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CHANGES IN HEALTH CARE FINANCING AND HEALTH STATUS: THE CASE OF CHINA IN THE 1980s

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Between 1949 and 1979 the political and economic life of the People's Republic of China followed a successful if unsteady development path. The highly centralized nature of the state financing system that was typical of this period fostered the establishment of health service organizations and the three-tier health service network in urban and rural areas. Health personnel streamed from the cities to the countryside to assist in the delivery of health care and train health workers. Although service quality was often low, an army of "barefoot" doctors rose to serve rural residents in home and field.

"Cooperative" medical care thus became established within the people's commune system. By the mid-to-late 1970s the coverage of the rural cooperative medical care scheme had reached about 90 percent. The problems of service access and affordability seemed to have been solved. The health status of the population quickly improved. Although China was still very poor and benefited from relatively fewer health inputs per capita, it could no longer be called "the sick man of East Asia".

The political and economic reforms initiated beginning in 1978 led to remarkable advances in output growth and poverty alleviation. The changes engineered in health care financing and health policy were profound and had both positive and negative effects on health care delivery and the health status of the population. Old obstacles were overcome, but new challenges emerged. The introduction of the household management-contract system in rural areas eroded the financial viability of rural health services, and the coverage of the cooperative medical care system declined to only 5 percent in a very short time. Many barefoot doctors abandoned their profession for farming or commerce, and private practitioners took their place. While the overall access to health services of those benefiting from a rapid growth in farm incomes improved, in part because the allocation of Government health expenditure increasingly favoured the more well-off areas, in some poor and remote parts of the country lack of medical care once more became a problem, and poverty and illness once more became linked.

Meanwhile, fees were raised, and various incentives were offered to health care providers in the cities, where governments also began to make more health inputs available. This bolstered the coverage and quality of urban health services. Moreover, a greater proportion of city dwellers were being provided with reliable health insurance schemes, either free medical care or "labour protection" medical care.

Because of the radical shift toward fiscal decentralization, the old mechanism of health care financing that had been controlled by the central health care administration was discarded in favour of a new "multichannel" mechanism, which is controlled mainly by local governments. However, the quality and coverage of health services have thus now become tied to the level of economic development. Thus, services in East China have become generally better than those in West China. Altogether, it appears that, while the quantity and quality of the services available to the residents in urban and more prosperous rural areas have risen, the availability and affordability of health services, including basic services for those living in poor rural areas not touched by the economic "miracle" of the 1980s, have declined. Although the lack of reliable data represents a barrier to firm conclusions about the impact on health status of the changes, the fragmentary information at hand points to a possible stagnation of health conditions in poor rural areas. Future investigation ought to address this important, unresolved issue.

I. INTRODUCTION

The People's Republic of China is situated in the eastern part of Asia. It has an area of 9.6 million square kilometres. There were approximately 1.14 billion inhabitants in 1990, making China the most populated country in the world. The crude birth rate was 21.6, and the natural population growth rate was 14.4, both per 1,000 population (SSB 1991). The People's Republic is divided into 23 provinces and five autonomous regions, as well as three municipalities which are under the direct administration of the Government.

The economic progress of the country has been noteworthy since the Revolution in 1949. The average annual GNP growth rate was almost 7 percent between 1951 and 1978 and 9.2 percent in 1978-89 (SSB 1990, World Bank 1992), that is, higher than the corresponding rates in most other countries. Nevertheless, since its founding in 1949, the People's Republic of China has followed a tortuous development path. The Great Leap Forward of 1958-61 led to fiscal and economic disorder. The Cultural Revolution of 1966-76 was characterized by the reign of an ultraleftist ideological approach which shackled theoretical and conceptual inquiry and caused serious disruption in economic activity (PPH 1983). In many localities, factories ceased production, management became impossible, transportation came to a near standstill, and the standard of living reached its lowest level in 30 years.

Despite these recurring periods of instability, China achieved significant progress in health care and the health status of the population from the early 1950s to the late 1970s by emphasizing preventive care and establishing a low-cost health service network, particularly in rural areas. The public and rural collective systems encouraged people to join some kind of collective medical insurance scheme, although insurees were provided only primary care.

Starting in the late 1970s substantial changes were implemented in the financing of health care following the liberalization of the economy and the decentralization of taxation and public expenditure to the provincial level. The impact of these changes was both positive and negative: positive because of the incentives offered to health care providers and the quality improvements engineered in health care services, especially in urban areas, but negative in terms of the equity of coverage and access to health care among the rural poor.

The assessment of the impact of these changes on health status is complicated by the gradual epidemiological transition affecting China over the last two decades (World Bank 1990). Thus, while the population is still prone to all the ailments typical of a developing nation, it has now also become vulnerable to the chronic noncommunicable diseases, such as cancer, heart disease and strokes, that are more common in rich industrialized countries.

II. HEALTH CARE POLICIES, 1949-79

Between 1949 and 1952 the Government of the new People's Republic of China grounded the economy of the country on socialist principles by establishing state or collective ownership over the means of production. It accomplished this by land reform, the confiscation of capital and the restructuring along socialist lines of agriculture, industry and commerce. While some joint public and private enterprises continued to be tolerated, the effort was thoroughgoing and generally successful. By the end of 1952 industrial and agricultural output had surpassed all previous peaks, and the haunting spectre of spiralling inflation had been laid to rest.

The First Five-Year Plan (1953-7) focused on strengthening the linkages between economic and social development. Economic progress during this period was steady and widespread. National income grew by an average 8.9 percent per year. The standard of living improved, as is demonstrated by the average annual growth rate of 4.2 percent in the level of consumption of the population.

However, the economic advances of the First Five-Year Plan led to boasting and exaggeration, and by the late 1950s excessive confidence had become a familiar feature of policymaking and the political life of the country. Stating that the Communist utopia could be realized in a speedy fashion, Government leaders launched the "Great Leap Forward". Unattainable and rather arbitrary production targets were set. About 88 percent of those enterprises which had been under the direct control of the Government were transferred to local administrations. The expansion of the commune system was encouraged in rural areas, and 99 percent of the farming population was "communalized" (PPH 1983).

These and similar measures introduced serious imbalances in sectoral performance and the allocation of resources. While the production in heavy industry, which was being favoured, soared by 230 percent between 1957 and 1960, thus outstripping by a wide margin that in light industry, agricultural production dropped by 22.8 percent, leading to a major famine and acute welfare losses. The fiscal deficit snowballed to 16.9 billion yuan.

On the other hand, the Great Leap Forward also yielded some beneficial effects. Local industries were promoted; large-scale water projects were carried out in rural areas, and new public service facilities were added, notably in health care and education. These outcomes proved to be positive for later development.

Nonetheless, starting in 1961 adjustments had to be undertaken to repair the damage to the economy. Over the next four years capital investment was cut significantly, and the

responsibility for agricultural production was transferred from the communes to production groups, which were called "brigades". By 1965 production in the agricultural sector had risen by 42.2 percent and that in light industry by 27.8 percent, while that in heavy industry had dropped by 37.2 percent. Economic indicators began once more to register historical peaks. The supply side of the economy was gradually restored, and household consumption levels grew by 25.7 percent (SSB 1989a).

From 1966 to 1976 China was plunged into the Cultural Revolution. Following the slogan "revolution through the dictatorship of the proletariat", ultraleftism ran amuck, confusing right and wrong and confounding black and white. During this period highly centralized economic planning and management were favoured, and many of the mistakes of the Great Leap Forward were repeated, some even on a wider scale. Rural industry and the goal of a diversified economy were viewed as "capitalist lies". The initiative of farmers was frustrated. Thus, although grain output was exclusively emphasized by the central planners, it increased a mere 35.8 percent between 1966 and 1976, while the production of cotton declined by 32 percent. In industry, many enterprises suffered from shortages of energy and raw materials. Administrative rules and regulations were often suspended or ignored, and management became chaotic. The economic return on investments dropped dramatically, hence affecting the possibility for improvements in the standard of living. For instance, private consumption gained just 1.9 percent per year on average, while Government expenditure on education, public health, housing, employment, social welfare and public works in municipalities fell far short of actual needs.

Although the experiment in "cultural revolution" was brought to an end in 1976, no serious effort was undertaken between 1976 to 1978 to correct the problems it had introduced into the political and economic life of the country. This aggravated the growing difficulties and pushed the national economy toward the brink of collapse.

The Development of the Health Care System

The development of the health care system in China up to the late 1970s can be divided into four main periods:

- 1949-54: The foundations of the health care system were laid. During this period the focus was on the prevention of acute infectious diseases, especially those which seriously endangered the health of mothers and children. The Government approached this task by

formulating the "Four Principles": the provision of health care services, first priority to prevention, the integration of traditional and Western medical practices, and the implementation of a health care campaign. These principles became widely accepted.

- 1954-65: Based on the "Four Principles", the national health care campaign was launched. It included efforts to wipe out the "four pests" (bedbugs, flies, mosquitoes and rats), spread awareness of the benefits of personal hygiene, improve environmental sanitation and bring the major infectious diseases under control (Tables 1 and 2).

Table 1: DISEASE SPECIFIC MORBIDITY RATES
(Per 100,000 Population, 1952-88)

	1952	1965	1979	1985	1988
Plague	0.15	0.002	0.001	0.0006	0.0006
Diphtheria	6.83	13.69	1.75	0.14	0.03
Brucellosis	--	0.66	0.10	0.09	0.05
Poliomyelitis	--	4.06	0.57	0.15	0.06
Anthrax	--	0.39	0.41	0.23	0.17
Forest spring encephalitis	--	0.01	0.06	0.026	0.20
Kala-azar	6.79	0.40	0.004	0.014	0.22
Scrub typhus	--	0.16	0.07	0.15	0.24
Typhus fever	1.68	2.91	0.84	1.17	0.35
Rabies	--	0.14	0.44	0.40	0.45
Cholera	--	0.01	3.55	0.631	0.674
Epidemic encephalitis	2.76	71.59	28.06	10.73	1.97
Encephalitis	0.99	13.36	5.10	2.81	2.33
Pertussis	20.13	188.79	76.20	14.22	3.06
Leptospirosis	--	19.73	2.85	2.57	3.22
Scarlet fever	4.75	13.75	15.33	5.95	3.98
Haemorrhagic fever	--	0.43	2.19	10.02	4.78
Measles	189.44	1,265.74	177.74	40.37	8.90
Malaria	548.23	905.24	257.54	54.39	12.44
Typhoid and paratyphoid fever	14.63	16.06	10.61	8.35	14.01
Influenza	--	559.59	799.01	328.96	86.60
Hepatitis	--	61.84	103.87	76.68	132.47
Dysentery	139.85	424.89	590.59	316.72	190.06
Total	896.90	3,501.40	2,077.10	874.80	465.90

Source: MOPH (1989a), pages 166-71.

- 1966-76: The period of the Cultural Revolution. As in the case of programmes in other areas of the social sector, initiatives in health care, such as the national health care campaign, were halted. Many universities and medical schools were closed, and no high level health workers were trained.

However, rural health care received a definite boost. In 1965 Chairman Mao Zedong declared that medical and health care practitioners should focus on the countryside. In keeping with the experience in Lueyuan commune in Changyang county (Hubei province),

Table 2: DISEASE SPECIFIC MORTALITY RATES
(Per 100,000 Population, 1952-88)

	1952	1965	1979	1985	1988
Typhus fever	0.13	0.02	0.01	0.001	0.00
Poliomyelitis	--	0.08	0.01	0.01	0.00
Diphtheria	0.65	1.35	0.13	0.02	0.00
Influenza	--	0.19	0.04	0.03	0.00
Scrub typhus	--	0.0001	--	0.0005	0.0001
Scarlet fever	0.26	0.02	0.01	0.002	0.0001
Brucellosis	--	0.0004	--	--	0.0002
Kala-azar	0.03	0.004	0.0001	0.0001	0.0006
Plague	0.03	0.002	0.001	0.0006	0.0006
Forest spring encephalitis	--	0.0004	0.01	0.0014	0.002
Anthrax	--	0.02	0.01	0.008	0.007
Cholera	--	0.003	0.04	0.007	0.008
Malaria	0.73	0.03	0.01	0.00	0.01
Pertussis	0.20	0.51	0.09	0.02	0.01
Typhoid and paratyphoid fever	0.66	0.09	0.04	0.02	0.03
Measles	7.57	9.19	0.79	0.26	0.05
Leptospirosis	--	0.08	0.08	0.05	0.06
Haemorrhagic fever	--	0.05	0.15	0.30	0.12
Epidemic encephalitis	0.60	4.33	1.08	0.59	0.15
Hepatitis	--	0.23	0.19	0.22	0.19
Encephalitis	0.27	1.79	0.49	0.23	0.20
Dysentery	2.23	0.96	0.78	0.23	0.21
Rabies	--	0.10	0.44	0.40	0.45
Total	13.47	18.71	4.40	2.41	1.49

Source: MOPH (1989a), pages 166-71.

the first to create a cooperative medical care system, almost every commune and village established health centres (commune hospitals) or health units (village clinics) regardless of the shortage of resources affecting most rural and urban areas. The number of rural (or township) health centres jumped from more than 35,700 in 1966 to about 56,500 in 1970 before falling back to around 54,500 in 1976, in part because of financing problems.

Meanwhile, millions of village health workers, including so-called "barefoot doctors", moved to rural areas to treat farming communities. In 1976 there were 5.3 million village health workers, of which 1.8 million were barefoot doctors (MOPH 1989a). At the time, the finest house in a village was often the village health unit. This flood of health personnel into the countryside represented a tremendous feat in terms of the accessibility and coverage of health services among the rural poor. Thus, the basis of the rural health care network was established. Some of the health facilities created during this period are still functioning today.

In the cities the situation was unfortunately quite different. Few urban hospitals remained open to the public (although this fact was not reflected in statistics). Most health service institutions were actually closed, while health personnel became involved in political activities or the "class struggle". Many urban health professionals were asked to go to rural areas as labourers (as a sort of punishment for their opinions) or to train barefoot doctors.

- 1977-9: With normalization in the political and economic domain, the number of health facilities rose rapidly, especially in urban areas (Table 3). Universities and medical schools began once more to develop high level health professionals (Table 4). Major efforts were also devoted to retraining health workers, particularly nurses and paramedics.

Although various organizations tried to expand the number of hospital beds, the beds in rural (township) health centres usually consisted of a few boards or even baked earthen bricks. Many of these centres had no medical equipment. As a result, in the late 1970s the so-called "three difficulties", the difficulty of seeing a doctor, the difficulty of having a checkup and the difficulty of receiving hospital treatment, were becoming more apparent each year.

The Structure of the Health Sector

After almost 20 years of development, health care services had come to include hospitals, clinics, sanatoriums, antiepidemic stations, special preventive care hospitals and clinics, maternal and child health care services, drug testing institutions, medical research institutes and various medical schools and universities (MOPH 1988, SSB 1988).

