Health Care System Reform in China:

Issues, Challenges and Options

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Summary:
This paper examines health care reform in urban and rural China. Before health care reform, Chinese health service facilities were run entirely by the state and basically they performed a social welfare function. This health care system greatly improved the population health conditions but many problems started to emerge in 1980s when the economic reform started. Since then, the government has been struggling to maintain a balance between meeting people's health care needs and develop the health care "industry".

Problems and their contribution factors in organization, financing and performance of the health care reform are examined and analyzed. In terms of organization, decentralization of the decision making power in health sector and marketization of the medical establishments constitutes the main organizational changes in the health care reform. This organizational reform of health sector as an imposed institution change, encounters lots of resistance in the process of implementation. A tremendous amount of conflictions arises because of the commercialization of health sector that used to perform social welfare function. In terms of financing, share of organized financing (government and social fund) in the total health expenditure declined dramatically since the reform. In urban China, Health care insurance faced tough going on universal access. In rural China, there are lots of problems in implementing new cooperative health system partly because of its imperfect design. In terms of performance, data shows that there is growing inequity in health status between rural and urban in the past 15 years. Inefficiencies also exists in both resource allocation and service delivery.

Several options are analyzed for organizational reform and health care financing. The report recommends that the aims of the future reform policy that government would adopt should be to improve the population health status instead of generating profit for institutions or industry. The social welfare function of health care system should be reinforced and at the same time managed competition in the health care market should be encouraged. In health care financing in urban area, several directions of broadening risk pooling are discussed. In rural health care financing, the designing of new cooperative health care system is analyzed. Rural financing should be more flexible in order to attract more people to join the cooperative medical system. It is recommended that Chinese government should increase funding for public health programs and subsidize health services for the disadvantaged groups.

I. Introduction to Health Care System Reform in China

The Chinese health care system used to be held as a model by WHO for the rest of the world because China has made great progress in improving the health status of its population since 1949. From 1952 to 1982, the life expectancy of Chinese people rises from 35 years to 68 years and the infant mortality drops from 240 to 40 deaths per 1000 births (MOH 1989). The broadly acclaimed achievements partly owes to the traditional health care system: central planning, emphasis on primary care, community organization and cooperative financing (Hsiao 1995).

Ever since its establishment, the health care system in China is bifurcated because of the great disparity between urban and rural. The urban health care system and the rural health care system are very different from each other and have undergone different reforms.

In urban areas, free health services were provided to public employees at the health service facilities financed and managed by the government. Under the command economy, health care was administered in two publicly financed schemes: the Labor Insurance System (LIS) and the Public health Insurance System (PIS). The former covered workers in all state-run enterprises and the latter covered employees in government organs and academic/political institutions. In terms of medical establishments, before 1980, the government determined hospital budget, personnel and the prices of drugs and service.

In rural areas, a three-tier health care system was developed to serve the rural population, which constitutes three quarter of the entire population. This system was composed of village local services, township health center and county/city hospitals. All aspects of health care delivery were financed by public resources. Health insurance was in the form of Cooperative Health Care System (CHCS). It relied on the collective economy system and was based on the voluntary collaboration of the rural residents. After issue of "Rural Medical Cooperation Rules", almost 90% of the villages were covered by CHCS that was funded through the contributions of the members, the welfare funds of the brigade and the welfare funds of the commune (Lennart 1996). Members of CHCS received health services for free or at a reduced cost.

In summary, before the reform, all health service facilities were run entirely by the state and basically they performed a social welfare function.

In 1978, China lunched its economic reform that aimed at speed up the development of the economy through fiscal decentralizing and introducing market competition in labor and product. As a result, the funding for hospitals from government kept declining (See Table 1) (MOH 2001). The collective and command economy that the old health care system relied on started to go through dramatic change. In this wider context, the reform of health system was bound to happen.

On the verge of the reform, many problems of the old health care system started to emerge. When the economic reform just began in 1979, the health care system was not given enough attention. Over-utilization and abuse of free medical care were

widespread (Guo 2003). There was no incentive to control the cost in both supply side and demand side. As a result, the health care expenditure kept rising at an unreasonable speed – health care spending under LIS and PIS increased 28 times from 1978 to 1997, while the fiscal income of the government increased only 6.6 times (Wang 1999). The great financial burden sometimes drained enterprises and government treasuries.

Besides the huge health care cost, another problem is the narrow coverage – the workers in the fast-developing private/foreign enterprises were not covered and the laid-off workers were not covered. The increasing self-employed people also did not enjoy any health care insurance.

During the economic reform, many enterprises faced financial difficulties or become bankrupt. In that case, they did not have any steady financial sources or rational mechanisms to pool funds to pay for the health care expenditure of their workers (Tang 2006). It demonstrated that the capacity of the LIS to resist risk is low (Wang 1999).

In rural, as the economic reform intensified, the rural communes which were the social basis for CHCS disintegrated. Many township hospitals had to close down because of the increasing material cost and decreasing public funding. The three-tire health care system weakened significantly. Access to health care became a major issue for many poor households.

All those problems have intensified social contradictions, and become a potential threat to social stability. Therefore, it is necessary to reform the health care system and make it compatible with the market economic system (MOLSS 1999) .

Since 1980s, the health care system in China started to undergo reforms and modifications. The initial change was uncoordinated and the purpose was to slow down the growth rate of health care spending at the local level (Guo 2003). In this period, co-payment was introduced in some areas. In 1993, the central committee of Chinese Community Party (CCP) passed a resolution on market reform that pointed out the direction of the health care reform (Central Committee of Chinese Communist Party 1993). Basically, the reform shifted part of the health care financing burden to individuals and decided on a health care system combining a socially pooled fund and an individual account. The new system were experimented in Zhenjiang and Jiujiang and then expanded to the whole nation. In 1998, State Council and CCP central community issued anther landmark decree “Decision on the Establishment of the Basic Health Insurance System for Urban Staff and Workers” which declared that the new health insurance will cover all urban workers except for the self-employed (State Council 1998). In 2003, the Ministry of Health, Ministry of Finance and Ministry of Agriculture jointly issued “Circulation on the Establishment of a New-Style Rural Cooperative Health Care System” which tries to set up a health insurance system in rural that is organized by the government, funded by government and individual, and enrolled voluntarily (MOH, Ministry of Finance and Ministry of Agriculture 2003).

According to all those official regulations, the three major components of urban health care reform (health institution, medicine production/pricing and health

insurance) as well as the rural health care reform are overviewed as follows.

In the health institution reform, the medical establishments were decentralized. Also, the reform separated management of provision of medical services and the provision of medicine, and to make the health institutions compatible with the market economy. After the reform, MOH will no longer "manage" hospitals. Instead, MOH "supervises" hospitals. Health care is administered as an industry. (Tang 2006) As a result of the autonomy, the hospitals would have to compete with each other for patients and the consumer would have more choices.

In terms of medicine distribution system, the major changes are as follows: separation of hospitals and pharmacies, reinforce quality control of drugs and introduction of public bidding system to prevent corruption and limit drug prices (Guo 2003). While price of the health care services is still controlled by the government, the price of medicines is largely liberated.

The new health care insurance system consolidates PIS and LIS into one insurance program and extends the coverage to all urban employees (expect for self-employed). The previous work-unit based health care system was transformed to a social based insurance system. Both employer and employee contribute to the trust fund. The set up of the accounts shares some similarity with the medical saving account in Singapore. Besides, the management system of this scheme is separated from the delivery and financing system and is operated by the local government. Essentially, the new insurance system is to socialize the health care administration by transferring the administration of health care from employers to local government, and to make government, employer and employee share the cost of health care (Peng 1996).

In rural areas, under the New-Style CHCS, each individual is to contribute a small amount every year in order to participate the health insurance system. The collective economic entities in villages as well as the central government should also contribute to the fund. The local treasury manages the trust fund. This new CHCS fund is primarily used for large medical expenditures and hospitalization charges. (Tang 2006)

The organization, financing and performance of the health care reform will be examined and assessed in the following three chapters, respectively.

II. Health Service Organization – Imposed Institutional Change

Health care system as the product of cultural, political and economic environment of the society, relied heavily on the institutional configuration of the society. Changes in the social institutional configurations may lead to further demands for change in its institutional arrangements (Gu 2001). Market economy reform has transformed many elements of the Chinese institutional configuration, and the health care system is no exception. Decentralization of the decision making power in health sector and marketization of the medical establishments constitutes the main organizational changes in the health care reform.

1. Decentralized and Fragmented Health Care System

China decentralized the fiscal system in the mid-1980s in an effort to rectify the inefficiencies of the centralized command system (Thunberg 1989). From 1981 to 2003, the share of central budgetary expenditure in national expenditure decreases from 55.0% to 30.1% while the share of local budgetary expenditure increases from 45.0% to 69.9 % (see Table 2). The decision making of health care spending, as one of the social spending, was also decentralized to provinces and then local governments.

Under the fiscal decentralization, the decision making power of grant allocation between sectors was delegated to the local governments. In the past twenty years, most local governments considered the economic development a priority and did not pay much attention to the health sectors. A responsibility system was introduced into the health care institution in many places, which encouraged the hospitals to generate revenue themselves.

Decentralized health care system might increase efficiency in terms of local investment and spending. However, the disarray in decentralization diminishes government's role in managing public health programs (Liu 2004). Fragmentation of health care responsibility at the central government level also contributes to this problem. At the central government level, MOH is supposed to provide general guidelines of health care policy. However, the organization of the health services in China is unique in some sense. In most other countries, MOH or other similar department usually takes full responsibility of administrating and financing health care. In China, the administration and financing of health care are segmented: the MOLSS is in charge of urban health insurance, the MOH is in charge of the rural sector and the Ministry of Civic Affairs (MOCA) is for poor households in urban and rural (Hu 2004). In general, the MOH is in a weak position to implement the health policy since it doesn't directly finance health care or control personnel (Hsiao 1995; Liu 2004).

Partly due to the decentralization and fragmentation of the health care system, the communication within the system is not sufficient and the government control is relatively weak. When there is wide spread epidemic, such as Severe Acute Respiratory Syndrome (SARS), the structural deficiencies of the public health system

become obvious. In the SARS crisis, the vice minister of MOH explained why there was under-reporting of SARS cases in Beijing at the beginning (Department of Regional Development 2000):

> "There are 175 tertiary hospitals in Beijing… these hospitals do not share information and are not under the same administration… the city government of Beijing did not have comprehensive and accurate statistics."

