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Healthcare in China[1,2]

-Dhruv Mankad[3]

During the initial phases of the opening-up of the Chinese economy, the overriding objective was to raise output and incomes. Economic restructuring undermined the health care system, which became increasingly privately financed, though remaining largely publicly-provided. While the population's health status was improving, a rising number of people were priced out of treatment or fell into poverty because of health care costs. The relative price of health care rose markedly until 2000, pushing up the share of overall health care expenditure in GDP (Gross Domestic Product which in 2008 was around 4½ per cent). Hence, a marked change in the equity and efficiency of the health care system was needed. In recent years, several reforms have been initiated, including a number of major changes that have been launched in 2009, introducing two new health insurance schemes, whose design varies throughout the country, in addition to the two existing systems. Overall, nearly all the population is now covered by medical insurance.

China has very successfully reduced deaths from infectious diseases. By the early 1990s, infectious diseases had been almost eliminated. Hygiene, sanitation, primary care and health education through the barefoot doctors and mass action by the community to follow the leader to improve their own health were the two pillars which almost eliminated the infectious diseases by early 1990s.

The 2009 Health Care Reform Plan

In April 2009, after extensive consultation, the government launched a new reform plan for the health system, in accordance with a decision of the State Council. It aims at providing safe, affordable, effective basic care to all citizens by 2020. It comprises both demand and supply measures and covers five major areas (Chen, 2009)

- It aims to raise health insurance coverage to 90% by 2011 from 80% at end-2008. As from 2010, the government payment to the rural system will rise to CNY[4] 120 per person from CNY 80.

[1] Excerpts from "Improving China's Health Care System" - Economics Department Working Papers No. 751, Organisation for Economic Co-operation and Development, by Richard Herd, Yu-Wei Hu And Vincent Koen, 01-Feb-2010. Figures 2 and 3 omitted from the narrative.

[2] Some excerpts from "Healthcare in China- Toward greater access, efficiency and quality: by Chee Hew, Senior Research Analyst, The IBM Institute for Business Value,China 2006 (Email:< cheehew@cn.ibm.com >

[3] Email:<dhrvmankad@gmail.com>

[4] CNY = The renminbi or the Chinese yuan (sign: ¥; code: CNY) is the official currency of the People's Republic of China (PRC), with the exception of Hong Kong and Macau Renminbi means people's currency. It is issued by the People's Bank of China, the monetary authority of the PRC.

- A national essential drugs system will be established, with regulated prices and a high reimbursement rate.
- Local medical care will be improved to reduce workloads in over-crowded city hospitals, with family doctors and nurses acting as gate-keepers.
- Basic public health services will be improved for screening and prevention.
- Pilot reforms of public hospitals will be launched aimed at improving their management and correcting the tendency for commercialization.

This programme involves extra outlays of CNY 850 billion over 2009-11 – 0.8% of projected GDP. Local authorities are expected to fund 60% thereof. The cost of transfer to the rural health insurance and urban schemes plus the cost of public health provision will amount to about CNY 160 billion annually (0.5% of GDP and 60% of total outlays). The remaining money will be spent on training and infrastructure. New infrastructure will include 2 000 new county-level hospitals so that every county would have a hospital compliant with national standards. As well, 29 000 township hospitals will be built and 5 000 upgraded. In towns, 3 700 additional community health centres will be set up. Doctors from villages and community care centres will be retrained, while city-level hospitals will have to launch training programmes for the county hospitals for which they are responsible (Ye, 2009).

Health Status in China

The past few decades have seen a significant improvement in the health status of China's population. Health outcomes clearly improved in China and continued to do so in recent years. However, while in the late 1970s, the population enjoyed much better health than might be suggested by its income level, this is no longer the case. **By 2006, life expectancy had moved back into line with its relative income level** (Wagstaff et al., 2009), improving much less than, say, in Indonesia or Malaysia.

The prevalence of infectious diseases has been markedly reduced and life expectancy has risen – albeit rather slowly compared to other countries. Overall, health outcomes are not so different from those in lower-income OECD countries such as Mexico and Turkey, despite lower incomes in China.