Table 3: THE NUMBER OF HEALTH INSTITUTIONS, 1952-80

	1952	1976	1978	1979	1980
Hospitals[a]	3,540	63,184	64,421	65,009	65,450
Hospitals at the county level or higher[b]	3,540	7,952	8,841	9,254	9,478
Rural (or township) health centres[b]	--	54,541	55,016	55,263	55,413
Antiepidemic stations[c]	335	3,710	3,876	4,113	4,243
Maternal and child health care services	2,379	2,239	2,459	2,559	2,610
Medical research institutes	3	162	219	295	282
Drug testing institutions	12	356	844	1,159	1,213
Schools of medicine or health care	351	637	618	650	664
Total institutions of health[a]	38,987	157,959	169,732	176,793	180,553

Source: MOPH (1989a), pages 18-19.

[a] Because the categories are not all-inclusive, the rows labelled "hospitals" and "total institutions of health" do not necessarily represent sums of other figures in the table.

[b] In China's administrative system, "county or higher" excludes village and township (community or commune); it includes county (or district), city (municipality or prefecture), province and region.

[c] Responsible for the prevention of infectious disease and for proper sanitation.

Table 4: HEALTH PROFESSIONALS AND HOSPITAL BEDS
(Totals And Average Annual Percentage Growth, 1952-80)

	1952	1976	1978	1980	Growth Rate
Health professionals	690,437	2,205,682	2,463,931	2,798,241	5.1
Doctors	424,236	929,943	1,033,018	1,153,234	3.6
Nurses	60,900	413,082	406,649	465,798	7.5
Hospital beds	230,946	1,861,744	2,041,681	2,184,423	8.4
At the county level or higher	160,300	986,271	1,092,914	1,192,393	7.4
In rural (township) health centres	30,224*	669,164	747,349	775,413	16.7

Source: MOPH (1989a), page 60.

* In 1959, the first year for which data are available.

In urban areas the health care system consisted of county, district and prefecture hospitals, community health centres and neighbourhood health stations.

"Grassroots" health care services formed a three-tier health care network based on the village, the township and the county. In the 1950s, 60s and 70s, county health institutions provided rural (township) health centres rather effective guidance in technology and skills, as well as some financial support. Rural health centres, in turn, managed village health care personnel, who offered various services to local residents. The network played a key role in improving the health status of the population and was quite efficient in controlling infectious diseases and furnishing medical services, especially through the cooperative medical care system (the commune system). This was one reason why the Government relied on the network "model" to spread health care services rapidly all over rural China.

Health service institutions could be divided into three principal types according to "ownership" (Table 5). First were the public institutions managed by the various levels of government. Health institutions at or above the county level and about one-third of the rural (township) health centres belonged to this category. Second were the health institutions owned by industrial, nonhealth sectors. This group consisted mostly of hospitals, special preventive care units and sanatoriums. The expansion of this type of institution was the most notable during the period. Third were the hospitals and clinics owned by collectives. This type accounted for two-thirds of all community and rural (township) health centres. While some private hospitals and clinics also existed, their number was very small in the late 1970s.

Table 5: HEALTH SERVICE INSTITUTIONS BY "OWNERSHIP"
(1976, 1978 And 1980)

	1976	1978	1980
Health sector	30,768	32,859	34,887
Nonhealth sectors	78,385	96,764	105,498
Collectives	48,806	40,109	40,168
Total	157,959	169,732	180,553

Source: MOPH (1989a), pages 18-24.

Financing Health Care

1. **Overall Government Revenue and Expenditure**. Although the Government fiscal management system was restructured ten times between 1949 and 1978, swinging back and forth between centralization and decentralization, it remained highly centralized throughout. "Centralization leads to stagnation, but decentralization leads to chaos" was a well-known adage of the period. During these 30 years Government revenue and expenditure were "unified": in theory, the Government had control of all sources of revenue and the allocation of all public expenditure. Based on the revenue and expenditure situation in each region, the Government determined the flow of transfers from or to the central administration. Some regions turned in a portion of their income; some received subsidies, and some were allowed to manage their own financing.

In 1978 approximately 86.8 percent of national revenue was generated by the state-owned sector, 12.7 percent by collectives and only 0.5 percent by the private sector. In 1979 national revenue was 110.3 billion yuan (Table 6). The main sources of revenue were taxes, profit transfers from state-owned enterprises, bonds (net of repayments) and "other". Taxes and the transfers from state-owned enterprises accounted for more than 92 percent of total revenue between 1976 and 1980.

Table 6: GOVERNMENT REVENUE, 1976-80
(In Billions Of Yuan At Current Prices And In Percent Shares Of The Total)

	Taxes[a]	State-owned Enterprises[b]	Bonds[c]	"Other"	Total Revenue[a]
1976 Total	40.8	33.8	--	3.1	77.7
Percent	52.6	43.5	--	3.9	100.0
1977 Total	46.8	40.2	--	0.4	87.4
Percent	53.6	46.0	--	0.4	100.0
1978 Total	51.9	57.2	--	3.0	112.1
Percent	46.3 (14.5)	51.0	--	2.7	100.0 (31.2)
1979 Total	53.8	49.3	3.5	3.7	110.3
Percent	48.7 (13.5)	44.7	3.2	3.4	100.0 (27.6)
1980 Total	57.2	43.5	4.3	3.5	108.5
Percent	52.7 (12.8)	40.1	4.0	3.2	100.0 (24.3)

Source: MOF (1989), pages 16-17.
[a] The figures in parentheses show percentages of GNP. [b] Profit transfers. [c] Net of repayments.

Before 1979 transfers from state-owned enterprises had been entered as "enterprise profit" in Government financial statistics. Because of the influence of ultraleftist ideology, "taxation" had been considered an emblem of capitalism, and the "tax" system had been simplified many times. Thus, taxation could not be used to its full potential as a lever in economic development and income redistribution. By the late 1970s only a few types of taxes remained, including industrial and commercial taxes, the salt tax, tariffs and agriculture and animal husbandry (farm) taxes. The principal tax was the industrial and commercial tax, which accounted for more than 85 percent of total tax revenue (Table 7).

The structure and proportion of each item of Government expenditure were altered according to the priorities of the Government. Nonetheless, the fundamental items were invariably development (including infrastructural development), social welfare (including disaster relief, assistance for the elderly and some social security payments), the "CESH" item (culture, education, scientific research, health care, family planning and sports), defence, Government administration, debt servicing and "other". In 1979 Government expenditure totalled 127.4 billion yuan (Table 8).

Table 7: THE COMPOSITION OF TAX REVENUE, 1976-80
(In Billions Of Yuan At Current Prices And In Percentages)

	Industrial-Commercial Taxes	Salt Tax	Tariffs	Farm Taxes	Total Tax Revenue*
1976 Total	35.4	1.0	1.5	2.9	40.8
Percent	86.8	2.4	3.7	7.1	100.0
1977 Total	40.1	1.2	2.6	2.9	46.8
Percent	85.7	2.6	5.6	6.2	100.0
1978 Total	45.1	1.1	2.9	2.8	51.9
Percent	86.9	2.1	5.6	5.4	100.0 (14.5)
1979 Total	47.3	0.9	2.6	3.0	53.8
Percent	87.9	1.7	4.8	5.6	100.0 (13.5)
1980 Total	50.1	0.9	3.4	2.8	57.2
Percent	87.6	1.6	5.9	4.9	100.0 (12.8)

Source: MOF (1989), pages 36-7.
* Totals may not sum due to rounding. The figures in parentheses show percentages of GNP.

Table 8: GOVERNMENT EXPENDITURE, 1976-80[a]
(In Billions Of Yuan At Current Prices And In Percentages)

		1976	1977	1978	1979	1980
Development	Total	46.6	48.8	69.7	77.2	66.4
	Percent	57.8	57.9	62.7 (19.4)	60.6 (19.3)	54.8 (14.9)
Social welfare	Total	2.4	1.9	1.9	2.2	2.0
	Percent	3.0	2.2	1.7 (0.5)	1.7 (0.6)	1.7 (0.5)
CESH[b]	Total	8.5	9.0	11.3	13.2	15.6
	Percent	10.6	10.7	10.1 (3.1)	10.4 (3.3)	12.9 (3.5)
Defence	Total	13.4	14.9	16.8	22.3	19.4
	Percent	16.7	17.7	15.1 (4.7)	17.5 (5.6)	16.0 (4.3)
Administration	Total	4.1	4.3	4.9	5.7	6.7
	Percent	5.1	5.1	4.4 (1.4)	4.5 (1.4)	5.5 (1.5)
Debt service	Total	--	--	--	--	2.9
	Percent	--	--	--	--	2.3 (0.6)
"Other"	Total	5.5	5.4	6.7	6.8	8.3
	Percent	6.8	6.4	6.0 (1.9)	5.3 (1.7)	6.8 (1.9)
Total		80.6	84.4	111.1 (30.9)	127.4 (31.8)	121.3 (27.1)

Source: MOF (1989), pages 60-5.
[a] Figures may not sum due to rounding. Percentages of GNP are shown in parentheses.
[b] CESH = culture, education, scientific research and health.

Between 1976 and 1980 more than one-half of Government expenditure was used for development purposes, while only about 10-13 percent (or 3.1-3.5 percent of GNP) went to recurrent expenditure on culture, education, scientific research and health. Despite the dominance of development expenditure, this "CESH" expenditure item showed a positive trend, with an average annual growth rate (at current prices) of 12.8 percent (Table 9).

With economic development and reform, some new expenditure categories emerged and the structure of expenditure changed. More resources were earmarked for education, scientific research and family planning. Between 1976 and 1980 expenditure on health fell more quickly than did that on any of the above expenditure subitems.

Between 1949 and 1979 revenue and expenditure were usually in balance. A deficit was registered in only 11 years during this period (Table 10).

Table 9: THE CESH EXPENDITURE ITEM, 1976-80[a]
(In Percentage Shares)

	1976	1978	1980
"Other"	--	1.8	1.3
Sports	2.1	2.3	1.9
Family planning	2.9	1.8	2.1
Communications	3.5	3.4	3.1
Culture	4.4	3.6	3.6
Science	3.5	4.8	4.2
Free medical care	4.7	4.3	4.3
Health[b]	19.8 (2.1)	19.9 (2.0)	19.3 (2.5)
Education	59.1	58.2	60.3

Source: MOF (1989).
[a] CESH = culture, education, scientific research and health. The figures have been rounded.
[b] Percentages of total Government expenditure are shown in parentheses.

2. **The Sources of Health Service Financing**. Like most other developing countries, China does not publish systematic statistics on total health expenditure. Precise international comparisons are therefore impossible. However, rough estimates can be made based on data, including sample surveys, of the Ministry of Public Health and the State Statistical Bureau, as well as international sources. Excluding, among other outlays, those for water supply, food subsidies and public sanitation utilities, the estimates gauge total health expenditure in 1980 at about 13.2 billion yuan in current prices, which equals around 3 percent of GNP (433.6 billion yuan). Of this expenditure, 31.3 percent was supplied by the Government, 45.5 percent by health insurance schemes (to meet the costs of services and medicines) and 23.3 percent by user fees for other health care services (see later).

In the 1970s the sources and channels of health financing were relatively stable. Health expenditure consisted mainly of the direct and indirect spending of Government, enterprises, collectives and patients (MOPH 1990a). The first two were the most important.

- Several channels were used for **Government health expenditure**. These included the capital construction budgets of the State Planning Commission and local planning commissions, the Government support for the free medical care insurance scheme, and a "special" budget managed by the Ministry of Finance. The "special" budget contained funds

Table 10: NATIONAL GOVERNMENT SURPLUSES AND DEFICITS*
(In Billions Of Yuan At Current Prices, 1950-89)

	Revenue	Expenditure	Surplus/Deficit
1950	6.5	6.8	-0.3
1955	27.2	26.9	0.3
1960	57.2	65.4	-8.2
1965	47.3	46.6	0.7
1970	66.3	64.9	1.4
1975	81.6	82.1	-0.5
1980	108.5	121.3	-12.8
1981	109.0	111.5	-2.6
1982	112.4	115.3	-2.9
1983	124.9	129.3	-4.4
1984	150.2	154.6	-4.5
1985	186.6	184.5	2.2
1986	226.0	233.1	-7.1
1987	236.9	244.9	-8.0
1988	262.8	270.7	-7.9
1989	291.9	301.5	-9.5

Source: SSB (1990).
* The figures may not sum due to rounding.

for various ad hoc purposes, like the purchase of particularly costly medical equipment, some capital construction and maintenance (including building repair), the payment of user bills (the Government appropriated funds from time to time to cover the hospital bills of destitute users), and "other". However, the special budget did not represent a standing fund for health institutions. Thus, the resources available through the budget and their distribution among health institutions were subject to change from year to year.

Nonetheless, Government health expenditure was mainly drawn from the recurrent expenditure budgets of the Ministry of Finance and local finance bureaus. These recurrent expenditures generally covered salaries for the staff in state-owned health institutions (but not for rural doctors), subsidies, the maintenance and other operating costs of hospitals and health care units and the cost of the training of health professionals. Health institutions received monies from the recurrent budget based on certain criteria, such as workload,

number of beds and personnel and number of patients treated or people served. Before the reforms undertaken starting in late 1978, the flow of Government expenditure for health care through recurrent budgets depended in large part on the Ministry of Finance, which would appropriate the funds for the Ministry of Public Health. The Ministry of Public Health would then allocate funds to each province. The provincial health bureaus were responsible for the reallocation of the funds to lower level health care institutions.

Between 1976 and 1980 the average annual growth rate of Government spending for preventive care through recurrent expenditure budgets was 11.1 percent, which was below the 14.2 percent average rate for total recurrent Government health expenditure (Table 11). The average annual growth rate for Government recurrent expenditure on hospitals was 17.2 percent. Meanwhile, Government recurrent expenditure on cooperative medical care fell. This was because the cooperative medical care system was beginning to break down (see later).

Table 11: GOVERNMENT RECURRENT HEALTH CARE EXPENDITURE[a]
(In Millions Of Yuan At Current Prices And In Percent Shares, 1976-80)

		1976	1977	1978	1979	1980
Cooperative medical care (insurance scheme)	Total	31	35	36	34	26
	Percent	2.0	2.0	1.7	1.4	0.9
MCH[b]	Total	--	--	--	65	65
	Percent	--	--	--	2.5	2.3
Preventive care	Total	300	317	388	441	457
	Percent	18.0	18.0	17.8	17.5	16.1
"Other"	Total	303	315	431	440	527
	Percent	18.2	17.8	19.8	17.5	18.6
Health centres	Total	468	476	584	623	693
	Percent	28.1	27.0	26.8	24.8	24.5
Hospitals	Total	562	622	737	912	1,060
	Percent	33.7	35.2	33.9	36.3	37.6
Total		1,664	1,765	2,176	2,515	2,834

Source: MOPH (1991a).
[a] Excluding the capital construction expenditure of the State Planning Commission (300 million yuan in 1978) and expenditure on traditional Chinese medicine (66 million yuan in 1978) and other research in medical science.
[b] The expenditure for maternal and child health care (MCH) services was not individually itemized before 1979.