Another effect of fiscal decentralization of health care system is that it limits the central government's ability to allocate resource to subsidize the poor region (World Bank 1997). Under the previous centralized health care system, the central government could transfer resources from the rich provinces to the poor provinces more easily. After reform, each province shoulders a lot more responsibility for its local health care system. As a result, the richer regions with ample revenue enjoy a better health care system than the poor regions. This is similar with India where the southern rich states have better health services.

2. Marketization of Medical Establishments

Owing to the decentralization of the health system, local governments started to take on the responsibilities in the health service delivery. As the reform proceeded, a common practice of the local governments is to encourage hospitals to finance itself through the health care market (Gu 2001). The previous administrative-subordinate relationship between government and hospitals was replaced by the supervisor-service provider relationship, and health care is administered as an industry (Tang 2006).

After this transformation, medical establishments are classified into two categories: for-profit and non-profit. The for-profit medical establishments may determine the price of services themselves while the non-profit medical establishments' service price should be regulated by the government. Although majority of the hospitals fell into the non-profit category and remain a part of public sector, they actually achieved autonomy. The control over all the daily affairs is completely converted from bureaucracy hierarchical system to hospital administrators. The non-profit hospitals still get some public funding, but their financing increasingly depends on health care market.

As a result of marketization of hospitals and the resulting competition, the management of hospital leadership and the overall quality of hospital services have improved (Social Security Research Institute 2001). Also, more and more hospitals entered the health care market supported by the private forces. One example is in Xinxiang city in Henan province, where the government and a company establish a new hospital management together in 2004 (Tang 2006).

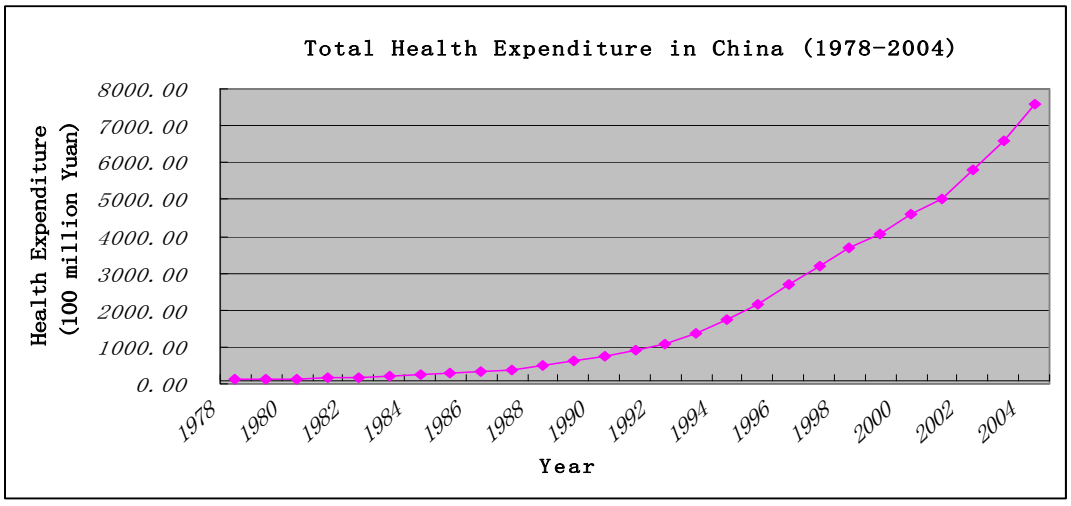
At the same time, the problems of health care commercialization become more and more prominent. Health care consumption is special in the sense that there is information asymmetry between supplier and consumer - the supplier could to certain extend decide the quality and quantity of the consumption because of the advantage on health care knowledge. Provider-induced over-consumption becomes an important driver of the increasing health care expenditure in China. Now an

unspoken rule in the current health care market is that, in order to increase income, the doctors would prescribe unnecessary or repetitive medical services (Chinese Economic Report 2006).

Along with the hospital autonomy, the price system of health services and drugs is also reformed. The State Development Planning Commission and the Ministry of Health and Finance are still responsible for setting health service prices (Meng 2004). In addition, the prices of medicines which are on the State Catalog of Medicines are also determined by the government (Tang 2006). However, the prices of many new drugs and examination fee of many new and expensive medical equipment are liberated (Gu 2001). The original intention of the government was to keep the basic drugs and services affordable, but the result is that the hospitals tend to prescribe the expensive drugs to make money.

Combining the commercialization of hospitals and reforms in the price system, the problem of provider-induced over-consumption in health is exacerbated (Gu 2001). The marketization of health care provides the hospital incentives to oversubscribe, and the setting of price system boost the overuse of new and expensive medicines and services. Partly due to this joint effect, the health care expenditure escalated rapidly – the health care expenditure increases from 11.02 billion Yuan in 1978 to 658.41 billion Yuan in 2003 (See Figure 2) (MOH 2005). A significant percentage of health spending was from the personal saving of the population (detailed analysis in Chapter 4). The heavy burden of health care cost was called one of the "New Three Mountains" by the Chinese people (China Observation 2005).

Figure 2 Health care expenditure in China (1984-2005)



Source: MOH, China Health Statistical Year Book, various years.

Many blame the doctors and hospitals for violating the ethic codes by inducing over-consumption and exerting heavy burdens on patients. Actually, it is more a problem of the system than a problem of ethics.

3. Government's Role in "Market Failure"

Market failure usually refers to a situation in which a free market does not produce

socially efficient outcomes. In the health care sector it is more a situation where market forces do not serve the perceived public interest. In addressing the problems in Chinese health care system, World Bank made a critical remark in the 1997 report: "Health is a sector that can not simply be left to market forces" (World Bank 1997). Government need to intervene in the health care to address the so called "market failure" (World Bank 2005).

In terms of supply-demand in the health care market, the autonomy of health care coupled with financial incentives is believed to have increased the supplier-induced demand, as described in the previous section. The government did not address this problem effectively.

In terms of externality and public goods in the health care market, the government's policy on the set up of health care organization also needs to be improved. After fiscal decentralization of health sector, many public-good type programs, such as preventive service institution and surveillance programs are hindered (World Bank 2005). One priority of future government spending on health care should be for those public health programs.

The change from an existing institutional arrangement to an alternative is always a costly process and requires collective action (Lin 1989). Yifu Lin, a famous Chinese economist, believes that there are two types of institutional change: induced and imposed. An induced institutional is voluntarily initiated and executed by individuals in response to profitable opportunities, while an imposed change is introduced and executed by governmental orders or laws (Lin 1989).

The Chinese health care system reform is "a typical example of imposed institutional change" (Gu 2001). As discussed previously, the Chinese health care system started years later after the economic reform began. In many situations it is a forced reform because of the collapse of its basis. For example, after the bankrupt of the state owned enterprise paralyzed the LIS, the central government issued regulations to introduce new systems. It is necessary for the state to remove the institutional impediments in order to proceed with the market economic reform, and the old health care system was one of them. This organizational reform of health sector as an imposed institution change, encounters lots of resistance in the process of implementation. Currently hot debates are going on about the health care reform in China, but the obvious lesson is that economic prosperity does not automatically guarantee the improvement in health and health care. Given the large population and the vast regional disparity, China still has a long way to go in its health care reform.

III. Financing Health Care - Weakened Government Role

According to WHO, the financing of health care system is composed of three interrelated elements: revenue collection, pooling of resources and purchasing of interventions (WHO 2000). In most insurance schemes, revenue collection and polling, which is traditionally known as the "insurance function", are integrated in one organization and one process (WHO 2000). In light of this categorization, this chapter would examine and access the health care financing in China in terms of public financing, risk pooling and strategic purchasing.

1. Decreasing Organized Financing

Closely related to the decentralization and marketization of health care system is the weakening of government role in health care financing. Overall speaking, China is spending more and more on health care – 3.0 % of GDP was spent on health care in 1978 and 5.6% of GDP was spent on health care in 2003 (MOH 2005; National Bureau of Statistics 2006) (See Table 3). However, share of organized financing (government and social fund) in the total health expenditure has being declining. Along with the commercialization of the health sector and the prevalence of the fee-for-service payment, private out-of-pocket spending gradually filled that financing gap. Fee-for-service payment mechanism has very negative effect on cost containment, and the poor population is hurt most since their ability to pay out of pocket is much lower.

The important trends on health financing since the reform are as follows (see Table 4) (MOH 2006):

- Percentage of government health expenditure in the total health expenditure decreases from 38.9% in 1982 to 17% in 2004, with the historic low of 15.5% in 2000.
- Percentage of social health expenditure (including enterprise units health expenditure, non-profit units health expenditure, administrative units health expenditure and rural collective health expenditure) in the total health expenditure decreases from 47.4% in 1978 to 29.3% in 2004, with the historic low of 24.1% in 2001.
- Percentage of personal health expenditure in the total health expenditure rises from 20.4% in 1978 to 53.6% in 2004 with the peak of 60.0% in 2001.

The high share of personal out-of-pocket payment is partly due to the low coverage of health care insurance. According to The Third National Health Services Investigation in 2003, 64.5% of the Chinese population totally rely on private out-of-pocket payment when seeking for health services (MOH 2004). Only 35.5% of the population is covered by health insurance coverage and the share is as follows: PIS and LIS cover 2.3%, cooperative insurance covers 8.0%, basic health insurance covers 8.2%, commercial health insurance covers 7.0% and other social health insurance covers 10.0% (MOH 2004). According to an unofficial social survey conducted in 7 provinces in 2005 (sample size: 3859), about a quarter of the patients

abandoned medical treatment because they can not afford it (International Consulting Information Net 2005). Obviously, risk pooling becomes a primary issue in assessing the health care financing. The following two sectors would examine the reformed risk pooling mechanism in urban and rural, respectively.

