The Health Sector in China
Policy and Institutional Review

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1. Introduction and Historical Background

1.1 Introductory Overview of the Country

People's Republic of China (China) is located in East Asia on the western shore of the Pacific Ocean and contains more than one-fifth of the world's population. China has 23 provinces, 5 autonomous regions, 4 municipalities and two special administrative regions, which include Hong Kong and Macau. Taiwan is considered to be China's 23 rd province. Since 1978, China has made a gradual transition from a planned to a more open market economy, which has led to a significant period of economic growth.

1.1.1 Geography

China has a land area of approximately 9.6 million sq km., and is the third-largest country in the world. China has land borders 22,800 km long with 15 contiguous countries; Korea to the east; the People's Republic of Mongolia to the north; Russia to the northeast; Kazakhstan, Kirghizstan and Tajikistan to the northwest; Afghanistan, Pakistan, India, Nepal and Bhutan to the west and southwest; and Vietnam, Laos and Myanmar to the south (see Figure1. 1).

Figure 1.1. The Map of People's Republic of China

The Chinese mainland is flanked to the east and south by the Bohai, Yellow, East China and South China seas, with a total maritime area of 4.73 million sq km. The Bohai Sea is China's continental sea, while the Yellow, East China and South China seas are marginal

seas of the Pacific Ocean. There are approximately 5,400 islands around China's territorial waters.

1.1.2 Population

China is the most populous country in the world, with over 1.3 billion people based on the 2000 census, comprising approximately 22% of the world's total. Compared with a total population of 1,133.68 million as reported in the 1990 census, China has seen its population grow 11.4% over the past 10 years. The average annual growth rate was 1.07%. Males comprised 51.5% of the population, while women comprised 48.5%. Over 70% of the total population of mainland China lived in rural areas.

China is a united multi-ethnic nation of 56 ethnic groups. According to the 2000 census, the Han people made up 91.59% of the country's total population, while 55 ethnic groups comprised the remaining 8.41%. As the majority of the population is of the Han ethnic group, China's ethnic groups are customarily referred to as the national minorities.

1.1.3. Economy

The Gross Domestic Product (GDP) of the country was 10.75 trillion yuan ($1.3 trillion, and $6.4 trillion in PPP) in 2003. The annual growth rate of the economy has been around 8-10% in the last decade. The growth resulted from strong exports, increasing foreign direct investment and a strong domestic demand. Industry, including construction was a primary contributor, growing 9.9% in 2002 from 8.8% in 2001. Electronic equipment, transportation equipment and chemical products increased as well.

The Government signed an accord to become part of the World Trade Organization in 2001. The inflows of foreign direct investment and large fixed scale investment, which continued in recent years contributed to its fast rates of economic expansion in the last decade. However, China still has many challenges that include slow growth in rural income, the need to create jobs and an enabling environment for the private sector and a growing disparity between the coastal and interior provinces.

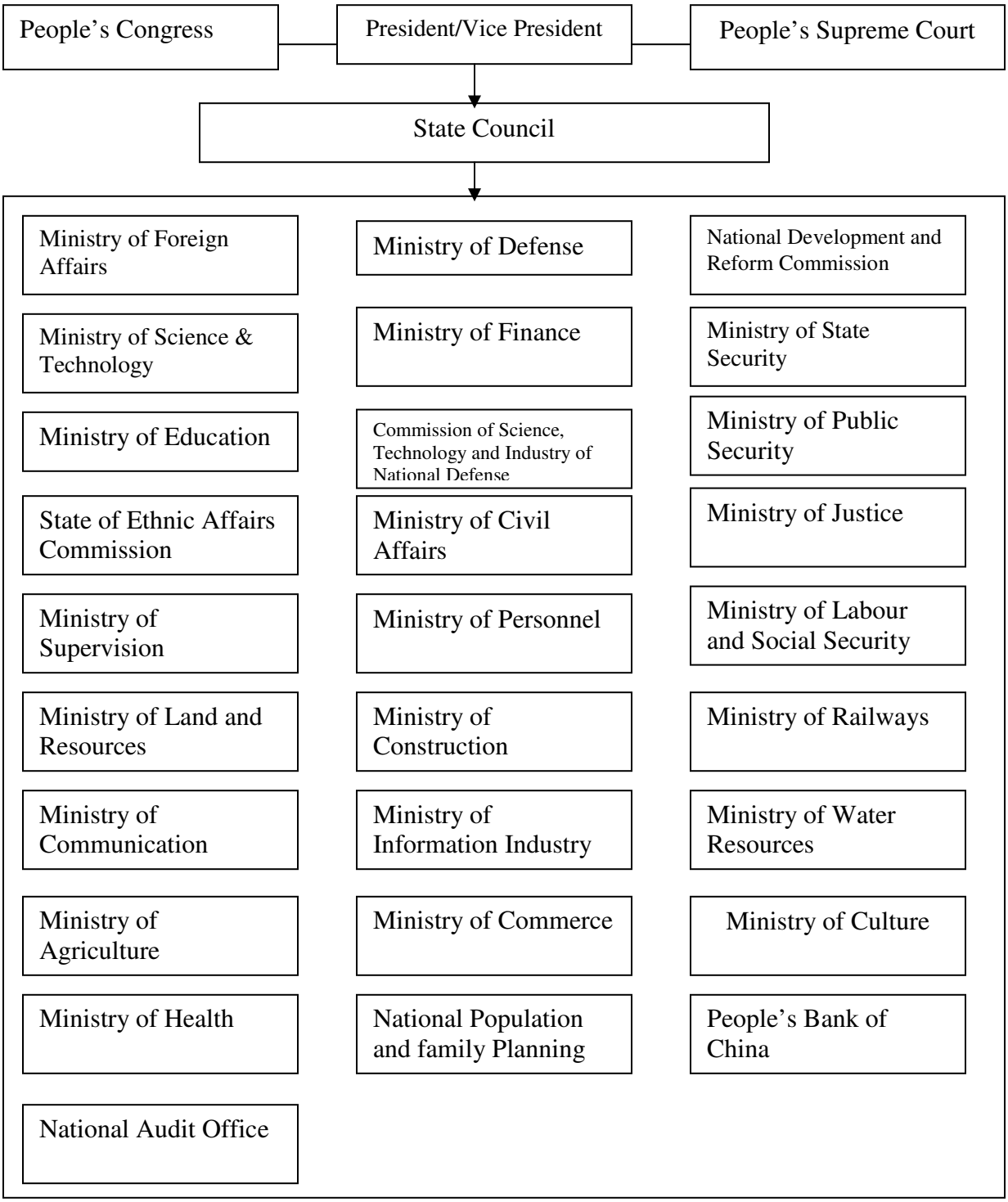
The living standard of urban and rural populations continued to improve. The annual per capital disposable income of urban households was 7,703 yuan ($931) in 2002. The per capita net income of rural households was 2,476 yuan ($300). The population in poverty living in rural areas was 28.2 million at the end of 2002, 1.07 million less than in 2001.

1.1.4 Government

Communist party is the monopolistic ruling party of the country. The legislative branch is National People’s Congress which comprises 2,985 members elected by municipal, regional and provincial People's Congresses. The judicial branch is People’s Supreme Court. The executive branch consists of the President, Vice President and State Council. The president and vice president are elected by the National People's Congress. The Premier and Vice Premiers are nominated by the President and confirmed by the National

People's Congress. State Councilors are also appointed by the National People's Congress. Figure 2 provides an overview of the country's governmental structure.

Figure 2.2. Structure of state government of People's Republic of China



1.1.5 Health

In 2004, the estimated life expectancy at birth in China is 70.4 years old for males and 73.72 years old for female; and infant morality was 25.28 per thousand live births. The leading causes of diseases are shown in Table 1. It is estimated that as of 1998 there were 161.7 physicians, 98.6 nurses and 3.9 midwives for every 100,000 Chinese. Total expenditures on health as a percentage of GDP in 2000 was 5.3% according to the WHO, while general government expenditures on health as a percentage of total general government expenditures in 2000 was11%.

Table 1.1. Top five causes of mortality (% of total deaths)

Cause of death	%
Rural Areas	
Cardiovascular disease	29.3
Respiratory disease	23.4
Cancer	17.1
Accidents and poisoning	11.7
Digestive disease	4.4
Urban Areas	
Cardiovascular disease	39.4
Cancer	22.7
Respiratory disease	14.1
Accidents and poisoning	6.2
Gastro intestinal disease	3.1

Source: Yearbook of Public Health in the People's Republic of China 1998

1.2 Historical Development of the Health Care System

The development history of People's Republic of China (PRC) can be divided into two eras. The first era covers the period from the foundation of PRC (1949) to the initiation of the market-oriented reform. This era is characterized by a centrally planned economy, a rapid development of publicly-owned health care delivery system, and established health financing schemes covering most population, and outstanding achievement in health. The second era covers the period from the start of the economic reform (1980) to present. This era is characterized by a rapid grow in economy, stagnated development in health, and health system transition, including both intended and untended changes and both reactive and proactive reforms.

1.2.1 Health care system in planned economy (1949-1979)

During the first 40 years after the establishment of People's Republic of China (PRC) in 1949, PRC followed Soviet model of socialist planned economy. This economy model

has two major characteristics: (1) Public ownership – all enterprises and service institutions are owned and operated by the state; all lands are owned by the state and cultivated by collective farmers; and private ownership was perceived as illegal and was eradicated before 1960s; (2) Central planning – all revenues generated from production of goods and provision of services have to be submitted to central government; budgets are allocated from central government down to local government and then to the bottom of the economic system; production (both type and quantity) is planned at central level; the prices and sale of goods and services are regulated by the government; salary scale which reflect a great deal of equality is regulated the government at central level.

Immediately after the Communist Government assumed power in 1949, it made clear that its approach to health care would contrast markedly with that of the old regime. At the PRC's first National Health Congress in August 1950, four basic guidelines organizing the new health system were enunciated:

- Medicine should serve the needs of workers, peasants, and soldiers;
- Preventive medicine should take precedence over therapeutic medicine;
- Chinese traditional medicine should be integrated with Western scientific medicine; and
- Health work should be combined with mass movements.

The Chinese health system, which was built within the socialist planned economy, was characterized by public provision at all government levels, public financing in urban areas, and community financing in rural areas.

Health care was provided by publicly owned health facilities, which formed a three-tier medical network. In urban areas, the three-tier network included:

- Street clinics – primary health care;
- District hospitals – secondary care; and
- City hospitals – tertiary care.

In rural area, the three-tier network consisted of:

- Village clinics – primary care;
- Township hospitals – secondary care; and
- Country hospitals – tertiary care.

Village clinics were staffed by village doctors trained for one year beyond junior high school. Township health centers usually had 10–20 beds overseen by a physician with 3 years of medical school education beyond high school, aided by midwives, maternal and child nurses. County hospitals usually had 200–300 beds and were staffed by fully qualified physicians with 4–5 years of medical training beyond high school, as well as by nurses and technicians. For several decades after 1949, this system provided a structure for technical supervision of lower-level by upper-level facilities, as well as an efficient patient referral system for the treatment of health problems. Pharmacies were integrated

part of almost all health facilities. Independent pharmacies which is separated from clinics and hospital were rare during that time

The health facilities charged a nominal and affordable fee for each service and drug provided according to the regulated price schedule. The gaps between cost and revenue generated from limited charges were fully covered by those who owned them (eg, governments, state enterprises, and village collectives). Health workers in these public facilities were fully paid by either government or collectives depending on their ownership according to salary scales regulated by the government.

Preventive services were organized and provided by the network of public health services, which consisted anti-epidemic stations at province, prefecture, and county/district levels, the anti-epidemic department of township level hospitals, and the health workers at village/street clinics. Services were provided free of charge (immunization, prenatal care, family planning, public health inspections, and public health campaigns). Costs of preventive services were covered by the governments.

Great improvement in access to health care was achieved through not only the publicly-owned health care delivery system, but also the socialized health financing schemes, which included Government Health Insurance Scheme (GIS) and Labor Health Insurance Scheme (LIS) for urban workers, and Cooperative Medical System (CMS) for rural farmers.

GIS was a social health insurance scheme organized and financed by each level of government. It covered all government employees, retirees, disabled veterans, teachers and university students. Health care (services and drugs) were free to the beneficiaries, which meant that they paid neither premiums (contributions) for being insured, and nor charges for obtaining health care. Government units with a large number of employees (e.g. more than 100) usually operated its own clinics to provide free primary care for the beneficiaries. Other services were provided by public facilities operated by Ministry (or Department) of Health. GIS reimbursed providers for whatever the beneficiary used except for the limited types of services and drugs that were not covered by the scheme.

LIS was the other social health scheme organized and financed by each state owned enterprise (SOE). All employees and retirees of an enterprise with more than 100 employees were covered by this scheme. As with GIS, health care was free for LIS beneficiaries. The dependents of enterprise employees were also partially covered and they enjoyed a 50% reimbursement of their medical costs. Large enterprises usually operated their own health facilities including clinics or/and hospitals. The charges for the services provided by facilities outside of the enterprise were reimbursed by the LIS of the enterprise.

CMS was a mutual assistance scheme organized at a village with a population of about 500-2000. The scheme was financed from different sources. In the order of the size of funding, the sources were: village collective welfare funds, household contributions, and government subsidies. Altogether, the CMS funds accounted about 1-4% of rural

households' income, depending on the benefit package of the scheme. The organization of CMS followed a pattern of integration between financing and provision, which meant that village clinics were responsible for both management of the CMS funds and provision of health care. In general, the benefit included five types: (1) free visits at the village clinics; (2) free drugs at village clinics; (3) discounted drugs at village clinics; (4); reimbursement of the costs for referred hospital visits; and (5) reimbursement of the costs for referred hospitalization. The benefit might include one or more of the four types of benefit. It was estimated that CMS covered 50-70% of the total medical expenditure of the CMS beneficiaries.

By the end of 1960s, the healthcare delivery system including both medical and preventive networks was well established, and financing mechanisms, which covered both urban and rural populations, were matured. From that time until the end of 1970s, all populations had access to essential care, and their economic risk of diseases was protected to a large extent.

The achievement in health care delivery and financing contributed to rapid improvement in the health status of the population (table 1.2).

Table 1.2. Health development in the era of planned economy

Indicator	1949	1979
Total No. of hospitals (county and above)	2,803 (in 1950)	9,902 (in 1980)
Total No. of township hospitals		55,413 (in 1980)
Total No. of village clinics		
Total No. of hospital beds	99,800 (in 1950)	1,195,750 (in 1980)
Total No. of doctors	380,800 (in 1950)	1,153,234 (in 1980)
Total No. of nurses	37,800 (in 1950)	465,798(in 1980)
No. of doctors per1,000 population	0.67	0.95 (in 1975)
No. of nurses per 1,000 population	0.06	0.41 (in 1975)
No. of beds per 1,000 population	0.18	2.02 (in 1980)
Percent of urban population covered by health insurance schemes	0.0	80% of urban population
Percentage of rural population covered by CMS	0.0	90% (of villages)
Life expectancy (year)	35	67.9(in 1981)
Immunization coverage rate	0.0	90%
Infant mortality per 1,000 population	200	48 (in 1975)
Maternal mortality per 1,000 population	15	

Source: Chinese Health and Statistics Digest

1.2.2 Health care system in market economy (1980-present)

1.2.2.1 Market-oriented economic reform

Resulted from transformation of central government, the change in political ideology of the communist party, and the reorganization of the deep-rooted problems of socialist planned economy (e.g. lack of flexibility by which the production of goods and services reflect the demand of the population, and lack of completion and motivation by which the goods and services can be produced efficiently), the Chinese government lunched the market-oriented economic reforms toward the marketization of China' socialist economy led by the communist party – namely socialist market economy.

The reforms consisted of four major categories: rural production responsibility system, autonomy of State Owned Enterprise (SOE), decentralization of governance (finance and planning), and privatization.

Rural production responsibility system was implemented in 1979, by which: (1) the land which had been cultivated by the village collectives was contracted to households of the village; (2) rather than following the instruction of government on what to grow on their land, households were given the freedom on production and sale; (3) households were regulated to pay a fixed amount of tax, and the rest were kept by the households; (4) contract was made between household and township government, and the rural village collectives were later dismissed. This rural economic reform was successful, and it brought about rapid growth in rural production – doubled in the first few years of implementation.

Autonomy of SOEs was implemented in early 1980s following the successful experience of the rural economic reform. After 30 years of government planning, there were clear indications of performance problems among the SOEs, including product obsolescence, quality deterioration and high production and operating costs. In response to these problems, the government initiated industrial reforms that emphasized decentralizing the decision-making power to the enterprise level. The reform gave the enterprise management a significant amount of power over pricing, product mix, wage rates (through the distribution of bonuses and, later, flexible wages), and increased discretion over investment. Its goal was to eliminate rigidity in planning and to reduce the information burden on the government.

Differing from rural economic reform, the reform of SOEs failed to deliver intended results. Since the beginning of the reform, the SOEs have been trailing behind their non-state counterparts in performance. While the output share of the SOEs has fallen dramatically, it has not been accompanied by a corresponding fall in their input share in terms of wages and investment. The combination of increased competition in the product market and continued inefficiency in the SOEs has led to increasing volumes of losses in the state sector.

Decentralization of governance included two parts: decentralized planning and decentralization of finance. The former was a process of proactive transformation from central production order to local production instruction, and then to production freedom by the production units of the economy. The latter was the implementation of financial contract between central and local government from 1980 to 1993, and tax assignment from 1994.

A system of fiscal responsibility was introduced in the early 1980s and lasted until 1993. Each province signed a contract with the central government, stipulating the amount of funds that had to be forwarded to the center annually. Revenues generated over and above this stipulated sum could be retained in whole or in part for the provincial usage. Under this system, the provinces have more resources at their disposition. By the late 1980s, however, the shortcomings of the contract responsibility system, especially in terms of inhibiting the center's ability to redistribute resources had become apparent. The center has since tried to rectify the situation by launching a series of reforms. In 1994, a tax assignment (tax sharing) system, which formally delineates local and center taxes, was introduced to replace the contract responsibility system. The main aim was to strengthen the center's financial position and sever the direct link between the revenues of the local government and those of the enterprises located within their respective geographical jurisdictions.

China has made substantial efforts to decentralize its formerly highly centralized fiscal management system. The objective of the decentralization was to increase the local governments' responsibility for local economic development and their autonomy in carrying out fiscal functions to achieve this goal, while preserving an adequate degree of fiscal control for the central government. However, while fiscal decentralization promoted growth in many regions, it also brought many unintended problems, including rising government deficits, and increasing regional disparities due to lack of effective intergovernmental transfer payment mechanisms.

Privatization has been an important strategy to establish the socialist market economy. It consisted two parts. One was to allow and encourage the entry of private enterprises, and another was privatization of existing SOEs through phasing out and selling unprofitable SOEs. While the development of private sector increased the competitiveness of the market which was supposed to have long term benefit for the economy and increase the employment of workforce in private section, privatization also resulted in financial losses and bankruptcy of SOEs because of their weak competitiveness. This has led to unemployment and weakened ability of the SOEs to provide welfare benefit for their employees.

1.2.2.2 Impact of economic reform on health sector

The above economic reforms of the country had significant impacts to health sector; and the impacts led to fundamental transformations of China's healthcare system, which is briefly described as follows.

Collapse of CMS – the earliest unintended effect of Chinese economic reform is the collapse of rural CMS. As soon as the rural economic reform (rural production responsibility system) got implemented, the rate of CMS coverage began to decline. While the more than 90% of the rural population were covered by CMS in 1979, only 5 years after the rural economic reform in 1980, the coverage dropped to less than 10%. The well documented major reason of the demise of village collectives. Since the

cornerstone of the rural CMS was financial and administrative support from village collectives, the demise of village collective eliminated the essential condition, based on which the CMS was initiated and developed. Chinese health policy makers' response to develop counter-measures to tackle the unintended effect on rural healthcare system was not quick and effective enough to restore the rural community health financing schemes.

Reduction in the number of village clinics – Village clinics, the essential element of the three-tier healthcare deliver system and the grass-root level of providers which private cost-effective primary health care for majority population, were threatened immediately after the demise of collective economy and the collapse of rural CMS. Village doctors were traditionally paid by the village collectives to provide free services to villagers. At earlier stage of the economic reform, village doctors were not allowed to charge directly from the patients. The demise of village collectives often left the village doctors unpaid for their services provided. The immediate and obvious effect is the rapid reduction in the number of village doctors and village clinics, and the access to primary health care of the rural population was compromised. As a counter-measure, village clinics were then either contracted-out or privatized, and village doctors began to rely on fee-for-service charges to obtain their compensation.

Increase in the costs of medical production -- The lift of government control on prices of the goods (including drugs) produced by enterprises and the preexisting shortage of these goods led to drastic increase in prices. Consequently, the costs for the provision of health care were increased. The increase in the need for more government budget and the shrinkage of government revenue formed major reasons for the financial difficulties of publicly-owned health institutions.

Financial crisis of hospitals – The shrink of government revenue and thus the reduction in government budget to publicly-owned hospitals due to the financial losses of the SOEs, the increase in costs for the production of medical services, plus the enforcement of the government's lower-than-cost regulated medical prices, put public hospitals in a very difficult financial situation, and about half of the hospitals could not make ends meet, very soon after the initiation of economic reform. During the first 10 years of the economic reform, public hospitals struggle very hard for survival. While appealing and waiting for the government to increase the level of medical prices, hospitals began to un-bundle services for extra charges, encourage doctors to prescribe more and costlier drugs to earn mark-ups, and doctors began to accept informal payment to maintain their incomes.

Compromised public health system – Decentralization of government finance, and the shrink of government budget for public health institutions (anti-epidemic stations as were called at that time) left many public health program under-funded: (1) Government provided free vaccines, but failed to private budget to cover labor costs, as a results providers at different level of the system were dismotivated to provide immunization services, and the reduction in immunization coverage rate; (2) The lack of operational budget for major the control of major diseases resulted from reemergence of schistosomiasis and malaria in southern provinces; (3) The lack of operational budget for

health education left the work as a political slogan and practical actions were rarely taken; (4) Public health inspections were weakened due to lack of motivation and sometimes reduced salary payment.

Decrease in coverage and benefit of the LIS and GIS – The financial losses of the SOEs, and consequently the reduction in government public for social health insurance schemes, the increase in costs for provision of health services due to the liberalization of prices for medical inputs, and the increased overuse of free medical services and drugs under the traditional GIS and LIS resulted in not only the reduction in the level of benefit which was previously covered, but also the decrease in the number of beneficiaries.

Inequity in financing, access, and health – Inequity in all dimensions was documented. The reasons were multiple: (1) the collapse of rural CMS and the shift towards out-of-pocket payment for health care by the rural population; (2) the increase in unemployment in urban areas; (3) the increased costs for medical care; (4) loss or reduction in coverage of social health insurance benefit; (5) regional disparity due to decentralization of finance and the lack of interregional transfer payment mechanisms.

The above impacts are unintended, sudden, unpredicted, and significant. They attracted significant attention of government, and required policy makers actions to reinforce health sector. It was from there, the 2-decade continuous health care reform started. The health care reforms included but is not limited to the following, which will be addressed in detail in section 6 (health care reforms):

- Privatization
- Autonomy of public facilities
- Medical price and user fee reform
- Separation of dispensing from prescribing
- Reclassification of hospitals
- Community services
- Changes in rural health care financing
- Reforming urban social health insurance schemes
- Pro-poor policies (financial medical assistance)
- Decentralization
- Regional health planning
- Regulation

2. Organizational Structure and Management

2.1 Organizational Structure of the Health Care System

2.1.1 Overall administrative structure

Chinese health care system is highly fragmented. The administrative structure is quite complex. Vertically, it is divided into 5 levels associated with different levels of the government: central, provincial, prefectural, county, and township. Horizontally the structure consists of multiple ministries at the central level, and various matching departments at lower levels.

Figure 2.1 shows the simplified administrative structure of the Chinese health care system, and Table 2.1 indicates the organizations and their role in Chinese health care system. At the central level, under the leadership of the state council, in addition to Ministry of Health, which is the health sector specific administrative body, many other ministries involved in financing and deliver of health services. They are:

- Ministry of Labor and Social Security (MoLSS)
- State Food and Drug Administration (SFDA)
- General Administration of Quality Supervision, Inspection and Quarantine (GAQSIQ)
- Ministry of Civil Affairs (MoCA)
- National Population and Family Planning Committee (NPFPC)
- Ministry of Finance (MoF)
- National Development and Reform Commission (NDRC)
- Other Ministries (Ministry of Defense, Ministry of Public Security, Ministry of Education, Ministry of Transportation, Ministry of Railway, State Office of Posts and Telecommunication, etc.).