- There were three kinds of **health insurance schemes**: free medical care, "labour protection" medical care and cooperative medical care. *Free medical care* was established in 1952. It covered Government employees, teachers in certain types of nonpublic institutions, university students, scientists and members of certain nonpublic "social" organizations. In 1980 the scheme covered 1.6 million of these people, excluding dependants (Table 12). The Ministry of Finance was responsible for appropriating the funding for the scheme, which paid all the medical expences of the insurees. The scheme accounted for around 5.1 percent of total health expenditure, about one-fourth of Government health expenditure and approximately 7.4 percent of the 9-billion-yuan income of hospital-based medical services. Since the scheme paid all an insuree's health service expences, it artificially encouraged the demand for these services, causing the size of the fund to rise. Thus, it contributed to the maldistribution of Government health care resources.

"Labour protection" medical care was established in 1953 for the workers in state-owned enterprises. About 70 million workers were covered (compulsorily) by the scheme in 1980. They were entitled to benefit from health services free of charge. Moreover, up to one-half of the medical expences of an insuree's family dependants were reimbursed. Funds for the scheme were raised by assessing enterprises a portion of their profits before taxes up to an amount equal to approximately 5.5 percent of total payroll. As with free medical care, this scheme represented a considerable indirect public subsidy for workers. In 1980 the average medical expences covered under the scheme were 46.6 yuan per insuree, 4 yuan more than the corresponding figure for free medical care.

The health insurance scheme in enterprises owned by collectives was established on

Table 12: THE FREE MEDICAL CARE INSURANCE SCHEME
(1976-80)

	1976	1977	1978	1979	1980
Expenditure					
Total, Government (yuan, millions)	399	423	484	570	668
Per capita (yuan)	34.1	34.9	37.5	39.9	42.6
Annual growth rate (%)	--	2.4	7.5	6.4	6.8
Insurees (millions)	1.2	1.2	1.3	1.5	1.6

Source: MOPH (1991a).

the model of the "labour protection" scheme. The source of funding was also the same. However, since collective-owned enterprises are usually smaller and have fewer workers, the scheme provided lower benefits to the insurees. Urban collective-owned enterprises employed about 24 million workers in 1980, while rural collective-owned enterprises employed around 29 million (SSB 1981). Since these enterprises varied in the financial resources available to them, the coverage and benefits of the scheme were different from enterprise to enterprise. Some evidence suggests that the coverage was better among urban collective enterprises. The total expenditure for the scheme can be estimated at about 1.34 billion yuan in 1980 (SSB 1981); average expenditure per insuree was therefore approximately 26 yuan.

Up to 1980 the "labour protection" scheme grew much more rapidly than did the free medical care scheme in both number of insurees and benefits paid out (reimbursements), the latter equalling over 6 percent of total health expenditure in 1980. Like free medical care, the scheme encouraged insurees to overuse health services, thereby needlessly raising demand.

Cooperative medical care, a remnant of the old commune system, was established in 1959. Before 1978 it covered more than 80 percent of the rural population. The scheme was financed by the collective welfare funds at the "brigade" level (that is, among rural "people's communes", generally incorporated villages), the contributions of enterprises owned by the brigades and the contributions of farmers. Due to differences in the extent of economic development, the coverage and the rates of reimbursement of the scheme varied from one brigade to another. Nonetheless, studies (MOPH 1989b, 1991b) have found that the average expences per insuree, at least in 1985-7, were between 10 and 20 yuan, substantially less than in the case of free medical care and "labour protection" medical care. The reimbursement rates, copayment requirements and ceilings on the total amount of insurance payment were also lower under this scheme. These characteristics of cooperative medical care helped to dampen the corresponding demand for health care services and therefore the growth in costs. The scheme played a very important role as a type of "mutual insurance" and in making health care services affordable and accessible to the population in rural areas.

- **User charges**. People who were not covered by one of the insurance schemes had to pay for health care services. Up to 1979 about 25-30 percent of the total population were estimated to fit into this category. In 1979 and thereafter the number rose rapidly because of the breakdown of the cooperative medical care system. For instance, in 1980 at least 300 million people were estimated to be uninsured. Around 78 percent of these people were

living in rural areas, and the rest in urban areas. The average per capita health care outlay for these people was about 9 yuan. Undoubtedly, many of these people had difficulty paying the rising cost of medical care.

3. **The Allocation of Government Health Expenditure**. A close analysis of the allocation of Government health expenditure among townships, counties, cities, regions and provinces during this period is not feasible because no nationwide statistics are available. Nonetheless, data on the distribution of Government health expenditure in Jiangsu province in Eastern China seem to confirm a clear general trend. Although Jiangsu is representative of a resource-rich province able to assign more funds to the lower administrative levels and to preventive care, most of the financial resources in the health budgets of the late 1970s went to the county and city levels (Table 13). These levels accounted for well over one-half of the financial inputs in health care in the province. Moreover, their share rose over time. Meanwhile, while the inputs received at the township level increased in absolute terms, their share fell in the overall health budgets. In poorer provinces the distribution of health expenditure was much more skewed. Village health units and clinics benefited from quite limited Government financial inputs. Indeed, most health care financing in the villages in these provinces came from the income of collectives. Rough estimates for Jiangsu also suggest that the county level

Table 13: THE DISTRIBUTION OF GOVERNMENT HEALTH EXPENDITURE IN JIANGSU PROVINCE (1976, 1978 And 1980)

	1976	1978	1980
Township (%)	28.2	27.8	26.0
County (%)	29.2	30.2	30.1
City (%)	22.3	29.0	31.2
Province (%)	20.0	13.0	12.7
Total expenditure (yuan, millions)	86.2	114.6	146.9
Per capita average (yuan)	1.5	2.0	2.5
A. City	2.4	3.0	3.8
B. County	0.8	1.1	1.6
A - B	1.6	1.9	2.2

Source: JPHB (1990).

obtained a much lower average annual per capita share of Government health expenditure than did the city level and that this difference was increasing. The same trend was definitely occurring in poorer provinces.

Government health expenditure was distributed among the various regions of China according to the number of health institutions, hospital beds and health personnel in each region. In theory, before 1979, under the centralized fiscal management system, all regions were supposed to be receiving Government transfers in such a way as broadly to equalize per capita health resources among regions. However, there were obvious differences between more well-off and poorer regions and between Eastern China and Western China (Table 14).

Noteworthy is the fact that per capita Government health expenditure was lower in the richer regions than it was in the poorer regions. Among the highest ten regions in terms of this expenditure in 1980, three, Shanghai, Tianjin and Beijing, were municipalities in the East and one, Liaoning, was a relatively rich region also in the East, while the other six, Tibet, Qinghai, Ningxia Hui, Xinjiang Uygur, Jilin and Inner Mongolia, were poor, economically underdeveloped and mainly in the West. This was because population density tends to be lower and surface area higher in the poorer regions. Moreover, there are usually more health institutions and hospital beds per 1,000 population in the poorer regions, although, because these regions are also generally larger, the access was often not as good. In any case, the result was that, under the centralized fiscal management system and the formula employed for the allocation of funds, the poorer regions normally enjoyed greater Government health expenditure per capita.

4. **The Cost and Price Structure of Health Services.** In the early years of the People's Republic, health care services were viewed as a tool to enhance the welfare of the population and distribute the benefits of public expenditure in a progressive way. This was evident in the Government's approach toward health service pricing. Health service prices were cut on three occasions in the 1950s in order to reduce the expence to the population and improve living conditions. Health service providers were allowed to recover only a small portion of the costs. However, this well-meaning approach led to poor efficiency in service delivery.

Service prices were extremely low and nearly the same in all regions. The prices for medical services were fixed by service item. Fees for preventive care were charged on the basis of a portion of the cost of medicines and the use of equipment. Almost no labour costs were recovered, since the Government was supposed to assume the financial responsibility

Table 14: PER CAPITA GOVERNMENT HEALTH EXPENDITURE BY REGION
(In Yuan At Current Prices, 1975-89)

Annual Income Per Capita (1982)	Region	Government Health Expenditure*			
		1975	1980	1985	1989
0-349 yuan	Xizang (Tibet)**	8.56 (1)	14.09 (1)	22.78 (1)	30.30 (1)
	Ningxia Hui	3.19 (6)	5.28 (6)	8.91 (7)	10.52 (7)
	Yunnan	1.48	2.40	4.60 (15)	6.87
	Gansu	1.94 (12)	2.82 (15)	4.60 (15)	6.27
	Shaanxi	1.79 (15)	2.97 (13)	3.93	5.45
	Guangxi Zhuang	1.47	2.22	3.54	4.93
	Jiangxi	1.62	2.51	3.62	4.90
	Guizhou	1.62	2.19	3.35	4.54
	Sichuan	1.20	2.08	3.11	4.46
	Henan	1.27	2.09	3.12	4.36
	Anhui	1.44	2.21	2.89	3.77
350-499 yuan	Qinghai	4.77 (2)	6.70 (4)	10.92 (5)	12.84 (5)
	Xinjiang Uygur	2.93 (8)	4.92 (7)	10.07 (6)	10.97 (6)
	Jilin	2.52 (9)	4.05 (8)	7.62 (8)	9.86 (8)
	Nei Monggu (Inner Mongolia)	3.11 (7)	3.87 (10)	7.12 (10)	9.07 (10)
	Guangdong***	1.39	2.50	3.95	7.45 (13)
	Hainan***	--	--	--	7.38 (14)
	Fujian	1.84 (14)	2.84 (14)	4.50	6.89 (15)
	Shandong	1.64	2.63	4.44	6.77
	Shanxi	1.76	2.68	4.96 (12)	6.69
	Hubei	1.86 (13)	3.21 (12)	4.74 (14)	6.12
	Hebei	1.35	2.19	3.60	4.94
	Hunan	1.52	2.40	3.51	4.39
500-799 yuan	Liaoning	2.43 (10)	3.92 (9)	7.24 (9)	9.66 (9)
	Heilongjiang	2.35 (11)	3.52 (11)	5.74 (11)	7.99 (11)
	Zhejiang	1.66	2.73	4.92 (13)	7.60 (12)
	Jiangsu	1.47	2.36	3.96	5.74
800-1,999 yuan	Beijing	4.13 (4)	6.66 (5)	11.56 (4)	17.65 (3)
	Tianjin	4.03 (5)	7.20 (3)	13.32 (3)	17.35 (4)
≥2,000 yuan	Shanghai	4.14 (3)	7.21 (2)	15.01 (2)	20.70 (2)
	Average	1.75	2.87	4.81	6.69

Sources: MOPH (1991a), EDPH (1988).
* The figures in parentheses show the ranking of the top 15 regions (1 = the highest per capita expenditure).
** Includes outlays for medical care insurance. Health services are provided free to Tibetans.
*** Hainan Island, originally part of Guangdong province, became a separate province in 1988.

for personnel. A registration fee was levied at provincial hospitals, but it was only 0.10 to 0.15 yuan, about equal to the price of an egg. The corresponding fee at city and county hospitals was 0.10 yuan, and at township hospitals 0.05 yuan. A fee was also charged for the use of a hospital bed, but it was only around 0.20-1 yuan. The bed fee for a child was 0.20-0.50 yuan. The charge for an injection of any kind was 0.05-0.10 yuan. The fee for the delivery of an infant was only 0.10-2 yuan. The charge for an operation ranged from 3 to 50 yuan; the fee for the more common types of operations was about 15 yuan. Immunizations were often free of charge, although in some areas there was a 0.05-yuan fee. In general, the fees for preventive care were much less than those for curative care. Some health service fees were readjusted and raised in 1980.

The average per patient costs for curative care, whether outpatient or inpatient, were about five times higher than the average fee charged. Clearly, the low prices reduced the cost of health care to patients (Table 15). A study in Shandong province (Zhang 1991), an area of mid-level development, found that the cost of curative care to patients represented only about 5 percent of their total incomes. Thus, the low prices contributed to the affordability and accessibility of health care services.

Service Accessibility and the Impact on Health Status

The occupancy rate of hospital beds was 81 percent in 1977 and 82.5 percent in 1980. In 1980 the average length of a hospital stay was 14.5 days, and the total number of visits was 2.55 billion, for an average of 2.5 visits per capita.

Table 15: THE AVERAGE COSTS TO PATIENTS FOR HOSPITAL CARE IN JIANGSU PROVINCE (In Yuan, 1973-80)

		1973	1976	1978	1980
Township	Outpatient	1.11	1.38	1.50	1.76
	Inpatient	1.34	1.30	1.55	1.97
County	Outpatient	1.40	1.60	1.65	2.10
	Inpatient	1.78	2.19	2.21	2.93
City	Outpatient	1.44	1.79	1.98	2.33
	Inpatient	2.38	2.78	2.92	3.53

Source: JPHB (1990).

While no firm data exist on the accessibility and availability of health care services during the period, there is no doubt that before 1979, both in cities and in the countryside, these services, though poor in quality, were readily available to almost everyone. There were several reasons for this. First, the number of health care workers, including barefoot doctors in rural areas, was quite high, and these workers were well distributed throughout the country. Thus, the population had easy access to health care professionals. Second, health care services were very affordable; prices were low, and most of the population was eligible for insurance under one of the three insurance schemes. Third, the three-tier grassroots health care network improved accessibility. Fourth, particularly in rural areas, health care personnel were frequently motivated by altruistic ideals. All of these factors, together with the support of appropriate policies, contributed to a sharp improvement in health care services and the health status of the population.

Aside from disastrous years, such as 1958-61, new health facilities and the health care effort between 1949 and 1979 generally contributed to improvements in the health status of the population. Life expectancy at birth rose from around 35 years in the period immediately preceding 1949 to 66.4 years among males and 69.3 years among females in 1981. Likewise, the infant mortality rate fell from around 200 to 34.7 per 1,000 live births (MOPH 1991c, but see also Table 16). At the same time, 91.4 percent of all deliveries were now being carried out through a new procedure which helped protect the health of the mother and boosted the chances of survival of the infant. The morbidity due to 23 major infectious diseases dropped from 35.0 per 1,000 population in 1965 to 20.8 in 1979 (see Table 1, page 4).

III. POLICY REFORM, 1979-90

Economic Reform

After the turbulence of the Cultural Revolution, the country was faced with the daunting task of revitalizing the economy. In December 1978 the Government began instituting reforms aimed at economic development, raising the living standard of the population and bringing China more in line with the economic system prevailing in other parts of the world.