2. Risk Pooling in Urban – Facing Tough Going on Universal Access

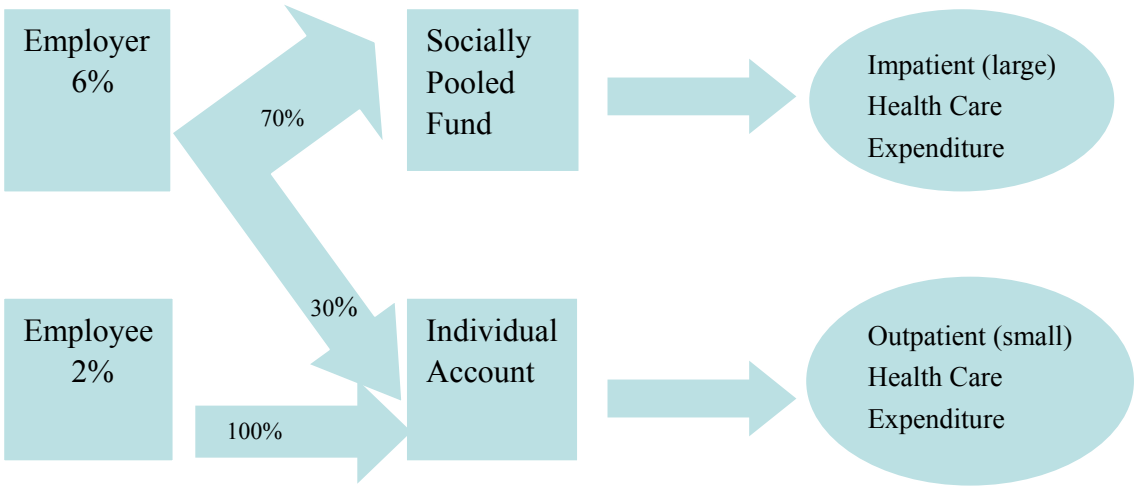
The reform of health care insurance system began in 1990s. In the beginning, it was only modifications to the old health insurance system in order to curb the rising health care expenditure. The real action starts in 1994, when the "Two Jiang Experiment" (Zhenjiang and Jiujiang) set up the model of combination of socially pooled fund and personal fund. The philosophy of this system – combining personal responsibility with social risk pooling – is similar with the health care insurance system in Singapore. However, its uniqueness lies in the merge of funds from contributors and the separation of the funds into two accounts.

The funding model is as follows: employee contributes 2% of his/her wage and employer contributes 10% each month to the health insurance fund; the fund is divided into tow accounts: 4-6% to personal account (depends on age) and 5-7% to social coordinating account. The employee's contribution is owned by the employee and could be inherited (State Comission of Economic Reform etal 1996).

The payment procedure is a three-phase passage model: first, the insured draws money from personal account to pay medical bills; second (when the personal account is depleted), the insured pay the bills out of pocket; third (when self-payment exceeds the pre-set threshold),the medical bills are jointly paid by the socially pooled account and the insured (Tang 2006). There were also other experiments going on in cities like Shenzhen and Yantai, this "Two Jiang" model received more attention and was replicated in many other cities starting in 1996.

The landmark health insurance reform happened in 1998 when Decision on the Establishment of the Basic Health Insurance System for Urban Staff and Workers (1998 Decree) was issued. The 1998 Decree aims on providing universal access to the basic health care. It applies to all the urban hiring units including government organs, state-owned enterprises, collectively-owned enterprises, foreign enterprises, social organizations and private entities. The enrollment of workers in the township enterprises and individual economic entities will be decided by local government. The framework of this new health insurance system is demonstrated in Figure 3. The payment procedure is similar with the three-phase passage model. The self-payment threshold that activates socially pooled fund is 10% of average annual local wage and the maximum that could be pooled out of the socially pooled fund is four times of the average annual local wage (State Council 1998).

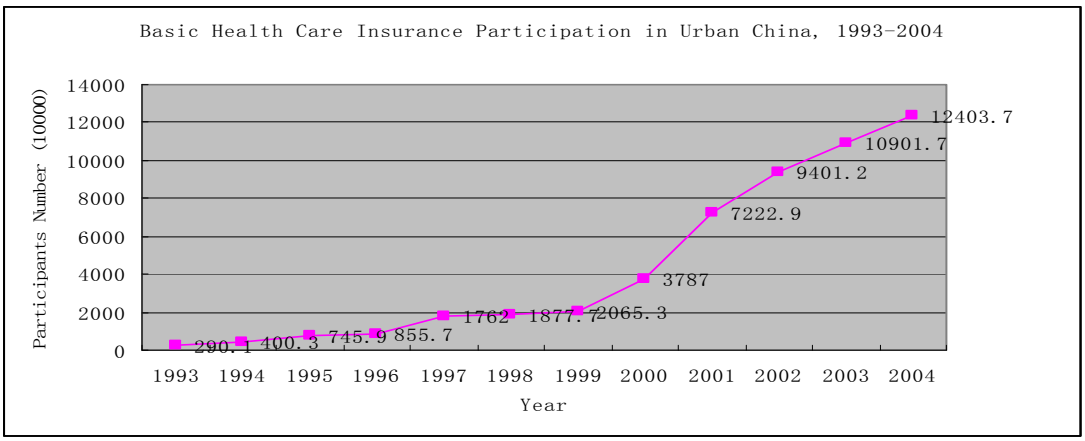
Figure 3 Framework of the Basic Health Insurance System for Urban Employees



Just as any other reform in China, this new risk pooling reform faced lots of obstacles. Beneficiaries of the previous free health care system oppose the employee contribution and self-payment; private or foreign companies which have more young and healthy employees oppose pooling risks with working units which have more old employees. There are also several problems in this reform. In terms of policy design, the self-employed people and the dependents of the urban employers are not included; therefore, although the coverage is relatively broad, it is still not universal coverage. In terms of policy implementation, many working units refuse to participate because of the reasons described above. Also, in some places, the illegal use of the insurance cards also exists – several people use one account. It results the rapid depletion of the personal accounts (Tang 2006).

Despite the problems, the participation of basic health insurance in urban has increased in the past 10 years especially since 1999 (See Figure 4). The number of participants has increased from 2901000 in 1993 to 124037000 in 2004. If use the total number of the working population and the retired population as the base number, the coverage percentage has reached 39.8% in 2004. This increase reflects the government's effort in approaching the universal coverage.

Figure 4 Basic Health Care Insurance Participation in Urban China, 1993-2004



Source: China Labor and Social Security Yearbook, various years.

3. Risk Pooling in Rural – Implementing New Cooperative Health System

The old cooperative health system in rural areas gradually collapsed as the market economic reform proceeded in China since 1980s. The peasants, which constitute 70% of the Chinese population, lost even the most basic health insurance and most of them have to pay out-of-pocket to get health services, which significantly limit their access to health care. This is one of an important reason that China ranks NO. 188 in the 191 countries in terms of "fairness of financial contribution to health systems" in the 2000 World Health Report by WHO.

Since 1990s, the Chinese government has tried to restore the old cooperative health system. However, since the collective economy in rural has been reformed to a market economy, the basis which the old cooperative health system relied on no longer exists. As a result, the government efforts produced little effect. According to the three major National Health Service Survey, from early 1990s to 2003, the coverage of cooperative health has always been below 10% while the private out-of-pocket payment has always been about 80% (MOH 1993).

In 2003, the Ministry of Health, Ministry of Finance and Ministry of Agriculture jointly promulgated "Circulation on the Establishment of a New-Style Rural Cooperative Health Care System". Here is a comparison between the old CHCS and the new-style CHCS. First, new CHCS is initiated and organized by the government while the old CHCS was organized by communes. Second, the new CHCS fund is financed by three sources: rural participants contribute 10 Yuan, central government contributes 10 Yuan, and local government contributes at least 10 Yuan. In contrast, the old CHCS relies on the local collective economy. Third, the new CHCS fund is managed and allocated on the county level while the old CHCS fund is managed on the village level. Fourth, participation of the new CHCS is completely voluntary while participation of the old CHCS was relatively more compulsory. Fifth, the new CHCS fund is primarily used for the serious illnesses that cause hospitalization and large health expense, while the old CHCS fund does not have this rule. (MOH, Ministry of Finance and Ministry of Agriculture 2003).

Currently, the new CHCS is still in the trial stage. In 2004, there were 333 experiment counties (cities and towns) and this number has increased to 641 in 2005. Till June 2005, 163 million rural population participated in the new CHCS (Gu 2006).

The new CHCS is a great step forward in the risk pooling in rural areas. However, there are several problems in the designing of this rural health insurance system. The first problem is voluntary participation. Although the initial intention of making the participation voluntary is to avoid additional burden on the peasants, the result is that it actually excludes the rural poorest population – those who are so poor that they must make every cent in their pocket count in order to survive and therefore could not afford the 10 Yuan premium. As a result, the governments subsidize 20 Yuan to the participants – the relatively rich population in rural. This is "regressive" and hurts the poor most. The second problem is that it is primarily for serious illnesses. Rural areas are the important stage of primary health care. More attention should be paid to common diseases which are more cost-effective. Many

peasants become seriously ill because they did not get treatment in the beginning when they were not that sick. Besides, according to the national statistics, the average health expenditure per person in rural China in 2004 is 130.6 Yuan, which is much more than the 30 Yuan fund (Gu 2006). Given the rising prices of health services and medicine, it is questionable how much real benefit this insurance could offer to the participants.

Besides those designing problems, the collection and administration of the health funds as well as the set up of the surveillance system are also difficult tasks.

4. Lack of Strategic Purchasing

As discussed above, the health insurance system in China is far from complete. Strategic purchasing, which is performed by the insurer in many cases or government in other cases, has not happened in China yet.

Strategic purchasing could take advantage of scale economy, and more importantly, it offers better bargaining capacity regarding price, quality and opportunity of services, especially in dealing with natural monopolies on supply (WHO 2000). Strategic purchasing deals with three challenges: what interventions to buy? From whom? How to buy them? (WHO 2000) In China, "what interventions to buy" is always decided by the health care provider because of information asymmetry; but patients enjoyed the freedom on "from whom to buy" since they can choose the hospitals at their discretion; regarding "how to buy", the predominant way is the retrospective out-of-pocket payment.

Currently, there is no real third party payer in the Chinese health care market (Gu 2006). Even in the presence of the health insurance, the patients usually need to pay for service first, and then get the reimbursement from the insurer. In this situation, the patient still act as a single buyer. Other payment mechanisms, such as line item budget, global budget, capitation and diagnostic related payment, although usually perform much better than fee-for-service in terms of cost containment, are not introduced in the current health care system in China.