At each of the lower three levels of government (provincial, prefectural, and county), there are departments or bureaus matching various ministries at central level.

Township governments (the lowest level of government) do not have a department responsible for health. Usually, there is a deputy director responsible for health, who plays a leadership role for the management of village committee in the area of health.

Figure 2.1. Overall administrative structure of health sector

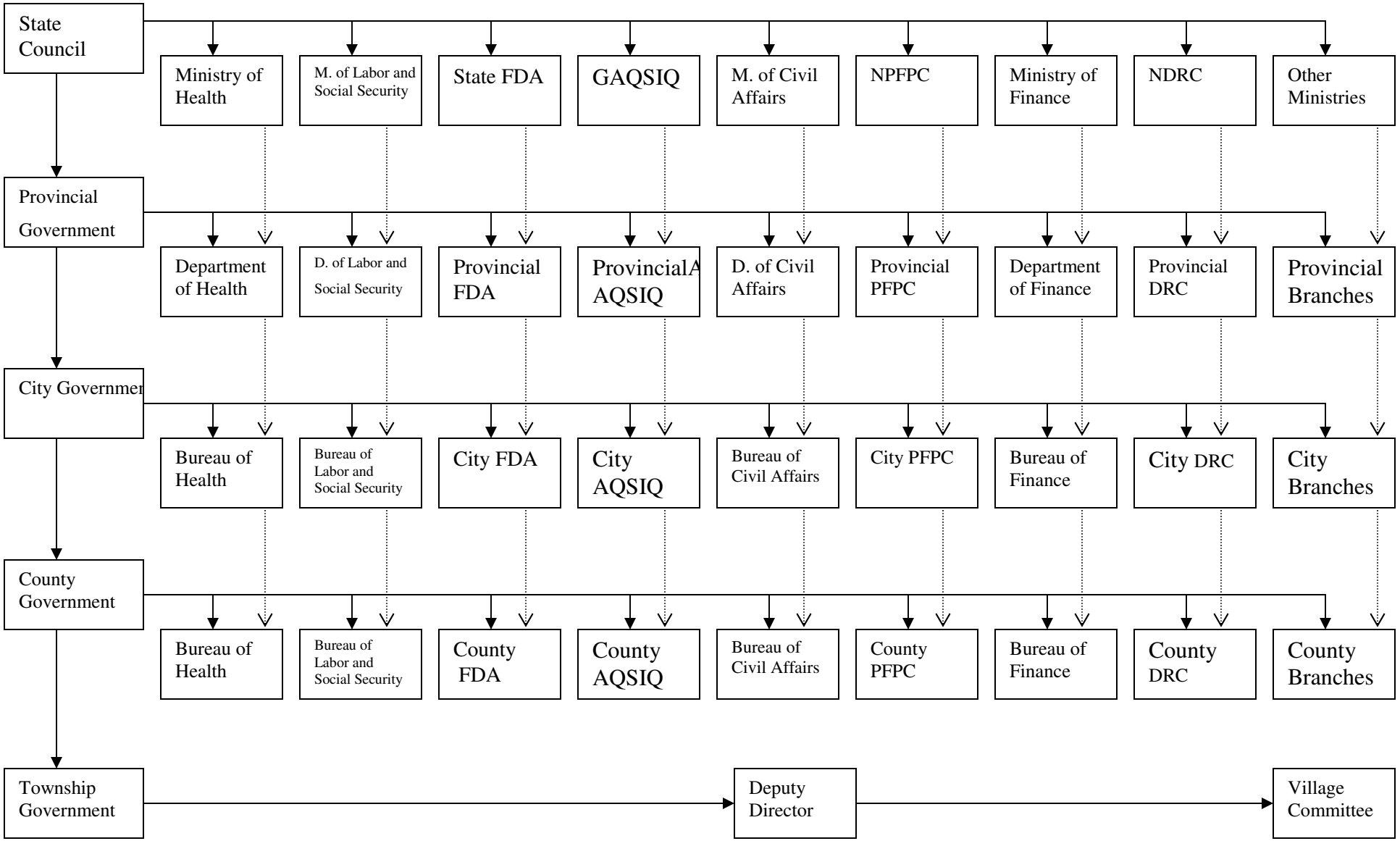


Table 2.1 Organizations involved in the health care system in China

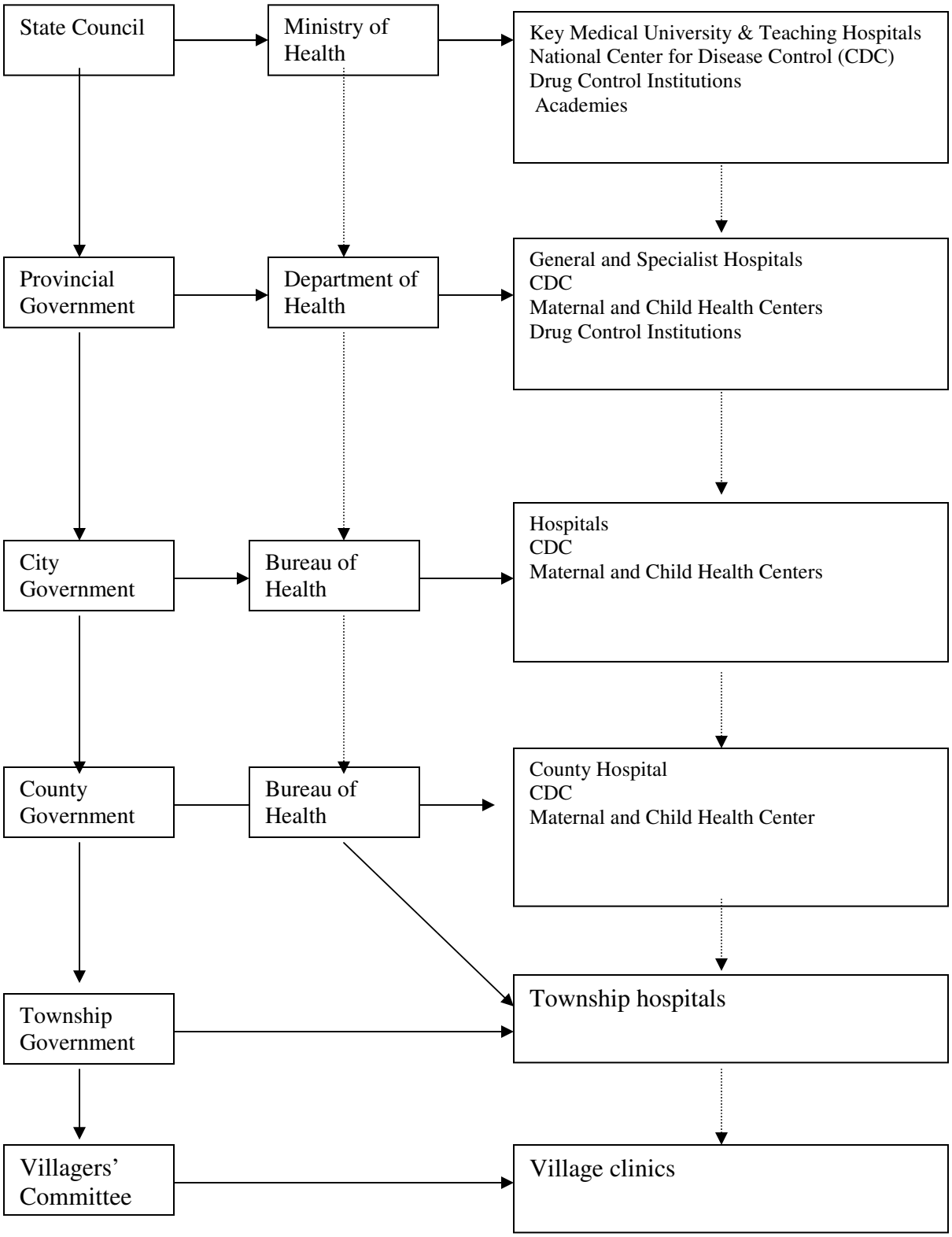
Role	Organization
Policy formulation	National People's Congress State Council Ministry of Health National Development and Reform Commission National Population and Family Planning Committee Ministry of Labor & Social Security Local Governments
Administrative jurisdiction	Ministry of Health State Food and Drug Administration State Administration of Traditional Chinese Medicine General Administration of Quality Supervision, Inspection and Quarantine Local Health Authorities
Health care provision: public	Ministry of Health Local Health Authorities University hospitals Other Ministries State-Owned Enterprises
Health care Provision: private	Private hospitals Private clinics Drug stores
Health care financing	Ministry of Finance Local Department of Finance Urban Employee Basic Health Insurance New Cooperative Medical System Medical Financial Assistance Private health insurance companies Individual uninsured patients

Urban Employee Basic Health Insurance is managed by Ministry of Labour & Social Security; Medical Financial Assistance is managed by the Ministry of Civil Affaires.

2.1.2 Health Administration and Institutions

The health sector is traditionally defined in narrow term in China, and consists of Ministry of Health and its affiliated institutions, and their counterparts at lower levels of the health care system. It can be seen from Figure 2.2 that: (1) each level of Health Administration reports to the government of the same level and manages its health

Figure 2.2 Administrative structure of ministry/department/bureau of health at different levels of the system



institutions; (2) a higher level of health administration provides technical guidance to the lower level of health administration; (3) the relationship between higher and lower levels of health institutions is technical, with the higher level providing technical guidance to the lower level.

2.1.2.1 Ministry of Health

The Ministry of Health is the highest health specific administrative body. Under the direct leadership of the State Council, MoH is responsible for administering health work of the whole nation. Together with other related ministries, MoH sets overall health policies, laws and regulations as well as state program of health care undertakings. It also monitors the implementation of national health policies and supervises the execution of health laws and regulations.

The functions of the Ministry of Health include:

- Studying and promulgating laws, regulations as well as policies of guiding line in healthy work; setting up the strategically target in healthy undertaking; enacting technical standards and healthy standards.
- Studying and making plans and policies for development of regional health, rural health and maternity and child care; adjusting the distribution of resources;
- Enacting the preventive treatment project of disease; organizing integrated control of important disease; publishing the name list of infectious disease of quarantine and monitoring infectious disease.
- Directing the reform of medical organizations, enacting standards of profession and the standards of medical service quality.
- Supervising and managing blood collection.
- Studying and drawing up the developing project of medical science and technology.
- Supervising and managing the preventive care of infections disease; enacting the quality standards for foods and cosmetic products.
- Enacting the developing project of healthy experts training; drawing up the organizational standards for healthy organizations and the standards for medical worker qualifications.
- Organizing and directing the international cooperation in public health areas.
- Controlling the spreading of rapidly happened epidemic disease.

There are 12 major departments in the Ministry of health, which are:

1. General Office
2. Department of Human Resources
3. Department of Planning and Finance
4. Department of Health Policy and Legislation
5. Medical Care Administration
6. Department of Maternity and Child Health and Community Health

7. Rural Health Management
8. Department of Health Supervision and Law Enforcement
9. Department of Diseases Control and Prevention
10. Department of Emergency Response (Command Center for Public Health Emergency)
11. Department of Sciences, Technology and Education
12. Department of International Cooperation

The responsibilities of each of the above departments are shown in Table 2.2.

Ministry of Health has its affiliated institutions, which include:

- Hospitals (Beijing Hospital, Sino-Japan Friendship Hospital)
- National Center for Disease Control and Prevention
- National Center for Health Inspection and Supervision
- Center for Health Information and Statistics
- National Center for Medical Examination
- Center for Institute of Health Economic Research
- Center for Medical Science and Technology Development
- International Health Exchange and Cooperation Center
- Foreign Loan Office
- Center for Health Personnel Exchange
- Center for
- Central Patriotic Public Health Campaign Committee
- China Medical Association
- China Academy of Medical Science
- China Academy of Preventive Medicine
- Academy of Chinese Traditional Medicine
- Institute of Industrial Health Experiment
- Institute of Hospital Management
- Institute of Health Education
- People's Medicine Publishing House
- China Health Publishing House
- Health Daily (newspaper)
- China Medical Association
- Chinese Prevention Medical Society

Table 2.2: Departments of MoH and Main Responsibilities

Department	Responsibilities
General Office	Coordinating works within MoH
Human Resources	Develop health manpower development plan Set manning quotas for health institutions and criteria for salary and welfare Manage health professional's qualification attestation Coordinate national health management training Guide reform of personnel and distribution system within health institutions
Planning and Finance	Make middle to long-term health development plan Guide regional health development plan Coordinate the allocation of national health resources Propose heath economic policies and health care service price policies Make health financial management rules and regulations Set national criteria for capital investment and equipment installment Make health sector budget
Health Policy and Legislation	Organize researches on health reform and development policies Formulate national plan for health legal system construction Draft important conference documents and enact decrees and laws Work out and manage hygiene criteria
Health Emergency Office (Command Center for Public Health Emergency Events)	Set principles, policies and draft the laws on public health emergency events Establish a monitoring and warning system for public health emergency events Organize trainings on dealing with public health emergency events Organize emergency care for large and serious safety events and casualty events
Rural Health Management	Rural health related laws, rules and regulations, policies Rural primary health care plans and their implementation Policies on the new CMS and implementation Rural health service network construction Guidance on village doctor practice registration
Supervision and Law Enforcement	Manage health supervision and law enforcement work Supervise and manage food health, cosmetic health and occupational health Supervise blood collection Organize and guide training
MCH and Community Health	Laws, rules and regulations, policies on MCH, community health services, health education, health promotion, family planning; and smoking control
Medical Care Administration	Health administrative system reform and health institutes reform Health facility and health professional practice permission and clinic standards
Disease Control And Prevention (National Patriotic Public Health Campaign Committee)	Laws related to disease control and prevention and PPHC plans Environment health Health promotion Infectious disease, occupational disease and endemic diseases and immunizations List quarantine infectious diseases and monitor
Science, Technology And Education	Set medical science and technology development plan and priorities
International Cooperation	International cooperation

2.1.2.2 Provincial Department of Health

A Provincial Department of Health reports to its Provincial Government, and accepts technical guidance from Ministry of Health and provide technical guidance to Prefectural (City) Department of Health. It usually has matching departments with Ministry of Health, and has it affiliated health institutions, which include:

- Provincial Hospitals
- Provincial Center for Disease Control and Prevention
- Institute of Maternal and Child Health
- Institute of Chinese Medicine
- Institute of Endemic Diseases
- Institute of TB control
- Institute of Schistosomiasis (in endemic provinces)
- Institute of parasitic diseases

2.1.2.3 City and Country Levels of Department of Health

A City (County) Department of Health reports to its parallel Government, and accepts technical guidance from Provincial (City) Department of Health and provides technical guidance to County Bureau of Health. It usually has matching departments with Provincial Department of Health. The types of affiliated health institutions include:

- Hospitals
- Center for Disease Control and Prevention
- Institute of Maternal and Child Health
- Institute of Chinese Medicine
- Institute of TB control
- Institute of Schistosomiasis (in endemic provinces)
- Institute of parasitic diseases

2.1.2.4 Township Health Administration

There lacks a township health administrative body. The administrative function at township level is delegated to the township hospital, which exerts two functions: administration and provision of health services. Depending on whether the township hospital has been decentralized to township government, township hospital may report to either Township Government or County Bureau of Health, or both.

2.1.2.5 Village Health Administration

A village clinic is the grass-root health care unit. Usually, it accepts the administrative leadership of villagers' Committee and technical guidance of the township hospital. However, it may report directly to the township hospitals depending on the administrative arrangement of the country and township.

2.1.3 Other Ministries Related to Health

2.1.3.1 State Food and Drug Administration

State Food and Drug Administration (SFDA) is a food and pharmaceutical supervisory body, which is separated from the Ministry of Health and operated under the direct supervision of the State Council. Within SFDA, there are four branches related to health care system. They are responsible for drug registration, medical equipment, drug safety supervision and management, and drug market supervision respectively.

The SFDA is responsible for administrative supervision and technical supervision of R&D, production, distribution and application of medicines (including Chinese traditional medicine, chemical materials and their preparations, antibiotics, bio-chemical medicines, biological products, diagnostic agents, radioactive medicines, narcotic medicines, toxic medicines, psychiatric medicines, medical apparatuses and instruments, hygienic materials and medicine packaging materials, etc.). Its specific responsibilities are as follows:

1) Formulation and revision of laws and regulations on administration of medicines and supervision of their implementation.
2) Formulation, revision and promulgation of legal standards of medicines and formulation of the State's basic medicines catalogue.
3) Registration of new medicines, imitated production of medicines, importation of medicines and protection of varieties of Chinese herb medicines. Organization for establishment of the non-prescription medicine system and examination and promulgation of the non-prescription medicine catalogue. Re-evaluation of medicines, monitoring and testing of negative reactions and the examination and approval of clinical experiments, clinical pharmacological bases and medicines to be weeded out.
4) Formulation, revision and promulgation (being authorized) of legal standards of medical apparatus and instruments and formulation of classified products catalogues for administration; registration of imported medical apparatuses and instruments as well as clinical experiment bases; issuing registration certificates and production permits for medical apparatuses and instruments. Certification of quality systems and products safety for medical apparatuses and instruments.
5) Formulation and revision of administrative specifications of medicines production quality, operation quality, and the management of preparations of medical institutions, and supervision of their implementation.
6) Formulation and revision of administrative specifications of non-clinical research quality and clinical experiment quality and supervision of their implementation.
7) Supervision, testing and sample-testing the quality of medicine production and operation and the quality of medicines of medical institutions and issuing the State's Bulletin of Medicine Quality, as well as punishing those who produce and sell spurious and poor medicines for administration of the market of Chinese herbs medicines.
8) Examination of medicines advertisement, administrative protection of medicines and giving instructions to medicine-inspection agencies of the country as a whole.

9) Supervision and administration of narcotic medicines, psychiatric medicines, and radioactive medicines, as well as special medicines and apparatuses.
10) Implementing the authentication system for medicines wholesale and retail business and formulation of rules for buy and sale of prescription medicines, non-prescription medicines, Chinese traditional medicine crops and Chinese medicine material, crude slices.
11) Formulation of qualification system for practicing pharmacists (incl. Practicing pharmacists of Chinese medicines) and giving directives for examination and registration of practicing pharmacists (incl. Pharmacists of Chinese medicine).
12) Carrying out the State's policy on the medicine industry in coordination with macro-controlling organs by means of administration and supervision.
13) Organization and direction of exchange and cooperation with foreign governments and international organizations in the aspects of medicines administration and supervision.

The SFDA has 7 departments:

1. General Office
2. Department of Pharmaceutical Registration
3. Department of Medical Equipment
4. Department of Safety Supervision
5. Department of Market Supervision
6. Department of Human Resource
7. Department of International Cooperation

2.1.3.2 Ministry of Labor and Social Security (MoLSS)

The MoLSS is responsible for managing urban social health insurance schemes, including the traditional GHI and LHI, and the recently established urban health insurance scheme, Urban Basic Health Insurance (UHI). It enacts decrees, sets principles and formulates policies, and supervises the implementation of social health insurance schemes. In addition, the MoLSS is responsible for social heath insurance reforms, which is the transition from GHI and LHI to an integrated UHI.

At each of the provincial, prefectural (city), and country levels, there is a department/Bureau which reports to the same level of government and accept technical instruction from the higher level. Provincial Department of Labor Social Security (DoLSS) is responsible for making decisions on UHI within the province. According to MoLSS's policy framework and local provincial conditions, DoLSS formulates policies and supervises implementation. Guided by central and provincial government's policies, Bureau of Labor Social Security (BoLSS) of prefectural government or city government works out policy details and implements them within the area or city.

The Social Health Insurance Bureaus at prefectural/city and country levels are the agencies that implement social health insurance policies. Because UHI is organized at prefectural/city level, an intermediary agency called UHI service center is set up at both

prefectural/city level and country level. They are responsible for premium collection, funds management, and purchasing health services for the beneficiaries from contracted providers.

2.1.3.3 Ministry of Civil Affairs (MoCA)

The MoCA is responsible for administering social affairs, establishing grass roots democratic politics, providing social relief and welfare and serving the army men's families. It sets policies for minimum living standard protection for the poor and looks after the security for five guaranteed households in both cities and urban areas.

It operates medical financial assistance for the poor, by which financial (cash) assistance is provided to the poor who incurred unaffordable health care cost. This program is recently set up in 2002, under the mandate of the State Council. The program is though its hierarchical administrative system from central to township level as is shown in Figure 2.1.

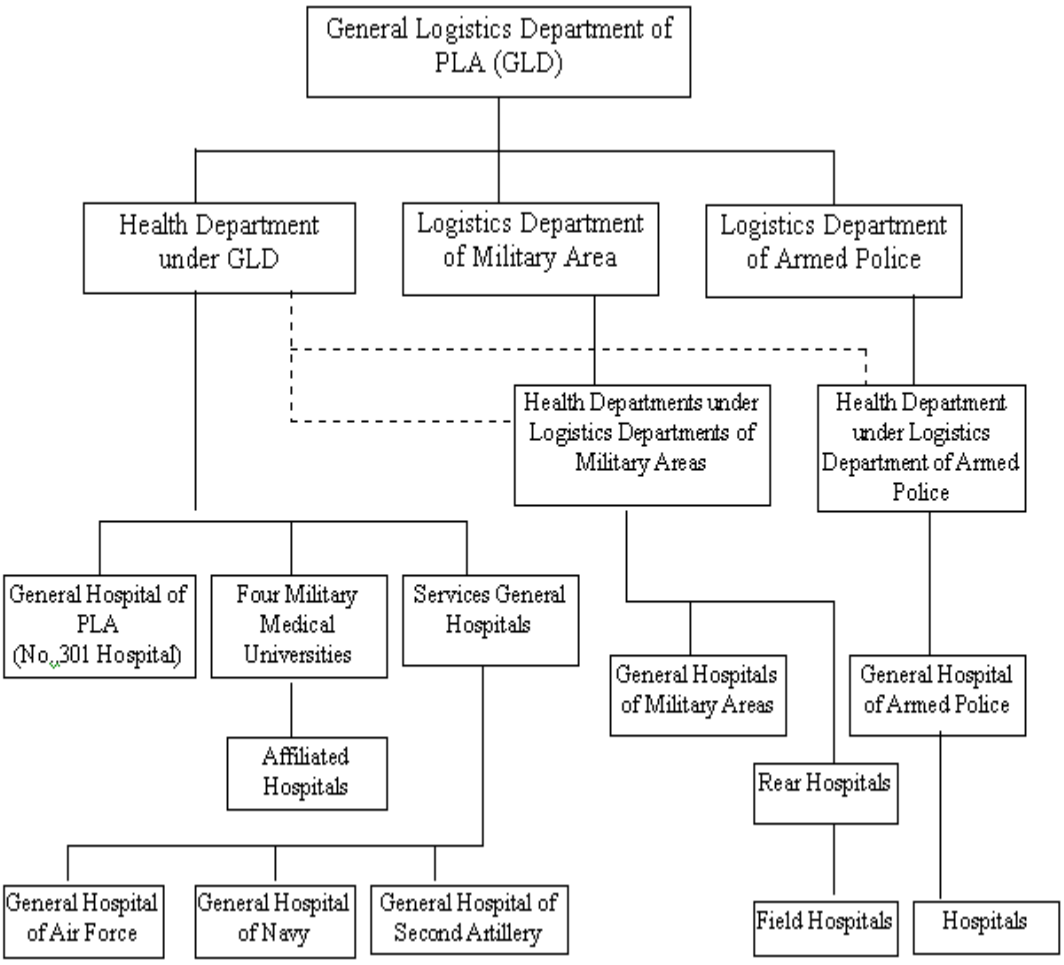
2.1.3.5 Ministry of Finance (MoF)

The MoF has a significant role in health care that it determines levels of government funding available to the health sector. Government health financing takes the forms of direct health budget through MoH to provide subsidy for heath care providers and budget for government employee health insurance. Health budget to providers include capital investment budget and recurrent budget, which is used to support the operation of public health facilities. Since total government direct investment in health sector accounted for about 12% of total health expenditure and most of government health spending is at local levels rather than central level of government, it follows that central government has relatively little power in affecting local governments' decisions on health resources allocation.

2.1.3.6 Military

Military has its own health delivery and medical education system as is shown in Figure 2.3. Military hospitals include three types: the hospitals belonging directly to Health Department of General Logistics Department of People's Liberation Army; the hospitals belonging to military areas; and the hospitals belonging to Armed Police. The quantity of big sized multi-purpose military hospitals (over 300 beds) have got up to 150. PLA has four military medical universities, one advanced medical college and 10 higher professional schools of medical education.