New Health Challenges

The country now faces new challenges. Chronic diseases are causing more deaths and infant mortality is unduly high in a number of rural areas. Three sets of diseases are growing rapidly – lung-related illnesses (notably lung cancer), heart-related diseases and diabetes. These three diseases are preventable: the first two are related to high tobacco and salt consumption, and the last one to a growing incidence of obesity. While overall performance has been good, there remain serious regional problems. The poor health outcomes in lower-income areas are documented in OECD (2010).

Challenges to Health Care - Greater Access, Efficiency and Quality

There are three main challenges while designing and implementing health reforms in China:

- Lack of access to affordable healthcare
- Inefficient use of healthcare resources
- A lack of high-quality patient care.

There is no simple solution to closing the gap identified by the government. Challenging questions need to be answered to fundamentally improve healthcare in China:

- What changes need to occur in the short term to improve the situation while longer-term challenges are being addressed?
- What is the role of the government and other players across the healthcare ecosystem?
- How can technology be leveraged to improve the management and delivery of healthcare?

Lack of Access to Affordable Healthcare

A study was conducted by IBM School of Business Values based in China in 2009. Simply put, a significant portion of China's urban and rural population is without access to affordable healthcare. Rural areas are particularly hard hit, with 39 percent of the rural population unable to afford professional medical treatment.[5] Furthermore, 30 percent of rural population has not been hospitalized despite having been told they need to be.[6] This grim situation is largely attributed to the abolishment of farming communes and rural health clinics that were replaced with private medical practices in the 1980s – without any alternatives established to date.

The situation is not much better for urban residents, with 36 percent of the population also finding medical treatment prohibitively expensive. Historically, the majority of urban workers received free healthcare coverage through employment by SOEs, the Chinese government or universities. However, in the face of fierce competition, many SOEs have gone out of business. Workers who lose their jobs also lose any insurance coverage and so far, there are no other mechanisms to resolve this issue.

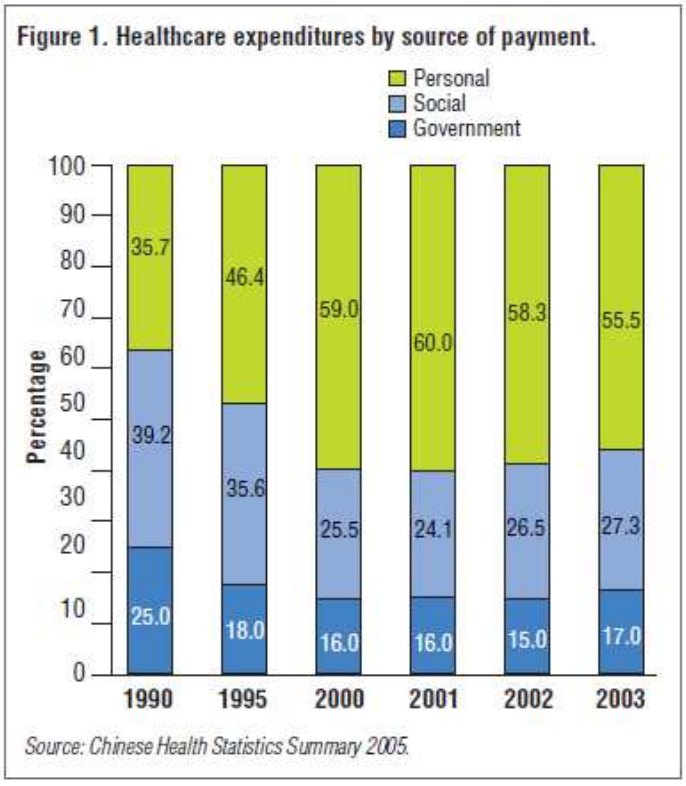
Severe problems remain amongst migrant families in urban areas. A nine-city study of migrant children found that vaccination rates were some 10 percentage points lower for migrants than for