Just as in many other developing countries in the world, the movement from a retrospective provider payment system to strategic purchasing arrangements in China would not be an easy task. Even in the recently reformed health care system in urban and rural, principles of strategic purchasing are still absent.

IV. Health Care System Performance – Both Equity and Efficiency Matter

China's health care system underwent dramatic changes since 1980s. Despite the disarray in rural health care, defects in the policy and other problems discussed in the previous chapters, the general health status of Chinese people has not deteriorated since 1980s. It is believed that rising overall living standards, improved nutrition and better education have contributed to the health status. Also, Chinese people have being spending more on health care: health expenditure increase from 11.0 billion Yuan (3.04 % of GDP) in 1978 to 759.0 billion Yuan (5.55 % of GDP) in 2004 (MOH 2005). As a result, the quality and quantity of medical establishments improved a lot in the past twenty years. However, inequity in health and health care has become a more and more prominent problem since the health care reform. Inefficiencies also become an issue that can not be neglected. Generally speaking, the health care reform is unsuccessful (State Council Development Research Center 2005) .

1. Achievements

Life expectancy and infant mortality are usually used to measure the health status of a population. In China, from 1981 to 2000, the average life expectancy increases from 67.9 to 71.4 and the infant mortality decreases from 34.7 ‰ to 28.4 ‰ (MOH 2005) (see Table 5). It is about 3.4 years increase in life expectancy and 6.3 ‰ decreases in infant mortality. Progress has been made, albeit slower than the world average. According to WHO, for all member states from 1980 to 1998, the average life expectancy increased 4 years and the infant mortality decreased 23 ‰ (Wang 2003). Table 6 demonstrated the detailed comparison.

Number of medical establishments and health professionals has greatly increased in the past twenty years. In 1980, there are only 9902 hospitals (including general hospital, Chinese medicine hospital and specialty hospital) and 102472 clinics in China. In 2004, the number of hospitals increased to 18393 and the number of clinics increased to 208794. (MOH 2005) (see Table 7) Number of beds in health institutions increased from 2184423 in 1980 to 3045847 in 2004 (MOH 2005), although actually the beds in city hospitals increased a lot while the beds in county hospital declined. (see Table 8) The number of health professionals per 1000 capital rises from 2.85 in 1980 to 3.46 in 2004. From 1990 to 2002, the number of middle and high level health professionals, which includes medical health professionals, medicine professionals (pharmacists), nursing professionals and technical professionals, increased from 729070 to 1182449 (MOH 2005). (see Table 9). Another measurable improvement is the progress on medical technology and equipments. Hospitals are likely to purchase the high-tech medical equipments for which they could charge a high examination fee. In 2004, the number of medical equipments that are worth more than 1 million Yuan reaches 23951 (MOH 2005).

2. Inequality in Health, Health Care Demand and Utilization

As discussed above, since the economic reform and health care reform, the overall health status of the Chinese population has generally improved, albeit slowly than the world average and more slowly than prior to the reforms. However, overall numbers are misleading in the sense that it masks the health inequality between subgroups: rural vs. urban, rich provinces vs. poor provinces, high-income population vs. low income population, etc. Regarding Infant Mortality Rate (IMR), it declined between 1990 and 2005 in both rural and urban areas (MOH 2001; United Nations 2005). IMR in rural areas is always 2-3 times higher compared with IMR in urban areas, despite the fact that the gap has being getting narrower since 1990. Inequality of health status also exists among different provinces. As shown in Figure 5, life expectancy is higher in richer provinces than in poor provinces.

- Inequity in Health Care Demand (See Table 11: Health Care Demand (Self-reported morbidity within last 2 weeks prior to interview, chronic disease rate and self reported bed-days percentage during past 12 months) by Income Quintile and Urban/Rural 1993,1998 and 2003:

In urban areas, the self-reported 2-week morbidity rates for almost all income quintiles went down from 1993 to 2003 (See Table 10 for quintile group definition). In contrast, in rural areas, self-reported 2-week morbidity rates went up for all income quintiles during the same period. As a result, the overall self-reported 2-week morbidity rates become similar (1.3%-1.4%) in urban and rural areas, respectively. In both rural and urban, higher income population has a lower self-reported 2-week morbidity rate.

Regarding chronic disease rate, the urban population chronic disease rate decreased from 1993 to 2003, with the 5th income quintile (lowest income) group decreased the slowest. In rural areas, the 1st, 2nd and 3rd quintile group's chronic disease decreased while the 4th and 5th group's chronic disease rate increased. As a result, people with higher income are less likely to have chronic disease. The gap between rural and urban widened considerably for all income quintiles.

In 1993 the annual illness bed-days percentage was similar in urban and rural populations, i.e.2.22 and 2.23. In 2003, these rates had increased to 3.69 and 3.40, respectively.

- Inequity in health care utilization (See Table 12: Health Care Utilization (Two week visits and Annual hospitalization rate) by Income Quintile and Urban/Rural

The outpatient service utilization decreased for all urban income quintiles. For the rural populations, the service utilization decreased faster for the higher quintile and slower for lower quintile. Overall, therefore, the gap which existed for outpatient service utilization in 1993 between the rural and urban populations had narrowed by 2003. The non-attendance rate also increases for both rural and urban from 1993 to 2003.

Inpatient service utilization decreased between 1993 and 2003 for the all urban except for the 5th quintile and increased for the all rural income quintiles. The

non-attendance rate increased for all urban population and decreased for all rural population. Overall, the gap in inpatient admissions between urban and rural is getting smaller.

3. Inefficiencies in Resource Allocation and Service Delivery

Inefficiency exists in resource allocation of health care. Partly due to the non-system health care in the rural areas and low health care capacity of small towns, more and more patients choose to go to the higher level hospitals or city hospitals when they feel necessary. At the same time, more government funding is allocated to the city hospitals because of the increase in demand. As a result, more and more resources were transferred to the city hospitals. From 1980 to 2004, number of beds in city hospitals rises from 903323 to 2089410, while number of beds in county hospitals drops from 1281100 to 956437 (MOH 2005) (see Table 9). Still, hospital beds are always filled to capacity, which doesn't accrues to efficiency but to rampant inefficiency (Hsiao 1995). In contrast, the average occupancy rates for township health center is less than 50% and most health professionals there work at only half of there capacity (MOH 1991).

Another phenomenon is the overuse of unnecessary or expensive drugs. Driven by the market forces, many doctors try to prescribe more drugs than necessary and always prefer expensive drugs to cheap drugs even if there is no significant difference in efficacy. For example, currently in China, overuse of anti-biotic already becomes a serious problem. About 80,000 patients die of overuse/inappropriate use of anti-biotic annually in average. About 80% of the impatient health care uses anti-biotic, which is much more higher than the world average 30% (China Youth 2004). Overuse of drugs not only result in inefficiency but also has serious adverse effects on patients' health.

In terms of service delivery, inefficiency is also prevalent. The average length of impatient hospital stay in China is about three times than the U.S. (Hsiao 1995). Patients are always admitted to hospital several days before the operation because of the low efficiency of surgery scheduling. As a result, patients need to stay in the hospital to wait for the operation. Those problems are attributable to the organizational structure of the hospitals. Generally speaking, hospital directors don't have the power to fire a staff and very few of them have the incentive to improve the operation efficiency since their main duty is to provide health service and make revenue cover expenses.

V. Options for Reform

1. Options for Organizational Reforms

The rising prices of health care and medicine, inefficiency and inequity in health care and many other emerging issues after health care reform have become one of the major social problems in China. Someone takes a critical view on the marketization of health care and contend that government should take over the responsibility while others contend for a managed competition in health market to solve the problem. This chapter would first discuss the possible roles of government in health care, and then the two possible directions – government taking responsibility and managed competition – will be described and discussed.

As reviewed in the first chapter, government shoulders lots of responsibility in managing or providing health care in most of the successful health systems in the world. In 2003, share of government health expenditure in total health expenditure in all member countries of Organization for Economic Co-operation and Development (OECD) exceed 44% and more than two thirds of them exceed 65% (OECD 2005) (See Table 13) In China, the determinant of the great achievements in public health under the planned economy from 1949 to 1980s is that government was playing the leading role (State Council Development Research Center 2005). No matter what option should be adopted, the key point is to strengthen government's role in health care. .

The Possible Roles of Government in Health Care Market

Government's possible role as health care provider, payer, insurer and regulator will be discussed here.

- Government as Health Care Provider:

Government could set up the health care system and provide health care to the population. Currently in China, most hospitals are still owned by the state but actually most them have gained autonomy and are more driven by the market force. As a result, insufficient resource was allocated to the rural area and the primary health care system. Government needs to take more responsibility in providing health care especially in the primary health care system. In other words, government should directly control hospitals and other health institutions, and shoulder the responsibility of both managing public health system and providing basic health care to the population. This model might incur other problems such as low efficiency and bad responsiveness, but it could be managed through other regulation policies.

After all, investment on health care is for the population's interest. Nowadays in the world, health institutions in most developed countries are still state-owned. Even in the U.S. where free markets are highly developed, four government agencies provide health care services to defined segments of the American population: the Department of Defense to military Service members and their families; the Veterans' Administration to veterans; the Indian Health Service (IHS) to American Indians and

Alaska Natives, and the Health Resources and Services Administration (HRSA) to underserved Americans through its system of primary health care clinics.

- Government as Payer

Government as payer of health care services, might be effective in confining the increasing cost of health services. In this case, government could play the role of a third party payer. Currently in China, although there are large number of patients in the health care market, they always approach the health provider as single consumer and therefore could not take advantage of the "scale economy". In the presence of third party payer, the consumers as a group would have more bargaining power and the strength of consumer and supplier would be much more balanced.

Currently, the health care delivery method is fee-for-service (FFS). It is least effective in cost containment compared with other payment methods. Even if in the presence of insurance, patients usually need to pay it first and then get the reimbursement. Government as the payer could transform the current payment option to prepayment, such as line item budget, global budget, capitation and diagnostic related payment.

For instance, in the U.S., the Center for Medicare and Medicaid Services (CMS) is the nation's largest payer. CMS tries to help patients become more effective health care consumers. In general, CMS has the ability to influence the market because it represents a large number of patients. Currently, CMS is seeking advice on possible roles it might play from the Connecting for Health public-private collaborative.