Figure 2.3 Military health care delivery and medical education system



2.1.3.7 Other Ministries/Government Institutions

General Administration of Quality Supervision, Inspection and Quarantine (GAQSIQ) is responsible for export and import health quarantine, and imported food health inspection. National Population and Family Planning Committee (NPFPC) is responsible for management and provision of family planning related work. National Development and Reform Commission is responsible for health development planning, drug and medical service price and charge criteria setting and adjusting, and supervision and inspection of price and charge criteria.

Beside the Ministry of Health, there are more ministries and government institutions involved directly in the provision of health care through operation of clinics and hospitals. They include:

- SATCM
- NPFPC
- Education
- Transportation
- Railways
- Defense
- Construction
- Metallurgy
- Electricity
- Machinery
- Aviation
- post and telecommunication
- nuclear industry
- coal
- civil affairs

In addition large SOEs all operate health institutions which provide various health care services to their employees.

2.1.4 Private Sector

Although the Chinese health care system is still publicly dominated, private sector has gained rapid development in the past two decades. The private sector include clinics, hospitals, private pharmacies, and drug distribution companies. According to MoH data, there were a total number of 120,000 private medical care institutions, and the total number of employee in these institutions accounted only less than 4% of the total health workforce. Private health insurance is at its earliest stage of development, and is very limited in the population covered, and is mostly located in big cities, such as Beijing and Shanghai.

2.2 Planning, Regulation and Management

2.2.1 Planning

Planning involves understanding the situation and problems of health care system, setting up priority problems to be talked in the planning period, setting up goals and objectives to be achieved, and specifying strategies and approaches to achieve the defined goals and objectives, and stipulate the resources needed for the planning period. However, the health planning in China has been weak due to either lack of the capacity, or lack of political coordination and agreement among the stakeholders involved in the planning process. As a result the health plan is usually vague: objectives are not well defined; actions are not specified, and resources inputs are not ensured; and implementation and results are rarely monitored and evaluated. Both policy makers and researchers in China admit that planning is usually procedural.

Health planning is conducted at different government levels: central, provincial, prefectural/city and country. The administrative bodies involved at different levels of planning include those of: health, labor and social security, civil affairs, finance, and development and reform (planning).

Health development plan is an integrated part of the overall social and economic development plan at various government levels. The health development plans can be divided into 5-year plan, annual plan, and ad hoc plan (eg health human resources plan, capital investment plan, and national or provincial plan for HIV/AIDS control, etc).

The 5-year health development planning process adopts a two-way process (from top to bottom, and then from bottom to top), and can be divided into the following steps:

From top to bottom:

1) The central planning agency (National Development and Reform Commission) provides principles and guidelines for provinces and ministries;
2) The ministry of health in coordination with other relevant ministries provide principles and guideline to provincial department health;
3) Provincial department of drafting their principles and guidelines and disseminate them to lower levels of government;

From bottom to top:

4) The country bureau of health organizes and drafts the health development plan at the county level, and submits the plan to county government as a part of the overall social and economic plan of the county, and also submit the plan to the prefectural/city bureau of health;
5) The prefectural/city bureau of health reviews the drafted health development plans submitted from country bureau of health and provides comments for revisions. The final country health development plans will be composed into prefectural/city level health development plan, and is submitted to prefectural/city government as well as to provincial depart of health;
6) The provincial department of health repeats the procedures as that at prefectural/city level, and submit the composed plan to provincial government and Ministry of Health;
7) The Ministry of Health repeats the procedures as that at provincial level, and submit the drafted national health development plan to central planning agency;
8) The central planning agency composes the social and economic plans submitted by provincial government as well as plans submitted by various ministries, and promulgate the national social and economic development plan. Provincial and lower level of government will promulgate their social and economic plans, and the Ministry of Health, and lower levels of department/bureau of health will promulgate health development plans.

Currently, the implementation of the 10th 5-year plan is ending, and the Chinese Government is in the process of preparing the 11th 5-year plan. For illustration purpose a summary of the national health plan as part of the national 5-year social and economic plan is provided as follows:

- Major Health Indicators:

1) Average life expectancy: increase 1 year on the base of that in 2000; increase another 1 year by 2015;
2) Infant mortality and under 5 mortality rate: by 2010, reduce one fifth on the base of that in 2000;
3).Maternal mortality rate: by 2010, reduce one fourth on the base of that in 2000

- Major Tasks:

1) Prevent and Control major diseases
2) Strengthen rural health service network
3) Strength MCH work
4) Establish health legislation network and supervision and law enforcement network
5) Develop health technology
6) Improve quality of health human resources and medical training
7) Strengthen health education and health promotion
8) Continue to develop traditional Chinese Medicine

- Major Strategies:

1) Adjust the functions of Health Administration
2) Deepen health system reform
3) Speed up regional health planning
4) Adjust CDC system
5) Manage hospitals according to their classification
6) Reform internal management of health facilities
7) Adjust and Refine rural health care network
8) Refine health economic policies
9) Strengthen medical assistance and health development in western areas
10)Set up health information system and increase international cooperation and exchange
11) Strengthen occupational ethic education.

2.2.2 Management

Management involves day-to-day activities of the higher level of the system executed to the lower level of the system to assure the activities are performed towards the attainment of the specified objectives and targets.

The management tools include:

- Law enforcement – This is increasingly an important tool to manage health sector. All levels of health authorities have a department of public health inspection

responsible for enforcing various health laws. The violation of the laws will mean lawsuits.

- Administrative oversight – This is supervision of the lower level by the higher level of the system to perform activities according to regulations and performance standards. The violation of regulations and failure to meet performance standards will mean financial or/and administrative penalties.
- Technical guidance – This is technical support provided by lower level of the system to higher level of the system. It includes documentation and disseminations of principle and guidelines, performing training activities, and various technical supports at the field.
- Operational management – This involves higher level's direct management of activities performed by the lower level. This approach is increasingly abandoned along with decentralizations and autonomizations. For example, the provincial department of health manages its affiliated hospitals by providing financial resources, specifying performance standards, and appointing the managers of the hospitals, supervising their performance, and providing the managers with freedom on daily management activities, rather than involving direct management of the hospitals.

2.2.3 Regulation

Regulations stipulate various standards and their enforcement. They include those that are enforceable (e.g. laws) and those that are less or not enforceable (e.g. guidelines).

The health regulation bodies at different levels the system include health authorities, finance administration, planning agencies, labor and social security, relevant authorities of other sectors, and peoples congress of different levels.

According to the level of administration, the regulations can be horizontally classified as those at central, provincial, prefectural/city, and county levels. According to degree of involvement of stakeholder regulations can be divided into those that are issued by health authorities; those that involve multiple authorities (e.g. regulation jointly issued by Ministry of Health, Ministry of Agriculture, Ministry of Finance, and National Development and Reform Commission); those promulgated by State Council; and those approved by People's Congress and promulgated by the President of the country.

Usually, a health regulation at national that is highly enforceable (e.g. Food Hygiene Act) will need the following process:

1) Ministry of Health prepares the draft of the regulation;
2) Involvement of other relevant ministries (e.g. Ministry of Commerce, and Ministry of Agriculture for comments for revisions;
3) Ministry of health prepare the final draft of the regulation, and summit the draft regulation to State Council and then to the Standing Committee of the National People's Congress;

4) The Standing Committee of the National People's Congress approves the regulation, and submit the regulation to the President of the country;
5) The President signs the regulation.

Health regulations are omnipresent in health sector. Regulations cover various areas, which includes but are not limited to the following:

- Pharmaceuticals
- High technology and equipments
- Accreditation of health institutions
- Registration and licensure of health personnel
- Public health standards
- Continue educations
- Medical and pharmaceutical prices
- Health financing schemes
- Primary health care
- Disease control and prevention

For the purpose of illustration, a list of health regulation is provided as follows:

Health regulations approved by the National People's Congress and signed by the President:

- Frontier Health and Quarantine Law (1986)
- Law on Prevention and Treatment of Infectious Diseases (1989)
- Law on Red Cross Society (1993)
- Law on Food Health (1995)
- Law on Maternal and Infant Health Care (1995)
- Law on Animal Epidemic Prevention (1997)
- Law on Blood Donation Administration (1998)
- Law on Practicing Physicians (1999)
- Law on Occupational Diseases Prevention and Treatment (2001)
- Law on Drug Management (2001)
- Law on Population and Family Planning of the PRC (2002)

Health regulations promulgated by State Council:

- Regulations on Medical Institution Management (1994)
- Regulations on Medical Accident Handling (2002)
- Regulations on Response to Public Health Emergency (2003)
- Guidelines on the Establishment of Rural New Cooperative Medical System (2003)
- Regulations on Traditional Chinese Medicine (2003)
- Regulations on Management of Village Doctors' Practice (2004)
- Regulations on Prevention and Treatment of Pulmonary Disease (1987)
- Regulations on Public Environment Health Management (1987)

- CCCPC and State Council's Decisions on Health Reform and Development (1997)
- State Council's Decisions on the Establishment of Urban Employee Health Insurance System (1998)
- State Council's Guidelines on Urban Health Care and Drug Circulation System Reform (2000)
- Guidelines on Rural Health Reform and Development (2001)

Health regulation jointly issued by multiple ministries:

- Joint Opinions on The Implementation of Management of Urban Medical Intuitions according to Classification (MoH, MoF, SATCM and NDRC)(2000)
- Opinions on Subsidy Policy for Health Care (MoF, MoH and NDRC) (2000)
- Opinions on the Implementation of Rural Medical Financial Assistance (MoCA), MoH and MoF) (2003)
- Guidelines on Implementation of Regional Health Planning (NDRC, MoF and MoH)(1999)

Health regulations issued by the Ministry of Health:

- Management Methods for Prevention and Treatment of SARs (2003)
- Opinions on Reforming Health Supervision System(2001)
- Guidelines on Reforming Disease Control and Prevention System (2001)
- Disinfections Management Method (2002)

3. Health care finance and expenditure

3.1 Main systems of finance and coverage

Traditionally, China had three formally organized financing schemes: Government Employee Health Insurance System (GIS), Labor Health Insurance (LIS) and Cooperative Medical Care System (CMS). When health care coverage reached its peak before 1980, the majority of Chinese people were covered by one of the above systems. The economic transition from a centrally planned to a market-oriented economy since 1978 has produced great influence on all three programs. As a result they all have experienced many changes and reforms. After 1980 most because CMS collapsed in most rural areas, health insurance coverage has dropped dramatically. In 1998, 4.95% of Chinese population was covered by GIS, 6.22% by LIS (not including 3.8% of people who were partly covered by LIS) and 7.74% by CMS.

Until late 1990s, most of the changes in GIS, LIS and the survived CMS were partial and confined to their existing frameworks. On January 15, 1997, the government announced the "Decision on Health Reform and Development by the Central Party Committee and State Council." The policy direction articulated in this document have guided a series of detailed reform initiatives since then, including the 1998 State Council decision on establishing a basic health insurance system for urban population, the 2000 State Council's Guidelines on Urban Health Care and Drug Circulation System Reform, the 2002 Central Party Committee and State Council's decision on establishing a new CMS for rural population, and the 2003 MoCA, MoH and MoF guidelines for establishing medial financial assistance systems(MFA) for the urban poor and rural poor respectively. As a result, the reform of GIS, LIS and rebuilding of CMS have entered into a new stage: being in the process of transition to a new system.

3.1.1 Main systems of finance and coverage in urban areas

Urban health care financing schemes consist of GIS and LIS. The GIS covers government employees and retirees, disabled veterans, teachers and university students, but not dependents. GIS is mainly financed by government budgets but individual government agencies as employers have played increasingly important roles in the financing of GIS. Before 1980, per capita GIS budget was set by the central government and all expenditure due to GIS was paid out of the government budget, especially from funds appropriated to the health sector from the Ministry of Finance. After 1980, the GIS budget has been allocated to each government agency (GIS beneficiary's work unit) to manage. Within each government agency, the government budget for GIS is an earmarked funds for employees' health care (Zhao,1995). This is generally not sufficient and any deficit is met by the agency using their operating budget and/or other self-raising funds. In 1995 the total GIS expenditure was 20.67 billion yuan, of which 11.23 billion yuan (54%) came from government GIS budget, and 9.44 billion yuan (46%) from individual government agencies (NHEI, 1998).

Another important change in GIS is that the financing of GIS has been decentralized to local governments. Since 1984, the determination of GIS budget per beneficiary has been

left to local governments based on local budgets and the previous use rates of health care services (Gu et al. 1995). Therefore, regional difference in development has had important implications for GIS. Different regional economic development decides different ability of local governments to support GIS. There are broad disparities in provincial GIS expenditure levels -- ranging from 346 yuan per capita expenditure in Shanghai to 63 yuan in Sichuan (Grogan, 1995).

The LIS covers state-owned enterprises (SOE) employees, retirees and their dependents. The Labour Insurance Act in 1951 mandated that the state-owned enterprises (SOE) with more than 100 employees must provide LIS. Others, including smaller SOEs, industries owned by collectives can provide LIS on a on a voluntary basis. Unlike GIS, LIS covers workers' dependants although they are entitled to only half of coverage.

The LIS is a self-insured scheme—each enterprise is responsible for financing its own health insurance. Each year, SOEs set aside before tax an amount equal to 11-14 percent of total wages as a welfare fund to financing health expenditure and retirement benefits incurred by their LIS beneficiaries. Furthermore, many enterprises own and operate their own health clinics and hospitals. As the LIS expenditures increase, the premium of LIS alone has been raised from 5.5% of wages in 1957 to 11% in 1992 and it still often proves to be insufficient. Any deficit in LIS is met by the enterprise using post-tax profits (Zhao, 1995). Since the taxation system reform in 1984 and the ongoing state owned enterprise reform, state owned enterprises have become more independent and gradually assumed full responsibility for their own profit and loss. As a result, there are wide disparities in profitability among enterprises, which in turn determines their different abilities to finance LIS.

Both GIS and LIS have financial problems due to rapid cost inflation and lack of risk sharing, especially within LIS. To control costs, GIS widely introduced various cost-sharing methods. Some cities' GIS also tried to change provider payment methods. While LIS kept the original funds raising, management and utilization unchanged within each SOE, two initiatives named unified management of medical expenses for SOE retirees, and unified management of expenses for serious illness were introduced among SOEs in many cities. By the end of 1997, 11.22 million workers and 1.72 retirees participated in the unified management of expenses for serious illness and 992,000 retirees participated in the unified management of medical expenses (MoF statistic material, 1998). The results of the two pilot programs were impressive and lent confidence as well as inspiration to the famous programs of Jiujiang and Zhenjiang later.

In 1989 the State Council authorized pilot programs of social health insurance to be conducted in Dangdong, Huangshi, Siping and Zhuzhou, and pilot programs of comprehensive social security in Shenzhen and Hainan. In May 1992, Shenzhen became the first city to merge GIS and LIS and established a unified social insurance program. In 1995, Hainan issued local legislation on urban employee medical insurance within the economic special zone.

These pilot programs have accumulated useful experience. To restructuring the financing system in cities, China also tried to learn lessons from foreign experience. Four options were considered: tax revenue plans, commercial insurance plans, personal-saving plans and social insurance plans. Given China's status as a developing country, tax revenue plans were not appropriate because a well-developed taxation system in a new economy had not yet been put into place. Commercial insurance are in turn ideal for people who can afford them and those who opt for additional and updated medical care, but not suitable for meeting the basic security needs of a large working population. The remaining two options-personal accounts and social insurance were therefore preferred, each catering to a different kind of medical care need: ordinary illness and serious illness, respectively. In the pre-reform era, both needs had been taken care of either by the GIS or by the LIS. (Peter Lee; Hou and Ye 1998: 136-144).

In 1993 the Third Plenary Session of the Fourteenth Central Committee of the Chinese Community Party clearly put forward to establish a new urban employee health insurance system funded by social coordinated medical fund combined with personal medical savings accounts. From the end of 1994, two cities, Zhenjiang and Jiujiang, were selected to experiment the new system. The pilot programs in the two cities were designed by the State Council for the purpose of formulating a nation-wide policy paper on reform. In 1996, similar pilot programs were further expanded to a larger number of cities and localities with only minor amendments.

Confronted with a drastic worsening of financial position in recent years, many SOEs are forced to default on their social obligations to pay workers' medical bills. As a result, urban workers no longer perceive employment in SOEs as a secure guarantee of income for life complemented with generous in-kind benefits. Current workers, retirees and workers who become unemployed demand assurance that their basic health care needs will be met. The absence of such as a social protection program has slowed the reform of SOEs. To meet the needs of carrying out deeper and wider economic system reforms (namely reforms of SOEs) and the needs of expanding insurance coverage in the face of rapid medical cost escalation, in December of 1998, the Chinese government announced a major decisions to establish a unified social insurance program for urban workers (State Council, 1998).

The unified social insurance program, called urban employee basic medical insurance system (BIS), is replacing GIS and LIS in majority cities and has become a major insurance provider for urban workers. The social insurance program composes of two parts: personal medical savings accounts (Personal Account (PA) in Chinese word) and social coordinated risk pooling fund (SRPF). PA is an earmarked savings account established for each insured employee to pay his/her won health expenditure below certain deductible. SRPF is insurance with high deductibles.

The new program is financed by contributions from both employers and employees. Under the new system, employees are for the first required to make contribution. Employees contribute 2% of his/her annual wage to his/her own PA. Employers contribute 6% of total annual wage, which is divided into two parts: 1.8% goes to

employees' PAs, 4.2% goes to SRPF. Retired workers previously covered by GIS and LIS are exempt from premium contributions. But who will bear the costs of their contributions is not clearly defined. In practice, some provinces require retirees' last employers to contribute, some provinces use social medical funds to subsidize. The SOE reeducation/reemployment centers pay premium contributions for the "redundant" workers—workers who have become unemployed due to industrial restructuring. The central government requires that risk should be spread at city level. If there is any deficit on the social coordinated medical fund, local governments should assume responsibility.

Social Insurance Bureaus (SIB) have been set up by local governments. SIB is responsible for collecting revenues, signing contracts and paying medical bills. SIB, working with Health Bureaus (HB), writes contracts with providers including hospitals, clinics and drug shops. The insured must go to appointed hospitals and drug shops to be reimbursed.

Under the principle of broad coverage, the new social insurance program is intended to ensure basic medical insurance for all urban employees, including employees of private organizations and employees of small public organizations. The self-employed and employees of township and village enterprises may participate the program but are not compulsory (at least not required by the central government). Dependants of employees are not covered. University students continue to have GIS and are not covered by the new program.

The current health insurance reform intends to cover all urban employees and to solve the problem of risk pooling by mandating risk pooling at the city level and requiring both the state and non-state sectors to join in. However, the actual implementation of the policy has proven to be difficult so far. In particular, well-to-do government agencies often refuse to pay their contributions and opt out of the system, while some not-well-to-do SOEs often cannot afford to pay the contributions. Tax evasion among the firms is also common. Those profitable ones often refuse to poor their risk with those making losses. Those with young and healthy workers also refuse to pool their risk with large share of retirees. In many cities, health expenditures as a share of wages were often as high as 11-18% in the pre-reform period. Under the current policy, in order to reduce employers' resistance to join in, the contribution rate has been set to 8% of wages. This means that the scope of services covered under the current policy is necessarily less generous than what the workers previously enjoyed. This has caused further reluctance to join, especially among those who were able to finance their employees' health benefits in the pre-reform period. Driven by the urgency to reform the SOEs, extending coverage has become a top priority of the government. Every year, the MOLSS sets targets on the number of eligible population to enroll. Unfortunately, officials at the SIB in the city often express frustration due to lack of effective mechanism and power to achieve the targets. The problem is worse in cities with wide variations in economic performance of enterprises.

At present, the actual coverage of the new program has been limited to beneficiaries of GIS and LIS in most cities. Few previously uncovered targeted employees have been

included so far. Even if the social insurance had extended to all the targeted population, it would only cover 48% of urban population and a smaller part of total population in China. Within those covered, inequity remains a big problem mainly because of the newly added MSAs, strict cost-sharing requirements and various supplementary coverage. Those uncovered by the social insurance program would include dependents, those without work and the floating population.

In 2001, total revenue for the basic health insurance program was 60.78 billion yuan; total expenditure was 40.84 billion yuan and accumulative balance by the end of 2001 was 45.07 billion (MOLSS website). By the end of 2003, majority of total 349 urban areas at prefectural levels or above have implemented the basic health insurance program. The program covered 108 million people (79.77 million current workers and 29.18 million retirees) and collected 86.5 billion yuan revenue. 81.3% of total 349 urban areas at prefectural levels or above have issued and implemented policies on insuring people in informal sectors but only about 5 million people in these sectors have participated (MOLSS website).

3.1.2 Main systems of finance and coverage in rural areas

The Cooperative Medical Care System (CMS) used to be the mainstay of health care financing method in rural China before the 1980s. The finance of the CMS mainly came from rural collective welfare fund. According the State's guidelines, each village contributed a certain portion of its income from collective agricultural production or rural enterprises into a welfare fund. In many cases, the collective welfare fund also included some contribution from peasant families. In addition, some subsidies from the upper level governments were often used to compensate health workers and purchase medical equipment. The CMS provided basic drugs and primary health care to peasants. The CMS first emerged in the mid-1950s and got the approval from the Communist Party Central Committee in 1960. During the 1960s, the CMS was expanded rapidly in response to Chairman Mao's call for “barefoot doctors” to meet rural demand for medical services. At its peak, peasants in 90% of rural villages were covered by the CMS schemes.

After rural economic reform in 1978, dramatic changes have occurred in rural health care financing. Mainly because of the collapse of rural collective economy and many other external forces and internal problems, the CMS collapsed (Liu et al., 1995). In 1989, only about 5% of villages continued to operate the CMS. Since middle 1990s, the importance of the CMS has been increasingly recognized and the government has been promoting the rehabilitation of the cooperative medical care system in rural areas(Gu et al. 1995). As an important means to achieve Health For All by the year 2000, the Chinese government once set the target of trying to build up various forms of CMS in majority rural areas by 2000. However, since its participation is voluntary and government had little real support in terms of financing and management, this target just remained in paper (Harvard University, 2000). Over 90% of rural population still has to pay out-of-pocket to receive almost all health care.

One of the important reasons for the little progress with CMS in the past was found to be inconsistent policies from different government ministries (Hu et al. 2001). This problem has been solved by the CPC and State Council's decision on further reinforcing rural health work in 2002. In 2003, the State Council issued joint opinion of MoH, MoF and MoA on the establishment of new rural CMS. It requires each province to select 2-3 counties to experiment the new CMS and sets a target to extend the new CMS to cover all population in rural areas by 2010.
Different from the previous CMS, the new CMS will be a government organized and supported health insurance program. Under the government scheme, a villager needs to pay an average of 10 yuan (about US$1.2) for medicare insurance, and the local government is required to pay additional 10 yuan for it. From 2003, the central government has allocated 10 yuan annually to every participating farmer in central and western China. The sum of 30 yuan will be deposited in the pool of a so-called Rural Cooperative Medicare Fund, which will mainly cover catastrophic illnesses for the participated farmers.
Farmers are still asked to join the new CMS on a voluntary basis. Whether employees in township enterprises should participate and pay contributions is left to county government to decide. If county governments decide not to include employees of township enterprises, the coverage of these groups of people will become problematic because they are also not mandatorily covered by the urban health insurance system.

The experiment of the new CMS just started. It is already observed that local governments and poverty-stricken farmers find difficulty in contributing money to the scheme. Moreover, the factors affecting the sustainability of previous CMS, such as voluntary participation, poor management, luck of trust etc, will continue to affect the extension and sustainability of the new CMS.

3.1.3 Medical financial assistance systems in urban and rural areas

Medical financial assistance system (MFA) is a government-supported program aimed at helping the poor to access to basic health care and preventing impoverishment due to illness. In spite of being in its early stage, MFA is emerging as an important part of social health security system in both urban and rural areas of China.