[5] "High Costs Keep Ill Chinese Out of Hospitals." Xinhua News Agency. November 2004.
[6] "China's Health Sector – why reform is needed." Rural Health in China: Briefing Notes #3. World Bank.April 2005

the nation as a whole (Liang et al., 2008). As a result, the prevalence of measles infection was eight times higher amongst the children of migrants than amongst the registered population in Beijing and Shanghai (Vail, 2009). Malaria, hepatitis, typhoid fever, and respiratory infection were found with a higher incidence among migrants than the local stationary residents in Zhejiang and Guangdong. From limited investigations and reports, the incidence of occupational disease among township enterprise employees was high, at 15.8% in 2002. Rural migrant workers accounted for the majority of workplace deaths in 2003 and about 80% of deaths in the most dangerous industries (mining, construction and dangerous chemicals) were migrant workers (Zheng and Liang, 2005). Finally, migrants' maternal mortality after child birth is 83% higher than for mothers who were registered inhabitants (UNDP, 2008).

Healthcare Expenditures

Healthcare expenditures, along with actual government funding, have been increasing steadily over the past 20 years. However, as a percentage of GDP, government health funding has, in fact, been decreasing.[7]



Even more problematic is the high percentage of the population that is uninsured in China. In 2003, almost 45 percent of the urban population and 79 percent of the rural population had to pay for medical services out of- pocket. As illustrated in Figure 1, the percentage of out-of-pocket health expenditures has increased significantly since the 1990s.[8]

Inefficient Use of Healthcare Resources

The second key challenge is that current healthcare resources are often not allocated to and used effectively by the segments of the population that need them most. This imbalance is driven by inefficiencies in the supply and demand of healthcare services.

[7] Ministry of Health. China National Health Account Report. 2004.

[8] China National Survey on Health Service, 2003. This document is available from the Chinese Ministry of Health website (in Chinese only). www.moh.gov.cn

Table 1: Distribution of Healthcare Beds and Personnel in Urban And Rural Settings

	1980	1990	2000	2003
No. of beds/1000 pop				
Urban	4.47	4.18	3.49	3.67
Rural	1.48	1.55	1.5	1.5
No. of professionals/1000 pop.				
Urban	8.03	6.59	5.17	4.84
Rural	1.81	2.15	2.41	2.19

Source: China Statistical Yearbook, 2003; China Health Statistics Summary 2005.

Supply of Healthcare Services

A disproportionate amount of China's healthcare resources have traditionally been concentrated on larger urban hospitals. This spending disparity is reflected in the number of hospital beds and healthcare personnel in rural and urban areas (Table 1) and is in line with the overall urban emphasis of China's social security system.

Demand for Healthcare Services

The inefficiency in resource utilization is exacerbated by patients who are more likely to use larger hospitals in urban areas. (Table 2)

Table 2 Utilization of OPD and Its Cost in Different Levels of Health Resources

	Avg OPD/doctor	*Avg cost/Patients (in USD)*
MoH Hospital	7.3	28.36
Province owned Hospitals	6.2	21.08
City Hospital at County level	4.4	9.32

Source "China to send modern-day 'barefoot doctors' to boost rural healthcare." Agence France-Presse. August 2, 2004

Lack of High-Quality Patient Care

There is widespread acknowledgement among healthcare system stakeholders that the quality of patient care has been compromised in China. There are three key reasons contributing to the lack of high quality patient care.

Loss of Focus on Patient Care

Faced with financial pressures and without clear and strict government guidelines, many hospitals have lost the core competency of providing high-quality clinical care. A closer examination of the income sources of a hospital explains why there are economic incentives to over-prescribe drugs or diagnostic services without improving patient health. The typical hospital receives less than 10 percent of its income from the government, with large-scale, ministry hospitals receiving more funding. This means that hospitals have to generate the rest of their income from services and sales of drugs.