- Government as insurer

Government could play the role of insurer and provide universal coverage for the whole population. An important feather of this scenario is that it would improve the equity in access to health care. This is especially appealing for China in some sense. Currently in China, equity in health care has become an urgent problem that need to be solved. If everyone in this country has the health care insurance provided by the government, they would have a more equitable access to health care in terms of financial affordability.

A potential problem is budgeting. According to the current health care expenditure level in China, a universal health care coverage for both urban and rural would take 60-70 billion Yuan (Gu 2006) and currently China is already spending more than 5% of the GDP on health care. It is a question that if China could afford to spend more than that on health care. However in the 1950s to 1970s, China used to spend about 3% on health care and still achieved universal coverage and improved health status. Therefore, if carefully designed, this universal coverage is still possible. Meanwhile, from the stand point of the government, the investment in health is very cost-effective.

- Government as Regulator

Government as regulator of health care market, could play an important role not only in a well functioning market but also in case of market failure. In both cases, government needs to create and modify the regulatory environment in which suppliers and consumers are both in relatively balanced positions. Government should oversight the health care market and use constitutional tool or law enforcement to

regulate the market.

It needs to be made clear that government as regulator is different from the direct administrative relationship between hospitals and governments as it was in the past. Administrative management is an internal management within one system while government as regulator is in the context of the market. Government regulation is not an opponent of the free market but a guide and monitor.

Strengthen Government Responsibility

One key element in the health care system in the past plan economic was the stress on government responsibility. Government responsibility in health care covers two areas: one is in funding and resource allocation and another is the complete interaction in the construction and development in the health care system (State Council Development Research Center 2005).

Public health belongs to the category of public good. Therefore, a basic function of the government is to provide public health service, even in a highly developed free market environment. To provide this service, one funding option is through tax collection and then the government functions as health provider; another option is to provide universal health care coverage by the government. Example for the former is the Singapore health care system. However, as discussed in Chapter 1, an unspoken assumption for the Singapore model is that the majority of their population is working population. In China, it is a different case and the percentage of working population is much smaller. Therefore, there will be more difficulty in setting up the universal health care scheme.

Currently, decreasing public funding in health care constitutes a problem in China. However, that is not the only issue and not the most important issue. Appropriate use of the public funding, efficient recourse allocation and better management are more important in some sense. The government needs to make sure that the health care resource is located relative evenly to avoid the concentration of resource to the developed areas. The government also needs to oversee the structure of health care system to make sure that not only higher level health care but also the primary health care is available and accessible to the population. In addition, the government should be responsible for the overall prices and quality of the health care to the population.

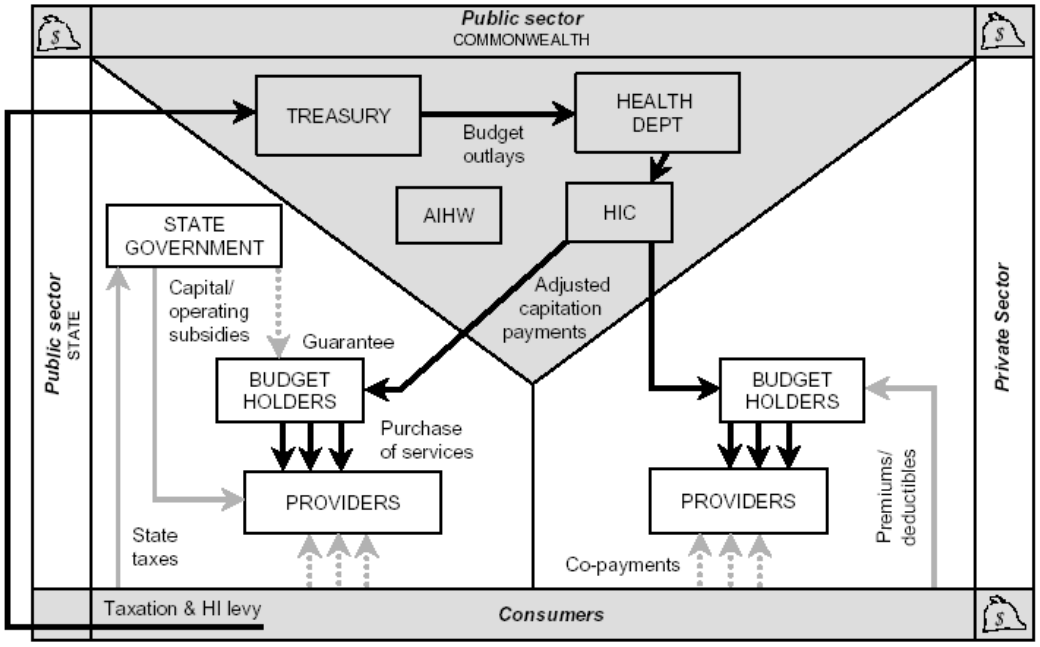
Managed Competition in Health Care Market

In contrast to the government taking over health care responsibilities, another option is the managed competition which is in the setting of a 'market-oriented' structure. In managed competition in health care, financing and insurance/third party payer function is separated from the provision of these services. More specifically, government would undertake the responsibility of financing of health care and fund

competing third party payers (or budget holders) to purchase health care services from competing providers. The budget holders and service providers can be both public and private organizations. (Productivity Commission 2002)

Here is the demonstration of the financial flow in the managed competition model (Scotton 1999). As shown in Figure 5, the general taxation and health insurance together with some legislative co-payments would pay for the costs of health services to consumers. Those payments flow from Treasury to the Health Department then the Health Insurance Commission (HIC) and finally to the public and private budget holders in the form of risk-adjusted capitation payments for their enrollees. Using those payments, the budget holders would contract with service providers to purchase health services.

Figure 5: Managed Competition Model: Financial Flow



Source: Productivity Commission 2002, Managed Competition in Health Care, Workshop Proceedings, AusInfo, Canberra.

As a result of this managed competition, budget holders need to compete for customers to enroll into their program and health service providers need to compete to supply health care services to customers through budget holders. This combination would result in effective and efficient resource use. Currently in China, there is no budget holders because of the prevalence of FFS and the health service institution almost do not have to compete for patients because the higher level hospitals always have the advantage of attracting patients. Managed competition might be a possible solution to the current problems but the institutional reform is required to form the two competing markets described above.

2. Options for Urban Health Care Financing

The financial crisis in the old health care system in the 1990s prompts the Chinese state to launch successive rounds of health reforms to transform it into a new health care insurance system. In new system, the medical insurance was funded by the combined contribution from the workplace and individuals under the administration of local governments. This chapter would first take Shanghai City as a comparatively successful case to study a recent experience in urban health insurance reform, and analyzes its funding mechanism in context of urban health insurance system. In the end, alternatives of broadening urban risk pooling will be given.

Case Study of Shanghai - A Recent Experience in Urban Health Insurance

Shanghai is one of the most developed cities in China. The health status in this city is also among the top: the average life expectancy reached 79.52 years and infant morality rate dropped to 5.01‰ in 2002 (MOH 2004). In this context, the reform of urban health insurance started in the end of 2000. In the reformed health insurance system, the employers were required to offer 10% annual wage of the total employees for their basic health insurance while the employees spend 2% of their monthly wage in purchasing the insurance. In addition, the employers are required to contribute 2% annual wage of the total employees to establish the local health funds for the employees. Because of the unique contribution combination of employees and employers, this system is generally called "10+2+2".system. The contribution goes to the social coordinating account and the individual account, which is similar with the basic health care system for urban workers issued by the central government. For the retirees, their individual accounts can even receive 40-45% contributions from employers. At the end of 2002, about 6.76 million people joined contribution-based basic medical insurance schemes while and 98.35% of the employers participated (MOH 2004).

In general, the health care reform in Shanghai is successful in supplying health insurance to the mass population. Shanghai provides an example of the health care insurance administration: on one hand, local governments have greater flexibility in determining the benefit structure; on the other hand, successful implementation of new policy requires a more cost-effective institutional arrangement for administering the newly established health insurance schemes.

Analysis of the Funding Mechanisms

Shanghai model represents an exploration in funding health care insurance. The scheme in Shanghai raises more money for medical insurance by putting heavy burden on the employers. It decreases the non-compliance rate of the employees and addresses their concerns that there won't be enough money in the individual account, especially when they had some chronic illnesses. The government also promises to

implement preferential policy for the laid-off worker if they would like to join this system. The combination of multilayer funds in Shanghai accomplishes the equal standard of basic health service in terms of building medical security system, access to health service, subsiding basic health service and so on. There are also shortcomings in this funding model. For instance, the establishment of individual account laid little concern on income difference, despite its consideration on age difference.

In general, urban health care financing does not constitute a serious problem compared with rural health care financing . After all, in the joint effort of employers, employees and government funding, the basic health care insurance for the working force could always be secured. However, the health care insurance for the disadvantaged group, eg, the unemployed population, has always been consciously or unconsciously overlooked. For that vulnerable population, the government should take out a reasonable amount of money to directly compensate for their health cost in the form of subsidy. Take U.S. for example, even though its health care system is highly commercialized, the government subsidizes the elderly and the poor through various programs. Currently in China, the budget provided by the central and provincial authorities may not be sufficient to cover a large uninsured population. Still, intermediate steps could be taken to subsidize the disadvantaged population, directly or indirectly, as long as there is enough attention on this issue.

Directions of Broadening Urban Risk Pooling

In addition to the current basic health care insurance for the working population, health care insurance needs to be broadened to include their dependents, which would greatly expand the current health care insurance coverage. The cost could also be shared by the employer, employee and the government. The self-employed also needs to be included in the scheme. Since they are both employers and employees, they would simply be asked to pay for both parts, just like Singapore does, or they can purchase commercial health care insurance if they feel it is too much to pay as both employees and employers. Still, it is an ambitious go to achieve universal coverage in the urban population, and some intermediate steps might need to be taken before we achieve the long term goal.

In the end, it is important to establish multilayer medical insurance schemes on the basis of basic medical insurance. In addition to establishing the basic urban medical insurance system, the government should gradually form medical security setups integrating replenishment, business insurance and social relief. Health services should be integrated in accordance with the principle of enlarging the coverage of the whole population and special attention ought to be paid to the integration of medical services, to serve the interests of the masses.