As China moving toward a more market-oriented economy, income gap has been getting wider among people. Although the government has made many efforts to reduce poverty, poverty remains a very serious problem. According to official number, there were 28 million poor people living in rural areas in 2002, compared with 80 million in 1993. However, if estimated more accurately, there are total 150 million-210 million poor people in China, including 21.4 million urban poor, 150 rural poor and 40 million poor "farmer workers" floating between urban and rural areas (Chinese Economic Daily Newspaper, 26 May 2003). Poor people have higher health risk but high health care costs often prohibit them from access to basic health care. On the other hand, due to lack of insurance for majority people and the shrunk insurance benefit for the insured, paying health expenditure often incurs heavy burden to families, especially for the poor. It is found that medical expenditure accounted for 22.6% disposable income of poor

households in Shanghai (Ying et al). Illness has been found as one of major causes for impoverishment in poor rural areas (Gao et al. 2002). Medical spending raised the number of rural households living below poverty line by 44.3%. In other word, out-of-pocket spending on health care has raised the headcount by more than 3.28% point from 7.22% to 10.5%(Liu et al. 2002). A MoH study claims that a family's poverty can be attributed to disease or injury in 23% of cases (Meng et al. 2000).

To increase access to basic health care of the poor and to reduce poverty caused by illness, providing medical financial assistance to the poor has attracted increasing attention. Some cities like Beijing, Shanghai, Liaoning, have implemented various forms of medical financial assistance among the urban poor. In rural areas, the current MFA is financed, managed according to "MFA plan for the extremely poor" which was used in Health 8 Project areas. At present, it only covers 5% of rural population in the project county. While in the 592 national poverty counties identified by the State Council's lead group of aiding the poor and development, it is estimated that at least 50% of rural people live below the poverty line.

There is still no national model on how to implement MFA. On 10 July 2003, the Ministry of Civil Affairs issued a notice on matters related to establishing urban medical financial assistance. It restates the State Council's requirements in 2000 and 2003 on establishing urban MFAs and calls for more researches and experiments at local levels. It also emphasizes that the MoCA is the ministry responsible for MFAs. According to this notice, urban MFA will cover poor households in cities. It will also cover employees of enterprises, which is unable to contribute to the urban employee basic health insurance due to poor economic situation, although these employees are not necessarily poor.

On 18 November 2003 the Ministry of Civil Affairs, Ministry of Health and Ministry of Finance announced their joint opinions on implementing rural medical financial assistance. This document states that rural MFA is a program financed by multiple channels through government subsidy and donations from societies. Family members of rural "five guaranteed households" and rural poor households are eligible to MFA. Detailed eligibility can be set according to local conditions by local civil affairs departments combined with finance and health departments and report to local governments. The joint opinions require each province to select 2-3 counties to experiment MFA and set target of establishing MFA in the country by 2005.

3.1.4 Medical subsidy to civil servants

On 20 May 2000, the State Council issued two ministries' (Ministry of Labor and Social Security and Ministry of Finance) joint opinion on medical subsidy to government civil servants. It requires government at various levels to provide medical subsidy to civil servants according to local economic development and financial ability. The objective is to ensure the benefit level which civil servants enjoy under the new urban employee basic health insurance system not to be less than that under previous GIS.

Each level government is responsible for the medical subsidy to its own civil servants. The medical subsidy fund comes from government budget, which is set after considering the actual health expenditure under previous GIS, contribution to basic health insurance program and local government's financial ability. It is required that medical subsidy fund should be treated as an earmarked fund for its specified purpose only. A separate account should be established for the fund. The medical subsidy fund should be managed separately from the basic health insurance fund.

All workers and retirees of the following organizations are eligible for medical subsidy to civil servants. These organizations include party (including various democratic parties) and government organizations, the People's Congress and the political consultative conference organizations, judicial organs, procuratorial organs, and institutions managed according to government civil servants system and approved by the Ministry of personnel or provincial, autonomous region and municipality government.

On 4 August 2001, the State Council issued a provisional measure on medical subsidy to civil servants of central government in Beijing. It set the financing criterion for the year 2001 as 5% of total payroll of previous year.

3.2 Health care benefits and rationing

In China, more than 80% of total health expenditure is financed through user fees paid by self-paying patients, GIS and LIS (NHEI, 1998). Therefore price rationing through consumer purchasing power dominates Chinese health care sector. Those who are not covered by public health insurance but have ability to pay, pay user charges or buy private insurance; those who are not covered by public health insurance and without ability to pay, have limited or no access to health care. For those covered by public health insurance plans, health care benefits have been reduced due to rising health care costs. Since demand side cost sharing has been widely used as a device for cost containment by various health insurance plans, the insured's ability to pay still has important effect on access to health care needed.

As GIS and LIS are gradually replaced by the new urban employee basic health insurance, health care benefits have been reduced from close to free health care to only reimbursing part of basic health care needs.

GIS also called Free Medical Care System, used to provide free medical care in designated hospitals. In 1957, rising costs in GIS forced the authorities to announce that certain expenses, such as those associated with fitting of glasses and plastic surgery, would no longer be covered. Since 1965 patients covered by GIS have been required to pay registration fee. After 1980, GIS managed by individual government agencies reimburses designated hospitals on fee-for-service basis. To control costs, additional restrictions have been imposed on the benefits of GIS throughout the 1980s and 1990s. These included various forms of cost sharing required by 95% of GIS providers and Essential Drug Lists covered by GIS used in many provinces and cities (Cai, 1996). The

levels of cost sharing and the contents of Essential Drugs Lists for GIS are decided by local governments, and thus there are variations among regions. Eventually "free" medical care provided by GIS ceased to exist.

According to the Labour Insurance Act in 1951, most large enterprises with more than 1000 employees, organize their own hospitals and most medium size enterprises (200-1000 employees) run their own clinics to provide free medical care to their employees. Those enterprises without their own health facilities designate a government hospital as the provider. In principle the LIS reimburses almost all the health care costs for employees and half of the costs for independents. These costs are paid to the hospital in the form of for-for-services based on the charges set by the government. Like GIS, various forms of cost sharing have been introduced into the LIS since 1985 to control the rising costs. About 80% of LIS plans require patients to take up part of health care costs.

The ongoing urban employee basic health insurance sets benefit at "low level" to ensure only "basic health care needs". The concepts of "low level" and "basic needs" refer to the minimal level of entitlements needed to satisfy essential medical care needs (Peter Lee). Here the basic need has two senses: one pertaining to curative requirements, meaning the curing of illness according to the prevailing medical standards of a given country at a given development stage, and the other regarding economic and financial consideration of affordability at a minimal level. From a strategic perspective, a basic and low level of need is less expensive, requiring fewer resources and fewer revenues to sustain the operation of the new insurance system. However, this basic and low level does not preclude adjustments upwards when future economic development so allows (Wu 1998:35-36).

The central government has defined basic medical care benefit package through national essential drug list and essential service list. The lists clarify which drugs and services are included or not included in the basic medical insurance plan. National essential drugs include 21 categories of western drugs, 8 categories of traditional Chinese medicines, and 1 category of prepared small pieces of Chinese herbal medicines. Each category of western drug and traditional Chinese medicine includes A and B types of drugs. Each type includes different brands of drugs. Local governments are allowed to add no more than 15% of "B" types of drugs to the list.

The principles which guide the choice of national essential services are: 1) the items are clinically necessary, safe and effective, expenditure appropriate; 2) their prices have been set by Pricing Bureaus; 3) they are various diagnosis and treatment items provided by designated health facilities within the scope of designated medical services. The government lists service items not covered by the basic health insurance plan, which are mainly non-clinically necessary, with uncertain efficacies or fallen into special medical service category, such as having operation earlier than scheduled, naming a higher rank doctor to carry out the operation. For the items, which are clinically necessary, with certain efficacy but may be easily abused or expensive, the basic health insurance plan covers only partly. For the living facilities at hospitals, the basic health insurance plan only covers hospital bed fees at inpatient department or outpatient and/or emergency

department when patients are kept for observation. All other items not directly related to treatment have to be paid by patients.

Within the basic medical care benefit package, the right to decide what basic health care needs MSAs and the social coordinated medical fund will cover is left to each city government. As a consequence, three models have emerged. The first model is that MSAs are individuals' first means to pay medical bills until they are used up. Then individuals have to pay from their own pocket until it reaches certain level of annual wags. After that SCMF starts to pay, but individuals still need to pay cost-sharing. Typical city for this model is Zhengjiang. The second model is that MSAs are used to pay outpatient care while SCMF for inpatient care and outpatient treatment for certain diseases. MSAs can be used pay to deductibles of SCMF. Shanghai is a typical city for this model. The third model is that MSAs are used to pay bills for small diseases not covered by SCMF which only covers defined catastrophic diseases. Hainan is the typical city for this model.

For all the three models, SCMF pays majority of the approved costs and individuals need pay to cost-sharing. The rate of cost-sharing is also decided by local government. SCMF has deductible which is about 10% of average annual wages of the local employees and maximum claim limit which is about 4 times of average annual wages of local employees. Above the cap, health expenditures are paid either by patients from their own pockets or various supplementary insurance coverage. The government provides supplementary insurance coverage for its employees and encourages enterprises to buy supplementary coverage for their employees too. The money used to buy supplementary insurance is exempted from tax but the highest amount of money exempted from tax cannot be more than 4% of annual wages. Commercial insurance are promoted as a way for supplementary coverage.

Special groups of people such as retired veteran cadres, old Red Army soldiers will continue enjoy free medical care under GIS.

There is never explicit list of services to be provided by CMS in rural areas. In practice, the remaining CMS provides one of the three types of benefits package for the participants (Zhu Ling, 2001). The first is that the participants are entitled to receive medical price reduction for village and township level services in return to their contribution with prepaid funds. The second is that a risk pool is established to cover part of large medical expenses of the participants. The third is that the funds are used to reimburse the participants for certain percentage of both outpatient expenses and hospitalization costs occurring in designated local clinics, health centers and hospitals.

From 2003, the government is promoting a new CMS. The new CMS will mainly cover catastrophic medical expenditure or hospitalization expenditure for participants. For those participants who do not use any CMS fund within a year, a health examination will be provided. Provincial governments are required to establish CMS essential drug list. County governments are required to set CMS reimbursement range and criteria according to funds raising and local conditions.

It is still not clear the benefit of the urban MFA. From the joint opinions of MoCA, MoH and MoF on rural MFA, it can be seen the benefit is very low. Instead of helping the eligible poor households to join the local CMS, the opinions require them to join CMS through their own contributions in full or in part and only provide "appropriate" (which in fact means "part" or "some") medical financial assistance to the expenditures above CMS reimbursements. It is not clear how the eligible poor households who cannot afford to join the new CMS will receive subsidy from MFA.

Contrary to MFA to the poor, Medical Subsidy to Civil Servants provide generous benefit for civil servants who incur high medical expenditures. It will help them to pay majority of expenditures exceeding the ceiling of social risk pooling fund payments and will provide subsidy when their out-of-pocket payments exceeding certain percentage of annual wages. The Medical Subsidy will help civil servants to maintain benefit level under the basic health insurance program no less than that under the previous GIS.

3.3 Complementary sources of finance

3.3.1 Out-of-pocket payments

The share of out of pocket payment in total health expenditure has increased steadily during last two decades. Out-of-pocket payments in fact have become major sources of Chinese health care financing. The increase of out-of-pocket payments is a result of majority people without any insurance, the falling health insurance coverage, higher cost sharing, limited benefit package and large scope of uncovered services by various insurance programs. On the one hand, those without any insurance have to pay out-of-pocket for virtually all health services. The first two National Health Service surveys showed that health insurance coverage reduced in 1998 than in 1993 and that economic reason had prevented many patients from seeking health care when needed (MoH, 1994, 1999).

On the other hand, cost sharing is increasingly taken as an effective cost control device in medical services by all health care financing programs in China. For example, the ongoing basic health insurance has complicated cost sharing requirements, including deductibles, coinsurances and ceilings for insurance payments. Studies have found that out of pocket payments have increased for the insured under the current urban basic health insurance than under GIS and LIS (Yi 2003). It is reported that, in Shenzhen, the insured's out-of-pocket payments accounted for about 30-40% of actual health expenditure and the proportion would be even higher if a deductible for hospitalization were used (Shen Hualiang, 2001). The high out-of-pocket payments burden for the insured results from high deductible (up to 10% of individual (in some places, local average) annual wages), declining coinsurance rates for expenditures above the deductible, and 100% coinsurance for expenditure above the maximum payment from the social insurance fund if the insured patients don't have any supplementary insurance. Moreover, outside the insured basic medical services package, which is very limited,

there are unlimited non-basic medical services. To receive these services, patients have to pay from their own pockets.

After the reform, employer's financial responsibility is limited to contribution to the SRPF on behalf of employees. The SRPF's financial responsibility is limited to the majority of the expenditure above 10% of local average annual wage (deductible) up to 400% of local average annual wage (maximum payments). But there is no limit for out-of-pocket payments from insured employees (Zhou Shouqi, 2002).

Under-the-table payments have been a problem in Chinese health sector as a result of inadequate government subsidies to finance salaries of health workers, and growth in wages of health professionals in non-state sector and other workers outside health sector. At present, under-the-table payments mainly take the forms of "discounts" from pharmaceutical companies to doctors to encourage them to prescribe certain drugs and payments made by patients to doctors to be treated better and quicker. There is no estimate regarding prevalence and size relative to these official payments in China. Interviews with the health professionals in China suggest that especially for senior physicians in specialties, income from "under-the-table" payment could be more than 50 percent of their total income (Yip and Hsiao, 2001). Every year the government emphasizes to enforce management and increase punishment to correct this unhealthy trend. The effect is limited.

3.3.2 Voluntary health insurance

China plans to establish multi tier social health security systems in both urban and rural areas. Employee basic health insurance is a basis for the urban system and new CSM is a basis for the rural system, upon which there are various supplementary insurances and if after these the insured patients still have difficulty, various MFAs will provide a safe net. The government has provided supplementary insurance coverage for the civil servants through medical subsidy to them. The government has been encouraging enterprises to buy supplementary coverage for their employees through tax exemption. The money used to buy supplementary insurance is exempted from tax but the highest amount of money exempted from tax cannot be more than 4% of annual wages. Commercial insurance is promoted as a way for supplementary coverage.

3.3.2.1 Private health insurance

The large share of out-of-pocket payments (including cost-sharing) and the great gaps left by the urban employee basic health insurance and the rural new CMS mean a great potential for private health insurance in China. It is reported that there are more than 300 health insurance policies sold by various commercial insurance companies in China (24 Aug. 2001, Beijing Youth Daily). Buying private insurance is voluntary. While the coverage of public health insurance falls, the coverage of private insurance keeps increasing (MoH 1994, 1999). This is because rising health care expenditure has stimulated the demand for private insurance. However, the coverage is still limited in some high income groups not covered by GIS, LIS, or BIS, and among some primary and

middle school students in a few large cities (X Liu et al. 1995). The benefit package of current private insurance most often is to cover inpatient care or certain types of diseases. According to the statistics of relatively developed Guangdong province, commercial medical insurance has covered 9% of the population in the province (Research Project Office, 1999). Since the government is encouraging commercial health insurance to fill up the gaps left by the ongoing urban employee health insurance system reform, it can be expected that private health insurance will further extend and play more important roles in future's Chinese health care system.

From December 11, 2001, foreign non-life insurance companies can establish branch companies or hold up to 51% of the shares of joint ventures. Shares owned by the foreign investor to a life insurance joint venture shall not exceed 50%. At present, foreign investment is limited to the major markets of Shanghai, Guangzhou, Dalian, Shenzhen, and Foshan. Within three years of WTO accession, there will be no geographic restrictions. Some of the foreign insurers in China are CNP Assurances (France), CGU (UK), Transamerica (Dutch), AXA (France), Gerling Insurance Company (Germany), Allianz (Germany), Zurich Insurance Company (Swiss), and Royal & Sun Alliance (UK). The major Chinese insurance companies are Ping An Insurance, PICC Life, and China Pacific Insurance Company, Ltd.

As of early 2002, the China Insurance Regulatory Commission (CIRC) acknowledged 51 foreign and domestic insurance companies in China, including 11 in various stages of formation. Foreign insurance joint ventures accounted for 26 of the life and non-life insurance companies licensed in China. At the present time foreign health insurers are not allowed participation in the Chinese markets. China has agreed to open the health, pension, group, and all non-life activities (except statutory insurance) insurance markets within three years (by 2005). China's goal is to have the companies and workers evaluate and select commercial health insurance that is appropriate and more tailored to their needs. The entrance of foreign insurance firms into China will help this to happen by introducing international experience and practices.

3.3.2.2 Prepaid health programs

Rising health care costs have stimulated the demand for voluntary prepayment schemes in rural areas. After health reform in 1985, various government health facilities including those providing basic primary care and preventive care services have to rely more on user fees. In order to stimulate demand for preventive care and increase public health facilities' revenues, some rural counties organize prepayment schemes for children immunizations, and for maternal and infant health care. These schemes are set up by the health sectors of local governments on a voluntary and non-for-profit basis.

Prepaid maternal and infant health care plan includes the service provision to the pregnant women for birth-given as well as the pre-and post birth examinations to both mother and infant. The pregnant are encouraged in particular to give a birth in health centers or hospitals instead of at home. Prepaid children immunization program consists of a process for children to receive immunization services. With public subsidies, the

immunization materials are free of charge and the families of the children are required to pay an amount of service fees to township health centers. The fees would be returned to the families if the children were infected with the diseases from that the children should be immunized. The similar way of the operation is adapted to the protection plan for the pregnant. The prepayment is usually higher than that for the immunization program.

It is estimated that at least 50% of children aged 0-7 in the country were covered by Children Immunization Prepayment programmes in 1990 (Liu et al.1991) but no national data are available about mother-infant health prepayment scheme.

3.3.3 External sources of funding

Since 1980s, China has received increasing foreign loans or grants to carry out various health projects and researches. For example, the World Bank has supported 9 major projects in health care ranging from comprehensive regional health planning and rural health personnel capacity building to basic health care services since 1992. The World Health Organization has give support for establishment of rural cooperative medical schemes in fourteen counties around the country (1994-1997) as well as small-scale support for health management training (1980s) and health system reforms (1990s). Related international support of health sector initiatives, particularly health system reforms, has come from such organizations as the United Nations Children's Fund and the International Health Policy Program. The UNDP has also provided support for related social protection policy development, including a 1994-95 $805,000 project of support for social insurance legislation (basic social insurance law and regulations on workers' pensions, unemployment, and employment injury insurance). Since late 1990s, DFID has involved in the health sector in China on a large scale. The first 5-year project implemented in July 1999 provided £15 million to improve health services for the rural poor. In addition, UNFPA has provided assistance to improve family planning and tackling unsafe abortion. Australia Aid is active in maternal and child health, family planning. It also supports the World Bank rural project for AID work and is developing a revised strategy in health sector. UE is defining their strategy for health support and has supported STI training and research on health financing.

3.4 Health care expenditure

For many years, the share of total health expenditure in GDP has been thought too low in China compared with other countries (table 3.1). In 1997, a target of spending 5 per cent of GDP on total health expenditure by the end of 20th century was set (CCCPC and State Council 1997). Indeed the Chinese government has been encouraging to raise more funds for health care from various sources. However due to various reasons, total health expenditure has been increasing rapidly (figure 1). During 1978-1998, in majority years, the growth rate of total health expenditure is far greater than that of GDP. Total health spending per capita in China grew 8 per cent a year in real terms from 1978 to 1986, accelerating to 11 per cent a year from 1986 to 1993. Over the same period real GDP per capita grew 7.7 per cent a year. The share of total health expenditure increased from 2.05 per cent of GDP in 1978 to 4.82 per cent of GDP in 1998. This further rose to 5.37 per

cent of GDP in 2001. While almost all people were covered by some kinds of insurance in 1978, only about 20 per cent of people were covered in 2001.

Table 3.2 shows the changes in health care financing structure during 1980 to 2001. The share of the government health budgets in total health expenditure fell from 36 percent in 1980 to 25 percent in 1990. It further dropped to 15.5 per cent in 2001. Many of the reduction were derived from the reduced government health budget to health care providers (NHEI, 1998). The share of enterprises health expenditure fell from 27.39 per cent in 1990 to 22.01 percent in 1995, most because of the reduction of their direct investment in hospitals. The share of rural collective economy spending on health care continued to reduce on its already low levels (less than 3%) (NHEI, 1998). In 2001, total social health spending[1] fell to 24 per cent of total health expenditure. The reduced expenditure from public sources were mainly filled by private sources, especially direct out-of-pocket payments. Out-of-pocket payments increased fastest and have become the largest source of total health expenditure in China. In 2001, the share of direct out-of-pocket payment accounted for 60.5 per cent of total health expenditure, compared with 37.06 per cent in 1990 and 20 per cent in 1978.

Table 3.3 shows the shares of government health expenditure in total health expenditure and in government expenditure during 1990-2000. It can be seen that both shares have been falling from 25% of THE in 1990 to 14.9% in 2000 and from 6% of government expenditure in 1990 to 4.47% in 2000 respectively. During the same period, the share of government public health expenditure in government health expenditure has reduced from 76% to 70%; the share of government public health expenditure in total health expenditure has dropped from 19% to 10% and its share in government expenditure has dropped from 4.58% to 3.14%.

Figure 3.2 and 3.3 illustrate the structure of total health care expenditure in 1999. In 1999, 81% of health resources were allocated to various hospitals, 6.4% to public health facilities, 11% on health development and 1.5% on others. 78% of total health expenditure was on medical care and drugs (32.71 % on medical services and 45.29% on drugs), 10% was on public health care, 10% on health development, and 2% on others.

Table 3.1. Comparison of Health Resource Indicators in China and Other Selected Countries

	Number of Doctors (per 1000 people)	Number of Hosp Beds (per 1000 people)	Health Expenditure (per capita) (US$)	Share of THE in GDP (%)
	1990-1999	1990-1999	1995-1999	1995-1999
China	1.3	2.4	40	5.1

[1] See note 3 of table2.

Japan	1.9	16.4	2243	7.2
Korea	1.3	5.5	470	5.4
Thailand	0.4	2.0	112	6.0
India	0.4	0.8	20	5.4
United States	2.7	3.6	4271	12.9
United Kingdom	1.8	4.1	1675	6.9
France	3.0	8.5	2288	9.3
Russian Federation	4.2	12.1	133	4.6
Sweden	3.1	3.7	2145	7.9
Romania	1.8	7.6	86	4.6
Poland	2.3	5.1	248	6.2
Brazil	1.3	3.1	308	6.5
Australia	2.5	8.5	1714	8.6
Argentina	2.7	3.3	654	8.4
Nigeria	0.2	1.7	30	2.8
Egypt	1.6	2.1	48	3.8
Ethiopia	<0.05	0.2	4	4.1
Source: World Bank, World Development Indicators, 2002.				

Table 3.2. National health expenditure by sources in China during 1980 to 2001

	1980	1990	1995	1997	1998	1999	2000	2001[2]
GDP[1] (billion yuan)	451.8	1854.8	5847.8	7446.3	7834.5	8206.8	8944.2	9593.3
THE[1] (bllion yuan)	13.2	74.3	225.8	338.5	377.7	417.9	476.4	515.0
Government HE (%)	36.4	25.0	17.0	15.4	15.6	15.3	14.9	15.5
Social HE[3] (%)	40.4	38.0	32.7	27.7	26.6	25.5	24.5	24.0
Individual (%)	23.2	37.0	50.3	56.9	57.8	59.2	60.6	60.5

HealthExpenditure Per Capita[1] (yuan)	13.4	65.0	190.6	273.8	302.6	331.9	376.4	403.6
Share of THE in GDP(%)	2.9	4.0	3.9	4.6	4.8	5.1	5.3	5.4

Notes:

1. GDP, THE and THE per capita are at Nominal prices.
2. Due to the adjustment of statistical specification, THE in 2001 did not include expenditures on high medical education, personal spending on nourishing food and health protection goods approved by the Ministry of Health and sold in market as dietary supplements.
3. Social Health Expenditures include:
    a) direct health investments and subsidies to GIS by Government agencies;
    b) direct health investments and LIS by SOE and urban collective enterprises;
    c) rural collective health investments and CMS;
    d) extrabudgetary capital investment;
    e) private direct investments in practices

Source: "The Measuring Results of Chinese Total Health Expenditure (1980-1998)", National Health Economics Institute, Ministry of Health, China, 2000; THE data after 1999 are from MoH website: http://www.moh.gov.cn/tjxxzx/tjsj/tjgb/1200304030003_1_3.doc (visited on 27/09/2003).

Table 3.3. Government health expenditure in THE and Government expenditure (1990-2000)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Gov. HE in THE (%)	24.99	22.77	20.77	19.66	19.14	16.97	16.15	15.42	15.55	15.34	14.9
Gov. HE in Gov. expenditure (%)	6.02	5.97	6.05	5.80	5.84	5.61	5.81	5.65	5.44	5.00	4.47
Public HE in THE (%)	19.02	17.09	15.44	14.09	13.93	11.99	11.39	10.70	10.87	11.00	10.46
Public HE in Gov. expenditure (%)	4.58	4.48	4.50	4.16	4.25	3.97	4.09	3.92	3.80	4.00	3.14
Public HE in Gov. HE (%)	76.12	75.08	74.35	71.67	72.81	70.69	70.50	69.40	69.90	71.00	70.26

Source: (1) Zhao, NHEI, Trend in total health expenditure and factors affecting its increase, Chinese Health Economics, 2002; (2) Zhao, Report on the estimation of total health expenditure in China in 1999, Chinese Health Economics, 2001.