Over Prescription of Drugs

Over prescription and inappropriate prescription of expensive drugs is a widely acknowledged problem. Although the government has set recommended prices for each drug, there are no strict guidelines in terms of the types and number of drugs to be prescribed for each illness. As drugs account for a significant portion of a hospital's income, there is a tendency to condone the inappropriate prescription of drugs. In fact, almost 44 percent of a typical hospital's income is generated through sales of drugs alone.[9]

Overuse of Medical Equipments

Inappropriate use of medical equipment can also be attributed to the competitive pressures faced by hospitals. Many hospitals invest in expensive, high end medical equipment and advertise it extensively to attract new patients. The percentage of medical instruments in all Chinese hospitals has been increasing steadily and there is growing evidence that availability of such equipment has exceeded actual demand. For instance, 30.6 percent of all Chinese hospitals own Computerized Tomography (CT) machines, already higher than in major European cities and the U.S. These and other unnecessary purchases divert resources from potentially more important investments, such as those to improve clinical care.[10]

Quality of Healthcare Professionals

There have been significant improvements in raising the quality of healthcare personnel. However, quality has to be further enhanced to increase the level of patient care. Notably, there are challenges because no uniform definition exists to document the required qualifications of healthcare personnel. In addition, current training and experience of healthcare personnel is relatively weak. The inconsistent and low quality of healthcare workers is a particular issue in rural areas. A 2001 study of 46 counties and 781 village doctors in 9 Western provinces found that 70 percent of village doctors had no more than a high school education, and had received an average of only 20 months of medical training. (Wang, 2003) Not only are there fewer personnel in rural areas, it is very difficult to attract and retain skilled personnel to work in less developed regions of China.

9 Huang, Cary. "Ambitious health system sickened by rising costs." The Standard. November 2, 2002.
10 Ministry of Health Statistics, 2006

Difficulty in Monitoring Level of Care

Difficulty in monitoring the level of quality care within China's very complex healthcare system also leads to a lack of high-quality patient care. Currently, there is no integrated health policies that apply to all hospitals. Provision and regulation of health service delivery is largely decentralized and managed by a multitude of different stakeholders, including the Ministry of Health, provincial and city governments, military, and even large state enterprises that continue to operate their own hospitals. This decentralization not only creates great variation in terms of quality of care across the healthcare system, it also makes it difficult to consistently monitor the level of care.

Is the Chinese Health System equipped to face the challenges?

Not Oriented Toward Preventing Chronic Diseases

The Chinese health system, however, is not oriented toward preventing chronic diseases and even treatment is not uniformly good. The trend in medical care worldwide has been to increase care at the primary level and reduce it at the level of hospitals. China's new reform programme makes a start in this direction with the expansion of urban community health centres. If there were enough of these, they could act as a network for primary care and serve as a cheaper method of treating chronic diseases than hospitals.

Lack of Credibility for Community Health Centers

Currently, community health centres and their counterparts in the countryside lack credibility with the population. Patients prefer to go to hospitals, as the doctors offering primary care have low levels of qualification. Many doctors are reluctant to move to primary care because the salaries are low and there is no long-term career path. The new reform programme aims to retrain a large number of the less-qualified doctors. Working in health centres needs to be more attractive and the government needs to take advantage of the ample supply of new graduates, after appropriate family medicine training. The human resources are available but need to be hired at salaries that reflect training. Furthermore, the new community health services need to integrate the previous maternal health service.

Circumventing the Measures to Reduce Drug Cost

The new reform aims to cut the cost of pharmaceuticals. A bulk buying programme is proposed for a limited range of essential products to be sold to centres under the condition that they are resold at cost. However, doctors have proved adept at circumventing previous attempts to regulate prescribing practices. The challenge is to change prescribing patterns and the pay systems within hospitals that link pay to prescribing activity.

Need to Improve Hospital Operational Management System

The Operational management practices of hospitals also need to change. The new reform programme stresses this and suggests that hospitals need to become less commercial. In some respects, hospitals resemble state-owned enterprises (SOEs) before reform. They effectively have a dual-track pricing system, with parts of their output sold at regulated prices that are below cost, while other parts are priced above cost in order to cross-subsidize other activities. Hospitals work on a contractual basis with local governments, receiving an annual subsidy and balancing their budget through fees. Like the SOEs of old, they operate under a soft budget constraint: high deficits result in greater subsidies while profitable hospitals receive no funds. As hospitals are public service units, recruitment is often determined by local government bureaus and salaries do not reflect market differentials, nor do the hospitals operate an accounting system that would accurately determine the cost of different activities.