3. Options for Rural Health Care Financing

Since the household contract responsibility system with remuneration linked to output was implemented in early 1980s, Chinese rural areas have experienced tremendous changes in the economic and social landscape. As a result, there have been fundamental reforms in health care programs in rural areas. In this process, the funds from government are far from sufficiency to support the numerous rural populations. Differences in health care expenditure are striking across urban and rural areas. The urban-to-rural health expenditure ratio was at 7/3 whereas urban-to-rural population ration was reversed at 3/7 in 1996 (Liu 2003). To solve emerging conflicts in rural medical care, new CHCS is established, trying to pool the voluntary contributions of local residents and organize medical services at the local community level.

This chapter would first take eight counties in Hubei province as a typical case to study the experience for rural health insurance reform, and then compared volunteer and compulsory insurance through analyzing their advantages and disadvantages. In the end, financing and government responsibility in establishing new CHCS will be discussed.

Case Study of Hubei Province - The Experience for Rural Health Insurance

Hubei province is a typical agricultural province where 71.36% of the total populations lived in the rural area. In 2002, there were at least 2 million rural populations who returned to poverty level because of expensive medical care. As an attempt, eight counties were chosen as the experimental units to implement the policy of new-style cooperative medical insurance in 2003.

In the experiment counties, the process begins by publicizing the structure of the new-type system, with an emphasis on how the participants could benefit from it. After the general propaganda, the government staff would go to peasants' family to register and sign the contrast with them, if they wish. Upon their participation, they need to 10 or 15 Yuan per year. For the rest of the funding, 5-10 Yuan comes from province government and at least 5 Yuan from local government/community. (General Office 2004). To avoid appropriation by other sectors, the money raised for the new CHCS goes into a separate account and then divided into four funds, which includes out-patient account, hospitalization account, risk account and health examination account. (Yang, 2004) Out-patient and hospitalization funds constitute 27.4 and 62.2 per cent of the total funds, respectively. The physical examination funds and risk funds were also brought to the financing system. (Yang, 2004) In the framework of cooperative medical scheme, the replenishment of medical care is positively associated with medical expenditure and negatively associated with the level of medical institutions attended. (See Table 14). The new CHCS will start to pay for the health care expense only after self-payment reaches the replenishment level.

New CHCS was implemented smoothly in eight experimental counties. By the end of October 2003, about 2.42 million people have been involved in the cooperative medical care system, with a high participation rate of 65 percent. About 1.4 million out-patients have been benefited from the insurance system while over 20555 hospitalized patients have. In two counties, ratio of out-patient replenishment even reached 80 percent. (See Table 14) These results have demonstrated cooperative medical scheme is basically successful in these experimental counties. (Huang, 2005) Several factors contribute to those progresses. First, the premium is relatively low and affordable to most rural population. For all the experimental counties, the peasants' funds for medical insurance were less 1 per cent of their income. In some area people still do not completely trust the new system. Therefore, a scheme like this with low premium is relatively easy to implement. Second, strong propagandism by the government plays an important role. In contrast with urban people, the populations in rural China are accessible to limited information in most cases. Short-term and concentrated propagandism is effective in enhancing their awareness of policy and institutions in new cooperative medical scheme.

Problems also exist in Hubei province. Replenishment levels are uneven with the maximum 20000 Yuan and minimum 3000 Yuan. In all the experiment counties, only a quarter of hospitalized peasants benefited from replenishment scheme. (Yang 2004) The operation of medical system was of a low level due to insufficient financial support from government. Besides, how to keep the system consistent and stable is worthy of further study, despite good operation under temporary concentrated concerns.

Health Insurance: Compulsory vs. Voluntary

Whether to choose voluntary or compulsory is a key issue of new CHCS and is very controversial. According to the current policy, cooperative rural health care is established on the basis of willingness, despite a strong sense of compulsion wherein.

However, the coverage rate of new CHCS in the large rural population remains a problem and efforts needs to be made to persuade peasants to purchase the insurance, since allocating quota is no longer permitted in new scheme. Besides, the poverty-stricken group is unconsciously overlooked because of this voluntary principle. For poverty-stricken group, they could not afford the participation premium and thus are deprived of the right of sharing the benefit. The capital is circulated from the government directly to the comparatively rich people, resulting in a deepened economic gap in rural region. In this sense, the voluntary principle contradicts with the principle of protecting the poor. (Fang 2004)

To address this problem, especially extra burdens the "compulsory" exerts on the rural population, one solution is to make the new CHCS compulsory but subsidize the poorest group while make those relatively rich population pay their own premium. However, it is too difficult in implementation and administration, and would inevitably results in more problems and conflicts. An option is to combine this system with the social security system that's already been built in urban and gradually

expands it to rural.

Another potential problem is that, the new CHCS puts emphasis on insuring severe illness. The population with better health might retreat from this system and the local government would have more difficulty in financing the system, which may force them to consciously limit participation in order to reduce cost.

Financing Rural Health Care Options

The financing mechanisms in community should follow at least three principles: equity, openness, and be in accordance with economic status (Liu 2006). The rural people should enjoy the equal right in term of health care as the urban people and the government needs to pave the road. In terms of insurance spending, the administration should attempt to make the whole process open and accessible to all the insured people and actively accept the supervision from them. This activity will enhance people's trust in the new CHCS and attract more people to participate in its system.

Inevitably, there have been a lot of various difficulties in financing rural health care. Income instability of peasants, the lack of suited legislation and high administration cost are barriers on financing schemes (MOH 2004). The current policy in the poor region is to insure as many people as possible with basic medical care. However, patients with a severe illness face the risk of bankruptcy. Besides, the competition between public and private medical institutions has negative impact on the peasants' enthusiasm in participating in the insurance system. In the framework of the new policy, the peasants generally need to pay the cash first and then apply for reimbursement. The prices of drug and health service in public hospitals are higher than that of private clinics in most cases. As a result, people prefer go to private sector, which is included in the new CHCS.

Financing methods should be more flexible in order to attract more people to join the cooperative medical system. Considering that peasants have less cash, the local governments in some areas (Henan province) have ever tried to replace the cash premium with farm products. (Liu 2006) It has been demonstrated that the peasant welcomes this policy, and the administration cost is lower. However, it takes a long time to sell the products and get cash for the new CHCS funding. Meanwhile, many other factors such as product price, would influence the operation of the system. The "compulsory participation", where the governments pay the premium for the farmers using the tax money，was adopted in some places so as to improve the coverage of the cooperative medical scheme. However the peasants indirectly bear the burden because the local government usually has to exert more tax on them. In many cases, the peasants' resist to insurance medical system did not result from the financing mechanisms themselves, but something else, e.g. low quality of health care service in town hospitals. The simultaneous improvement of health care service in rural areas can encourage the peasants' participation in the new CHCS.

In the marketing economy, the government can make full use of various economic tools to finance the new CHCS. For example, the central government can raise

money by issuing the lottery and national bond or by raising the tobacco tax.

The government could also adopt various options to improve the financing mechanism and the operation procedure. One suggestion is that the government should adopt "regional discrimination" – that is, to adopt different financing policy in the rural regions with different income levels. Some suggestions have been put forward recently to divide Chinese rural areas into three parts in medical care system: the rich region, the region with middle income and the region with low income. Such discrimination scheme could also be used to direct the development of urban insurance system, advanced cooperative medical care system and medical relief system respectively (MOH 2004). Another suggestion is that local or central governments directly invest on the social relief scheme which could indirectly help with the medical care problem among the poor population. In fact, the government has been aware of this issue and tried to improve in the past twenty years. In terms of social relief and welfare, the state annual financial expenditure have inscreased from 0.53 billion Yuan in 1980 to 14.2 billion in 2002 (National Bureau of Statistics 2002, see Figure 6).

Despite those efforts, financing health care for rural population is still a daunting task and the government needs to manage all the conflictions as well as face many dilemmas. There is still a long way to go in financing the new CHCS.

Recommendations and Policy Implications

It is generally believed that the health care reform in China was not successful (State Council Development Research Center 2005). The overall effects of the reform is negative, which is represented by increasing inequity in health service access and decreasing efficiency of health care delivery and investment. Today the problems in health care system can no longer be neglected and reassessing the public policy and development strategy should be a priority on government agenda. Based on the analysis in the previous chapter, general recommendations on government responsibility, health care financing and legislation will be discussed in this chapter.

Government Responsibility

Health care system is not a system independent of social, economic and political environment. On the contrary, it has significant effects and at the same time is significantly affected by both the economic and the institutional structure. Therefore, it would be a huge challenge to reform health care system without corresponding social and economic support.

First of all, the government needs to pay real attention the health care reform and prioritize it on government agenda. In the past several years, the economic development has been the top priority and health care system did not get the attention

it deserves. Although some health status indicator, such as life expectancy, is relatively high, the actual health status of the population, especially some subgroups like rural residents and intellectuals, is becoming poorer. The rapid economic growth in China is in some sense at the expense of population health, especially the health of the disadvantaged groups, and the environment. Now the emergence of serious problems in health care system has become a potential threat to economic development and social security, the Chinese government should not continue to ignore all the problems and should make health care system reform a priority.

Secondly, the aims of the reform policy that government would adopt should be to improve the population health status instead of generating profit for institutions or industry. In the past years, many reform strategies, such as marketization of medical establishments and decreasing organized financing, aimed to develop the health care "industry". Now hospital in big cities has become one of the most profitable institutions, while on the other hand hundreds and thousands of poor people do not have sufficient access to health care services. For future health policy, improving population health status should be a major goal.

Thirdly, current government agencies should be reformed so that one of the government agencies is ultimately responsible for health care. In the present agencies, health care reform related responsibilities are distributed to many different departments, which includes at least Ministry of Health, State Medicine and Food Administration, National Development and Reform Commission, Ministry of Civil Affairs, Ministry of Labor and Social Security. As a result, there is more joint effort but little centralized effort to push the comprehensive health care reform and no one is ultimately responsible for the final results. To change this situation, a new or reformed department with definite duties and responsibilities should be formed for the future health care reform.

However, this report is not recommending that government taking over all health care responsibilities. Under the oversight of the government, managed competition which is in the setting of a 'market-oriented' structure should be encouraged in order to foster the further development of health care system.

Health Care Financing

Chinese government should increase funding for public health programs and subsidize health services for the disadvantaged groups.