Figure 3.1. Growth Rate of THE and GDP in China During 1980-1998

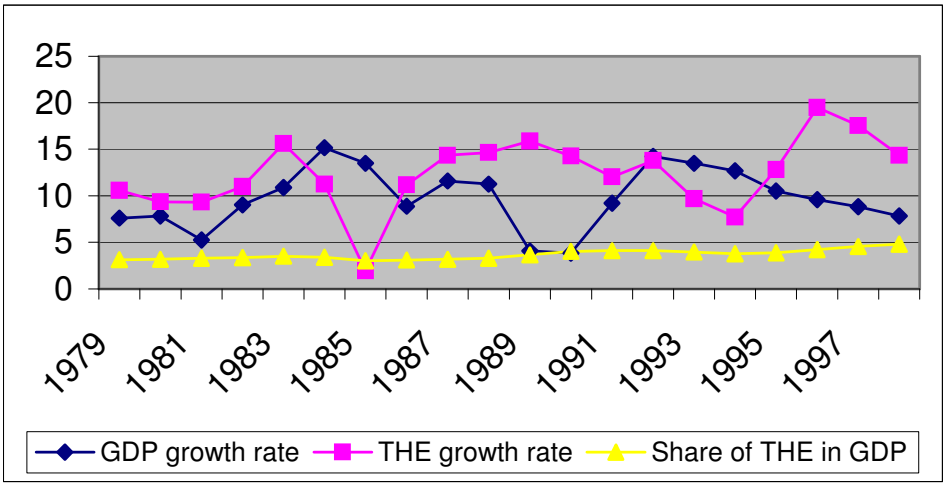
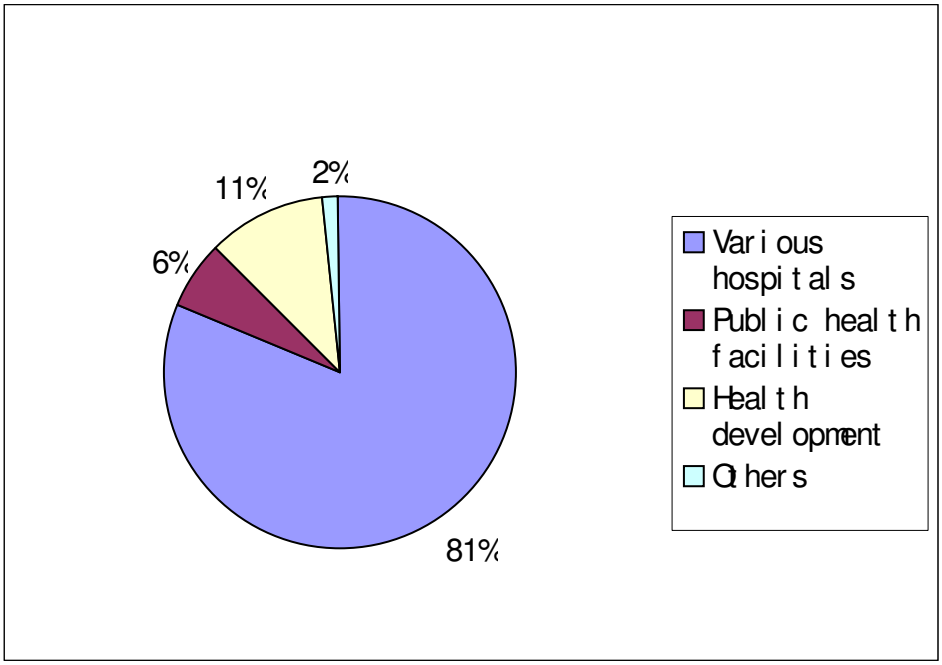
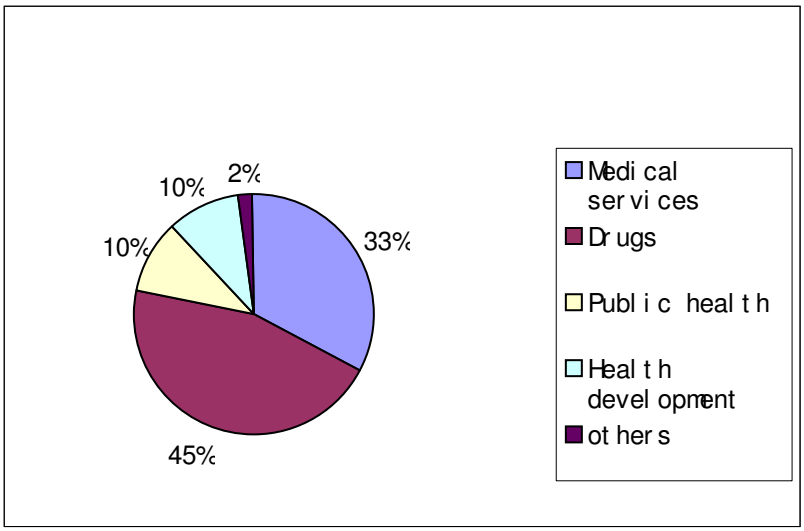


Figure 3.2. Health Resource Allocation in 1999



Source: (1) Zhao, NHEI, Trend in total health expenditure and factors affecting its increase, Chinese Health Economics, 2002; (2) Zhao, Report on the estimation of total health expenditure in China in 1999, Chinese Health Economics, 2001.

Figure 3.3. Structure of Total Health Expenditure in 1999



Source: (1) Zhao, NHEI, Trend in total health expenditure and factors affecting its increase, Chinese Health Economics, 2002; (2) Zhao, Report on the estimation of total health expenditure in China in 1999, Chinese Health Economics, 2001.

4. Health care delivery system

4.1. Overview

Chinese health care delivery system can be best characterized as vast, complex, pluralistic and fragmented. Governments at various levels ran their own health facilities. Vertically, these health facilities organized into parallel three-tier networks in both rural and urban areas. The tiers consist of village clinics, township hospitals, and county hospitals in the rural sector and street health stations, community health centers, and district hospitals in the urban areas. Horizontally, within each level at or above county, health care services are divided into four parallel categories: curative care, preventive care and maternal-child health care, traditional Chinese medicine (TCM), provided mainly by hospitals, centers for disease control and prevention (CDCs), centers for maternal and child health care (MCH) and TCM hospitals respectively. At primary level, different categories of health services are often carried out by same health facilities by different or same health workers. Even at high level, these health services are often overlapped on health facilities and primary care is often provided by tertiary institutions, but this not the design but a problem in practice.

Outside the government run health network, there are many health facilities owned by state owned enterprises (SOEs), sectors and industries, such as military, public security, education, civil administration, mining, railway and postal industries etc. These health facilities provide medical services mainly to employees of SOEs and government institutions who own them but also to the general population. In addition, China runs a separate system of family planning.

Private practice is more common in rural health care provision than in urban areas. In urban areas, private hospitals are developing rapidly in recent years. Since 2002, all health facilities have been reclassified into two categories: not-for-profit and for-profit health facilities, subject to different subsidy, tax and price policies.

At the end of 2003, China had 291,000 health institutions (not including village clinics) employing 5.28 million health workers. Among the 283,000 registered medical facilities (not including village clinics), 30% were state-owned, 17.3% collectively owned, 48% privately owned (many of them are private clinics in urban areas); not-for-profit health facilities accounted for 48% and for-profit health facilities 52%; 95% of hospital beds are not-for-profit (MoH Center for Statistics and Information, 2004).

Currently Chinese health care delivery system is under transition, especially in urban areas (in rural areas the government promises to strengthen the health care network). First, the urban three tier network is moving toward a two tier system: street and community hospitals are converted to community health services centers while city hospitals become urban medical centers. Second, many pharmacies have been set up. They compete with hospitals to sell drugs. Third, the function of public health inspections and law enforcement has been separated from public health services provision and a new public health system, which consists of a public health emergency response system, a

disease prevention and control system and a public health inspections and law enforcement system, is under construction.

4.2. Public health services

Communicable disease control, health promotion and education, preventive services such as immunization services are mainly provided by Epidemic Prevention Stations (EPS) at and above county levels. Maternal and Child Health Centers at and above county levels and urban general hospitals also provide many preventive care. In rural areas below county levels, public health services are provided by township hospitals, village health centers and even some village doctors. Due to the reduction of government support after 1980s, public health workers are allowed to charge for preventive care. To increase revenue they tend to provide more medical services. As a result public health care has been systematically neglected, especially in rural areas.

Following the restructuring of public health service delivery system in 2000, many EPSs have been split into two parts according to services functions. On the one hand, health surveillance functions have been separated from EPSs and a new vertical Health Supervision System has been established as executive bodies of health authorities from central down to county level. On the other hand, Centers for Disease Control and Prevention have been set up, which are intended to merge the rest of public health services of EPSs with those public health services previously separately provided by many other health facilities.

The CDCs are organized according to administrative areas with one CDC under each of the governments at and above county levels (figure 4.1). Central and provincial CDCs are mainly responsible for macro management, professional technical assistance, research and training, quality control and public health information. CDCs at prefectural and county levels are responsible for providing all kinds of public health services. High level CDC provides technical support and training for lower level CDCs and guides and oversees lower level CDCs' work. Under the guidance of county CDC, rural township hospitals and the newly developed urban community health services centers provide many public health services, such as preventive care, disease control, health education and promotion and social care.

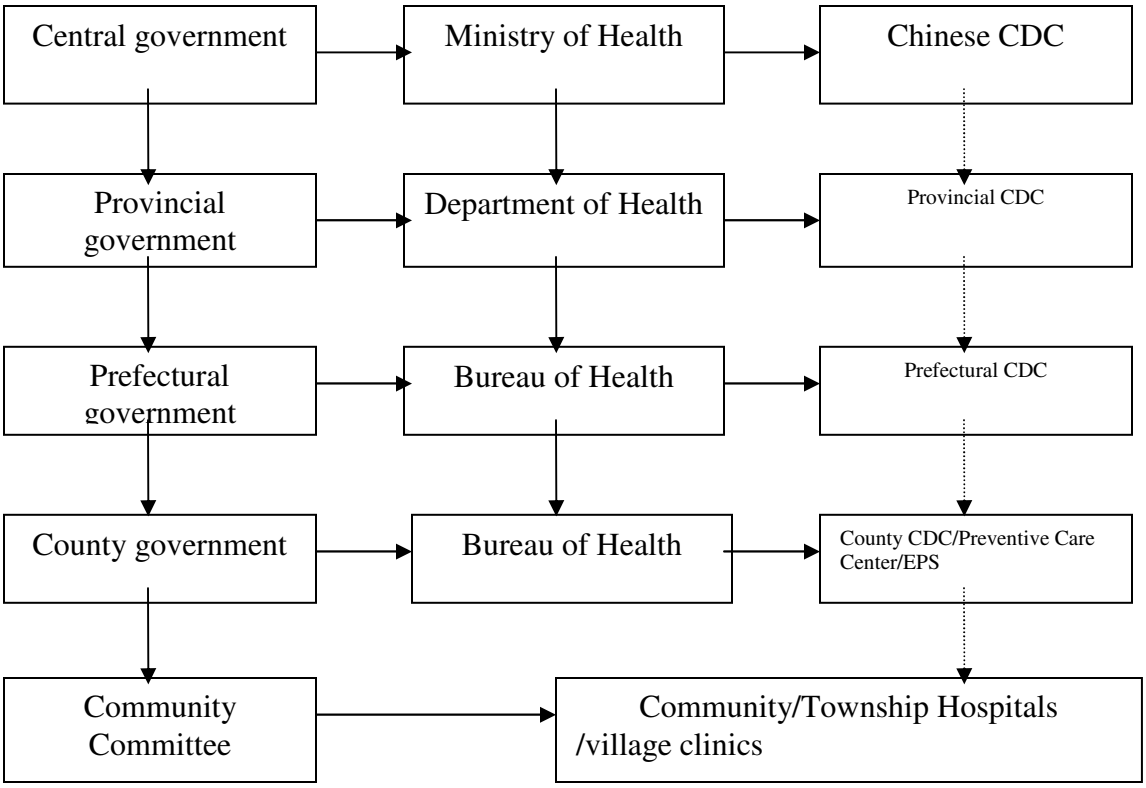
CDCs are financed by budget from same level governments. The revenues generated from services by CDCs are required to submit to the government. These revenues will be used by the governments as extra budget to CDCs. Public health services provided by township hospitals and community health services centers continue to be financed by government budget and user charges.

There were 3463 CDCs employing 204444 health personnels (among them 94586 were doctors) in China in 2002. The number of CDCs reached to 3584 in 2003. In 2002, the immunization rates of infants for (BCG 98%, DPT 98.2%, OPV 98.4%, MV 97.8%). But there is difference between difference areas.

In June 2003, the Chinese government, waking up from the SARS trauma, pledged to knock up an emergency system against breaking public health events, a disease prevention and control system and a public health law enforcement and oversight system in about three years.

Maternal and child health care, family planning and screening programs are mainly provided by MCH centers at and above county levels. The organization of MCHs is similar to that of CDCs (Figure 4.1). Like preventive care, these services are also provided by various levels of hospitals and village clinics and midwifes in rural areas. In 2002, there were 3067 MCH centers with 79774 beds and 176905 MCH workers. Most of MCH centers are owned by the government or SOEs and are not-for-profit. Only very few are for-profit. The occupancy rate for MCH centers was 57.6% and average length of stay was 5.4 days in 2003.

Figure 4.1. Organization of CDCs



4.3. Primary health care

In China primary health care is mainly provided by health facilities at the bottom level, including rural township hospitals and village clinics, urban community health service centers (most converted from street hospitals and community hesitates), clinics owned by industries and SOEs, and private clinics. However primary health care is often overlapped among different levels of hospitals. Even health facilities whose main tasks

are public health also provide some primary health care. This section mainly focuses on primary health care provided in hospitals and clinics.

4.3.1. Primary health care in rural areas

In rural areas, primary health care is mainly provided by village clinics and township hospitals. Village clinics are staffed by village doctor, health worker and/or midwife, who are trained for three to six months after junior high school and receive an average of two to three weeks of continuing education each year. Village clinics used to be collectively owned and village doctors were paid by CMS. Following the rural economic reform and the collapse of CMS, most village clinics have been privatized and village doctors have become private practitioners. They charge patients for the services they provide and more often rely on selling drugs for living.

More complicated cases and inpatient cares are provided in township hospitals. Township hospitals usually have 10 to 20 beds overseen by physicians with three years of medical school education after high school, aided by assistant physicians and nurses and other health professionals. Township hospitals play very important roles in the provision of rural primary health care. They act as a connecting link between village clinics and county hospitals.

This three-tier system worked reasonably well in rural areas in the era of central planning. In the 1950s, 60s, and 70s, county health institutions provided township hospitals rather effective guidance in technology and skills, as well as some financial support. Township hospitals in turn managed personnel of village clinics. As the financing and management of government health facilities was further decentralized to township governments in 1985, the linkage between the three levels of health care network has been weakened (Yu,1992). The factors such as the dissolution of CMS, increased income and improved transformation, have also influenced the operation of the network. The formal referral system established under the three-tier network was weakened resulting in patients bypassing township hospitals more frequently to go to county hospitals or to see private doctors (Liu Y. 1995). County hospitals also encourage patients to do so because they often need the patient flow to maintain financial solvency (Hsiao, 1995).

Currently, 89.8 percent of the 730,000 administrative villages have village clinics, many of them are not running well due to various reasons. The number of village doctors is falling. There are more than 50,000 township hospitals. On average, per 1,000 rural residents have 1.5 hospital beds and 1.1 physicians. Due to lack of sufficient financial support from the government, township hospitals find it hard to keep experienced doctors and to update medical equipment. As a consequence they cannot provide high quality of health services needed by local residents. Low quality of medical services attracts fewer patients, which means less revenue for hospitals and less ability to improve quality. A relatively high number of township hospitals have fallen into a vicious circle. According to the Ministry of Health, among the township hospitals, only one third is running well, one third is eking out and the other third is almost closed. The best running township

hospitals are generally located in eastern coastal areas while most township hospitals in western areas are very difficult. In many areas, township hospitals have been rent out or even sold out to individuals under the name of "reform" (Lei, 2003).

In rural area, the average number of outpatient visits per doctor per day and the average number of inpatient days per doctor per day declined significantly over the period from 1986 to 1997. The main factors resulting in the reduction of productivity are associated with the increase of inappropriate staff recruitment in these health facilities, the significant decline of rural population covered by health insurance, particularly rural CMS, and the rapid rise of health costs. The latter two factors also have brought out a reduction in the use of these heath facilities by the rural population.

4.3.2. Primary health care in urban areas

In urban areas, the three-tier health network never works well and hospitals at all levels and clinics, public or private, all provide primary health care. The insured people have no freedom to choose primary care doctors. They have to go to designated hospitals or clinics, which are often large public hospitals or clinics/hospitals owned by SOEs or other ministries. Those without insurance can choose any health facilities. Hospital outpatient departments are normally their first contacts with the health care system. In China, 80 % of urban dwellers seek treatment on an episodic basis at large, modern hospitals — even for minor illnesses. By contrast, primary health care provided by health facilities at the grassroots level are underused.

Therefore, the health system in cities had been entirely hospital based without community health or general practice. The decision to reform the health care system was made by the central Chinese government in 1997. From 1999, the government has been formally promoting the development of Community Health Services Centers (CHC) as major providers of primary health care and social care in urban areas. Since then, vast changes have occurred in cities with many district and community hospitals being converted into community health centers and the specialists who used to work in these hospitals being retrained to become general practitioners (GPs). As a result, the previous three-tier urban health care network are transformed into two tiers, that is, CHCs as primary health care providers and large general hospitals as urban medical centers.

The community health care team usually consists of GPs, multi-skilled nurses, and public health personnel. Nearly all GPs are employed by the local governments. Apart from providing medical treatment, the team is also involved in a range of activities including disease prevention, rehabilitation, health promotion, medical education and family planning. Most of the medical treatments are focused on diseases that can be handled in general practice. People with major illnesses are referred to teaching hospitals. The role of the community health team as defined by the central government is to provide an affordable and efficient health care system to the masses, and at the same time prevent the spread of communicable diseases as well as reducing the burden of the pharmaceutical cost on the society (Division of Primary and Women's Health, MoH, 1999).

By the end of year 2002, a total of 358 Chinese cities in all 31 provinces and autonomous regions have established 2,406 community health centers and about 9,726 affiliated services (Ministry of Health - " General Survey of Community Health Services", 2002).

The development of CHCc is slow due to problems encountered. The major challenge is the lack of recognition of importance of the reform. The community has not embraced the concept of general practice and is not accustomed to community health care services. People with minor illnesses still prefer to be seen by doctors in prestigious tertiary hospitals even though it is more expensive. A visit to a specialist doctor in the outpatient of a tertiary hospital usually costs three times that of a consultation by a GP in the community health center. Despite the difference, patients tend to bypass the GPs and go straight to the outpatient departments of big hospitals. Therefore, GPs have failed to establish themselves as "gate keepers" for acute hospitals. A typical day in a prestigious hospital outpatient department usually involves several thousand consultations compared to less than a hundred in a typical community health center. According to the Ministry of Health statistics, in the year 2002, there were 1.2 billion consultations in hospital outpatient departments compared to 36 million consultations in community health centers nationwide. Likewise, bureaucrats of local government also do not see the importance of the reform. Staff in the district hospitals are also reluctant to change and do not appreciate the long-term benefits that the reform will bring.

Lack of a fair remuneration system is another issue. For instance, some important services such as public health education and disease prevention provided by community health centers have not been received appropriate remuneration by the government. Also, financial resources to support a multidisciplinary health care team, which includes allied health, have not been established.

Surveys (Wanqiang Yin et al, 2003) found that major services provided by CHCs were outpatient care, injections, transfusions, and visiting patients at home. The services of health planning, rehabilitation and systematic management of psychotic patients were hardly provided but CHC's function of providing preventive care is increasing. The two-way referral system has not been established. Few patients were referred to high level hospitals and no patients were referred from high-level hospitals. Currently, the attendees at CHCs are mainly aged and unemployed people. The shortage of medical equipment, low quality of the staff and lack of connection with the urban employee basic health insurance network were the factors affecting the supply capacity of CHCs.

The government is making efforts to encourage more use of PHC at CHCs. Measures include promising more government input to improve quality; setting lower prices for services provided at CHCs; requiring the social insurance program to integrate CHCs as designated health care providers and to reimbursement more for PHC at CHCs.

4.4. Secondary and tertiary care

Secondary and tertiary care is provided by hospitals at and above county levels, including general hospitals, TCM hospitals, special hospitals such as, Stomatological Hospital, Tumor Hospital, Gynaecology and Obstetrics Hospital, Children Hospital, Psychiatric Hospital, Hospital for Infectious Diseases, Tuberculosis Hospital. These hospitals can be classified into four kinds according to ownership: government hospitals, hospitals owned by ministries and SOEs, military hospitals, and private, shareholdings and Sino-foreign Joint Venture hospitals.

Government hospitals include the hospitals under the leadership of Ministry of Health or Health Bureaus of local governments at provincial or county level, and the hospitals affiliated to medical education and research institutes. Government hospitals receive some government budget and are responsible for providing secondary and tertiary care to all the people at the prices set by the government. While overall fees remain relatively low, medication is overpriced and over prescribed, due to widespread compensation from pharmaceutical companies to underpaid doctors.

Hospitals owned by Ministries and SOEs used to provide health services only for the employees of these ministries and SOEs. Since early 1980s they are allowed to open to the public and charge fees according to government set fee schedule. SOE hospitals are in the process of being transferred to local governments, albeit with some resistance. Only poor-performing enterprises have welcomed the move, since it often helps to reduce cost. Financially stronger companies have been reluctant to do so for fear of reducing the quality of health services to their employees. In 1999, SOEs had 44% of total health facilities, 23% of hospital beds and 23% of health professionals. But they only provided 15.25 of total outpatient services and 12.26% of inpatient services.

Military hospitals include the hospitals belonging directly to Health Department of General Logistics Department of People's Liberation Army, the hospitals belonging to military areas, and the hospitals belonging to Armed Police. The quantity of big sized multipurpose military hospital (over 300 beds) have got up to 150. They are also open to the public and charge for services they provide.

Private, share holdings and Sino-foreign joint venture hospitals. In a survey of 22 provinces, there were more than 400 private hospitals in China. The main body of these existing private hospitals consists of special and TCM hospitals. Since the first Sino-foreign joint venture hospital was founded in 1989, almost 200 joint venture or cooperative venture hospitals or clinics of various types have been established in China. They are regulated as for-profit health service providers. Less than 20% of the joint venture hospitals have more than 200 beds. At present, joint venture hospitals are of limited scale, outpatient flow averages 40-60 people per day. Most have a small medical team, which consists of about 10 foreign physicians and some family doctors, and usually target the expatriate populations in China. The exceptionality of foreign funded hospitals lies in their quality patient-centered service and their healthcare service concepts that were previously unheard of in China. In joint venture hospitals, patients are charged according to international standards. It is also common among healthcare joint ventures to offer discounts to their own members, who are usually supposed to pay a minimum of

$100 annually for membership. Healthcare joint ventures are mainly located in economically developed coastal provinces and big cities. Foreign funds of present joint venture projects are mostly from the United States, Japan, Hong Kong, Taiwan, and Macao. In Chinese society, more and more newly emerging middle class is going to joint venture hospitals for their better treatment and patient-centered services.
In 2003, China has about 2.34 hospital beds per 1,000 populations. However, the distribution of hospital beds across the country is not homogeneous, and the range of hospital beds varies from 6.14 to 1.48 beds per 1,000 populations.

The acute hospital bed occupancy is just 65 per cent, but varies considerably between hospitals. Government hospitals generally have high occupancy rates, and their average occupancy rate is greatly reduced during 1990s. The health service utilization rate declined by 19%, and the hospitalization rate declined by 4.3%. Average length of stay in government hospitals is 10.8 days in 2003. Compared with 1990, in 1998 the average patient-seen-per-doctor fell from 1,683 to 1,178; the utilization of hospital beds declined from 80% to 60%. “Insufficient health resources co-exist with their waste” (Ministry of Public Health, 1999).