The first substantive reform concerned the rural sector. A new type of management

Table 16: THE INFANT MORTALITY RATE
(Per 1,000 Live Births, 1949-89)

Year	Source/Range	IMR		
		Counties	Cities	Nation
Before 1949	Nationwide estimates	--	--	200.0
1954	Survey of 50,000 people in 14 provinces	--	--	138.5
1958	Survey of cities in 17 provinces	--	50.8	--
	Survey of counties in 18 provinces	89.1	--	--
	Survey in 19 provinces	--	--	80.8
1973-5	National cancer survey	--	--	47.0
1981	Census surveys	--	--	34.7*
1983	Survey in 28 cities	--	13.6	--
	Survey in 58 counties	26.5	--	--
1985	Survey in 36 cities	--	14.0	--
	Survey in 72 counties	25.1	--	--
1989	Survey in 41 cities	--	14.1	--
	Survey in 87 counties	21.8	--	--
1991	Survey in 40 cities	--	16.5	--
	Survey in 88 counties	25.4	--	--

Sources: MOPH (1990b), (1991c).
* Adjusting official Government figures because of failures to report, some studies have estimated the IMR at around 45 in 1981.

scheme, the rural household management-contract system, was introduced in late 1978 and early 1979. Because it linked remuneration to output, the system offered a clear incentive. By the end of 1983 it had been adopted throughout the country and had mobilized 800 million farmers, representing 94 percent of all rural families and 99 percent of all rural brigades. It injected vigour into an impoverished and backward countryside and succeeded in raising production. Having been 140 metric tonnes in 1960 and 240 tonnes in 1970, the production of grain reached a record 400 million tonnes in 1984.

The success in agriculture had a strong influence on reform in other sectors. After four months of experiment through a pilot project involving eight enterprises, more autonomy and

decisionmaking power began to be extended to state-owned enterprises in 1980. The closed, "planned" economy approach was replaced by a mixture of central planning and market mechanisms, so that the Government regulated the markets, but the markets guided the enterprises. By 1982-3 the prices of about 500 products were being set by the market. Subsequently, the role of pricing in steering production was further expanded.

Aside from changes in trade and distribution between urban and rural areas, the focus of the reform effort had shifted to cities by 1984. In that year the enterprise management-contract system, a variant on the rural contract system, was inaugurated. This reform gave enterprises more leeway in fulfilling contracts, thus permitting them to determine minimum output, profit, prices, employment and wages. The performance of enterprises was thereby greatly improved.

China also became more open to the world economy. Two provinces (Guangdong and Fujian), four special economic zones (Shandong, Shenzhen, Xiamei and Zhuhai), 14 coastal cities, Hainan Island, and other areas were opened in succession. From 1978 to 1988 the economy benefited from $47.3 billion in direct foreign investment and loans.

While the basic framework of state ownership was left untouched and continued to be the mainstay of the economy and although the Government remained responsible for macromanagement, coordination and supervision, the more liberal approach encouraged the coexistence of collective, individual and private economies in urban and rural areas and the development of joint ventures, cooperative enterprises and wholly foreign-owned companies.

The reforms were very successful, and their impact was almost immediate. They are now regarded as a positive blueprint for the transition to a market economy (Harrold 1992). The newly introduced market system boosted production and the standard of living of the population, thereby rendering the reform process very popular. The annual GNP growth rate after the implementation of the reforms, particularly over the 1978-84 period, was as high as or higher than it had been beforehand. The rates of expansion of exports, imports and domestic trade were also comparable. Average annual per capita income climbed from 134 yuan to 319 yuan in rural areas and from around 400 yuan to 685 yuan in urban centres between 1978 and 1990 (Table 17). Perhaps the most spectacular achievement of the reforms was registered in the incidence of poverty. Between 1978 and 1990 the number of people living in poverty plunged from around five million to one million in urban centres and from 260 million to less than 100 million in the countryside. This last phenomenon was especially marked between 1978 and 1984, which was an unusually good year.

Table 17: KEY ECONOMIC INDICATORS
(1978-90)

	1978	1984	1986	1990
GNP (index)	100	167	203	274
Per capita income (average, in 1978 yuan)				
Rural[a]	134	311	325	319
Urban[b]	446	550	633	685
Grain availability (kgs per capita)	326	401	368	400
People living in poverty (millions)[c]				
Rural	260	89	97	97
Urban[d]	4	1	1	1

Source: World Bank (1992), Table 1.2.
[a] Deflated by the rural retail consumer price index.
[b] Deflated by the urban cost-of-living index. The first figure ("446") is for 1981.
[c] Estimated.
[d] The first figure ("4") is for 1981.

Government Tax and Expenditure Reform

To encourage local and regional authorities to run their operations more efficiently and play a vigorous role in the development process, the Government began in 1980 to offer them greater autonomy in such areas as fiscal administration, taxation, investment and trade. First, in keeping with a new strategy of hands-on management rather than control from above, it started to decentralize decisionmaking on revenue and expenditure issues on the basis of "contracts" established with the other levels of government. Eventually, the municipalities, the provinces and the central Government all had separate accounting systems and their own revenue and expenditure budgets.

In 1985 a fresh method of tax management was adopted. It actually represented a revenue-sharing arrangement, since it included a breakdown of the specific taxes due to the central Government, the other levels of government, or both. Under the new method, tax rates were nominally fixed by the central Government, but local governments, which were responsible for the collection of all major taxes, could retain all or part of the revenue above an amount which was predetermined by contract and which they had to remit to the central

Government. Moreover, local governments, which had also been placed in charge of contract negotiations with enterprises, were free to manage the taxes of enterprises they owned.

1. **Revenue**. To mobilize resources, more kinds of taxes were created, such as the tax on the bonuses which enterprises were now allowed to offer their employees as incentives, the personal income tax, the energy consumption tax and the special tax levied to support a key project fund for construction, energy and transportation projects. Tax rates were adjusted, and progressive taxation was introduced.

Before, enterprises had remitted profits to the Ministry of Finance and then received subsidies. Now, they were taxed instead. In 1983 a two-step tax reform was launched. The first step involved a combination of profit retention schemes and taxes on profits. The second step, initiated in 1984 and completely in place by the late 1980s, involved the reform of the pricing system and the introduction of progressive taxation on profits. Today, enterprises are taxed by local governments and keep any after-tax profits for their own use. After filling a production quota determined by government, an enterprise can now produce according to its business needs and sell on the open market. This helped revitalize enterprise profits, which grew to 70.2 billion yuan by 1988. On the other hand, the reform led to difficulties for some enterprises, especially large and medium-size state-owned ones. It has been estimated that more than one-half of all such enterprises were operating near the breakeven point or in the red in 1990.

Meanwhile, because of an increase in private and collective ownership, the share represented by state-owned enterprises in the revenue from all enterprises dropped from 85.4 percent in 1980 to 74.7 percent in 1987. The revenue share from collective-owned enterprises rose from 14 percent to 18.4 percent, and that from privately owned enterprises climbed from 0.6 percent to 4.5 percent. These figures show that the open-door policy toward ownership was indeed being implemented.

By the late 1980s industrial and commercial taxes, the most important and stable sources of Government revenue, represented 88 percent of all tax revenue (Table 18).

Taxation policy still needs fine-tuning, especially in terms of Government revenue and central Government control and supervision. For instance, the enterprise management-contract system, which actually depends on a process of bargaining between government at various levels and individual enterprises, leads to nonuniform tax rules. Local governments, which are generally responsible for the negotiations with the enterprises, naturally tend to

Table 18: THE COMPOSITION OF TAX REVENUE, 1981-8[a]
(In Billions Of Current Yuan And In Percentages)

		1981	1984	1986	1988
Salt tax	Total	0.9	1.0	1.1	0.9
	Percent	1.4	1.1	0.7	0.6
Oil consumption tax[b]	Total	--	1.8	1.6	1.4
	Percent	--	1.9	0.8	0.6
Construction tax[c]	Total	--	1.0	2.4	2.6
	Percent	--	1.1	1.1	1.1
Farm taxes	Total	2.8	3.5	4.5	7.4
	Percent	4.5	3.7	2.1	3.1
Tariffs	Total	5.4	10.3	15.2	15.5
	Percent	8.6	10.9	7.3	6.5
Industrial-commercial taxes	Total	53.8	77.1	184.4	211.3
	Percent	85.5	81.3	88.2	88.4
Total		63.0	94.7	209.1	239.1
Tax/GNP ratio		14.8	14.0	22.1	17.3

Source: MOF (1989), pages 36-7.
[a] Columns may not sum due to rounding.
[b] Implemented in 1982 to restrict the use of oil.
[c] Implemented in 1983 to rationalize the sector, eliminate unnecessary construction and limit the use of construction materials.

protect their own enterprises and try to retain more revenue, rather than give a reasonable portion to the central Government. Moreover, current policy tolerates too much tax evasion. It has been estimated that more than one-half of privately owned businesses fail to pay taxes.

The tax reforms drastically altered the structure of Government revenue. Tax revenue at current prices jumped an average 19.6 percent each year between 1980 and 1988 and by 1988 had come to represent about 91 percent of total Government revenue and 17.3 percent of GNP (Table 19).

Viewed from the angle of the various sectors, the structure of Government revenue changed relatively quickly. As shares of total Government sectoral revenue, the revenues due

Table 19: GOVERNMENT REVENUE, 1981-8[a]
(In Billions Of Yuan At Current Prices And In Percentages)

		1981	1984	1986	1988
Enterprise income	Total	35.4	27.7	4.2	5.1
	Percent	32.5	18.4	1.9	1.9
Enterprise subsidies[b]	Total	--	--	-32.5	-44.7
	Percent	--	--	-14.3	-17.0
"Other"	Total	3.3	7.8	15.7	17.6
	Percent	3.0	5.2	6.9	6.7
Key project fund[c]	Total	--	12.3	15.7	18.6
	Percent	--	8.2	6.9	7.1
Bonds[d]	Total	7.3	7.7	13.8	27.1
	Percent	6.7	5.1	6.1	10.3
Taxes	Total	63.0	94.7	209.1	239.1
	Percent	57.8	63.1	92.5	91.0
Total		109.0	150.2	226.0	262.8
Revenue/GNP ratio		23.5	22.2	23.9	19.0

Source: MOF (1989), pages 16-19.
[a] Columns may not sum due to rounding.
[b] Because of various effects of economic reform, some enterprises became financially unstable and had to be supported by Government subsidies.
[c] Created in 1983 to support the development of key construction, transportation and energy projects. The fund is financed through what amounts to a "tax" on the extrabudgetary income of all enterprises and institutions, including hospitals.
[d] Net of repayment.

to the agriculture and commercial sectors grew at an average annual rate of 7.9 percent and 33.8 percent, respectively, between 1980 and 1987 (Table 20).

2. **Expenditure**. Due to rising Government revenue and expanding demand, Government expenditure at current prices grew at an average annual rate of 13.5 percent from 1981 to 1988. However, as a portion of GNP it dropped from 31 percent in 1978 to 21.6 percent in 1987 and 19.5 percent in 1988. The structure of expenditure changed as well (Table 21; also

Table 20: THE SHARE OF VARIOUS SECTORS IN GOVERNMENT REVENUE
(In Percentages Of Total Government Sectoral Revenue, 1980, 1984 And 1987)

	1980	1984	1987
Building construction	0.1	0.4	0.4
Agriculture	3.0	4.1	5.1
Transportation	6.5	8.3	5.2
Commercial	1.5	-0.8	11.5
"Other"	6.2	10.2	20.9
Industry	82.7	77.8	56.9
Light	34.6	30.0	26.3
Heavy	48.1	47.8	30.6

Source: MOF (1989), pages 32-3.

Table 21: GOVERNMENT EXPENDITURE, 1981-8[a]

	Billions of Current Yuan				% of GNP			
Item	1981	1984	1986	1988	1981	1984	1986	1988
Social Welfare	2.2	2.5	3.6	4.2	0.5	0.4	0.4	0.3
Debt service	6.3	2.9	5.0	7.7	1.4	0.4	0.5	0.6
Defence	16.8	18.1	20.1	21.8	3.6	2.7	2.1	1.6
Administration	7.1	12.5	16.8	22.1	1.5	1.9	1.8	1.6
Price subsidies	--	--	25.7	31.7	--	--	2.7	2.3
"Other"	8.2	16.0	23.6	32.2	1.8	2.4	2.5	2.3
CESH[b]	17.1	26.3	38.0	48.6	3.7	3.9	4.0	3.5
Development	53.8	76.3	100.3	102.4	11.6	11.3	10.6	7.4
Total	111.5	154.6	233.1	270.7	24.1	22.9	24.7	19.5
Memo item: CPI[c]	110.7	117.7	135.7	172.6	--	--	--	--

Sources: MOF (1989), pages 62-3; SSB (1991) for the CPI.
[a] Figures may not sum due to rounding.
[b] CESH = culture, education, scientific research and health.
[c] For the consumer price index, 1978 = 100.

see Table 8, page 11). Compared to the 1970s, the expenditures on development, defence and social welfare fell both as portions of total expenditure and as percentages of GNP. Defence expenditure shrank the most, mainly because of a reduction in the armed forces by one million people. The cut in development expenditure reflected an attempt by the Government to cool overheated capital investment.

As part of the reform in the pricing system, the Government increasingly relied on the market mechanism, thereby generating a two-track pricing system; while some prices remained "planned", others were completely liberalized. However, to maintain the living standards of residents in nonagricultural (mostly urban) areas, the Government began to pay out subsidies in the second half of the 1980s to compensate for price increases. While useful in cushioning the effects on urban residents of the price reforms, these subsidies continue to represent a heavy burden on Government budgets.

Between 1980 and 1988 the average annual growth rate of the expenditure on culture, education, scientific research and health ("CESH") was about 15.2 percent, which was 5 percent higher than that of total Government expenditure. However, the overall increase in expenditure in these areas was not balanced among the various subitems (Table 22; see also Table 9, page 12). In the 1980s the Government took particular interest in the development of scientific research, and this expenditure subitem rose significantly. Expenditure on sports, communications and free medical care (the insurance scheme for Government employees, scientists, university students and so on) also climbed. Meanwhile, although as a budget subitem education expenditure showed a downward trend, total education expenditure actually grew because of the introduction of a special tax earmarked for education. Health expenditure mounted in absolute terms in both current and constant prices, but in terms of the share of overall expenditure in the CESH budget item it dropped appreciably. The most important decline in health expenditure started in 1986.

While mounting in absolute terms, Government health expenditure declined as a share of total health expenditure between 1980 and 1989 (Table 23). This was mainly due to a drop in Government health budget expenditure. In current prices, total health expenditure soared by a factor of more than three from 1980 to 1989, and by 1989 had come to represent 3.6 percent of GNP, a rise of 0.6 percent over 1980. However, at constant 1980 prices, total health expenditure increased only 1.3 times, broadly at the same annual rate as GNP, and in 1989 stood at just 3.1 percent of GNP. The climb in health spending was therefore more the fruit of very rapid growth than of a change in Government or consumer priorities.