At present, the limited public spending is mostly used to expand and upgrade hospitals in big cities. Coupled with the decreasing government funding and fiscal decentralization of health sector, many public-good type programs becomes under funded and hindered. This is against the general public health principle: it is generally believed that public health spending, such as spending on preventive service institution and surveillance programs, should be supported by the government. Investment on public health is very cost-effective compared with investment on health service. Besides, insufficient public funding for those programs would result

in insufficient consumption, and eventually decreasing health status of the general population. Further investigation and research is needed in order to give the quantitative recommendation for government expenditure on public health programs.

Regarding subsidizing the disadvantaged population, targeting is very important. Poor villages and poor urban populations who could not afford basic health services should be subsidized by the government. Currently the new CHCS in rural area only subsidize people with serious illness, which is not reasonable. Although as a general principle, government should not subsidize health services that people will readily buy for themselves, this principle does not apply to CHCS funding. For one reason, many serious diseases develop from illness that did not get treated in the early stage; for another, the most impoverished population could not afford even the basic health service. Therefore, it is recommended that the government subsidize the basic health services, instead of serious illness medical service, for the poorest population.

Besides all the spending priority discussed above, one important task in health care financing is to enhance government accountability in funding managing and resource allocating.

Legislation on Health Care

Various solutions have been proposed by the scholars and by the public after the State Council Development Research Center announced in 2005 that the health care reform was not successful. One of the suggestions is to draft a comprehensive legislation to solve the current problems from a legal aspect. However, this report recommends that the government should not hastily come up to a health care legislation.

At present, the most fundamental problems in the health care reform come not from the lack of legislation, but from the commercialization of public goods.

Till today, several legislations and policies have been passed in the past ten years to address the various problems emerged. Despite the limited positive effects of those legislations, new problems/conflictions and public dissatisfaction continued to develop during this process. Therefore, before the general direction of future health care reform was decided, before the positioning of government in health care was clear, a health care legislation would not be much helpful in solving the current problem. On the contrary, it would just further disappoint the population and undermine the credibility of legislature. A comprehensive health care legislation is necessary only after the government responsibility and health care financing problems were solved.

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Table 1 Composition of hospital incomes in China (1980-2000)

Items	1980	1985	1990	1995	2000
Total Income (CNY100 million)	292.6	428.6	702.2	1,003.4	2,296.5
% of medical service	18.9	22.2	28.6	34.7	40.2
% of drugs	37.7	39.1	43.1	49.8	47.1
% of government subsidies	21.4	20.2	11.6	7.5	8.7
% of other source	22.1	18.6	16.7	7.9	4.0

Source: Ministry of Health (2001)

Table 2 Central and Local Budgetary Expenditure and Their Proportions (1981-2003)

Year	Absolute amount (100 million yuan)			Proportion (%)	
	National	Central	Local	Central	Local
1981	1138.41	625.65	512.76	55.0	45.0
1982	1229.98	651.81	578.17	53.0	47.0
1983	1409.52	759.60	649.92	53.9	46.1
1984	1701.02	893.33	807.69	52.5	47.5
1985	2004.25	795.25	1209.00	39.7	60.3
1986	2204.91	836.36	1368.55	37.9	62.1
1987	2262.18	845.63	1416.55	37.4	62.6
1988	2491.21	845.04	1646.17	33.9	66.1
1989	2823.78	888.77	1935.01	31.5	68.5
1990	3083.59	1004.47	2079.12	32.6	67.4
1991	3386.62	1090.81	2295.81	32.2	67.8
1992	3742.20	1170.44	2571.76	31.3	68.7
1993	4642.30	1312.06	3330.24	28.3	71.7
1994	5792.62	1754.43	4038.19	30.3	69.7
1995	6823.72	1995.39	4828.33	29.2	70.8
1996	7937.55	2151.27	5786.28	27.1	72.9
1997	9233.56	2532.50	6701.06	27.4	72.6
1998	10798.18	3125.60	7672.58	28.9	71.1
1999	13187.67	4152.33	9035.34	31.5	68.5
2000	15886.50	5519.85	10366.65	34.7	65.3
2001	18902.58	5768.02	13134.56	30.5	69.5
2002	22053.15	6771.70	15281.45	30.7	69.3
2003	24649.95	7420.10	17229.85	30.1	69.9

Note: a) The central and local revenue in this table represent the income from the central and local level government themselves.

b) The figure here excludes debt revenue.

Source: Ministry of Finance http://www.mof.gov.cn/news/uploadfile/zhongyang001.xls

Table 3 Share of Health Expenditure in GDP in China (1978-2004)

Year	Health expenditure (100 million Yuan)	GDP (100 million Yuan)	Share of Health Expenditure in GDP (%)
1978	110.21	3624.1	3.04
1979	126.19	4038.2	3.12
1980	143.23	4517.8	3.17
1981	160.12	4862.4	3.29
1982	177.53	5294.7	3.35
1983	207.42	5934.5	3.50
1984	242.07	7171.0	3.38
1985	279.00	8964.4	3.11
1986	315.90	10202.2	3.10
1987	379.58	11962.5	3.17
1988	488.04	14928.3	3.27
1989	615.50	16909.2	3.64
1990	747.39	18547.9	4.03
1991	893.49	21617.8	4.13
1992	1096.86	26638.1	4.12
1993	1377.78	34634.4	3.98
1994	1761.24	46759.4	3.77
1995	2155.13	58478.1	3.69
1996	2709.42	67884.6	3.99
1997	3196.71	74462.6	4.29
1998	3678.72	78345.2	4.70
1999	4047.50	82067.5	4.93
2000	4586.63	89468.1	5.13
2001	5025.93	97314.8	5.16
2002	5790.03	104790.6	5.51
2003	6584.10	116694.0	5.62
2004	7590.30	136515.0	5.55

Source: China Health Statistical Year Book, China Statistical Year Book (various years)

Table 4 Composition of Health Expenditure in China (1978-2004)

Year	Health Expenditure (100 million yuan)				Percentage of Total Health Expenditure (%)		
	Total	Government Health Expenditure	Social Health Expenditure	Personal Health Expenditure	Government Health Expenditure	Social Health Expenditure	Personal Health Expenditure
1978	110.21	35.44	52.25	22.52	32.2	47.4	20.4
1979	126.19	40.64	59.88	25.67	32.2	47.5	20.3

1980	143.23	51.91	60.97	30.35	36.2	42.6	21.2
1981	160.12	59.67	62.43	38.02	37.3	39.0	23.7
1982	177.53	68.99	70.11	38.43	38.9	39.5	21.6
1983	207.42	77.63	64.55	65.24	37.4	31.1	31.5
1984	242.07	89.46	73.61	79.00	37.0	30.4	32.6
1985	279.00	107.65	91.96	79.39	38.6	33.0	28.5
1986	315.90	122.23	110.35	83.32	38.7	34.9	26.4
1987	379.58	127.28	137.25	115.05	33.5	36.2	30.3
1988	488.04	145.39	189.99	152.66	29.8	38.9	31.3
1989	615.50	167.83	237.84	209.83	27.3	38.6	34.1
1990	747.39	187.28	293.10	267.01	25.1	39.2	35.7
1991	893.49	204.05	354.41	335.03	22.8	39.7	37.5
1992	1096.86	228.61	431.55	436.70	20.8	39.3	39.8
1993	1377.78	272.06	524.75	580.97	19.7	38.1	42.2
1994	1761.24	342.28	644.91	774.05	19.4	36.6	43.9
1995	2155.13	387.34	767.81	999.98	18.0	35.6	46.4
1996	2709.42	461.61	875.66	1372.15	17.0	32.3	50.6
1997	3196.71	523.56	984.06	1689.09	16.4	30.8	52.8
1998	3678.72	590.06	1071.03	2017.63	16.0	29.1	54.8
1999	4047.50	640.96	1145.99	2260.55	15.8	28.3	55.9
2000	4586.63	709.52	1171.94	2705.17	15.5	25.6	59.0
2001	5025.93	800.61	1211.43	3013.89	15.9	24.1	60.0
2002	5790.03	908.51	1539.38	3342.14	15.7	26.6	57.7
2003	6584.10	1116.94	1788.50	3678.66	17.0	27.2	55.9
2004	7590.30	1293.61	2225.40	4071.42	17.0	29.3	53.6

Note: Since 2001, the health expenditure did not include the medical education expenditure

Source: MOH China Health Statistical Year Book 2006

Table 5 Life Expectancy and Infant Mortality in China (1981, 1990 and 2000)

Year	Infant Mortality Rate (‰)	Life Expectancy (Year)		
		Average	Male	Female
1981	34.7	67.9	66.4	69.3
1990	32.9	68.6	66.9	70.5
2000	28.4	71.4	69.6	73.3

Source: MOH China Health Statistical Year Book 2006

Table 6 Comparison of Life Expectancy and Infant Mortality in Selected Countries (1980 and 1998)

Countries	Average Life Expectancy (ALE)		Infant Mortality Rate (IMR)		Change of ALE (1980 – 1998)	Change of IMR (1980 – 1998)
	1980	1998	1980	1998		
China	68	70	42	31	2	-11
Australia	74	79	11	5	5	-6
Japan	76	81	8	4	5	-4
Republic of Korea	67	73	26	9	6	-17
Malaysia	67	72	30	8	5	-22
New Zealand	73	77	13	5	4	-8
Singapore	71	77	12	4	6	-8
Sri Lanka	68	73	34	16	5	-18
Low-income Countries	51	55	108	79	3	－29
Middle-income Countries	64	69	53	30	5	－23
High-income Countries	73	77	15	6	4	－9
World Average	61	65	67	44	4	－23

Adapted from Wang 2003 Source: WHO

Table 7 Statistics of Health Institution in China (1980-2004)

Year	Hospitals				Health Centers	Clinics
	Total	General Hospital	Chinese Medicine Hospital	Specialty Hospital		
1980	9902	7859	678	694	55413	102474
1981	10252	8044	781	718	55500	111189
1982	10471	8146	878	731	55496	113916
1983	10901	8370	1009	772	55559	115826
1984	11381	8545	1218	810	55549	117028
1985	11955	9197	1485	938	47387	126604
1986	12442	9363	1646	1030	46967	127575
1987	12962	9657	1790	1097	47177	128459
1988	13544	9916	1932	1190	47529	128422
1989	14090	10242	2046	1265	47523	128112
1990	14377	10424	2115	1362	47749	129332
1991	14628	10562	2195	1345	48140	128665
1992	14889	10774	2269	1376	46117	125873
1993	15436	11426	2298	1438	45024	115161
1994	15595	11549	2336	1440	51929	105984
1995	15663	11586	2361	1445	51797	104406