With the implementation of regional health planning policy since 1997, and the rational distribution of health resources initiated recently in urban areas, it is reported that some of the urban hospitals are in the process of amalgamation or forming group hospitals. This horizontal integration process is concerned with increasing market share. At the same time, there is also a process of vertical integration. In the attempt to gain advantage in the competitive market and be complementary in service provision, these grouped hospitals have expanded their services even into community services such as family sick beds. The amalgamation of hospitals is also intended to absorb the previous secondary hospitals so that eventually, in the urban areas, there will be only two levels of service, hospital services and community services.

4.5. Human resources and training

China had 1.7 doctors per 1000 persons during 1990-1999, close to the level in developed countries (Table 5.1). But the quality of doctors are relatively low with only 14.3% of health professionals having received 5-year medical education or above and 26.7% having 2-3-year medical education. In 2003, China had total 4.3 million health professionals, 37,000 more than in 2002. There were 1.87 million registered physicians/assistant physicians and 1.26 million registered nurses/senior nurses (table 5.2).

Table 5.1 Health Resources by Country

Country	Doctors per 1 000 Persons	Hospital Beds per 1 000 Persons	Health Expenditure Per capita ($)	% of GDP on Health Expenditure	% of Central Government Expenditure Allocated to Health
	1990～99	1990～99	1995～98	1995～98	2000

China	1.7	2.4	40	5.1	11.0
Japan	1.9	16.4	2243	7.2	15.4
Thailand	0.4	2.0	112	6.0	11.4
India	0.4	0.8	20	5.4	5.3
U. K.	1.8	4.1	1675	6.9	14.9
France	3.0	8.5	2288	9.3	13.5
Russia	4.2	12.1	133	4.6	14.5
Poland	2.3	5.1	248	6.2	10.2
Romania	1.8	7.6	86	4.6	5.0
U. S.	2.7	3.6	4271	12.9	16.7
Brazil	1.3	3.1	308	6.5	8.4
Australia	2.5	8.5	1714	8.6	16.2
Egypt	1.6	2.1	48	3.8	6.5
Nigeria	0.2	1.7	30	2.8	3.0

Source: World Development Indicators in 2002, World Health Report in 2002.

Table 5.2. Numbers of health professionals, 1950–2003

	1950	1980	1990	2000	2002	2003
Total Personnel	611240	3534707	4906201	5591026	5238079	5274786
Health Professional	555040	2798241	3897921	4490803	4269779	4306471
Doctor & Assistant Doctor	380800	1153234	1763086	2075843	1843995	1867957
Doctor (only)	327400	709473	1302997	1603266	1463573	1486029
Senior Nurse & Nurse	37800	465798	974541	1266838	1246545	1265959
Pharmacist	8080	308438	405978	414408	357659	357378
Laboratory Technician	-	114290	170371	200900	209144	209616
Others	128360	756481	583945	532814	612436	605561
Other Technical Personnel	-	27834	85504	157533	179962	199331
Manager	21877	310805	396694	426789	332628	318692
Support Service Worker	34323	397827	526082	515901	455710	450292

Notes: 1). Health professionals in 2002 and 2003 did not include health workers in medical university, FDA and familiy planning institutions run by other ministries; 2). Doctors and nurses in 2002 and 2003 were only registered practicing physicians/assistant physicians and registered nurses.

Unequal distribution of health personnel between rural and urban, and between economically better off and poor areas is a serious problem. Despite the overall increase in the production of western medicine doctors, the phenomenon of unbalanced distribution of trained doctors throughout the country persisted and was exacerbated by economic reform. As a result, in 1993 ‘ . . . wealthy counties have almost twice the number of doctors and assistant doctors per thousand population than the poor counties’ (Gong et al., 1997). In 2003, 1000 population in Beijing had 4.14 doctors and 3.46 nurses while in Guizhou 1000 population only had 0.97 doctors and 0.58 nurses.

The causes of this problem are multiple. The most important reasons are economic and social differences among the regions and the absence of financial or other incentives to encourage health personnel to practice in less favorable areas of the country. Lack of government co-ordination and overall planning for staffing level and recruitment policy

leaves the distribution of qualified health personnel to the market economy. The creation or exacerbation of pay differences together with other factors, such as promotion prospects and living conditions in different areas, had an impact on the flow of qualified health personnel from poor, rural areas to richer areas in China (Gong et al., 1997). As a result, rural health workers have the lowest education level with 60% only having 2-year secondary technical school qualification and only 18.7% having 2-3-year medical education qualification.

To relieve this problem and to support rural health care, a recent policy by MoH and MoP requires urban medical institutions' newly recruited practicing physicians within 5 years sever at rural medical institutions for one year before being promoted as a in charge physician.

There is also an uneven distribution of health professionals between medical institutions and public health institutions. 95% of health professionals work in various medical institutions and less than 5% at CDCs. The reduction of financial support from central and local governments and the difficulties in revenue generation from preventive services has led to preventive service facilities/units losing their skilled personnel and at the same time facing the difficulty of attracting young medical graduates (Xiang et al., 1998). Health professionals in hospitals have the highest education level, followed by health professionals at CDCs and MCH.

The skill mix of health personnel is inappropriate for the delivery of effective health care. There are too few nurses and midwives in relation to doctors. After 1980s, the number of trained senior nurses and nurse has increased, but it is still inadequate. In 2003, per 1000 population had 1.48 doctors and 1 nurse, a ratio of 1:0.67. Until recently, a further skill mix problem is that there are more specialists than general practitioners. In the past, there were no general practitioners. Doctors have always preferred to specialize, partly for economic and social status reasons, because people often go straight to a specialist, without consulting a general practitioner first, which means that specialists have higher incomes than general practitioners, and partly in order to maximize job satisfaction. Levels of job satisfaction have been low among general practitioners, which has implications for the quality of the services they provide.

Medical training:

The responsibility for medical educational institutions has been shifted from the health sector to the Ministry of Education. Instead of a system that the Ministry of Health had control, the future shape of the health workforce will be determined by educational institutions and the Ministry of Education. In 2003, there were 97 medical colleges/universities and 447 medical secondary schools. Medical college/universities enrolled 257,700 new students and total students reached 814,700 in 2003, 49,800 and 158,200 more than in 2002 respectively. There were 111,356 medical graduates in 2003, 31,900 more than in 2002. Medical secondary schools enrolled 278,500 new students and total students reached 825,900. In 2003, 199,300 students graduated from medical secondary schools.

The emphasis on quantity at the expense of quality has been particularly marked regarding health workers (Gong and Wilkes 1997). Training institutes continued to produce large numbers of semi-skilled personnel long after the acute shortages had been relieved. By the early 1990s, most health facilities employed large numbers of assistant doctors and partially trained health workers who had very low workloads.

In-service training for health professionals has been affected by decentralization. Where in-service training was previously funded by central government, decentralization raised difficulties, particularly as to how devolved authorities are to raise the funds needed to train its staff (Solter, 1999; WHO, 1988). Surveys fount that due to economic consideration, township hospitals gave more opportunities for on-the-job-training to doctors while on-the-job-training for health workers providing preventive care was often neglected (Xiaoyun Liu et al. 2003).

A system of professional licensing has started to implement that links educational requirements to employment and promotion. Licensing may have unequal impacts on rich and poorer areas and other regulatory measures will be necessary if licensing is to be an effective mechanism for controlling the quality of health workers, and contribute to the provision of affordable health services in both rich and poor areas (G Youlong et al, 1997).

In recent year, as emphasis is put on the provision of community health services, a network of GP training centers is progressively being formed. The Ministry of Health has introduced a system of retraining hospital-based doctors to become GPs. In addition to developing a medical education curriculum for GPs and community health nurses, the Division of Medical Education in MoH has also set standards or requirement for other training programs in the community health services. In the year 2000, a national center for GP training was established at the Capital University of Medical Sciences. By the end of 2001, 16 provinces (or cities) have established provincial GP training centers. Fifty-eight clinical centers and 56 community health centers nationwide have been accredited for training. Ten different provinces have arranged bedside clinical teaching based in such centers. Six provinces (or cities) have started the training of community nurses and have trained 2,513 nurses to date. Another five provinces have begun training community nurse managers. Nationwide, progress has also been made in undergraduate and postgraduate teaching of general practice. To date 1,359 people have been trained as GP trainers in provinces in addition to the 600 already trained by the Ministry of Health.

Obviously, the development of GP training is uneven in various regions. The speed and quality of GP training in wealthy, developed places such as Beijing, Tianjin, Shanghai, Zhejiang, Shenzhen are faster and better. In comparison, there are places where development and quality of GP training are poor. There is a severe shortage of training funds in most provinces (or cities). Many regions do not have a budget for GP training and some trainees actually have to pay for their own training costs. There is a lack of uniformity of teaching material and teaching standard for GP training. The execution of

the national license or registration examination for GPs is also out of step with GP training.

"China's 2001-2015 health human resource development plan" sets targets for health human resources and training in the future: by 2005, those without formal health training will not be allowed to work as health professionals; by 2015, all doctors will have education at or above college level and no less than 30% of nurses will have college or above education; 100% of health professionals will receive continuing education and 100% of health managers will receive on-the-job-training. In rural areas by 2015, 100% of village doctors will have received at least 2-3 years medical education and 85% of them will have been transferred as registered assistant physicians.

4.6 Pharmaceuticals and health care technology assessment

4.6.1. Pharmaceuticals

All providers (including hospitals and clinics) are allowed to sell drugs. Until recently, drugs have been distributed mainly through hospitals. All hospitals run their own pharmacies. Hospital pharmacies account for 73% of drug retailers. Beside hospitals, there are more than 16,000 drug wholesalers and 110,000 independent drug retailers. In 1999, in western provinces, drugs sold through hospitals accounted for 75.61% of total drug consumption and the rest were sold at independent pharmacy stores.

The level of consumption of pharmaceuticals in China is among the highest in the world. In 1999, over 45% of total health expenditure was on drugs. In rural areas this number is as high as 70%~80% of total health expenditure of health institutions. Drug expenditure accounted for 57% of per outpatient health expenditure and 43% of per inpatient health expenditure at provincial hospitals. It accounted for 52% per outpatient health expenditure and 47% per inpatient health expenditure respectively at county hospitals.

It is estimated that at provincial hospitals 65% of drug expenditure is not appropriate while at district hospitals, 41% of drug expenditure is not appropriate. Abuse of antibiotics is the most serious problem. To deal with this problem, the MoH is preparing a guideline for rational use of antibiotics. This will become a first guideline for a specific drug in China.

The integration between prescribing and dispensing (providers prescribe drugs and also dispense drugs) is believed as a rooted cause for overprescription and the resulting high drug expenditure. Since hospitals are allowed to mark up 15%-25% on wholesale drug prices and the sales of pharmaceutical products are used to compensate the underpaid medial services of doctors, hospitals and doctors have strong incentive to overprescribe medicines. It is estimated that 70% of the finance of China's hospitals is generated from selling drugs.

To control pharmaceutical costs and to encourage cost-effective use of drugs, the government has issued a series laws, policies and documents concerning the production,

distribution, and utilization of pharmaceuticals since 1997. Following these laws, policies and documents, several measures have been taken. The first measure is to establish a national essential drug list and local drug lists. A study found that Shanghai, by using essential drug list and setting a cap for drug expenditure, appeared to have achieved its objectives of containing the escalation of drug expenditure and improving the rational use of drugs without loss of equity (Hu et al. 2001). The second measure is to classify prescription drugs and over the counter (OTC) drugs, applying to different management methods. The objective is to break hospitals monopoly over drugs and to increase competition. However, hospitals have been found using different strategies to prevent patients from buying prescribed drugs outside. One extreme example revealed recently is that some hospitals ask doctors to write codes instead of drug names on prescription papers. The same drugs bought according to the codes from hospitals are much higher than the same drugs sold in pharmacies (CCTV, 2004).

The third measure is to de-link providers' revenue from drug sales by separating drug prescription from dispensing. As a first step, hospitals are required to set up a new accounting system to cut the direct links between prescriptions, medical services and revenues. Profits generated from drug sales are required to submit to health authorities, who will redistribute these revenues among hospitals according to public health services they provide, the quality of health care and degree of patient satisfaction. The second step will be to turn pharmacies into retail drugstores with no financial links to hospitals, thereby avoiding any conflict of interest. Without other compensations this will cause financial difficulties for a majority of hospitals. Therefore it is not surprise hospitals have strongly resisted this measure for fear of losing a significant portion of their regular income, and almost none of them has come up with any implementation plan yet. The MOH now has postponed the reform, pending further trial results.

The fourth measure is to further reduce the scope of government set prices and let market to decide prices for more drugs. The fifth measure is to tighten regulations on drug production and circulations. There are 5082 pharmaceutical companies in China. The pharmaceutical industry revenue in China is about $20 billion, of which approximately 48%, 30%, and 22% come from the sales of joint venture, domestic, and imported products, respectively. The Pharmaceuticals Control Law, which was promulgated on December 1, 2001, clearly stipulates that domestic pharmaceutical manufactures must abide by international rules, laws, and practices. All the domestic pharmaceutical enterprises are required to abide by GMP standards before the end of 2004. The law also will treat foreign medicine equally with domestic brands by stopping the practice of examining the imported medicine of each group and shifting the focus to market supervision. It also allows that China's medicine retail trade (drug retail stores) will fully open to foreign investors by January 2003.

The government plans to reduce the drug-selling chains by encouraging joint operation and set national drug supply centers and by organizing public bide for hospitals to make collective purchasing.

Another serious problem is the safety of drugs. Fake drugs and low quality drugs repeatedly appear in market especially in rural areas due to bad management and lack of effective supervision. To increase quality and reduce cost, SFDA is experimenting with the establishment of drug distribution network to cover rural areas.

4.6.2. Health care technology assessment

China started health technology assessment in 1990s and has so far established three centers for medical technology assessment, biomedical engineering technology assessment, medical ethics and a center for evidence based medicine. Several health technologies such as the use of *r* knife, taking folic acid to prevent nerve malformation, have been evaluated. Based on technology assessments, 35 clinic technologies have been stopped using nationwide and alternative technologies have been adopted.

Generally, health technology assessment in China is very weak. Most of the locally made drugs in the market are lack of rigorous evidence on efficacy, and cost-effectiveness. The evidence provided by local pharmaceutical companies for registration of new drugs is often biased either due to lack of capacity to generate scientific evidence, or due to financial motivation to provide biased information. Technologies often enter into market while sound evidence is lacking.

The use of drugs and high medical technologies is driven by profit rather than being based on evidence. High profitability and competition have resulted in a high-technology equipment race among most of hospitals and many health centers in China (World Bank, 1997). The number of some advanced medical equipments such as MRI, X-CT, SPECT, PET in China has close to or even more than developed countries. But the distribution of these high-technologic medical equipments is mainly concentrated in cities. Overuse and misuse of high-technologic equipments is very common and has become an important reason for rapid cost inflation. It also causes concerns over health care quality.

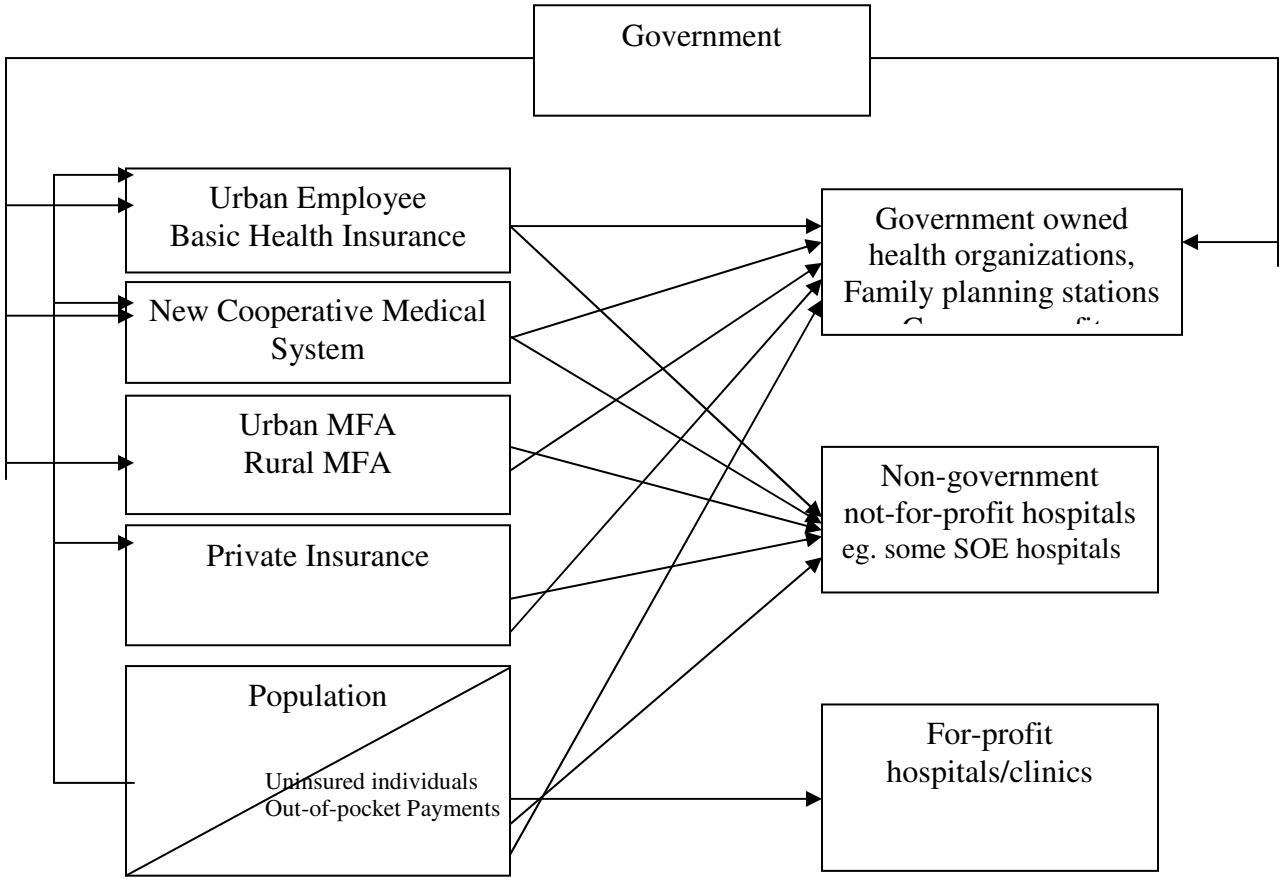
Entry Administration on Health Technology issued in 2003 emphasizes the use of health technology assessment and the refinement of the health technology entry administration system. Health authorities will decide whether a health technology should be used, spread or stopped based on the results of HTA.

5. Financial Resource Allocation

5.1. Overview

In China, financial resources are allocated to health care organizations through different ways depending on ownership and classification (figure 5.1). Governments at various levels only provide some subsidies to government owned not-for-profit hospitals and public health service institutions. Non-government not-for-profit hospitals, most of which are owned by other ministries, and SOEs, receive no government subsidies directly, although they may receive funding from their responsible ministries (this is not counted as government health budget) or SOEs. Governments give tax exemption to these government owned facilities and non-government owned not-for-profit hospitals and require them to provide services according to government guided prices. Other health facilities, most of which are private and for-profit, receive no subsidy and tax exemption, but they can set their own prices.

Figure 5.1. Financing Flow



Even for government owned not-for-profit hospitals and public health institutions, the government budgetary allocation actually forms only small of part of overall revenue. The bulk of the remainder is made through user fees, which are paid by insurance

programs and individual patients. For other not-for-profit hospitals (such as SOE hospitals choosing to be not-for-profit), most or all revenues are generated from services paid by insurance and individual patients. Private and for-profit hospitals are paid dominantly by private users, because the government does not take the responsibility to support private and for-profit hospitals and the social health insurance schemes (even private insurance) generally do not reimburse their patients who use the medical services of these hospitals. Currently, the policy on social insurance contribution is formulated by the prefectural government under the guidance of upper level governments. Total contributions collected by social insurance bureau, after setting aside certain amount (between 2%~5%) into a risk fund (a reserve for years with extraordinary expenditure), are normally used to pay for health services of the insured within the areas. Administrative costs for social insurance are made by the government. Currently, health insurance only covers about 20% of people. As a result payment from insurance also takes small part of hospital revenue, a larger share of hospital revenue is from out-of-pocket payments.

5.2. Government budget to health sector

Currently, under the fiscal decentralization, the central government sets principles, scope and ways for health budget setting and local government determines health budget within its jurisdiction. Therefore, economic development plays a considerable role in budget setting and there is large difference in health budget among different areas.

At each level government, the budget for health sector is set annually as part of the overall public expenditure planning process. The general principle is that the growth rate for government input in health care should not be lower than the growth rate of government expenditure. Budgets for Traditional Chinese Medicine, family planning, and health education are set separately either within or outside the health sector.

Government health budget covers all administration costs of health authority and full expenditure for public health supervisions and law enforcement organizations. Health authority allocates budgets to health institutions it directly owns to cover part of their costs for providing public health services and basic medical services.

Different ways are used to set health budgets for different items. Budget for health personnel expenditure is set based on the actual number of personnel within the approved quota and government set salary and allowance standards. A fixed budget is set for administrative expenditure. Capital investment budget is set based on the appraisal of capital investment. Zero based budgeting, which means setting budget based on the importance of the items (task need) and available resources instead of historic expenditure, is used for operation costs.

5.2.1. Government budget for government owned hospitals

Chinese government budget used to cover all capital investment and operation costs of hospitals owned by government. Before 1979, the policy on government recurrent

budgetary subsidy for public hospitals had changed a lot. During 1949-1955, the government budgetary subsidy covered all expenditures of public hospitals. Public hospitals charged patients at nominal prices which were set by the government and all revenues from charges were submitted to the government. During 1955-1960, flexible budget was used to cover fully the difference between hospital operation costs and revenues from charges. During 1960-1979, the fixed item budget was used to cover doctors' basic salaries, welfare fund (1% of basic salary) and labour union activity fund (2% of basic salary) in public hospitals. The rest of operation costs were covered from user fees set by the government. Since 1974, the government had also provided 60% of doctors' salaries or 35% of operation costs (not including drug expenditure) of rural collective hospitals. In 1979, the government subsidy accounted for 135% of public hospital doctors' salaries (Sun, 1998).

Since 1979, the fixed item budget for salary has been replaced by a fixed budget for public hospitals. The fixed budget is set according to the quotas for hospital bed and staff or task quota. It covers only part of doctors' basic salary. Public hospitals are required to obtain the remaining revenues for operations from user fees.

Since 1985, as the government budgetary subsidy reduced, public hospitals have been given more and more autonomy. The government control over capital investments in public hospitals has been relaxed. Public hospitals are permitted to borrow money from banks and from hospital employees to buy equipment and expand scales. Since government financing has been decentralized, the budgetary subsidy for public hospitals is negotiated between individual hospitals and governments who directly own them and is fixed in a contract of which the period is also negotiated. The fixed budget is still related to the quotas for number of hospital beds and staff. It also depends on local government revenues and changes in hospital financial performance during contract period. Once the fixed budget is set, public hospitals have autonomy to decide its use. They are also allowed to pay bonus to doctors but the bonus payments have to be funded from their earned profits. In addition, they are encouraged to invest in hospital development out of surpluses they earn. While the government budget accounted for 90% of hospitals revenue in the early 1980s, by the end of the 1990s, it only accounted for 6% of total hospital revenues and the rest 94% was generated from direct charges to patients, roughly 30% of whom have social insurance and can get expenses reimbursed (Liu 1999)

Until recently, under the pressure of clarifying government responsibility for basic medical services, the government has reclassified hospitals, with the intention to increase government subsidy only for government owned not-for profit hospitals. In 2000, MoF, National Planning Committee and MoH issued Policies on Government Health Subsidies. It restates that basic health services provided by government owned hospitals continue to be compensated by user charges. Governments at county level or above provide some subsidies to hospitals owned by the same level government. The fixed items covered by the government subsidy are part of operation costs, new capital investment, personnel expenditure for hospital retirees who retired before the establishment of the basic pension system, clinic research expenditure. The community health service centers run by government will be subsidized by a fixed government budget. The fixed budget will be

set according to local economic situation and based on the fixed number of personnel or the task assumed on preventive care and basic medical services.

