caps on their prices but also requires the regions and cities to purchase drugs only through public tenders.[6] The resulting competitive bidding has already led to a marked decrease in prices paid. In addition, the essential drug system is designed to improve the quality and safety of drugs sold in China (both Western and traditional Chinese medicines) and to make the EDL medications more accessible throughout the country. It therefore includes regulations on how drugs are manufactured and distributed.

We expect that implementation of the EDL will further sharpen the division of China's pharmaceutical market into two broad segments: "innovative/premium" drugs used primarily in urban hospitals and "volume" drugs used largely in CHCs and rural primary care facilities.

Public health

The final set of reforms is designed to improve basic public health services. The government has promised to increase funding for a range of services, including routine health screening, chronic-disease management, infectious-disease control, and an expanded national immunization program. It has also prioritized the need for standardized health records (both electronic medical records, or EMRs, for payors and providers and personal health records for individual patients).

The government has made the creation of EMRs a particularly high priority, because it wants to use them to monitor the prevalence of infectious and chronic diseases and to increase its forecasting and early-detection capabilities. This emphasis on EMRs creates an opportunity for IT vendors that want to enter the Chinese market.

[6] This requirement applies not only to the medications on the national EDL but also to any drugs the regions or cities add to their own EDLs.

China must find a way to ensure sustainable funding if its reforms are to succeed in the long term and health care is to become affordable for its citizens. It must also improve the institutional capabilities of all organizations within the health system

The government's public-health reforms are the least controversial ones. We anticipate that China will move forward with them gradually through investments from the central and local governments, nongovernmental organizations, and private organizations.

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China's health system is at a critical moment of transition. Some of the government's reforms—especially expanded health insurance coverage and the establishment of a primary care system—should significantly increase access to care. Other reforms (better GP training and less reliance on drug markups to fund hospitals, for example) should improve care quality. Still others (moving services out of the large hospitals into CHCs and using the EDL for public tenders) should make care more cost-efficient. Better health services will enable the country to focus on prevention, an increasingly important way to hold down health care costs.

China must find a way to ensure sustainable funding if its reforms are to succeed in the long term and health care is to become affordable for its citizens. It must also improve the institutional capabilities of all organizations within the health system—at the national, regional, and city levels—so that they can implement the needed changes. Although private companies (especially commercial payors and providers) will continue to have only a small share of the Chinese market, they can play an important role by helping these organizations acquire the needed capabilities and putting pressure on public providers to improve the care they deliver.

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