1996	15833	11696	2405	1473	51723	237153
1997	15944	11771	2413	1488	51535	229474
1998	16001	11779	2443	1495	50613	229349
1999	16678	11868	2441	1533	50257	226588
2000	16318	11872	2453	1543	49777	240934
2001	16197	11834	2478	1576	48643	248061
2002	17844	12716	2492	2237	46014	219907
2003	17764	12599	2518	2271	45204	204468
2004	18393	12900	2611	2492	42471	208794

Source: MOH China Health Statistical Year Book 2006

Table 8 Number of Beds in Health Institutions in China (1980 – 2004, selected years)

Year	Number of Beds in Health Institutions		
	Total	City	County
1980	2184423	903323	1281100
1985	2229200	962100	1267100
1990	2624100	1386700	1237400
1995	2836100	1739600	1096500
1998	2913700	1871600	1042100
1999	2928600	1887100	1041500
2000	2947900	1914200	1033700
2001	2976100	1958800	1017300
2002	2907153	1947297	959856
2003	2955160	2001267	953893
2004	3045847	2089410	956437

Source: MOH China Health Statistical Year Book 2006

Table 9 Number of Middle and High level Health Professionals (1990 -2002, selected years)

Year	Total	Directors (including medical health, medicine, nursing, technical)	Deputy Directors (including medical health, medicine, nursing, technical)	Executive Directors (including medical health, medicine, nursing, technical)
1990	729070	11792	91778	625500
1995	974678	28516	139432	806730
1997	1008663	29777	156837	822049
1998	1046774	29506	164055	853213
1999	1104418	30753	176284	897381
2000	1139664	30938	182726	926000
2001	1188721	33153	192827	962741
2002	1182449	37748	196063	948638

Source: MOH China Health Statistical Year Book 2006

Table 10: Income Quartile Group in 1993, 1998 and 2003 in Report of The Health Services Investigation (1993, 1998, 2003)

Year	Income Group	Urban area			Rural area		
		Income Range (Yuan)	Resident Percentage (%)	Average Income (Yuan)	Income Range (Yuan)	Resident Percentage (%)	Average Income (Yuan)
1993	1	<1050	19.91	739	<314	19.98	223
	2	1050-	19.22	1255	314-	18.02	386
	3	1500-	20.67	1677	500-	21.20	546
	4	1950-	20.49	2193	666-	18.59	767
	5	2430-	19.69	3848	1000-	22.05	1596
1998	1	<2040	19.90	1439	<975	19.98	655
	2	2040-	20.62	2590	975-	19.13	1122
	3	3000-	19.46	3629	1332-	20.88	1558
	4	4170-	17.23	4849	1820-	19.92	2180
	5	6000-	22.79	8737	2600-	20.09	4336
2003	1	<2640	19.89	1773	<880	20.26	593
	2	2640-	20.31	3422	880-	18.82	1095
	3	4012-	22.57	5265	1333-	19.97	1579
	4	6060-	18.00	7752	2000-	19.51	2297
	5	9036-	19.24	15250	3000-	21.43	5063

Source: MOH, An analysis report of national Health Services Survey in 2003. p 82

Table 11: Health Care Demand (Self-reported morbidity within last 2 weeks prior to interview, chronic disease rate and self reported bed-days percentage during past 12 months) by Income Quintile and Urban/Rural 1993, 1998 and 2003

Items	Year	Urban area					Rural area				
		1	2	3	4	5	1	2	3	4	5
Two Week Morbidity(‰)	1993	14.39	15.55	17.43	17.58	18.98	12.66	12.55	12.79	12.54	12.74
	1998	15.66	16.93	15.93	17.85	18.59	13.50	13.06	12.86	13.00	13.17
	2003	13.38	13.56	14.29	14.31	15.48	13.39	13.23	13.41	13.81	14.01
Chronic Disease Rate(‰)	1993	15.74	17.14	19.75	20.51	22.26	11.43	10.20	10.09	10.30	11.48
	1998	15.90	18.70	18.20	22.50	24.80	10.80	9.50	9.70	10.20	11.50
	2003	14.24	14.62	18.40	19.48	22.21	10.31	9.85	9.59	10.38	12.07
Bed-days Percentage(%)	1993	2.22	2.04	2.15	2.04	2.09	2.76	2.84	2.69	2.60	2.23
	1998	1.94	1.75	1.59	1.74	1.73	3.26	2.66	2.53	2.48	2.12
	2003	3.69	3.32	3.12	3.39	3.33	4.20	3.85	3.66	3.72	3.40

Source: MOH, An analysis report of national Health Services Survey in 2003. p 87

Table 12: Health Care Utilization (Two week visits and Annual hospitalization rate) by Income Quintile and Urban/Rural

Items	Year	Urban area					Rural area				
		1	2	3	4	5	1	2	3	4	5
Two-Week Visit Rate (%)	1993	21.8	19.6	22.8	22.3	26.9	17.0	17.3	16.5	18.1	18.0
	1998	16.5	16.6	15.5	18.5	20.3	18.0	16.5	16.7	17.2	16.6
	2003	10.1	10.2	12.0	11.8	15.0	12.9	13.6	13.8	14.5	14.7
Non-attendance Rate(%)	1993	37.5	42.7	40.2	39.4	35.9	35.4	34.2	33.5	30.3	29.4
	1998	49.1	46.1	44.1	45.5	39.9	30.7	31.0	29.5	29.0	28.6
	2003	60.2	57.7	54.2	51.2	45.2	46.0	43.6	44.7	44.5	42.9
Annually Hospitalization Rate (%)	1993	4.53	5.13	5.26	4.86	5.32	2.71	3.08	2.89	3.17	3. 37
	1998	3.07	3.07	3.67	4.26	4.20	2.17	2.07	2.03	2.39	2. 81
	2003	3.36	3.03	4.55	4.66	5.65	3.29	2.80	3.03	3.52	4. 19
Non-hospitalization Rate (%)	1993	31.67	23.84	22.42	21.04	16.87	44.23	39.50	35.43	28.18	25. 30
	1998	46.80	42.60	33.00	29.00	27.40	51.40	48.30	43.80	39.20	29. 90
	2003	41.58	32.30	22.73	28.23	17.18	41.04	33.80	31.33	26.40	19. 45

Source: MOH, An analysis report of national Health Services Survey in 2003. p 87

Table 13: Public expenditure on health as % of total expenditure (2003)

Public expenditure on health as % of total expenditure (2003)			
Australia	67.5 a	Korea	49.4
Austria	69.9 a	Luxembourg	85.4 a
Belgium	..	Mexico	46.4
Canada	69.9 b	Netherlands	62.4
Czech Republic	90.1	New Zealand	78.7
Denmark	83	Norway	83.7 b
Finland	76.5	Poland	72.4 a
France	76.3 b	Portugal	69.7
Germany	78.2	Slovak Republic	88.3
Greece	51.3 b	Spain	71.2
Hungary	70.2 a	Sweden	85.3 a
Iceland	83.5 b	Switzerland	58.5 b
Ireland	75.2 a	Turkey	70.9 c
Italy	75.1	United Kingdom	83.4 a
Japan	81.5 a, b	United States	44.4

Notes:

1)For Germany, data prior to 1990 refer to West Germany.

2) a refers to year 2002, b refers to estimate and c refers to 2000.

Definition: www.irdes.fr/ecosante/OCDE/411010.html

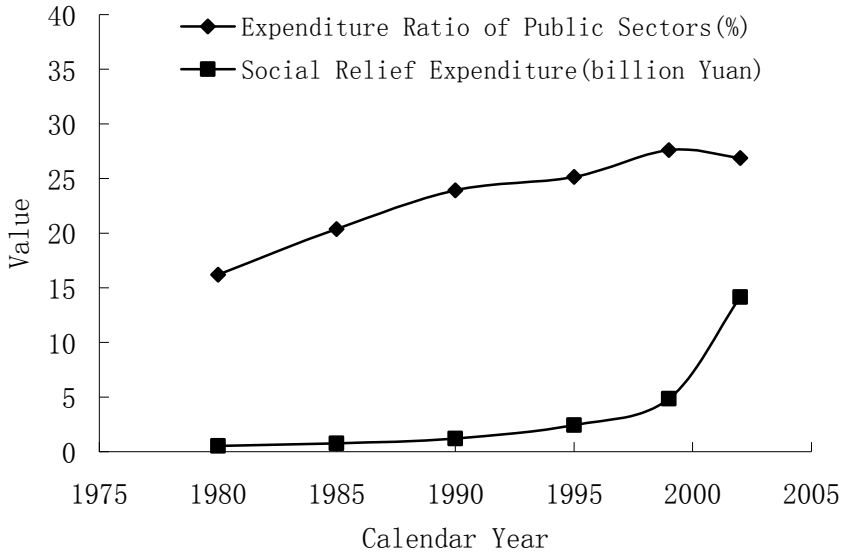
Sources and Methods per country: www.irdes.fr/ecosante/OCDE/500.html

Table 14 The implementation status of new-style cooperative medical system in Hubei province

Source: Yang 2004 (see reference)

Experimental Counties No.	Peasant populations (thousand)	Annual income (Yuan)	Insurance participation rate (%)	The Ratio of insurance in income (%)	Num. of replenished out-patients	Num. of replenished hospitalization patients
1	323.8	1809	72.5	0.55	164917	2607
2	242.2	1998	76.95	0.5	9547	977
3	430.5	2198	86.38	0.68	25361	2814
4	740.9	2300	39.14	0.65	62778	1961
5	574.2	2464	86.66	0.61	966303	6362
6	652.2	2609	31.99	0.57	46484	1907
7	449	2929	89.23	0.51	18852	1718
8	310.2	2979	73.69	0.34	101661	2209
Total	3723.2	N/A	64.96	N/A	1395903	20555

Figure 6 The change of state financial expenditure in public sectors and social relief



Source: National Bureau of Statistics 2002