Table 22: THE CESH EXPENDITURE ITEM, 1981-8[a]
(In 100 Millions Of Current Yuan And In Percent Shares)

		1981	1984	1986	1988
Family planning	Total	3.4	--	8.0	10.0
	Percent	2.0	--	2.1	2.0
Sports	Total	3.4	--	9.9	11.7
	Percent	2.0	--	2.6	2.4
Culture	Total	7.0	--	13.5	15.4
	Percent	4.1	--	3.6	3.2
Communications	Total	5.1	--	14.2	16.1
	Percent	3.0	--	3.7	3.3
"Other"	Total	1.2	--	15.4	17.6
	Percent	0.7	--	4.1	3.6
Free medical care	Total	7.9	12.7	18.9	29.1
	Percent	4.6 (0.2)	4.8 (0.2)	5.0 (0.2)	6.0 (0.2)
Science	Total	8.1	--	21.4	35.7
	Percent	4.7	--	5.6	7.3
Health	Total	32.7	48.2	64.3	71.9
	Percent	19.1 (0.7)	18.3 (0.7)	16.9 (0.7)	14.8 (0.5)
Education	Total	102.5	--	214.3	278.7
	Percent	59.8	--	56.4	57.3
Total		171.4	263.2	379.9	486.1
Memo item: CPI[b]		110.7	117.7	135.7	172.6

Sources: MOF (1989); SSB (1991) for the CPI.
[a] CESH = culture, education, scientific research and health. The figures have been rounded. GNP percentages are shown in parentheses.
[b] For the consumer price index, 1978 = 100.

As a share of overall Government expenditure, Government expenditure on health care dropped from an average 2.9 percent in 1981-5 to 2.5 percent in 1986-9. As a share of CESH expenditure, it declined from an average 17 percent in 1981-5 to 14 percent in 1986-9 and was still falling in 1990.

Table 23: GOVERNMENT EXPENDITURE AND TOTAL HEALTH EXPENDITURE[a]
(In Billions Of Yuan, 1980, 1985 And 1989)

	At Current Prices			At 1980 Prices		
	1980	1985	1989	1980	1985	1989
Government health expenditure	4.1	8.1	11.5	4.1	7.0	6.2
Government health budget[b]	2.8	5.0	7.4	2.8	4.4	4.0
Traditional Chinese medicine[c]	0.1	0.3	0.6	0.1	0.3	0.3
Family planning[d]	0.3	0.8	1.2	0.3	0.7	0.6
Capital construction	0.3	0.9	0.9	0.3	0.8	0.5
Education and research[e]	0.6	1.1	1.3	0.6	0.9	0.7
Health insurance	6.0	11.6	24.7	6.0	10.1	13.4
Free medical care	0.7	1.6	3.8	0.7	1.4	2.1
Labour protection medical care	5.3	10.0	21.0	5.3	8.7	11.3
State-owned enterprises	4.0	6.8	14.8	4.0	5.9	8.0
Urban-collective enterprises	0.9	2.0	3.5	0.9	1.8	1.9
Rural-collective enterprises	0.4	1.2	2.6	0.4	1.1	1.4
User charges	3.1	7.1	20.5	3.1	6.2	11.1
Urban users	0.7	3.1	12.0	0.7	2.7	6.5
Rural users	2.4	4.0	8.5	2.4	3.5	4.6
"Other"[f]	--	0.1	0.2	--	0.1	0.1
Total health expenditure	13.2	26.8	56.9	13.2	23.3	30.7
Percent of GNP	3.0	3.1	3.6	3.0	3.2	3.1
Per capita (yuan)	13.4	25.5	51.2	13.4	22.2	27.6

Source: MOPH (1991d).
[a] Columns may not sum due to rounding.
[b] Including recurrent budgets and "special" budgets (see earlier).
[c] Became a separate item in the MOPH budget in 1980.
[d] Budget of the State Family Planning Commission and its affiliates.
[e] Budgets of the State Education Commission and the State Science and Technology Commission and their affiliates.
[f] Including the inputs from private practitioners, international organizations and foreign donations and loans.

Per capita Government health care expenditure in constant 1980 prices rose from 2.89 yuan in 1980 to 3.29 yuan in 1989. This resulted from a marked increase during the 1980-5 period, before a decline in subsequent years. On the other hand, overall per capita health expenditure in constant 1980 prices continued to grow even in 1986-9. However, this growth

was due mainly to a rise in user charges and health insurance, both of which clearly tend to benefit those who are either insured, or control an adequate income.

Government construction expenditure in health care showed a trend which was similar to that of overall Government health expenditure (Table 24). Its annual growth rate as a share of national and of CESH and social welfare construction expenditure dropped during the 1980s. The expenditure item rose in terms of current prices, but fell in terms of constant prices. This is confirmed by the decline after 1985 in the surface area constructed.

Table 24: CAPITAL CONSTRUCTION INVESTMENT*
(In Billions Of Current Yuan, 1978-89)

	1978	1980	1985	1989
A. National CCI	50.1	55.9	107.4	155.2
B. CESH and SW CCI	2.2	4.4	12.1	14.9
C. Health service CCI	0.3	0.6	1.8	1.8
C/A (%)	0.6	1.0	1.7	1.2
C/B (%)	14.8	13.1	15.0	12.1
D. Health service construction costs (yuan/m^2)	--	134	218	409
C/D, surface area constructed (m^2, 0000s)	--	431	830	442
Memo item: CPI	100.0	108.1	128.1	203.3

Sources: SSB (1990); SSB (1991) for the CPI.
* In rounded figures. CCI = capital construction investment. CESH = the "culture, education, scientific research and health" expenditure item. SW = the expenditure item "social welfare". CPI = consumer price index.

Health Policy Reform

Especially because of the financial difficulties inherited from the 1960s and 70s, the capacity of the health system could not keep pace with the rapid development of the economy, the needs of an expanding population and the growing demand for health care. Queues and long waiting lists were the rule at public service facilities within the health sector.

Moreover, the financing structure was profoundly altered during the 1980s as the Government tax and expenditure authority was decentralized and as user charges rose in

importance. Eventually, the old structure was replaced by a multitiered system. Government health care financing was now directly furnished by all levels of government, with each level responsible for maintaining the health institutions under its administration. For instance, health institutions at the central level were managed by the Ministry of Public Health and financed through the Ministry of Finance and the Ministry of Public Health; hospitals owned by railroad companies were paid for through the budget of the railroad system; care facilities owned by collectives were supported by the collectives, and so on. One exception involved rural health centres, two-thirds of which were owned by collectives; these centres typically also benefited from Government subsidies.

However, although central Government health expenditure was dropping significantly mainly because of falling revenues (see earlier), local governments and entities tended not to take up the slack under the decentralized fiscal management system. They were usually concerned more with economic development than with the provision of health care services, especially preventive care. Additionally, local authorities had only very limited funds to allot to lower level health service institutions and certain types of health programmes, particularly comprehensive ones or those involving several districts.

Government policymakers approached these problems along two main avenues: they tried various ways to render the existing health care system more efficient and effective in meeting the growing needs and the rising demand, and they initiated new methods aimed at raising the financial resources available for health service delivery and expansion.

1. **Incentives, Liberalization and Rationalization**. The Government encouraged health personnel to work harder and longer hours by offering *rewards and bonuses*. For example, any income earned from work "after hours" or over and above output quotas, less the cost of materials and other incidental expences, was divided among all personnel. Health institutions were thus able to remain open longer and provide more services. Likewise, living conditions among health personnel were enhanced. Personnel were also encouraged to act as consultants for lower level health institutions or to have a second job, especially in rural hospitals.

There had been 805 private health institutions in China in 1949. Because the political leadership had sought to establish a "communist" health service network, the number had fallen to only 12 by 1963. Private practitioners, most of whom employed traditional Chinese medicine or were doctors with special skills, were banned in the 1970s and were replaced by barefoot doctors.

In order better to meet the health care needs of the people and give full play to the potential development role of "professionals", the Government once again permitted *private medical practice* at the beginning of the 1980s. Thenceforth, anyone who wanted to furnish medical services and could pass a qualifying exam could become a private practitioner and open a clinic. The initiative bore fruit. The number of private practitioners climbed from around 1,900 in 1969 and 18,000 in 1982 to 158,000 in 1988.

Following the breakdown of the cooperative medical care system (see later), the number of rural private practitioners increased quickly. Many qualified barefoot doctors became village doctors after passing the examinations of local health authorities. Although no hard evidence exists, it is believed that more than 85 percent of the rural population came to depend on private practitioners for medical care. In most cases, village doctors had to combine some other employment with their medical practice, but they generally earned more than had doctors in the commune system. A survey in Fujian province (Chen et al. 1992) found that in 1990 the ratio between outside employment (almost always farming) and medical care work for the average village health professional was four to seven, and the average annual income was 1,211 yuan (a little more than the average farm income), of which 402.85 yuan came from the nonmedical employment.

In 1980 industrial enterprises accounted for 24.3 percent of all hospital beds, 29.4 percent of all health care personnel and more than 58.4 percent of all health care institutions. However, these enterprises provided health care only to their employees, and the utilization rate was very low. Therefore, that year the Government began encouraging these and other *non-health-sector entities* to create health care departments and open them to the public. The health sector was to offer technical and professional support to these new departments.

The *management-contract system* used to run many health departments and institutions was a spinoff of the enterprise management-contract system, which it resembled. The goal was to improve hospitals by fortifying management and making employees more enthusiastic about their jobs. Through the contract system, any employee who had administrative skills and could gain the approval of health authorities or managers could win the right to enter into a contract to run the institution. The contract itself set objectives and parameters in terms of incomes, service provision and the quality of care. In large health care institutions the contract was typically between the institution directors and the department or unit chiefs. In smaller institutions it was usually between local health authorities and the institutions.

Today, more than 50 percent of all health care institutions are run on a contract basis.

About 95 percent of the health institutions in Guangdong province and 98 percent in Jilin province are managed through this method. In Ningshan, in Shanxi province, the county health department signed contracts with its 15 township hospitals in 1986; within a year the positive changes were evident in some of these hospitals. The city hospital in Shenzhen, which is close to Hong Kong, began to be managed under contract in 1985. Within three years the number of outpatients had increased by 70.1 percent and that of inpatients by 26.8 percent relative to the corresponding figures in 1984. Moreover, the hospital earned almost 2.7 million yuan in profit in 1988, whereas there had been no profit in 1984.

The "*leadership responsibility system*" was established in the mid-1980s. The goal was to enlarge the decisionmaking powers of health institutions. Through the system, health institution directors became responsible for hiring and firing personnel and for the use of income, within guidelines set at the national level. Likewise, if health authorities or all the employees determined that the director of an institution was unqualified, he or she could be forced to resign. This reform was implemented in nearly all health care institutions.

Joint health services were first tried in Shenyang, the capital of Liaoning province. They relied on the coordinated use of all available health care resources, including hospital beds, manpower, knowhow, medical equipment and funding, no matter at what level or who the "provider" was. Although such arrangements rendered management and the sharing of benefits more difficult, they tended to foster more efficient resource utilization. They were particularly beneficial in promoting cooperation between large urban hospitals and small rural health institutions. The city hospitals could generally furnish more advanced skills and equipment, while the rural institutions, which usually have more empty beds, could help reduce the pressure from the people awaiting care.

For example, Jinxiuchuan Township Hospital in Shandong province established a joint service agreement with a provincial mental hospital in 1985. The two hospitals reorganized and coordinated their services. The township hospital, which employed 24 health personnel, had previously treated only between 20 and 30 outpatients per day and used an average of ten beds. It had been near bankruptcy. By the end of 1986, following the agreement, it was treating an average of 80 outpatients and using an average of 100 beds each day, and the income of the hospital had jumped threefold relative to that in 1984. Another example is offered by Fuwai Hospital in Beijing, one of the most famous cardiology centres in China. Through joint service agreements, the hospital eventually worked together with 50 other hospitals to meet the needs of patients in 21 provinces.

Finally, health institutions created *"home" services*, through which patients, particularly those suffering from chronic ailments, could receive convenient and affordable treatment at home from registered hospital personnel.

2. **Mobilizing New Resources**. To raise more funds for health care, health institutions came to be allowed to carry out *profitmaking activities* related to the health sector, such as the production of drugs or medical equipment, and even unrelated to it, such as the operation of commercial or business enterprises, including stores, hotels and factories. For example, Shuofang Township Hospital, in Wuxi county, Jiangsu province, began to run a factory in 1980. By 1984 the proceeds from the factory had permitted the hospital to purchase medical equipment valued at 100,000 yuan, construct a 3,900-square-metre medical building, a public bathhouse, a kindergarten and a dining hall, and financially support doctors in training programmes. Moreover, relatives of hospital workers were employed in the factory, thus assuring jobs to these people. Such schemes have become common, especially in cities.

Fundraising helped many provinces expand health service resources. For instance, Sichuan province raised over 5.8 million yuan from health institutions at the county level and above for new construction, to finance selected health institutions and to buy medical equipment. Guangzhou, the capital of Guangdong province, solicited donations from Chinese abroad and from foreign organizations to support its services. In some health institutions funds were raised among employees for the purchase of medical equipment; in exchange the employees were offered a share in the profits accruing from the new equipment.

The total health care inputs of private practitioners, international organizations and foreign donations and loans are difficult to gauge accurately (see Table 23, page 31). The health inputs from abroad used by private hospitals and clinics and the numerous but relatively small private health units in rural areas amounted to about 160 million yuan in 1989; they included World Bank loans, donations from UNICEF and the World Health Organization, and bilateral and multilateral funding support.

Health care institutions were offered *tax relief*. For instance, health institutions which opened factories or stores in order to improve their financial situation were exempted from taxes on these activities for the first three to five years. (Private health care practitioners were already exempt from taxes unless they earned enough to pay the income tax.)

Whereas the pricing system had previously been highly centralized and prices had been maintained at a fixed level for a long time, in the early 1980s "better quality but at a

higher price" became a principle of health service financing. On the basis of the assumption that more people could afford to pay more, since average annual personal incomes were rising (see Table 17, page 24), *higher prices* came to be permitted for a whole range of services.

- The **curative care** service fees which had been very low and could not cover nonwage costs were adjusted gradually. Thus, the hospital registration fee was raised from 0.10 yuan to 0.30 yuan.

- Because of cost-sharing and other user payment schemes and cost-control instruments, the charges to the free medical care and "labour protection" medical care schemes for the health services provided to their insurees were twice what patients with no insurance had to pay. These charges were usually in the form of registration fees, hospital-bed fees and checkup fees.

- The fees for some curative services which had been freshly introduced, relied on advanced technologies or new procedures, or were provided in more well-equipped buildings were adjusted to cover nonwage costs. For instance, the fee for a checkup using a CT scanner was set at about 200 yuan. The fees also became higher for treatment by senior doctors.

- The fees for checkups became pegged to actual nonwage costs. As a share of the curative care income of hospitals, they increased the most rapidly, climbing from 7 percent to 12.4 percent between 1980 and 1990 (MOPH 1991a).