5.2.2. Government budget for public health institutions

Public health institutions, including anti-epidemic stations (later called centers for disease control and prevention CDCs) and maternal and child health centers (MCH), had been fully funded by the government and the public health services were free of charge. As in the case of public hospitals, from 1980, the budget for CDCs and MCH was reduced and these institutions are allowed to charge fees for some services they provide. Among the 130-140 types of services they provide, about 30% are allowed to charge fees, the remaining services have to be provided free of charge (Liu et al., 1997). The chargeable services provided to economic entities by public health institutions include public health inspections and occupational medical examinations. The fees are charged according to the locally regulated fee schedule. The vaccines are provided by the government free of charge, but the public health institutions are allowed to charge for fees for recovering the vaccine transportation and labour costs. A fee of 2-3 yuan per injection is collected by village clinics which exert the immunization injection.

From 1985, the government budget was also fixed and public health institutions had to assume their own surpluses and deficits. If there was a surplus, they were allowed by the government to distribute bonuses to its staff. Since then, the channel of financing of public health institutions changed traumatically. At the beginning of 1980s, 100% of the revenue of the public health institutions was from government budget, while in 1992 government budget accounted for only 35% of the total revenue. The rest was from service charges (Ministry of Health, 1994). By the end of 1996, the government budget could only cover 50% of the cost for basic salaries, accounted for about 25% of the institution's total revenue (Xu, 1997). The charges for public health services have become a major source of payment to public health institutions. Surveys in 3 provinces found that 60~94% of revenues for CDCs were generated from chargeable services and government subsidies only accounted for 22.4% of revenues for anti-epidemic stations (Li Luo, et al, 2001).

Reduced government budget have forced public health institutions to pay more attention to chargeable services while neglecting the intended preventive care and primary care. To reduce this incentive, revenues generated by these institutions are required to be managed separately from expenditure. In 2000, the government decided to fund the CDCs and MCH with budget from the same level government and extra-budgetary money. Government budget for these institutions' personnel salary, administrative cost and operation cost is set based on fixed standard on personnel expenditure and administration cost combined with public health tasks assumed. Public health intuitions are still allowed to charge for services. Unlike before, all revenues generated from chargeable services are required to submit to the government which will manage it as extra budget for public health services.

5.3. Payments of Hospitals

Apart from government budget allocation, social health insurance payments and out-of-pocket payments are major sources for government owned hospitals. They may be all sources for non-government owned not-for-profit hospitals, while all revenues of private for-profit hospitals are from user charges.

The traditional way of paying hospitals by GIS and LIS is fee-for-service payment. Hospital services were divided into about 2000 items, to each of which a price was set by the governmental price regulation agency. The reimbursement to the hospital services was based on the regulated fee schedule. Drugs were independent of the service items. The social health insurance schemes reimbursed the hospitals for drugs at their retail prices. The fee-for-service payment and the way to reimburse drug expenditures seemed not problematic before the hospital budget reform, because the fees were controlled at a lower-than-cost level and the hospital had no economic incentive to prescribe more and costlier drugs for profit.

After a fixed budget to hospitals was introduced in the early 1980s, however, the expenditure of the social health insurance schemes accelerated due to distorted prices and perverse incentives to hospitals. Government hospitals were transferred into autonomous financial entity responsible for their losses and profits except that they had no decision right over prices and hiring firing of staff. The centrally set price schedule was highly distorted. Prices for fairly routine hospital procedures were well below cost while those for high technology medical diagnostics were well above costs. The government also controls the prices of drugs to allow markups of 15 percent at both the wholesale and retail levels, resulting in approximately an 8 percent of profit margin. As a result hospitals had incentives to provide more services and drugs, especially profitable high technology medical diagnostics and expensive drugs. Comparing with self-paying patients, who were limited by their ability to pay, GIS and LIS, paying FFS, had become relatively unlimited sources of revenues for hospitals.

Confronting the ever-accelerating expenditure, the social health insurance schemes in some cities began to change the way of paying hospitals to control the expenditures during the second half of the 1980s. The general practice was that the schemes paid their appointed hospitals per capita fees, and in return the hospitals provided both the outpatient and the inpatient services to the schemes' beneficiaries. If there were surpluses by the end of the year, they belonged to the hospitals. If there were deficits, some hospitals could get additional funds which was about 50-70% of the deficits according to the contracts, others had to do without additional payments. This reform was independent of the government's order. The contracts varied a great deal in terms of the per capita fees and the percentage of deficit that could be covered by the schemes. While it was successful in controlling the increase in expenditures, the hospitals felt a great deal of financial pressure and they had to cope with the dissatisfaction of the scheme beneficiaries. More and more hospitals rejected to accept these contracts, unless the per capita fees were set at profitable levels. This type of payment reform did not spread

widely in the country and the effect was limited. The total national expenditure of social health insurance continued to increase.

The ideas of the current reform on social insurance were piloted by the State Council from 1995 in two cities -- Zhenjiang and Jiujiang, The payment system in the pilot reform is characterised by both the demand and the supply side control. The demand side control includes the payment from the individual accounts and co-payment when the individual accounts run out of money and the payment must be made from the pooled account. The supply side control is characterized by case and daily payment. In both pilot cities, the payment for outpatient services is based on the negotiated rate per visit, and the payment for the inpatient services is based on the rate of per hospital day. The rates are set according to the average expenditure per unit of service of the previous year, plus the consideration of the allowed increase due to inflation of input prices. In implementation, the hospital was reimbursed every month an amount by multiplying the rates and the number of units of services (number of visits and number of hospital days). The hospitals kept an account for the scheme and calculated the total "actual expenditure" according to the number of each service item and the fee-for-service schedule. They complained to the scheme about the loss due to the difference between their total "actual expenditures" and total payments by the scheme. As a result, hospitals were given additional payments, but the payments could only covered 30% of the exceeded amounts if the exceeded amounts were less than 30% of the total payments. No more payment would be given if the over-expenditure exceeded 30% of the original total payment. The effectiveness of this reform was hardly reported to the public. The limited evidence shows a mixed effect on cost containment.

The experience from the first two and other 58 pilot cities has helped to shape the current national policies on the social insurance reform. The current policy sets a national model for demand side cost containment using MSAs, deductible and coinsurance. However it does not specify the type of provider payment method to be adopted. Each city can choose its own provider payment method and fee-for-service remains the dominant type of provider payment method. Except for a few cities that have embarked on urban health insurance reform earlier, most cities so far have continued to pay hospitals on a fee-for-service basis. Some cities have moved towards prospective and more aggregate type of payment methods, such as global budgets in Shanghai and Haikou, case payment in Zhenjiang and Dalian. While these payment methods may be more effective in managing the financial sustainability of the social insurance program, many cities lack of knowledge and technical capacity to design and implement such payment methods. Even if social insurance programs can control their program expenditures through different payment methods, cost control for the whole health sector is questionable. This is because under the current market structure, hospitals can shift costs to the uninsured and to services not covered by social insurance, which are reimbursed on a fee-for-service basis.

Since 1980s, as insurance coverage reduces, the majority of the Chinese population have to pay out-of-pocket for hospital care. They pay hospital services on a fee-for-service basis. The payment reform of the social health insurance scheme is not related to the way

of payment by private patients. Before 1980, since the public hospital service fees were regulated by the government at very low levels (about 20% of the costs), and the government covered the deficit of the hospital through a flexible government budget, patients were actually subsidized for hospital care, and the hospitals had no incentive to provide unnecessary care and drugs that could increase the economic burden of the private patients.

After 1980, since government budgets to hospitals were fixed, and the medical prices were raised towards cost levels later, hospital financing has relied more and more on service charges. Before the payment reform of the social health insurance scheme, the hospitals' interest was on those that are covered by the scheme because, unlike the self-payment patients, the use of hospital services and drugs by the insured was not constrained by the users' ability to pay. Since the way of payment by the social health insurance scheme was transformed from the fee-for-service into per case and daily payment, the hospitals' interest for earning have been turning to the private patients for which the fee-for-service payment remains. This phenomenon was reported (Wang, 1997), although no detailed data available. In any case, about 60% of total health expenditure comes from self-paying patient. It has become a serious problem that many people cannot afford to receive health care in China.

5.4. Payment of physicians

Hospital-based doctors have many sources of income: formal payment and informal payment. Formal payment includes salary and bonus. Informal payment includes extra income from second job, gift money from patients, and kickback from drug distributors. Informal payment is an important source of income for doctors, especially those working in urban tertiary hospitals. Private clinic based doctors are often paid on FFS.

Public hospitals employ doctors that usually work in rotation to provide outpatient and inpatient services within the hospitals. The clinic-based doctors are not allowed to work in hospitals. Salary has have been the dominated ways of paying doctors. Since 1980, bonus has become an important source of the doctors' income. Bonuses have to be paid from the surplus, which is defined as the residual of the total revenue minus the total expenditure of the hospital.

Currently, the policy on doctors' salaries and bonuses is formulated by the Organization Department of the CPC Central Committee, Ministry of Personnel and Ministry of Health. The basic salary system is still managed by the government. The basic salaries of doctors in public hospitals are paid according to their professional titles, which are decided by the governmental Professional Evaluation Committee based on their education, the number of years of experiences, and their professional achievements (such as publications), administrative positions.

Public hospitals have been given more autonomy in deciding the ways and levels of flexible salaries and bonuses for doctors. Currently, different ways have been used in not-for-profit hospitals to pay the flexible part of salary and bonus. They are flat

salary/bonus, revenue related salary/bonus, quantity related salary/bonus, multi-objective related bonus and contracted payment. The common feature is that doctors' income is normally linked to the services they provide and the resulting revenues they generate for hospitals. Therefore doctors have strong incentives to provide more services and prescribe more drugs to generate revenue.

There has been a wide believe that doctors are underpaid in China. Before 1990s in most years, the average wage for workers in health sector was below national average wage. Since 1994, the average wage for health professionals has increased steadily. It reached to 1.2 times of national average in 1997 and ranked 7th among employees in all industries. Low salary is also believed to be part of reasons for doctors to receive unofficial payments from both drug companies and patients.

Partly to increase doctors' income, the joint opinions of the Organization Department of the CPC Central Committee, Ministry of Personnel and Ministry of Health in 2000 clearly allowed doctors to hold part-time job in other health institutions. However, it is not still clear how much doctors earn from part-time jobs due to lack of management.

Private hospitals pay salary according to the doctor's appointment. Normally, doctors in private hospitals have higher salaries than those at the same position in public hospitals. Their bonuses are even more related to revenues they generate for private hospitals. The payment source for doctors in private clinics is only service charges from patients. Their incomes are from the net revenue of the operation. These private doctors are mostly drug sellers.

6. Health Care Reforms

Since the early 1980s, China has been reforming its health care system. The reform started with privatization and autonomization of the supply-side (providers) in response to the influence of overall economic reform. It was followed by the reforms of health care financing schemes to control increasing costs and to deal with the increasing inequity. In recent years, the reforms have been extended to comprehensive restructuring of three systems: health care financing, health care delivery and pharmaceutical distribution. The reforms are characterized by attempts to reduce the role of the state in health sector while expanding the functions of the market. The overall process is through local experiments and then the central government develops models later to be adopted (and adapted) on a national scale. The health reforms have been passive, partial, and uncoordinated. As a result, it is often the case that one problem has not been solved by a reform, new problems have brought out.

6.1. Health care delivery system reform

After 1980, as economic reform influenced the financing bases for the health care system, problems inherent in the system such as shortage of funds and low efficiency were highlighted. The government did not continue to extend health care coverage to the rest of population. In stead the government has been more concerned with how to mobilize more resources for health sector to meet increasing health need without a rapid increase in government health budget and how to provide incentives for providers to improve efficiency and increase supply. Policy makers seemed to believe that tightened budget constraints and increased competition would raise efficiency and improve access to health care. Therefore health policies follow closely upon economic policies.

In order to tackle the new challenges, the Ministry of Health developed a set of health reform measures for national implementation, which were approved by the State Council in 1985 and were reemphasized in 1989. The most important strategies, which have been used until now, are privatization, autonomy of public health facilities, user fees and medical prices. These reform measures have produced wide impacts on Chinese health care system: on the one hand, it is a rapid development of health care delivery system and the disappearance of shortage of supply without a significant increase in the government health budget; on the other hand, it is increased health care costs, reduced efficiency and increased inequity.

In December 1996, China held a national health conference to discuss major policies for the future. On 15 January 1997, the central government officially issued “Central Committee of Communist Party and State Council’s Decisions on Health Reform and Development”. However the decision to push for health-care institution reform did not materialize until early 2000. Following the State Council’s Guidelines on Urban Health Care and Drug Circulation System Reform in 2000, the reforms of health-care institutions and the pharmaceutical production and distribution system were finally launched at full speed.

According to the government, the reform is intended to accomplish three goals:

- To break monopolies, encourage competition mechanisms in the health area, and improve the quality and efficiency of service;
- To promote a healthy development of medical care and health care through reorientation, reorganization, and regrouping;
- To contain the rapid cost increases for medical and health care and lighten the social burden so that people can enjoy quality services and pharmaceutical supplies at reasonable prices.

While continuing to use the above-mentioned strategies, new reforms affecting the entire structure of health services sector include classification of hospitals, separation of drug prescription from dispensing, development of community health services.

6.1.1. Privatization

As economic efficiency replaced equality as the primary focus in social policy making, measures were taken to redefine the role of the state in the health sector. To reduce the government's own financial burdens, the Ministry of Health encouraged the coexistence of state, collective, and individual ownership of health institutions. In September 1980, the State Council approved the Ministry of Health's request to permit private practice, which had been phased out during the Cultural Revolution (1966-1976). Since then "privatization" has been an important reform strategy in China, although "privatization" never appears in government documents.

The government has taken two strategies to privatize the public health sector. One strategy is to formally encourage the development of private practice by giving preferential policies, for example, allowing them to charge much higher fees than allowed for public hospitals and treating them the same way as other health facilities in terms of tax. Only in the recent policy on classification of hospitals, private for-profit hospitals will be required to pay tax after enjoying three years' tax exemption. Another strategy is to indirectly leave whatever the government could not finance to the private market with a laissez-faire policy (Liu & Hsiao 2002). This strategy has resulted in the privatization of collective health care financing and delivery in rural areas and privatizing process and revenue generating activities of public hospitals in urban areas.

Privatization takes several ways:

- New entry of private clinics in urban areas
- Conversion of rural collective clinics into private ones
- New entry of private hospitals
- Selling of public hospitals to private owners
- Contracting-out of public hospitals for private management
- Profit-seeking activities of public hospitals
- Reversion of rural health care financing from CMS to self-pay
- New entry of private health insurance

Reform Implementation:

Private clinics flourished in the countryside and by 1985 had replaced collectively run health stations as the dominant health institutions at the village level. It is estimated that 85% of the rural population depend on private doctors for medical care (Yu, 1992). In urban areas, the number of private practitioners climbed from 18,000 in 1982 to 190,000 in 1993. There were an estimated 161,000 clinics operated by private practitioners in Chinese cities (MoH, 1999, report on 2nd NHSS). Up to 2000, MOH had approved 80 joint venture hospitals and clinics besides other over 200 similar joint venture health facilities in 19 provinces.

Driven by the revenue incentive, many public health institutions, including some military-affiliated ones, have contracted out facilities for operation by private entrepreneurs. As a result co-location of private services in public premises and the privatization of certain departments in the public hospitals are frequently observed phenomena.

Seeking transforming ownership as a way to improve financial situation and to increase incentives, some public hospitals were transformed into shareholding hospitals by selling shares to enterprises or internal employees. According to an incomplete statistics, less than 1% of public hospitals at or above county levels were transformed into share-holding hospitals and about 1% of hospitals at rural and urban grassroots levels were transformed into share cooperative hospitals (Cai and Li, 1999).

Nearly 90% o rural households now pay out-of-pocket to receive almost all health care. According to the National Health Service Survey in 2003, commercial insurance covered 7.6% of persons surveyed, 5.6% in urban areas and 8.3% in rural areas.

Privation is likely to increase in a rapid way due to following reasons or observations:

- Government policies continue to encourage the development of private practice;
- Increasing competition between public and private practices may result in operational and financial difficulties for public hospitals and community health services centers, which may seek privation as a way to improve financial situations;
- Limited coverage and low benefit provided by both the urban employee basic health insurance and the rural new CMS leave a great gap for the development of private health insurance;
- More opened market following China's enter WTO are attracting more foreign investments in both health services market and health insurance market.

Privation has produced wide impacts in Chinese health care system. The private sector has shown advantages in easy access and convenient service provision. This has gone some way to alleviating the physical inequity issue. However, private practicing is still not fully trusted, most because it is often run by itinerant doctors with questionable credentials and health care quality is not guaranteed. Fully aware of this, private doctors often piggyback their clinics on public health units. They may hire medical experts from

the state health institutions to see patients, provided that the experts receive their "guidance" in prescription and treatment. Most times, they act like medical personnel who received formal training. Quality problems are worse in the countryside, where many rural medics received minimal training and do not understand how to use many of the medicines that line their shelves, or even the risks of injection or failure to use proper sterilization techniques. Medical accidents frequently occur, especially in poverty-stricken areas. How to regulate and monitor the behaviors of private doctors has become a major challenge.

6.1.2. Autonomy of public health facilities

Autonomy of public health facilities has been another important strategy for the government to reduce its financial burden and to improve efficiency. After the economic reform, because of the drain on its budget resulting from large losses incurred by SOEs, the government had to severely limit the public funds available for health care. The government subsidy covered only basic personnel wages and new capital investments, which were about 25-30% of hospital expenditure. Since the mid-1980s, government subsides have been insufficient to pay for new capital investment and competitive salaries for hospital personnel. To compensate the reduction of government budget and to provide more pressure and incentives for public health facilities, directors of public hospitals and health centers (also CDCs and MCH) were given autonomy to manage their hospitals. Aside from the hiring and firing of permanent staff, hospital directors have complete responsibility for profit and losses, as well as the authority to decide: the amount of bonus paid to staff beyond the basic salary; new capital investments; and joint ventures with investors for new services or equipment.

Since bonus payments have to be funded from the hospital's earned profits, which are the surplus from revenue and expenditure, hospitals have incentives to generate more revenues. Guided by the distorted prices, hospitals take every measure to provide more profitable services. For example, high technology diagnoses are profitable items. Seeing high technology medical equipment as their financial salvation, hospitals routinely organize investor groups to buy high technology equipment. They borrow from banks and sell shares to staff members to purchase such equipment. Hospitals may also lease equipment from international supplies with the lease payment set as a percentage of the gross revenues generated from use of the equipment (Henderson, 1988). Once hospitals have these equipments, doctors tend to provide more than necessary high technology diagnoses and treatments.

Autonomy of public health facilities along with other financing policies has helped the government cutting down government health budget to public health facilities. The relaxation of control over capital investment has led to a rapid development of hospitals, especially tertiary hospitals. Health services supply capability has increased. Public health facilities have "successfully" increased their revenues (MOH, 1994), extricating themselves from financial predicament (Cai, 1993). The long-standing problem of health care shortage has disappeared. However, autonomy of public health facilities has transferred these public health facilities into profit-making entities. These autonomized

public hospitals compete in the market without proper regulations from the government and effective control by purchasers to counteract negative consequences of marketization, which helped to drive up costs.

Under the current reform of urban health insurance system and hospital classification, public hospitals are now becoming more autonomous and will have to survive in a more competitive environment. Like before, they have to provide more services to secure their revenue. At the same time hospitals will need to establish their reputations and attract patients using their name for quality services and low prices.

6.1.3. User fee and medical price reform

User fees have been used as a way to compensate public hospitals and medical prices have been controlled by the government, of which the general guidelines are set by the State Price Bureau and the power of setting and managing is at local governments. Political rather than economic considerations largely determine pricing policy. China aimed to promote social equality by making health services financially affordable. Over the three decades before 1980s, the charges for health services were nominal.

As government health budget reduced after 1980, user fees become more and more important for public hospitals at the same time user fees have greater influence on patients' access to health care and on the cost of insurance programs. In 1998, more than 80% of total health expenditure is financed through user fees paid by self-paying patients, GHI and LHI (NHEI, 1998). The importance of user fees has decided that price structure and price levels have great influence on health care delivery in China.

After 1980, prices of health services have been under reform. The objectives of pricing reforms have been to release the financial burden to the government while allowing hospitals to sustain themselves financially and ensuring access for patients. Prices for medical services have been raised for several times to help hospitals recover costs. Prices for office visits, surgical operation and hospital daily rates have been gradually raised but still set below their costs. To offset these losses, the Price Bureau adopted two measures. First, it set prices of new high technology diagnostic tests at above cots. Second, it allowed hospital pharmacies a 15 percent markup on the wholesale prices as the retail price. This pricing standard allows hospitals to earn about 7-8% profit on drug sales. The system thus has two pricing distortion: most services are priced far below their actual costs, at the same time, high profit margins on diagnostic tests and drugs encourage over-provision in those areas.

The latest price reform started in 2000. "To provide relative quality services with relative low prices," the government decided to reduce the scope of price regulation and let market force play more important roles in price setting (NPC and MoH, 2000). The government will no longer set prices for medical services. Instead, it will only provide guidance prices for basic medical services provided by not-for profit health facilities. For non-basic medical services provided by not-for-profit health facilities and all services provided by for-profit hospitals, market would decide their prices. The government will

only set the highest retail prices for those drugs listed by the basic health insurance program and the few drugs whose production and distribution are monopolistic, and allow hospitals and drug stores to sell these drugs below these price ceilings. To encourage competition, different levels of health facilities and even doctors with different professional titles are allowed to charge different fees. To increase the publicity and transparency of prices, health facilities are required to follow national norms for medical service pricing items, to make public the prices, to provide patients with lists on drug prices and hospitalization charges, and to provide various forms of fee inquire services.

Medical price reform has not succeeded. It resulted in distorted prices. Although the problem has been widely recognized for many years, it seems that the government has not found a way to solve it. Now the government turns to market hoping increased competition will reduce prices. Under the current unbalanced market where about 80% of population are not covered by any health insurance and have to pay out-of-pocket for their health services, the effect will not be optimistic. In fact, there have been complains from patients about the continuing increase in medical prices. "It is expensive to seek medical care" has been a big problem fro the public and the government.

6.1.4. Classification of Hospitals

Under the current reform started in 2000, the government decided to classify hospitals into two categories: not-for-profit hospitals and for-profit hospitals, subject to different policies. The stated objectives are to promote fair competition among hospitals and to provide better coverage of service for all socioeconomic strata with basic medical care being provided by not-for-profit hospitals and special services being provided by private for-profit enterprises.

The classification is based on the objectives of hospitals, services they provide and policies applied:

- Not-for-profit hospitals' objectives are not profit. Their revenues are used to cover costs and surpluses are used to improve services, introduce new technologies and develop new service items. For-profit hospitals' objectives are profits.
- Not-for-profit hospitals are further classified into government not-for-profit hospitals and other (non-government) not-for-profit hospitals. Both mainly provide essential medical services but the former also take on other tasks assigned by the government. Both are allowed to provide some non-essential medical services. For-profit hospitals can decide whatever medical services they want to provide.
- Governments at various levels only provide some subsidy to not-for-profit hospitals they own. Other not-for-profit hospitals receive no subsidy. Not-for-profit hospitals have to follow government set guidance prices and will enjoy tax exemption. For-profit hospitals can set their own prices and will have to pay tax. Different pricing and tax policies applying to each type of hospitals are show in table 6.1.
- Not-for-profit hospitals have to follow accounting rules set by the Ministry of Finance and the Ministry of Health while for-profit hospitals follow business accounting rules.

Table 6.1. Different Policies Applied to Not-for-profit Hospitals and For-profit Hospitals

Hospital Type	Policies		
	Pricing	Government subsidies	Taxation
Government Not-for-profit hospitals	Regulated prices for most services	Yes	Exempt
Other Not-for-profit hospitals	Regulated prices, but allow flexibility within ran	No	Exempt
For-profit hospitals	Unregulated prices	No	Taxed

The process of classification is self-selection of hospitals combined with the checking and ratification of the government. Normally, the government owned hospitals that provide essential medical services or that represent the national or regional or local level of medical services are classified as government not-for-profit hospitals. Other government owned hospitals can choose to be not-for-profit hospitals or to be changed into for-profit hospitals. Hospitals owned by state enterprises or other ministries and industries are normally classified as other (non-government) not-for-profit hospitals but they can also choose to be for-profit hospitals. Private hospitals are normally classified as for-profit hospitals unless they choose otherwise. Collective owned or shareholding hospitals can choose either. Most rural health facilities will remain public ownership. Township health facilities will be updated to belong to county governments, which should provide some subsidies to them. Township health facilities are not-for-profit health facilities.