Need to Improve Hospital Level Financial Management System

Movement to a more enterprise-oriented management and accounting structure is needed. The problems with hospitals acting commercially have not arisen just because they seek to make profits but through their rational reaction to regulated prices. Regulated prices should be gradually abolished and replaced by negotiation between third-party payers and hospitals. The current system in which the hospital is paid on a fee-for-service basis needs to be replaced by one that is based on a fee per procedure, independently of the number of diagnoses that are made. Such a reform would require that an efficient accounting system be put in place.

Financing Healthcare

The IBM study recommends a mixed Health Financing mechanism in China depending on the types of services – public, basic and specialist health care services. It is recommending the latter completely open to the market.

Recent Massive Health Insurance Programmes

According to the OECD report, the government has successfully rolled out two massive health insurance programmes in recent years. They increased the share of the population with some form of medical insurance from 10% to 90%. In rural areas, the increase in coverage in a voluntary programme has exceeded expectations. In urban areas, though, there are still some problems. The extension of medical insurance to children and those elderly who are not former employees is welcome. Many cities, especially in western and central regions have wanted to keep costs down and so have not extended coverage to employees without cover, presumably on the ground that the employer should have joined the compulsory, but poorly enforced, social security medical insurance system. However, many of these workers are the poorest in the community. Migrants, be they from rural or urban background, generally cannot benefit from health insurance. This clearly hampers labour mobility and is not an equitable outcome.

Merging the Current Health Insurance Programmes

While coverage is broadening, there are still four main health insurance programmes with many different reimbursement rules and they are mostly restricted to limited areas. Once near universal coverage is achieved, including of migrants in their place of residence rather than their place of origin, the government ought to merge the different systems and ensure that a greater portion of their funding be shouldered by the central government. As to the financial management of the health schemes, attention needs to be paid to the high cost of collecting individual contributions and to why the schemes consistently run surpluses of the order of 30% of income which are kept in separate bank accounts that cannot be used by the local authority.

The New Rural Health Insurance Scheme

The new rural health insurance scheme has been a success: the number of consultations at countryside health centres has increased markedly. The improvement to health status will take more time to become evident. In future, though, more consideration ought to be given to the benefit plan that produces the best health results. Relying on medical savings accounts to fund all outpatient illnesses may not be optimal. At the least, outpatient treatment for chronic diseases should be covered by the new insurance system as well as a number of preventive medical checkups and treatments.

Catastrophic Illness and Poverty – A Concern

Poverty caused by catastrophic illness remains a major concern. Indeed, patients are paid less than half of the theoretical benefits, the benefits decline with the seriousness of the disease (insofar as serious cases are sent to higher-level hospitals with lower reimbursement rates) and truly catastrophic illness (costing above two years of average per capita income) is not covered at all. Much higher average reimbursement rates are needed.

At present, in rural areas, the contributions per participant would probably need to be tripled, to CNY 300, in order to stand a reasonable chance of markedly lowering poverty due to catastrophic illness. In addition, too high a proportion of the cost of the scheme falls on the local population. At present, individuals and taxpayers people in a county are responsible for paying 60% of the cost in the central areas and 100% in the eastern areas. Even in the more affluent eastern regions this can pose problems for some rural counties. In the poorer parts of the country, the problems are severe and a tripling of contributions might not be possible. Therefore, a much greater degree of central government involvement in financing will be necessary.

Future View of Healthcare in China

The overarching focus for health reforms in China is to provide equitable, affordable, yet high-quality patient care. This vision can only be achieved through a series of changes initiated in

parallel by key stakeholders across the healthcare system, with clear strategies and guidance set by the government.

Government's Central Role to Improve Access to and Quality of Healthcare

Figure 4. Delivery and funding mechanisms for different healthcare services.