- In 1988, since the Government appropriation was insufficient to meet the rapidly mounting costs of these services, cost recovery was also implemented for **preventive care** services and maternal and child health care services, both of which had been furnished free of charge until then. This had an immediate and beneficial impact on the financing of maternal and child health care services and antiepidemic stations. These entities were offered new incentives to raise their incomes and thus support themselves. Moreover, the enthusiasm of health care personnel in these institutions improved, since the newly acquired income was spent on personnel, as well as institutional development and preventive care activities.

IV. THE IMPACT OF THE REFORMS ON HEALTH CARE

"Full-subsidy" and "gap-subsidy" systems had been the main tools of health service financing for three decades (see earlier). Under the full-subsidy system the capital and recurrent costs of antiepidemic stations, maternal and child health care services, drug testing institutions and

some other health entities had been covered by the Government. Under the gap-subsidy system the Government paid all the wage and social welfare costs (approximately 3 percent of wages) for the personnel of hospitals and other curative service institutions. In addition, the Ministry of Finance had a special fund which could be employed for infrastructural development in hospitals. Other outlays had been borne through the provision of medical services remunerated through user charges.

However, in the 1980s health service costs began to rise sharply because of the higher pay of doctors, the need to keep up with advances in medical technology and the mounting demand for care, among other reasons. This cost escalation caused strain at all levels of the health care system. Thus, aside from other financial pressures, the wages of health care personnel had grown from about 60 percent of the Government health budget in the 1970s to more than 70 percent in the 1980s. By 1990, ten years after the tax and expenditure system had begun to be decentralized, Government recurrent expenditure was covering only about 57 percent of these wages (MOPH 1991a).

Particularly because of the rising demand among groups who could pay more for health care, especially city dwellers and wealthier farmers, the financial squeeze encouraged local governments, which now managed expenditure allocations, to shift health resources away from the countryside toward urban areas and from preventive care to curative care. Thus, as the market system took hold and hospitals began to compete for medical equipment, investment in buildings and other capital goods, city hospitals and curative care institutions usually won out. Likewise, the use by health professionals and institutions of the new moneymaking tools offered by the reforms in health policy all too often had unforeseen negative effects on the coverage and utilization of health care services.

Coverage

1. **The Rural-Urban Shift**. During the Cultural Revolution great strides had been made in improving health care in rural areas. Many of those gains were now jeopardized by the shift in focus away from the countryside. Already apparent in the late 1970s (see earlier), this shift in the distribution of health resources toward institutions at the county level or above, which were now usually managed directly by local authorities, benefited cities the most.

According to a nine-province study (MOPH 1986), the per capita Government health budget expenditure in 1984 was 2.26 yuan in rural areas, but 4.29 yuan overall. Moreover,

yet fewer funds came to be allocated to rural level health services. For example, hospitals at the county level or above accounted for 64.8 percent of the Government curative care budget in 1980 but 69.5 percent in 1989, while the corresponding figures for rural health centres were 32.3 percent and 26.8 percent, respectively (Table 25).

Table 25: THE DISTRIBUTION OF GOVERNMENT EXPENDITURE FOR CURATIVE CARE
(In Rounded Percentages, 1980, 1985 And 1989)

	1980	1985	1989
Rural (township) health centres	32.3	27.2	26.8
County hospitals	26.3	22.8	21.3
City health centres	2.9	3.4	3.7
City hospitals	38.5	46.6	48.2
Total	100.0	100.0	100.0
% of total health budget	63.0	60.4	58.4*

Source: MOPH (1991a).
* Data for 1988.

Moreover, anomalies in the Government administrative classification of localities tend to favour an underrating of this "urban shift". If all curative care institutions in rural areas, including county hospitals and rural (township) health centres, are reclassified as "rural" and all institutions in urban areas are reclassified as "urban", then the data would show that the portion of Government recurrent curative care expenditure for "urban" institutions rose between 1980 and 1989 by another 10.5 percent at the expence of "rural" institutions.

The budgets for preventive care and maternal and child health care services revealed trends which were similar to that of curative care budgets. In 1988, 28.5 percent of total Government preventive care expenditure was allocated to county institutions, 10 percent to urban district institutions (county level), 33 percent to city institutions and 28.5 percent to provincial institutions (MOPH 1991e). A five-county survey (MOPH 1989c) found that, while county-level institutions received a very large share of the overall allocation for maternal and child health care services, most of these services were actually being provided by fund-starved health units at the township and village levels (Table 26).

Table 26: THE DISTRIBUTION OF GOVERNMENT MCH EXPENDITURE IN FIVE COUNTIES*
(In Percentages, 1989)

	County Level	Township	Village
Rudong	57.8	38.2	4.0
Anfu	60.2	39.8	--
Tenghai	73.0	27.0	--
Huxian	80.6	19.4	--
Fuyu	86.2	13.8	--

Source: MOPH (1989c).
* MCH = maternal and child health care services.

Moreover, for rural health centres and township hospitals, the Government health budget covered only 40-60 percent of the wages and welfare outlays for personnel, although it should have covered all of these two expenditure items. The corresponding coverage for county hospitals was 60-80 percent and for city hospitals 80-90 percent (MOPH 1991a).

Even in Jiangsu, a very rich province, the share of the provincial health budget allocated between 1980 and 1985 for county-level institutions climbed from 30.2 percent to 35.1 percent (mainly because the economic well-being of most counties in Jiangsu was improving relatively quickly), that for city-level institutions remained steady at 31.2 percent and that for provincial-level institutions (all in cities) rose from 12.7 percent to 13.4 percent (JPHB 1990). The share of health expenditure going to rural (township) health centres dropped from 26 percent to only 20.3 percent.

A survey (IRHD 1991) of 11 medium-size cities reported similar results (Table 27). Moreover, the survey found that health expenditure during the 1980s rose 1.88 times in the three economically more well-off cities, 1.66 times in the six mid-level cities and 1.59 times in the two poor cities.

The distribution of Government expenditure for curative care among counties during the 1980s also became unbalanced and more dependent on the level of economic development (Table 28).

Similar findings emerge for the nationwide distribution of budgetary resources (Table 29). Per capita health expenditures were higher and grew more quickly in the well-off Eastern regional area. Although they were growing more slowly in the poor Western regional area,

Table 27: THE GEOGRAPHIC DISTRIBUTION OF GOVERNMENT HEALTH SPENDING IN 11 CITIES*
(In Percentages, 1980-9)

	City	County	Township
1980	34.9	36.9	28.2
1989	42.5	37.1	20.4

Source: IRHD (1991).
* In China's administrative system, a city can be divided into townships and counties and may include both urban ("city" in the Table) and rural ("township") areas. According to the level of economic development, the cities in the survey were (well-off) Shashi, Suzhou and Wuxi; (mid-level) Luoyang, Kunming, Siping, Tunxi, Wenzhou and Yueyang; (poor) Chaoyang and Machong.

they were still higher there than they were in the mid-level Centre (mainly because the poor regional area had a smaller population and relatively more health care facilities). The difference between the per capita health expenditure in the East and the Centre rose from 0.78 yuan in 1980 to 2.68 yuan in 1987, while that between the East and the West rose from 0.31 yuan to 1.30 yuan. The trend toward a greater allocation of health care resources to developed regions was thus continuing, leading to widening gaps among parts of the country in the development and coverage of health services.

Table 28: THE DISTRIBUTION OF CURATIVE CARE RESOURCES IN 20 COUNTIES
(1988-90)

	Well-off	Mid-level	Poor	Average
Number of counties	7	6	7	--
Population per county (000s)	770	640	490	630
Income per capita (yuan)	1,754	775	375	1,085
A. Income per farmer (yuan)	999	524	319	671
Health workers (per 1,000 population)	1.96	1.90	1.87	1.92
Hospital beds (per 1,000 population)	2.07	1.78	1.44	1.81
Health budget per capita (yuan)	5.12	2.50	1.73	3.41
B. Curative care spending per farmer (yuan)	18.32	11.82	15.09	--
B/A (%)	1.83	2.26	4.73	--

Source: MOPH (1991b).

Table 29: PER CAPITA GOVERNMENT HEALTH EXPENDITURE BY REGIONAL AREA*
(In Yuan And Percentages, 1980-9)

				Average Annual Growth (%)	
	1980	1985	1987	1980-5	1985-7
West	2.75	5.40	5.86	14.5	4.2
Centre	2.28	4.07	4.48	12.3	4.9
East	3.06	6.18	7.16	15.1	10.9
Average	2.57	4.56	5.57	12.2	7.8

Source: MOPH (1991a).
* The figures are rounded. For the purposes of the data breakdowns, China has been divided into three regional areas according to level of economic development: the East (well-off), including eight provinces and regions and 25 percent of the total population; the Centre (mid-level), including 12 provinces and regions and 55 percent of the total population, and the West (poor), including ten provinces and regions and 20 percent of the total population.

Government capital expenditure on health care seems to have exhibited a trend which was similar to that of recurrent expenditure, although the data are very scanty. The evidence seems to suggest that more capital resources were being allocated to city institutions than to rural institutions. A survey of nine provinces (MOPH 1986) found that the distribution of the budget for medical equipment between 1980 and 1985 assigned 68.1 percent to provincial hospitals, 29.4 percent to city hospitals, 1.7 percent to county hospitals and only 0.8 percent to community health centres and neighbourhood health stations.

Finally, according to a 1990 survey (MOPH 1991f), the average proportion of the surface area of the buildings which were unusable or should be demolished in the total area of all health care buildings was only 2.9 percent in the East, 4.5 percent in the Centre and at least 7.4 percent in the West. The differences were even more striking in terms of rural health centres and township hospitals: 5.5 percent in the East, 7.7 percent in the Centre and 18.6 percent in the West. This shows that Government expenditure on new buildings and building maintenance favoured cities and higher level institutions.

The effect of the sum of these changes in the allocation of expenditure was that, as a proportion of all hospitals, city hospitals rose from 9 percent to 23.5 percent between 1980 and 1988, while rural hospitals fell from 91 percent to 76.5 percent (Table 30). The number of maternal and child health care service institutions increased at an average annual rate of

0.86 percent during the decade, somewhat below the 1.1 percent rate for all types of health institutions. Most new sanatoriums, antiepidemic stations and maternal and child health care services were located in cities as well.

Table 30: THE NUMBER OF HEALTH INSTITUTIONS, 1981-9

	1981	1985	1988	1989	Change
Hospitals	65,911	59,614	61,383	61,383	-4,528
Township	55,500	47,387	47,529	--	-7,971
County[a]	2,367	2,276	2,256	--	-111
City[a]	7,458	9,221	10,539	--	+3,081
Other	586	730	1,056	--	+470
Clinics	111,189	126,604	128,422	128,112	+16,923
Sanatoriums	538	640	652	--	+114
Special preventive care units	1,197	1,566	1,727	1,747	+550
Medical research institutes	285	323	332	332	+47
Drug testing institutions	1,182	1,420	1,756	1,854	+672
MCH services[b]	2,630	2,724	2,793	2,796	+166
Antiepidemic stations[c]	3,202	3,410	3,532	3,591	+389
Other	3,992	4,565	5,391	--	--
Total[d]	190,126	200,866	205,988	206,724	+16,598
Private[e,f]	--	24	92	--	+68
Health sector[f]	34,887	37,955	39,385	--	12.9
Collectives[f]	40,168	44,648	44,677	--	11.2
Other (nonhealth sectors)[f]	105,498	118,187	121,477	--	15.1
Village health units	--	777,674	806,497	--	+28,823
Clinics owned by township hospitals	--	29,769	29,845	--	+76
Other	--	29,661	40,984	--	+11,323
Joint-ownership	--	88,803	78,873	--	-9,930
Collective-owned	--	305,537	287,586	--	-17,951
Private	--	323,904	369,209	--	+45,305

Source: MOPH (1989a), (1991g).
[a] For administrative reasons, some "counties" were reclassified as "cities" in 1985.
[b] Maternal and child health care services.
[c] Responsible for the prevention of infectious disease and for sanitary protection.
[d] In MOPH statistics, village health units are not counted in the total.
[e] All were hospitals or clinics.
[f] The figures in the "1981" column refer to 1980, when the "total" was 180,553. The figures in the "change" column represent percentage growth from 1980 to 1988.

Coverage eroded as a result of this mounting maldistribution of health facilities despite the rise in the number of village health units. The proportion of unincorporated villages served by these units fell from more than 90 percent in the 1970s to 87.3 percent in 1988. The ownership of village health units also changed appreciably. Village collectives owned only 35.7 percent of all these units in 1988, while privately owned units jumped to 45.8 percent of the total.

Many rural (township) health centres were forced to close during the decade because of financial difficulties, and the overall number of these centres dropped (Table 31).

Table 31: RURAL (TOWNSHIP) HEALTH CENTRES
(1959-88)

	Centres	Beds	Health Professionals
1959	29,731	30,224	303,769
1965	36,965	132,487	214,427
1972	55,570	493,666	649,071
1975	54,023	320,281	749,912
1978	55,016	747,349	837,852
1980	55,413	775,413	900,400
1981	55,500	763,114	925,354
1983	55,559	746,169	920,435
1984	55,549	731,411	884,516
1985	47,387	720,619	784,070
1986	46,946	711,234	764,220
1987	47,177	722,979	761,269
1988	47,529	726,124	759,964

Source: MOPH (1989a).

2. **The Curative Bias**. The benefits of preventive care had become less obvious since serious infectious diseases had been mostly brought under control during the 1960s and 1970s (see Tables 1 and 2, pages 4-5). Moreover, the cost of preventive care services had been

increasing, although the services were still being provided free of charge. A typical reaction of health care institutions to the financial squeeze therefore was to reduce preventive care and focus on revenue generating activities.

Thus, fewer Government funds were being allocated to preventive care, especially in rural areas. Curative care services represented between 58 and 64 percent of the Government health budget in 1980-8 (Table 32), the highest share being 64.4 percent in 1982, and the lowest being 58.4 percent in 1988. On the other hand, preventive care represented only around 15 percent of the Government health budget. As a share of total health expenditure, preventive care even fell, from 3.5 percent in 1980 to 2.3 percent in 1988.

Table 32: GOVERNMENT HEALTH EXPENDITURE BY TYPE OF CARE
(In Percentages And In Current Yuan, 1980, 1985 And 1988)

	% of Total			Per Capita (yuan)		
Type	1980	1985	1988	1980	1985	1988
Maternal and child health care services	2.3	2.8	3.3	0.07	0.14	0.20
Preventive care	16.1	15.0	15.1	0.46	0.72	0.92
Curative care	63.0	60.4	58.4	1.81	2.90	3.54
Other	18.6	21.8	23.2	--	--	--
Memo item: health budget	Total (yuan, billions)			Per Capita (yuan)		
	2.8	5.0	6.7	2.87	4.81	6.08

Source: MOPH (1991a).