By early 2002, the classification process has completed. It has been noticed that significantly more hospitals have opted for the not-for-profit status, reflecting the use for such labeling as marketing tool. Whereas the government had seen the hospital classification policy has defining taxation and regulatory regimes, reflecting the relationship that government should have with health providers, the hospitals have played on the community's anxiety about their health being the basis of profit and use the not-for-profit as a competitive tool. At present, most for-profit hospitals are specialized hospitals in large cities.

At the end of 2003, there were 283,000 registered medical facilities (not including village clinics), among them 48% (135,000) are not-for-profit and 52% (146,000) are for-profit, most of which are small private clinics in urban areas. There were 3,144,000 hospital beds, among them 96%(3,029,000) were not-for-profit and 4% (107,000) were for-profit (MOH, 2004).

One consequence of this classification is the further privatization of hospitals. In the big cities, not-for-profit public hospitals are still the dominant form of hospital ownership. In

the small to medium sized cities, share-holding hospitals and group hospitals, which are of a private nature, are increasing. Despite government claims that hospital services will not be privatized, in reality, the privatization of hospital services is increasing. It is noted that many small-scale private hospitals have a fee schedule that is lower than public hospitals. This reflects the market at work, i.e. lower price but higher volume services.

So far this reform has had little effect on the efficiency of these hospitals. Without fundamental changes in subsidies to government owned not-for-profit hospitals, little has changes in these hospitals' behaviors. The for-profit hospitals are left to the market, yet the "rules of games" of the market have not been laid down. Without price and payment control, for-profit-hospitals can charge higher prices and pay physicians more generous and competitive compensations. This, in addition to being well equipped with the latest technology, will attract the best doctors to the for-profit hospitals. While the for-profit hospitals may be a small sector to start with, over time, other hospitals will find it advantageous to change into for-profit status and thus release itself fro price control. As a result, the for-profit sector could drive up the costs of the other sectors.

6.1. 5. Separation of Drug Prescription from Dispensing

In order to remove providers' incentives to overprescribe, the government has decided to de-link providers' revenue from drug sales by separating drug prescription from dispensing in 2000. As a first step, all hospitals are required to set up a new accounting system to cut the direct links between prescriptions, medical services and revenues. Profits generated from drug sales are required to submit to health authorities, who will redistribute these revenues among hospitals according to public health services they provide, the quality of health care and degree of patient satisfaction. The taxation policy has been issued requesting hospitals to differentiate their sources of revenue. The final goal is to turn pharmacies into retail drugstores with no financial links to hospitals, thereby avoiding any conflict of interest.

The policy of separating drug prescription from dispensing has been implemented over the past years and there are very few results. In big cities, such as Beijing, the initial results are the obvious separation of accounting. But, given that pharmaceutical incomes are an important source of revenue for hospitals, the financial department has still returned the major part of pharmaceutical income to hospitals for their operations. The separation of drug prescribing and dispensing has not reduced the problem of over-prescription because of the wide existence of "unofficial" channels of provider payments and lack of capacity of government to monitor hospitals' drug revenue accounts. It is not surprise that hospitals have strongly resisted this measure for fear of losing a significant portion of their regular income, and almost none of them has come up with any implementation plan yet. The MOH now has postponed the reform, pending further trial results. The real impact of such policy will not be seen until it has been implemented across a wide geographical area. The pharmaceutical reforms, if successful, may be a critical factor in ensuring the health system to focus on the health needs of the patients.

In relation to the separating drug prescription from dispensing is a policy on consolidating the drug distribution system. The new policy aims to improve system efficiency with two measures: economy of scale and public bidding. The government now encourages the establishment of conglomerates, which is the concept of bulk purchasing of drugs by large drug distribution centers in order to reduce drug price and assure drug quality. At the same time, the government plans to aggregate the drug demand side by introducing a public bidding system. Under such a system, the government organizes purchasers (e.g., hospitals) into regional purchasing groups, and asks for bids from manufacturers and distributors. Similarly, the public invitation of bidding for drug stock has not brought about much price reduction benefit to patients most because in many places the bidding processes are monopolized by health authorities and unhealthy competition among pharmaceutical companies still exist.

6.1.6. Development of Community Health Care (CHC)

The objectives to develop CHC are to strengthen primary care and to promote efficient allocation and use of resources (to avoid primary care being provided by tertiary hospitals. In addition, the government hopes that the development to of CHC can reduce the government's financial constraints and improve equity by increasing the access of the general population to health services.

In 1997, the "CCCPC and State Council's Decisions on Health Reform and Development" identified the need to strengthen community health services, as a form of comprehensive primary health care, and to limit the role of hospitals to the diagnosis and treatment of acute, serious and difficult diseases. From 1999, the government has been formally promoting the establishment of community health services centers. In 2002, the government further encouraged enterprises, institutions, social organizations and even individuals to invest in the establishment of community health care centers. To encourage the use of community health care, the government urged to incorporate CHC into insurance system. The government has also set a target to establish community health care networks nationwide as major providers of primary health care by the year 2010.

By the end of 2002, a total of 358 Chinese cities had started community health services centers. The development of CHC is slow due to the following reasons:

- Lack of recognition of importance of local government;
- Lack of recognition and confidence of community;
- Lack of government financial support;
- Lack of qualified doctors and adequate equipment;
- Lack of fair remuneration system;
- Lack of connection with the social insurance programs;
- Facing increasing competition from private practice

In spite of a sound policy, there is a gap between policy intent and policy implementation.

6.2. Health care financing reform

Economic reform after 1980 has also produced great influence on the health care financing system. In the rural areas, the disbandment of rural collective economy removed the financial base of Cooperative Medical System (CMS). As a result, CMS collapsed in many places. In urban areas, fiscal decentralization and state owned enterprises (SOEs) reform shook the financing bases for the Government Health Insurance System (GIS) and Labour Health Insurance System (LIS). Although both survived, under the changed market environment caused by the supply side reform, GIS and LIS have suffered from many problems and have undergone many reforms.

Unlike the reform on the supply side, which follows economic policies, until recently, the changes in rural health care financing have been made by default and reforms on the urban health care insurance have been mainly passive and partial. Reform of health care financing system has been carried out separately in urban and rural areas.

6.2.1. Urban health care financing reform

The urban health insurance reform can be divided into three major stages: the first was during 1980s; the second from early 1990s to 1997 and third is the current reform started in 1998.

6.2.1.1. Urban health insurance reform during 1980s

Before 1990s, the major objective of the urban health insurance reform was to control the rising costs. During the 1980s, the supply side market oriented reforms combined with the drawbacks of GIS and LIS, such as lack of cost consciousness of the insured patients and FFS payment methods for hospitals, have resulted in a rapid escalation of health care costs. The rapid escalation of health care costs has led in part to a fiscal crisis in both the GIS and LIS. GIS spending as a share of the government health care budget increased from 14% in 1978 to 30% in 1993. The premium for LIS was raised from 5.5% of wages in 1978 to 11% in 1992 and it was still often proved to be insufficient. As a result enterprises' profits had to be used to supplement the shortfall. This imposed large financial burdens on the enterprises and limited the resources that were available for other welfare services, such as pensions, and for reinvestment in capital equipment.

During the period of 1985-1989, GIS and LIS reform mainly aimed at providing incentives to demand side. Various types of cost sharing, such as deductibles, copayment, and coinsurance were widely used by GIS and LIS. As a result, the insured patients' cost consciousness increased but GIL and LIS expenditures continued to increase very fast. This was mainly because that insufficient attention had been paid to factors that influence providers' behaviors such as fee-for-service payments.

Since 1989, some forms of supply side cost sharing have been added to the demand side cost sharing. The aim was to provide incentives for hospitals and doctors to control GIS and LIS costs. For example, some large GIS or LIS work units let their own hospitals or clinics self-manage GIS or LIS funds so that medical staffs realize fully the financial

constraints they face when they prescribe treatment for their patients or make decision on referral patients to outside hospitals. Some GIS or LIS work units contract with appointed hospitals and delegate management of medical care funds to the hospitals. In return the hospitals provide both outpatient and inpatient care to employees of these work units. According to contracts, the hospitals will keep any surpluses by the end of the year or absorb all or a part of any deficit that arises. Other GIS and LIS work units ask appointed hospitals to joint the management of medical care funds.

There is evidence that these payment reforms helped reduce expenditure in GIS and LIS and that per capita medical expenditures under relegated hospital management was lowest among the three models (Lok, 1995). However, the effect of these reforms on overall cost control should not be overestimated. On the one hand, not all GIS and LIS had changed their payment methods to hospitals and those who did change payment methods did so individually. They were in very weak positions when negotiating payment standards, including share of deficits, with hospitals. On the other hand, it was not clear whether there was cost shifting to the large number of self-paying patients and the patients covered by the unreformed GIS and LIS in the same market.

6.2.1.2. Urban health insurance reform in during 1990-1997

Before 1990, little was done to deal with the increased inequity both across regions and across social classes. The only policy, which takes into account equity issues, is health service price setting. It keeps some health service prices below their costs to make basic health care affordable to people and sets other prices above their costs to allow cross subsidy within a hospital. As shown before this policy not only cannot guarantee equal access to health care, but also has provided distorted incentives for providers and has resulted in rising costs and reduced efficiency.

After 1990, some industries spontaneously started to build up a risk-pooling fund among their own enterprises to cover catastrophic illness, while some cities started to build up a social risk-pooling fund for insured retired workers. While LIS kept the original funds raising, management and utilization unchanged within each SOE, two initiatives named unified management of medical expenses for SOE retirees, and unified management of expenses for serious illness were introduced among SOEs in many cities. By the end of 1997, 11.22 million workers and 1.72 retirees participated in the unified management of expenses for serious illness and 992,000 retirees participated in the unified management of medical expenses (MoF statistic material, 1998). In 1989 the State Council authorized pilot programs of social health insurance to be conducted in Dangdong, Huangshi, Siping and Zhuzhou, and pilot programs of comprehensive social security in Shenzhen and Hainan. In May 1992, Shenzhen became the first city to merge GIS and LIS and established a unified social insurance program. In 1995, Hainan issued local legislation on urban employee medical insurance within the economic special zone.

These pilot programs have accumulated useful experience. To restructuring the financing system in cities, China also tried to learn lessons from foreign experience. In 1993 the Third Plenary Session of the Fourteenth Central Committee of the Chinese Community

Party clearly put forward to establish a new urban employee health insurance system funded by social coordinated medical fund combined with personal medical savings accounts (MSAs). From the end of 1994, two cities, Zhenjiang and Jiujiang, were selected to experiment the new system. The pilot programs in the two cities were designed by the State Council for the purpose of formulating a nation-wide policy paper on reform. In 1996, similar pilot programs were further expanded to a larger number of cities and localities with only minor amendments.

Evidences show that these reforms have, to some extent, improved equity among those participated (Ren, 1996). However, these reform were only limited in several industries and in some pilot cities and many remained within existing LIS or GIS. They aimed at those already having health care coverage. For the rest of Chinese people, inequity problems remained and health care coverage kept falling during 1993 to 1998 (MoH, 1994; 1998).

6.2.1.3. Current urban health insurance financing system

In 1998, China finally decided to accelerate its social security reforms in light of the difficulties it encountered in reforming the state-run enterprises. The overall mission of the health care financing reforms is to create a safety net so that economic reform, especially the crucial reform of state-run industries, can be pushed ahead. By taking the health care role away from enterprises, it is believed that enterprises can become more cost-effective, and can pave the way for creating a Western-style modern enterprise system. Most importantly, the reform has a political agenda, which aims at maintaining political and social stability and easing the potential for labor unrest and urban riots.

To meet the needs of carrying out deeper and wider economic system reforms (namely reforms of SOEs) and the needs of expanding insurance coverage in the face of rapid medical cost escalation, urban health insurance reform entered into a new stage: a unified social insurance program will replace previous GIS and LIS and the new program will extend its coverage to urban workers previously uncovered. Since then the urban health insurance system has been in the process of transition.

The current health insurance reform expands the model of MSAs and the combined social insurance piloted in Zhenjiang and Jiujiang, with minor adjustments. Social Health Insurance Bureaus have been established at different levels of jurisdiction (such as county, prefecture and province) to hold responsibility for managing all aspects of the medical insurance reform including policy setting and routine operations.
In 1999, the State Council decided to make the Ministry of Labour and Social Security (MOLSS) responsible for managing the urban health insurance (Previously, GIS was managed by the Ministry of Health and LIS by MOLSS). Thus, for the first time, China had separated health provision from health financing. Such separation is an important step in the development of the healthcare marketplace, consistent with overall economic reforms. The hospitals are now becoming more autonomous and will have to survive in a more competitive environment.

The current health insurance reform intends to cover all urban employees and to solve the problem of risk pooling by mandating risk pooling at the city level and requiring both the state and non-state sectors to join in. However, the actual implementation of the policy has proven to be difficult so far. In particular, well-to-do government agencies often refuse to pay their contributions and opt out of the system, while some not-well-to-do SOEs often cannot afford to pay the contributions. Tax evasion among the firms is also common. Those profitable ones often refuse to poor their risk with those making losses. Those with young and healthy workers also refuse to pool their risk with large share of retirees. In many cities, health expenditures as a share of wages were often as high as 11-18% in the pre-reform period. Under the current policy, in order to reduce employers' resistance to join in, the contribution rate has been set to 8% of wages. This means that the scope of services covered under the current policy is necessarily less generous than what the workers previously enjoyed. This has caused further reluctance to join, especially among those who were able to finance their employees' health benefits in the pre-reform period. Driven by the urgency to reform the SOEs, extending coverage has become a top priority of the government. Every year, the MOLSS sets targets on the number of eligible population to enroll. Unfortunately, officials at the SIB in the city often express frustration due to lack of effective mechanism and power to achieve the targets. The problem is worse in cities with wide variations in economic performance of enterprises.

At present, the actual coverage of the new program has been limited to beneficiaries of GIS and LIS in most cities. Few previously uncovered targeted employees have been included so far. Even if the social insurance had extended to all the targeted population, it would only cover 48% of urban population and a smaller part of total population in China. Within those covered, inequity remains a big problem mainly because of the newly added MSAs, strict cost-sharing requirements and various supplementary coverage. Those uncovered by the social insurance program would include dependents, those without work and the floating population.

In 2001, total revenue for the basic health insurance program was 60.78 billion yuan; total expenditure was 40.84 billion yuan and accumulative balance by the end of 2001 was 45.07 billion (MOLSS website). By the end of 2003, majority of total 349 urban areas at prefectural levels or above have implemented the basic health insurance program. The program covered 108 million people (79.77 million current workers and 29.18 million retirees) and collected 86.5 billion yuan revenue. 81.3% of total 349 urban areas at prefectural levels or above have issued and implemented policies on insuring people in informal sectors but only about 5 million people in these sectors have participated (MOLSS website).

6.2.2. Changes and reforms of rural health care financing

In the late 1970s, CMSs collapsed following the replacement of rural collective economy with individual household responsibility system. The government did not replace CMS with a new organized financing structure, but instead adopted a laissez-faire policy. As a

result, majority rural population once again have to pay out-of-pocket for health services. Poverty due to illness has become serious issue in rural areas.

Since middle 1990s, the importance of the CMS in providing financial access and maintaining low health costs has been increasingly recognized. The government has been promoting the rehabilitation of the cooperative medical care system in rural areas. As an important means to achieve Health For All by the year 2000, the Chinese government once set the target of trying to build up various forms of CMS in majority rural areas by 2000. However, due to voluntary participation, inconsistent policies from different government ministries, and little real support in terms of financing and management from the government, little progress with CMS had been made and this target just remained in paper.

In 2002 the CPC and State Council issued a decision on further strengthening rural health work. In 2003, the State Council issued joint opinions of MoH, MoF and MoA on the establishment of new rural CMS. It requires each province to select 2-3 counties to experiment the new CMS and sets a target to extend the new CMS to cover all population in rural areas by 2010.

Different from the previous CMS, the new CMS will be a government organized and supported health insurance program. Under the government scheme, a villager needs to pay an average of 10 Yuan (about US$1.2) for medicare insurance, and the local government is required to pay additional 10 Yuan for it. From 2003, the central government has allocated 10 Yuan annually to every participating farmer in central and western China. The sum of 30 Yuan will be deposited in the pool of a so-called Rural Cooperative Medicare Fund, which will mainly cover catastrophic illnesses for the participated farmers. Farmers are still asked to join the new CMS on a voluntary basis. Whether employees in township enterprises should participate and pay contributions is left to county government to decide.

Currently the new CMS are experimented in 304 counties nationwide, covering 60 million farmers, about 70% of local farmers. The major problems encounter including lack of financial sustainability in poor areas, high administrative costs, low benefit package and lack of management capacity. The design of the New CMS has received many criticisms.

6.2.3. Establishment of Medical Financial Assistance Systems for the Urban and Rural Poor

To increase access to basic health care for the poor and prevent poverty due to illness, the Chinese government is promoting medical financial assistance systems (MFA) in urban and rural areas respectively. MFA first began with World Bank Health VI, in the form of a fund to cover antenatal and postnatal care for poor mothers. In World Bank Health VIII, this approach has been instituted in 71 poor counties, with the intention of covering basic health services for the poorest five percent of the households (on a means-tested basis and with a health care card). Currently, MFA only covers 5% of the extremely poor

population in the project counties. While it is estimated that at least 50% of rural people live below the poverty line in the 592 national poverty counties identified by the State Council's Aiding the Poor Lead Group.

In recent years, governments in some cities like Beijing, Shanghai, Liaoning, have implemented various forms of medical financial assistance schemes among the urban poor. There is still no national model on how to implement MFA. On 10 July 2003, the Ministry of Civil Affairs issued a notice on matters related to establishing urban medical financial assistance. It restates the State Council's requirements in 2000 and 2003 on establishing urban MFAs and calls for more researches and experiments at local levels. It also emphasizes that the MoCA is the ministry responsible for MFAs. According to this notice, urban MFA will cover poor households in cities. It will also cover employees of enterprises, which is unable to contribute to the urban employee basic health insurance due to poor economic situation.

On 18 November 2003 the Ministry of Civil Affairs, Ministry of Health and Ministry of Finance announced their joint opinions on implementing rural medical financial assistance. This document states that rural MFA is a program financed by multiple channels through government subsidy and donations from societies. Family members of rural "five guaranteed households" and rural poor households are eligible to MFA. Detailed eligibility can be set according to local conditions by local civil affairs departments combined with finance and health departments and report to local governments. The joint opinions require each province to select 2-3 counties to experiment MFA and set target of establishing MFA in the country by 2005.
The experiences so far suggests that MFA can have a significant impact on access to health care, provided the farmers know about it and the reimbursement level is sufficiently high. The slow rate of expenditure has been due to conservative management practices, that is, managers being concerned about running out of funds. There are major questions about its future by virtue of lack of clear policy direction on rural safety net development.

6.3. Governance

During the two decades' long market-oriented health care reform in China, the government's roles as health care planner, manager and regulator were once weakened. Serious problems in health care market have led the government to reemphasize the importance of macro planning and management and regulation. While persisting in decentralization with local government being responsible for health care within its jurisdiction and in further reliance on market principle as basic mechanism for health care financing and provision, the government is now promoting regional health planning, macro comprehensive administration of the whole health industry by the MoH, and supervision and regulation according to laws.

6.3.1. Decentralization

Decentralization of health care has been a part of overall decentralization of the economy. The objective is to achieve greater contribution from the responsible level of government. Initial elements of decentralization were introduced during early 1980s following the decentralization of public finance. Since then decentralization has taken several forms:
Transfer planning authorities from central government to local governments
Transfer the management of public health facilities from central government to local governments, which further pass management responsibility to public health facilities;
Transfer the funding responsibility for public health facilities from the central government to local governments;
Transfer the funding and managing of GIS to individual government institutions.

Decentralization has provided incentives for local governments to develop health care within their jurisdictions. However it has caused many negative effects, including reduced government health budget at all levels and greater inequity between regions.

During the current reform, decentralization is restated, with the central government leading the national health work and local governments at various levels holding full responsibility for health care within their jurisdictions. The central government is improving intergovernmental transfer payment mechanisms to help local health development.

6.3.2. Regional Health Development Planning (RHDP)

The objectives for regional health development planning are to allocate health care resources according to local health need, to comprehensively manage health care resources and improve efficiency of health resource utilizations.

The idea on the need for RHDP was recognized by the MOH as early as mid 1980s. Late 1980s, supported by the World Bank loans, the comprehensive regional health development plans were piloted in four cities, Jiujiang of Jiangxi Province, Jinhua of Zhejiang Porvince, Baoji of Shaanxi province. In 1994, a coordination group of regional health development planning was established. More than 20 provincial and prefectural cities had explored the planning, implementing and evaluating of the regional health developments. However the overall progress was slow. Oversupply and inefficiency and expansion of health sector were still serious problems even within these cities.

In 1997, the idea of regional health development planning was formally transferred into a policy. The policy requires a coordinated plan and a rational allocation of all health resources such as health institutions, beds, health personnel, equipments and funds in the region. The policy makes clear the responsibilities of different levels of government for RHDP: central government setting guidelines, provincial government setting criteria for health resource allocation and prefectural (city) government making regional health development planning and organizing its implementation. It also requires the Ministry of Health to comprehensively manage the whole health industry.

In 1999, the State Council issued Guidelines on Regional Health Planning, which were set jointly by NRPC, MoF and MoH. These two documents mark the beginning of changes in approaches to planning of health care services as well as the focus of health planning.

Following these policies, many more cities have started RHDP work. However, due to interest conflicts and lack of acknowledgement and skills, RHDP implantation is very difficult. In many cities RHDP still remains in paper.

6.3.3. Regulating according to laws

During the last two decades, the government has loosened or removed controls over health care providers, except remaining control over prices. Lack of regulation, the health care market has fallen into a disordered status. While continuing to rely on market force in health sector, the government has recognized market failure in health care and started to reinforce the government's role as a regulator. In the last few years, the government has speeded up the establishment of a health legislation system. Over 10 health laws and numerous health regulations have been promulgated (see chapter 2). A network of health law enforcement agencies has been set up. A Department of Health Policy and Legislation was established this year in the Ministry of Health to strengthen law drafting and promulgation. However, many of these laws and regulations are related to health care supply and food health, occupational health etc. There is still lack of laws on health care access, financing and quality. Moreover, law enforcement is still very weak due to lack of capacity and corruption.

Summary and Concluding Remarks

Health and health care system development in China is closely linked to overall socioeconomic development. Despite low per capita income in the county, China achieved dramatic success in improving health conditions from the 1950s to the 1970s. Economic reforms, begun in the early 1980s, led to rapid economic development since then, but health development has lagged behind economic development.

This report reviews the health care policy and institutional changes underlying the changes in health development during the last 5 decades. China operates the largest and most complicated publicly owned health care delivery system of the world. This publicly owned delivery system has been in transition since economic reforms in the early 1980s. The transition has taken many ways such as privatization, utonomization, user fees etc, and has changed Chinese health care delivery system into a public and private mixed system with market principles dominating providers' behaviors. Health care coverage once extended to 90% of the population. Following the economic reform, most because of the disappearance of CMS, the majority of rural population has to pay out-of-pocket to receive health care. Only until recently the government started to experiment with the new CMS to cover all the rural population. Urban GIS and LIS schemes survived from the economic reform but had to undergo many reforms. The GIS and LIS reforms had been passive and limited to itself. The current reform is replacing them with a unified social insurance scheme with personal medical savings accounts being integrated in it.

Health reforms have been reactive and largely been conducted to deal with the negative impacts of market reform on health care. The current reform policies attempt to move China from a supply-side dominated system driven by perverse incentives and outdated central planning measures, to a demand-side dominated system with a unified social insurance in cities and a new CMS in rural areas. But these reform policies segment the health sector into a number of sub-sectors without developing a comprehensive and coherent policies for the whole sector.

Major challenges ahead not only include how to fully implement the current reform policies, such as urban and rural health care financing reforms, development of CHCs, separation of drug prescription from dispensing, and regional health plans, how to fill the great gaps left by the current reforms, such as extending health care coverage to those uncovered and the poor, and how to regulate and balance the rapidly developing health care market, but also include how to develop a comprehensive and coherent policies for the whole sector. What does the Chinese health care system look like 20 years from now? There seems lack of such a vision at both central and local level. An overall framework of health development and reforms is necessary but absent so far.

Many lessons can be learnt from China's experience in the past 5 decades. The health system plays an important role in health development. Health care system is closely linked to economic system, affected by economic system changes but also affects economic reforms. Health care is a very complicated system. Its reforms need to be guided by well-developed and coordinated health policies, consistent with a country's

social objectives. These reforms do not have to blindly follow the same way as economic reforms. Health is an area of ubiquitous market failure. Successful transition requires a balance government role.

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