	Types of services	Likely delivery mechanism	Funding mechanism	Market open/closed
Public health services	• Control and prevention of infectious diseases: STD, AIDS, respiratory diseases, mental illness, reporting at regional levels, healthcare education	• Provided by public, non for profit health centers and hospitals (e.g. township)	• Government direct funding or through social insurance	• Closed market • Services provided by government
Basic health services	• Include typically required medical services for treatment and well being of population	• Largely provided by non profit hospitals	• Social insurance and company sponsored insurance programs	• Partially open • Market open to for-profit hospitals
Special health services	• Includes uncommon health services, leveraging special technology (e.g. cosmetic surgery etc.)	• Provided by specialized and for-profit hospitals • Based on free market principles	• Self-funded • Private health insurance	• Open to competition (local and foreign)

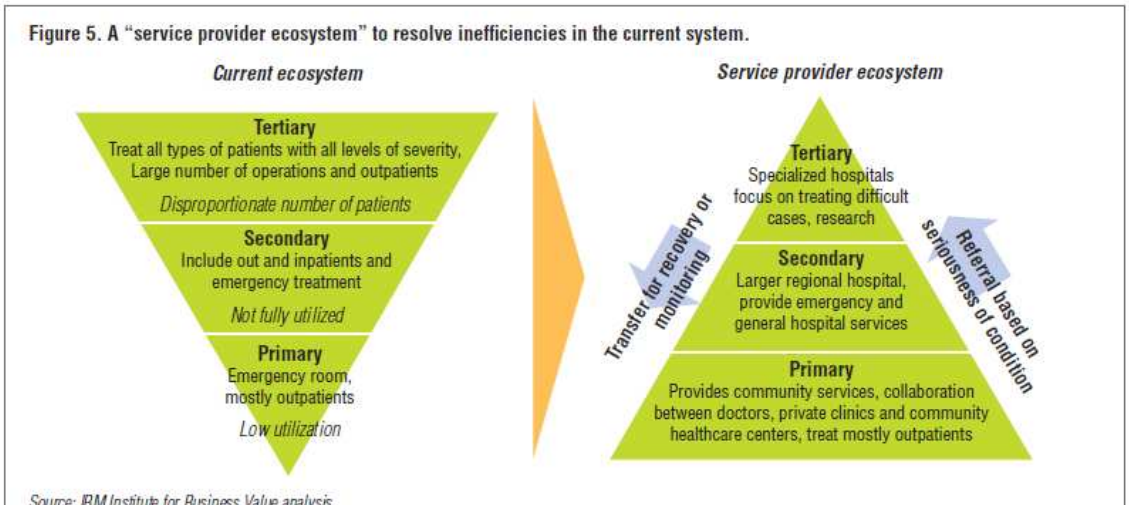
Segmentation of Health Services through Unique Policies and Funding Mechanisms

To formulate appropriate strategies and policies, the government will have to segment health services into three major categories: public health, "basic" medical services and special services. The government is expected to set different policies, use different funding mechanisms and allow different levels of competition for these three types of services (see Figure 4; Figures 2 and 3 omitted from these extracts.) to meet the needs of the vast majority of Chinese citizens.

The government also wants to encourage the growth of private medical insurance to complement coverage of basic medical services. It already recognizes that the sustained development of the Chinese healthcare insurance market will require closer cooperation among various ministries. The government is also encouraging private insurance companies to develop more innovative products, new operational models and new business management techniques to fully position commercial health insurance to play an important role in the Chinese health economy.

The growth of the private medical insurance sector will further fuel the growth of special health services, such as laser eye surgery and wellness management. It seems likely that the government will allow this special health services market to be open to competition from both local and foreign service providers.

Establishment of "Service Provider Ecosystem"



Today's hospital system is highly inefficient, with both resources and patients concentrated in larger hospitals. This has resulted in a situation where large hospitals are growing rapidly and provide general, as well as specialist services. Meanwhile, smaller community hospitals and health centers are caught in a vicious cycle where the lack of patients and income make it difficult for these service providers to upgrade their medical infrastructure, which, in turn, further reduces their attractiveness to patients. Figure 5 illustrates how the current three-tier system can be "inverted" by creating a service provider ecosystem. The key concept is to distribute patients across the hospitals, according to the level of services needed.

For instance, patients should visit primary or community hospitals for minor ailments. They should be referred "up" to secondary and tertiary hospitals depending on the seriousness of their conditions..Tertiary hospitals will focus on treating difficult cases. As patients recover and require only monitoring health services, they are referred "down" to recuperate or receive rehabilitative services in community settings.