For antiepidemic stations in most regions, the Government budget financed only the costs of personnel, and health expenditure was insufficient to finance all preventive care needs and meet the demand for services. A survey (Nisheng and Zhenqi 1989) conducted in 14 districts in Gansu, Hebei, Hunan and Jilin provinces found that antiepidemic stations would not have been able to survive if they had relied solely on the central Government budget. Only 322,200 yuan remained in the Government recurrent budget in 1987 after the deduction for the expenditure for personnel. Moreover, the Government budget did not even cover all the necessary expenditure for personnel. In other words, the budget expenditures of these antiepidemic stations were being used to support personnel who could do very little,

since almost no money was left for operational and administrative expences, routine activities and the provision of free services.

A study conducted in five counties in 1985-9 (MOPH 1989c) found a similar situation as regards maternal and child health care services. The five county institutions providing these services received only 382,000 yuan from the budget of the central Government, while the expences for personnel alone amounted to 692,000 yuan. Clearly, these institutions could not afford to offer services free of charge.

To solve this financial problem, the Government in the second half of the 1980s began allowing and even encouraging preventive care and maternal and child health care services to require fees for some activities. The Government used the revenue to support those preventive care services which were still offered free of charge. However, the implementation of this cross-subsidy varied from institution to institution and from province to province. Moreover, while these fees became a major source of income for antiepidemic stations and maternal and child health care services, they did not contribute much to the already dismal financial situation of health care institutions in nonindustrialized or poor rural areas, where people had less money to spend on preventive care.

Similarly, the introduction of a "fee-for-service" policy for antiepidemic stations and maternal and child health care services encouraged personnel to dedicate more attention to those activities which generated revenue and ignore those, such as some very effective preventive care measures, which did not. In some places preventive care and maternal and child care clinics were opened mainly to earn income.

For instance, in Liuyan district, Hunan province, in 1988 the morbidity rates for tuberculosis and endemic diseases were 0.6 percent and 0.7 percent per 100,000 population, respectively, but the local antiepidemic station spent 3.5 times more workhours on the prevention of tuberculosis, clearly because there was a fee for the antituberculosis treatment but none for the preventive care for the endemic diseases (Nisheng and Zhenqi 1989).

This situation obviously had a serious effect on the quality and the quantity of the services which could be provided. Moreover, many users were unwilling to pay for preventive care and maternal and child health care services, which they thought the Government should finance.

3. **Health Insurance Coverage**. Together, free medical care and "labour protection" medical care remained the most significant sources of health financing (see Table 23, page

31). Per capita contributions and expenditure on these health insurance schemes rose in absolute terms. The free medical care scheme covered about 26.5 million employees in 1989, when it represented a per capita expenditure of 145.2 yuan. The average annual growth rate of overall free medical care expenditure was 21.3 percent in 1980-9, while that of the per capita expenditure was 14.7 percent. In 1985-9 the figures were 25.3 percent and 17.7 percent, respectively, both of which exceeded the 13.1-percent rate for Government expenditure. (All these data are in current price terms.)

"Labour protection" medical care, including that provided through state-owned and collective-owned enterprises, covered about 130.6 million workers. The per capita expenditure climbed from 47.9 yuan in 1981 to 94.3 yuan in 1988. Since collective-owned enterprises are usually smaller and somewhat poorer than state-owned enterprises, the per capita expenditure was much lower among them. For state-owned enterprises, the per capita expenditure, including that on retirees but excluding their dependants, was 160.5 yuan in 1989, a little higher than the corresponding figure for free medical care.

There were several reasons for the rise in the expenditure on free medical care and "labour protection" medical care. First, the number of insurees covered by free medical care jumped by 67.6 percent in 1980-9, and the number of insurees covered by "labour protection" medical care in state-owned enterprises climbed by 28.2 percent. Second, the share of over-60-year-olds in the population advanced from 7.6 percent to 8.9 percent between 1982 and 1989. Third, the prices of medicines and other health care products were surging. Fourth, more medical equipment was being purchased in order to keep up with technological innovation, and medical services were being expanded. Finally, poor management, including the overprescription of drugs, the all too frequent resort to checkups and the excesses due to a desire for profits, frequently raised costs.

The cooperative medical care scheme underwent significant transformations in the 1980s. Although the rural household management-contract system introduced during the period revitalized agricultural production, it severely disrupted the rural health care system. Through the reform policy, all farmland was leased under contract to individuals. This undermined the collectives. Since cooperative medical care services, including those offered by village health units, were financed in part through a public welfare fund supported by rural collective enterprises (and in part through the contributions of insurees), the erosion of the finances of the collectives had a direct effect on the medical care scheme. Moreover, because the scheme represented a very limited form of health insurance, the farmers who had

succeeded in doing well under the management-contract system became less interested in contributing to it. Finally, policymakers in the early 1980s tended to feel that all initiatives undertaken during the previous decade of upheaval were misguided or represented ultraleftist solutions and therefore should be discarded. They failed to adopt measures or policy approaches in keeping with the changed situation in rural areas.

Thus, cooperative medical care faced serious financing and management difficulties. Within a very short time, it had broken down almost completely. According to two recent studies (MOPH 1986, Zihua Lin et al. 1990), the scheme was covering less than 10 percent of the total rural population; in 1980 it had covered more than 60 percent.

The cooperative medical care scheme is still relatively active in some areas, including Zhaoyuan county in Shandong province and some counties in Jiangsu province and the municipality of Shanghai where the collective economy is fairly strong. Although no official statistics are available, approximately 15-16 yuan were probably being spent per person through the scheme as of 1988. The insuree contributions were then in the range of 2-10 yuan per person, the rest of the expenditure being borne through collective welfare funds and the incomes of collective-owned enterprises.

In the late 1980s the pendulum swung back again. With the development of the rural economy, the Government began implementing in the countryside the "Health for All by the Year 2000" Programme of the World Health Organization. In the process, it invited rural collectives and farmers to establish or support cooperative medical care once more. Thus, the coverage of the scheme started to rise, reaching 10 to 50 percent of the rural population in some areas. As in the early years of the scheme, coverage was related to the level of economic development (Table 33).

Utilization

Like the allocation of health care resources in the middle and late 1980s, the utilization of health care services came to diverge markedly between urban and rural areas and between wealthier and poorer regional areas. A number of surveys, as well as other data sources, graphically describe this situation.

First, people obviously could not use services which were unavailable or had become unsatisfactory. A survey in nine provinces in 1985 (MOPH 1986) examined the accessibility to health services. More than 96 percent of the populations were within three kilometres of

Table 33: HEALTH INSURANCE COVERAGE IN 20 COUNTIES*
(In Percentages, 1988-90)

County Economic Level	No Insurance	CMC	FMC/LPMC	Other
Well-off	41.9	51.1	2.8	4.1
Mid-level	63.9	33.1	1.2	1.8
Developing	87.7	10.2	1.5	0.5
Average	66.1	30.3	1.8	1.8

Source: MOPH (1991b).
* The figures have been rounded. Of the 20 counties in the study, five were relatively well-off economically, while the coverage rate of the cooperative medical care (CMC) scheme was high in the other 15. The average coverage of CMC throughout China was certainly below 30 percent. FMC = free medical care; LPMC = "labour protection" medical care.

a health service facility in three Eastern provinces, while the figure was about 90 percent in three Central provinces and only about 80 percent in three Western provinces (Table 34).

Second, there is evidence that a very high percentage of the people in rural areas relied on health institutions below the county level, the same institutions which were losing out in the distribution of health care resources (Table 35).

Table 34: DISTANCE FROM HEALTH SERVICES IN THREE REGIONAL AREAS
(In Percentages Of The Area Population, 1985)

	0-1 km	1-2 km	2-3 km	3-4 km	4-5 km	+5 km
East*						
Heilongjiang (500-799)	66.5	21.7	7.7	1.7	0.6	1.8
Jiangsu (500-799)	81.5	13.6	2.9	0.6	1.2	0.3
Guangdong (350-499)	66.0	24.7	6.6	0.5	1.6	0.7
Centre*						
Shanxi (350-499)	82.9	7.5	5.7	1.0	0.5	2.4
Jilin (350-499)	54.1	23.4	8.9	2.9	3.6	7.2
Anhui (0-349)	61.1	23.6	8.9	2.6	1.5	2.4
West*						
Inner Mongolia (350-499)	46.2	17.7	6.2	4.9	5.6	19.5
Shaanxi (0-349)	63.7	14.7	8.6	1.9	1.4	10.0
Yunnan (0-349)	57.5	11.3	8.6	2.8	3.3	17.3

Sources: MOPH (1986), EDPH (1988).
* The figures in parentheses show average annual per capita income in yuan in 1982.

Table 35: THE HEALTH FACILITIES VISITED BY RURAL RESIDENTS
(In Percentages, 1985 And 1988)

	1985		1988	
	Outpatient	Inpatient	Outpatient	Inpatient
Village health unit	37.8	2.5	28.2	0.7
Rural (township) health centre	38.2	49.6	33.8	37.1
County hospital	11.7	34.2	23.7	47.1
Higher level hospital	2.2	13.6	5.3	15.1
Total*	89.9	99.9	91.0	100.0

Source: SBTCM (1989).
* The columns are not all-inclusive.

Third, another important factor in the patterns registered in the utilization of the health care system during the 1980s was the growing user charges. Because Government health expenditure was dropping and since much of the climb in total health expenditure could be attributed to the higher prices of medicines, other medical products and equipment (Table 36), the sale of medicines became an important source of health care financing.

Unlike hospitals in most Western countries, every hospital in China contains a pharmacy. Because of this system, Chinese hospitals were able to buy medicines wholesale, sell them retail and add a dispensary fee or commission to the price. Fixed by the Government, the commission was usually around 15 percent of the wholesale price.

According to a survey (MOPH 1990c) of data on 40 mid-size and large hospitals, pharmacy income represented 56.7 percent of total hospital nonbudgetary income during the decade. Data from hospitals nationwide (MOPH 1991a) show the figure at approximately 60

Table 36: PRICE INDEX OF MEDICINES AND OTHER MEDICAL PRODUCTS
(1955-89)

	1955	1965	1976	1980	1985	1989
Index (1980 = 100)	179.4	151.9	97.6	100.0	114.8	185.3

Source: SSB (1991).

percent, with the average among smaller hospitals somewhat higher. Rural (township) health centres in particular came to rely on this type of income.

Service fees also rose appreciably during the decade. For instance, the average outpatient charge grew from 1.70 yuan per visit in 1980 to 3.85 yuan in 1985 and 7.51 yuan in 1990, while the average inpatient charge soared from only 3.50 yuan per day in 1980 to 7.72 yuan in 1985 and 27 yuan in 1990 (MOPH 1991a). This was a substantial increase in terms of both current and constant prices. The fees for curative care came to represent on average about 30 percent of total hospital income, and were thus the second most important source of hospital financing after pharmacy revenue, although a service price index reveals that the fees for many other kinds of services were higher than those for curative care services (SPB 1990).

Meanwhile, the rising prices opened the way for abuses. Health professionals frequently padded income (but wasted medicines and other resources) by prescribing more expensive medicines and relying on checkups even when they were not necessary. They sacrificed the quality of the services they provided and cut into the time available for training and research for the opportunity to collect more money by treating more patients. Likewise, hospitals all too often rushed to buy new and expensive equipment (more than 50 CAT scanners were purchased by hospitals during this period) solely in view of the possibility to charge the corresponding higher fees.

These abuses added to the growing costs of health care. Thus, for example, that many doctors were only too willing to prescribe the most expensive medicines to insurees was one major reason insurance costs shot up during the decade.

Moreover, the higher user charges were insufficient to meet the mounting costs of health care institutions. For instance, according to surveys in some provinces (MOPH 1989d), the new registration fees only covered about one-third of the relevant costs. Similarly, the income from hospital bed fees and surgical operation fees was about one-third of the costs.

Therefore, in the late 1980s, while another price reform was still under discussion, first some localities and then some provinces began a fresh round of service price increases. Eventually, fees were raised in almost all provinces, although still not enough to offset actual costs. This caused hospitals to seek more Government subsidies rather than try to reduce costs and increase efficiency.

The rising prices of medicines and the higher health service fees obviously represented heavier burdens on users. For example, according to a survey of 103 hospitals at the county

level or above in six provinces and one municipality in Eastern China in 1989 (ECHEA 1990), central Government budgets were covering only about 14-18 percent of total hospital costs. National-level data (MOPH 1991a) show that the proportion of central Government hospital expenditure to total hospital incomes fell from 28.6 percent in 1980 and 21.7 percent in 1985 to 11.8 percent in 1989. This meant that close to 90 percent of hospital costs were being passed on to users.

It is revealing that user payments as a share of total health expenditure rose in money terms at an annual rate of 15.3 percent during the 1980s, the highest rate among all major sources of financing (see Table 23, page 31). The rural-urban shift was also evident here. Urban user payments accounted for only 22.1 percent of total user payments in 1980, while rural user payments represented 77.9 percent. By 1989 the urban share had risen to 58.6 percent, and the rural share had dropped to only 41.4 percent. Given the importance of user payments in health service financing, this seems to confirm that service coverage had been impaired in rural areas, but also that service utilization among rural users was shrinking.

Indeed, compared to the average rural resident, the typical city dweller had a higher income and was much more likely to be covered by an insurance scheme and have access to good and conveniently located health facilities. Thus, urban residents used health services much more often than did their rural counterparts (Table 37).

That the relatively tighter financial resources of rural residents limited their access to health services is confirmed by nationwide data (MOPH 1989e) which show that more than 90 percent of the beds in city hospitals were occupied in 1988, compared to about 80 percent of those in county hospitals and 44 percent of those in township hospitals. Hospital deliveries

Table 37: THE USE OF CURATIVE CARE SERVICES IN URBAN AND RURAL AREAS*
(Per 1,000 Population, 1985)

	Urban	Rural	Urban/Rural (%)
Visits/two-week period	147	97	1.5
Hospital admissions/year	51	32	1.6
Length of stay (days)/year	1,340	477	2.8
Length of stay (days) per person/year	1.3	0.5	2.6

Source: MOPH (1986).
* The data refer to patients in health insurance schemes.

accounted for 75.6 percent of all births in cities, compared to only 44.3 percent in rural areas.

The rising user charges must bear much of the blame for this situation. Although the charges were higher in urban areas, rural users had to pay more relative to their incomes. Thus, average medical expences represented about 1.1 percent of the incomes of urban residents, but 2.7 percent of farm incomes in 1987 (SSB 1988). In Jiangsu province in 1986, the average outpatient fee in urban centres was 5.49 yuan, or about 0.5 percent of the corresponding average yearly income, while in rural areas it was 3.60 yuan, or about 0.6 percent of the average annual farm income (JPHB 1990, SSB 1987). The inpatient fee in cities was 12.04 yuan, or about 1.2 percent of the corresponding average annual income, while in rural areas it was 9.84 yuan, or about 1.8 percent of the average yearly farm income.