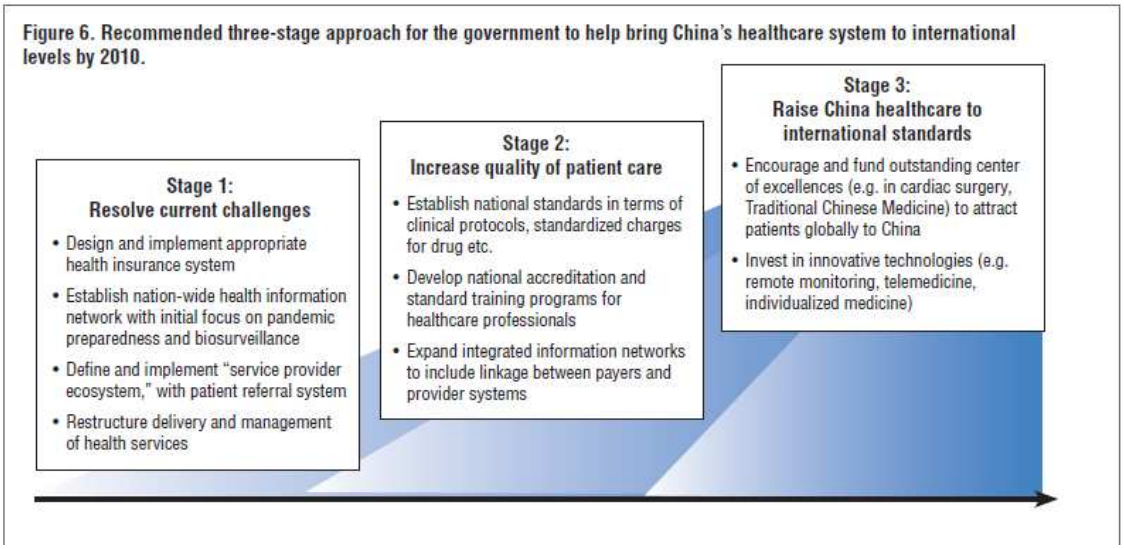
Actions for Government

Figure 6 outlines the three-stage approach that IBM study envisions the government can take to help bring China's healthcare system to international levels by 2010. It suggests that the near term focus, as outlined in Stage 1, is to first resolve the major challenges in the healthcare system.

Design and Implement "Universal" Health Insurance System

One of the major initiatives is to design and implement a health insurance system that meets the needs of the Chinese population, yet is affordable. This is no easy task – the government has to consider a multitude of factors, such as how to:

- Raise the funds for medical care
- Distribute this financial burden fairly
- Appropriately limit the scope of services
- Obtain high-quality, consistent results.



Establish Nationwide Health Network

Another action that the government can embark on now is to facilitate information sharing by building a common platform linking service providers in a nationwide health network. A key theme of the effective healthcare system of the future is sharing information and integrating across the health system.

A reliable, security-rich, nationwide network can form the backbone of a national health information infrastructure and facilitate information sharing among patients, service providers, regulatory agencies, health professionals, government and payers. This can allow automated quality and compliance reporting, and also create lower-cost capabilities for collecting, aggregating, analyzing and reporting clinical information in near real time. The network can be used as public health services, tracking of long-term health problems, and better analysis and understanding of the medical costs of diseases. The IBM study recognizes the challenges of the lack of standards, and difficulty in gathering and sharing information among service providers. The health network can start with capturing basic demographic and health status information about citizens, and gradually expand its usage in the future.

Restructure Delivery and Management of Health Services

In addition, the government can consider restructuring the management and delivery of healthcare services. Take the example of how Hong Kong steadily improved the quality and efficiency of healthcare by separating hospital management from policy development.

Conclusion

Major changes may occur in China Health Care System in the next four years. It wi;; be a challenge for the key stakeholders can make efforts to make forward positive changes. The vision of having every Chinese citizen enjoy affordable, high-quality healthcare is achievable. In this way, China can build a healthcare system that is on par with international standards and in line with its phenomenal economic growth to support its goal of achieving a "harmonious society."

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