Moreover, although the weakened rural health system had resulted in shrinking preventive health care services and higher prices for curative care in rural areas, at least 66 percent (the figure was probably closer to 80 percent) of the rural population had no insurance coverage and were therefore paying out-of-pocket for curative care in the late 1980s (see Table 33, page 49).

Nationwide, health services treated 6 million more outpatients and 28.9 million more inpatients in 1990 than they had in 1980 (MOPH 1980, 1990b). The ratio of those who should have sought outpatient care but did not do so to those who did seek it fell from 22.9 percent to 19.7 percent between 1985 and 1988 (MOPH 1986, SBTCM 1989). The corresponding ratio for inpatient care dropped from 23.7 percent to 21 percent during the same period. Among all those who had not sought outpatient care despite a need, the percentage of those who cited economic difficulty as the reason declined from 18 percent to 11.3 percent, while the corresponding ratio for inpatient care decreased from 55.9 percent to 53.3 percent.

There were thus improvements. Nonetheless, the situation varied in rural and urban areas. A survey carried out by the Ministry of Public Health (1991b) found that in 1987-8, for economic reasons, 35.6 percent of a sample group of 749 rural residents did not seek the care of a doctor when they suffered from illness or ailments; the corresponding figure for the nonfarm rural residents in the sample was only about 5 percent. The study also found that, among a sample group of 303 rural residents who had not sought hospital treatment when it had been needed, 60.7 percent had not done so for economic reasons. In urban areas the shortage of hospital beds, rather than affordability, was the main reason by far that people were unable to benefit from hospital care.

A survey in nine provinces in 1985 (MOPH 1986) found that, among urban residents

who had not used a curative care service despite a need, 0.7 percent of the cases were due to economic difficulty, while the corresponding figure among rural residents was 4.1 percent. Health service costs relative to per capita income also differed sharply among the poorer and richer counties (Table 38).

Table 38: HEALTH SERVICE COSTS RELATIVE TO INCOME IN 20 COUNTIES
(In Yuan, 1987)

Counties	A. Per Capita Health Service Costs	B. Per Capita Income	A/B (%)
Well-off	18.32	999	1.8
Mid-level	11.82	504	2.4
Poor	15.09	317	4.8

Source: MOPH (1991b).

Health Status

The economic and fiscal reforms of the last decade are generally believed to have had more positive effects than negative ones. They brought about a rapid development of the national economy, improvements in living conditions and, especially during the early and mid-1980s, a very rapid decline in poverty. An expectation that progress would be recorded in the health status of the population relative to the 1970s would be justified based on these trends.

On the other hand, imbalances generated by the reforms in terms of both potential accessibility and effective utilization of health services became wider relative to the situation in the 1970s. While no systematic statistical information is available to gauge it precisely, these imbalances likely had an impact on the health status of the population.

Whether the overall health status of the population and, particularly, the health status of poor rural residents improved during this period is therefore an issue which remains broadly unresolved and which constitutes the subject of heated debate.

In a famous and controversial article, Sen (1989) points to the rise in the overall death rate between 1978 and 1983 and to the slow decline thereafter, despite the rapid growth in agricultural and industrial output (Table 39). While recognizing the reliability problems affecting the Chinese data on crude death rates and the low level of these rates compared to

those in other developing nations, Sen suggests that the weakening of the communal health care system and the introduction of the "one-child family" policy might have contributed to this phenomenon.

This view has been questioned recently by Nolan and Sender (1992), who attribute the rise in the "official" crude death rate in 1983 to a peaking of the "one-child" campaign (which was far more intense in the countryside). They cite Banister (1987), a leading expert on the demography of China, in suggesting that the "true" crude death rates rose from about 7.5 to 8 per 1,000 population between 1978 and 1984, mainly as a result of an estimated increase in female infant mortality rates from 36 to 67 per 1,000 live births over the same period due to the "one-child" campaign. Nolan and Sender, also mention registration problems and the rapid aging of the population as possible additional causes of the apparent increase in death rates. Furthermore, in their views the data on crude death rates reveal neither a clear rising trend during the reform period, nor any differential performance in the reduction of crude death rates among provinces at varying levels of development.

Table 39: CRUDE DEATH RATES
(Per 1,000 Population)

	All China	Rural
1949	20.0	--
1957	10.8	11.1
1965	9.5	10.1
1973	7.0	7.3
1978	6.3	6.4
1979	6.2	6.4
1980	6.3	6.5
1981	6.4	6.5
1982	6.6	7.0
1983	6.9	7.7
1984	6.8	6.7
1985	6.8	6.7
1986	6.9	6.7
1987	6.9	--
1988	6.6	--
1989	6.5	6.8
1990	6.7	7.0
1991	6.7	7.1

Source: SSB (1990) and (1992)

The data presented in this paper are inconclusive as to changes in the health status of the population of China or, more particularly, of people in poor rural areas affected by the decline in coverage of commune-based health services. The data (see Table 16, page 22) suggest that there was a modest increase in infant mortality rates in cities and an overall stagnation in counties (here used as a proxy for rural areas). This is somewhat "counter-intuitive", given the more rapid rise in incomes and the greater insurance coverage among urban residents. Indeed, the comparability and reliability of these data are doubtful, since the representativeness, coverage, type and size of the samples vary widely over time.

Other data in this paper (see Table 1, page 4) suggest that, because of the recent neglect of preventive care, morbidity rates rose for some infectious diseases, such as typhoid

fever and hepatitis. This was particularly true in rural areas and poorer regions. Moreover, with the aging of the population and advances in standards of living, chronic diseases are becoming a major cause of health problems in urban areas, as indicated by the increase in the incidence of malignant cancer, cerebrovascular disease. Industrial pollution now represents a serious danger for public health.

Differential changes in health status in 1982-7 can be measured on the basis of selected health indicators (Table 40). The progress was generally more rapid (or at least not less so) in cities than it was in rural areas. However, the richest and poorest rural areas showed the greatest gains in life expectancy and infant mortality rates, possibly because of the more brisk growth in farm incomes in the former and the higher Government health expenditure per capita in the latter. On the other hand, in the case of the incidence of tuberculosis (an illness which is more typical among the poor), the poorest rural areas registered the worst rates.

That the health care system either added to, or did not eliminate, the previously existing differentials in health status is also indicated by the persistence of huge variations. For instance, in 1988 the mortality rate among 1-to-4-year-olds was 0.6 per 1,000 in large cities, 1.8 in small and mid-size cities, 2.3 in more well-off rural areas and 5.6 in poor rural areas (MOPH 1989a). Likewise, in 1989 the mortality rate among pregnant and lying-in women in urban areas was, respectively, 49.9 and 114.9 per 100,000 births in rural areas, or about 2.3 times the rate in urban areas (MOPH 1991c).

Thus, the lack of sufficient or comparable data, the probably insurmountable statistical problems and the interference of other variables such as the impact of the one-child family policy, the aging of the population and the rapid epidemiological transition, which has altered incidence and case-fatality rates linked to various diseases, create difficulties for the analyst and cry out for further research and fieldwork (and the investment of more study and survey resources and manpower) in accurate health policy impact assessment.

Nonetheless, even the **apparent** stagnation in the infant mortality rate and the crude death rate, as well as the less than acceptable performance of poor rural areas which have not been the target of special Government interventions, ought to be cause for serious concern. This is particularly true because of the slow growth of the overall Government health expenditure and of the growing inequality affecting the allocation of this expenditure between urban and rural areas and among regions and types of care. It is true also because of the unexpectedly negative results of the de facto privatization of the cooperative medical care system in several parts of rural China and the spiralling costs of health care services.

Table 40: CHANGES IN SELECTED HEALTH STATUS INDICATORS*
(1982 And 1987)

	1982	1987	% Change
	Infant Mortality Rate (per 1,000 live births)		
Nation	34.7	--	--
Cities	21.5	20.0	7.0
Rural	50.1	46.5	7.2
I	36.1	29.9	17.2
II	41.0	38.8	5.4
III	55.7	52.1	6.5
IV	124.9	96.2	23.0
	Life Expectancy at Birth (years)		
Nation	67.9	--	--
Cities	70.4	71.5	1.6
Rural	65.9	66.6	1.1
I	68.1	69.4	1.9
II	67.4	68.2	1.2
III	64.0	65.0	1.6
IV	57.9	59.0	1.9
	Morbidity Specific to Tuberculosis (per 100,000 population)		
Cities	533.8	419.1	21.5
Rural	789.3	693.7	12.1
I	559.2	485.5	13.2
II	632.6	539.7	14.7
III	968.3	825.4	14.8
IV	1,093.2	1,082.7	1.0

Source: Keqin Rao et al. (1989).
* Rural areas have been classified into four groups according to the level of development of the economy and social services in 1987. I = more well-off areas; about 21.9 percent of all rural counties. II = slightly less well-off areas; about 31.9 percent of all counties. III = more well-off poor areas; about 36.3 percent of all counties. IV = very poor areas; about 9.9 percent of all counties.

V. LESSONS OF THE PAST, GOALS FOR THE FUTURE

While the achievements of the 1980s were striking, the economic and fiscal reforms created new and serious problems. Thus, in practice, revenue-sharing eroded the macroeconomic management function of the Government. By retaining as much revenue as possible, local governments could finance the projects they preferred, which, however, might be undesirable in terms of national needs and priorities.

Moreover, the reforms caused the economy to overheat considerably, and in the second half of the 1980s development reached a plateau. As economic growth slowed, the contradictions gradually became more apparent between the centralized planning system, which had been relied on for decades and was still strong, and the reform policies, including the market system, which was expanding.

Although expenditure needs continued to rise, the financial burden on all levels of government was fast becoming unbearable. Nearly unknown previously in postrevolutionary China, inflation accelerated; the rate of increase of the consumer price index hit 18.5 percent by 1988. Likewise, a steady drop in the ratio of Government revenue to GNP from about 31 percent in 1978 to around 19 percent in 1988 generated growing budget deficits, which during the decade were registered every year except 1985 (see Table 10, page 13).

The Government was therefore compelled to introduce corrections to the reforms. It eventually devised "adjustment and rectification" policies to cool the overheated economy and reduce macroeconomic imbalances. However, these policies involved cuts in the subsidies to the poorer regions, leading to even more imbalances in economic and social development, especially in the area of public services, including health care.

While the health policy reforms of the last decade created incentives for health care institutions and personnel to strengthen management and generate more resources, they also led to new difficulties. Government authorities failed adequately to adjust health policy to meet the danger, and the rural health care system began to erode as barefoot doctors became private practitioners; village health units were sold and transformed into private clinics, and the cooperative medical care scheme shrank because the financial support of rural collectives was drying up.

The situation in the health care system in China in the 1980s was paradoxical. Prices were raised to generate revenue for health care, but the new prices made health care more burdensome, especially for the people in rural areas and poorer regions, and health status

suffered. Village doctors in poor areas often could no longer provide health care full time because they had to farm to earn a living. Some poor remote areas still did not have regular health care services at all. While health authorities and local governments were aware of this situation, they could not do much because of the lack of adequate financing.

This uneven record was at least partly due to the fact that the reforms were launched without careful consideration of the nature of health care services. Should these services be financed by Government as "public goods"? Should they be financed by users? Or should the financing arrangement include both elements? If the answer to the last question is "yes", then what portion of the financing should be furnished by government and what portion by users? The lack of clear responses to these questions became a barrier not only in financing, but also in planning and pricing policy.

While health care has become recognized as a basic right elsewhere in the world, government leaders at all levels in China must still be convinced that health services are an investment not only in the lives of individuals, but also in the development of human capital.

The steps to reach this objective should be taken slowly, in line with improvements in the economic environment and public revenue. The primary goal should be "Health for All by the Year 2000".

By the year 2000, a health care service network should be established that is able to meet the health care needs of all the people. The management of health institutions should be strengthened so that service quality and coverage are guaranteed. The Government must enhance its supervisory and regulatory role to ensure that coverage is balanced throughout the population. Wherever it is needed, technical assistance should be made available, and adequate numbers of health care personnel should be trained.

During the 1990s, life expectancy at birth should be raised to 66-70 years for males and 73-4 for females. The infant mortality rate should be reduced to 30 per 1,000 live births. The mortality rate among 1-to-4-year-olds should be reduced to 1.8 per 1,000. By 1995, the mortality rate among pregnant women should be reduced by 20 percent relative to the level in 1990; by the year 2,000, it should be reduced by 15-20 percent relative to the level in 1995.

More public resources must be allocated to rural health care services and preventive care, including antiepidemic stations and maternal and child health care services. Ninety-five percent of all villages should have health care units, with at least one qualified doctor in each unit. The establishment of collective-owned health service institutions should be encouraged and supported. Ninety percent of all townships and counties should have sufficient health

service institutions and qualified health care personnel to provide primary health care and reestablish the three-tier health care network in rural areas.

The three health insurance schemes, free medical care, "labour protection" medical care and cooperative medical care, should be reformed. The cooperative medical care scheme should cover 50 percent of the population by 1995 and 70 percent by the year 2000.

The morbidity due to infectious disease should be reduced. Endemic diseases should be brought under control, and preventive measures instituted. The immunization programme should be continued. The target should be 85 percent coverage at the township level.

The use of the new birth-delivery procedure should be fostered. Adequate supplies of clean drinking water should be available to 85 percent of the population by the year 2000. Health inspection should be reinforced.

In broad terms, more funds should be mobilized for health care services. The yearly decline in the growth rate of Government health budgets in the last decade must be reversed. All health care institutions should be encouraged to explore new sources of financing, while the Government fosters the participation of other sectors in the health sector and seeks assistance from Chinese living abroad and the United Nations. Health policies should be refined, and they should be adjusted to favour service development. Private practitioners should also be encouraged.

During the 1990s the Government must take more responsibility for the financial well-being of health services. Health services should be viewed as a public good and financed accordingly. The fee system should be rationalized. Service fees should be seen as a subsidiary source of funding and as a tool to increase efficiency in provision and utilization. Fees could be required for curative care services, but they should be fixed according to costs, particularly the fees for labour-intensive services. Fees could also be charged for some nonbasic preventive care services, but in this case the Government and local authorities should offer some subsidies. Most of those preventive care services which are or should be accessible to all the people should be free of charge, with the central Government and local authorities and enterprises bearing much of the cost.

Resource distribution should guarantee that more focus is placed on rural services and preventive care, including antiepidemic stations and maternal and child health care. Special funds should be created to assist poor rural areas reestablish cooperative medical care and health services at the village, township and county levels. City health facilities must be

persuaded to help rural areas. Health budgets should assure that basic preventive care is available to everyone.

The reform of the health sector must continue, and the efficiency of health resource utilization must be raised. The current decentralized health services management-contract system has led to very serious wastage of health resources. Moreover, the Ministry of Public Health, the State Bureau for Traditional Chinese Medicine, the State Family Planning Commission, the Medicine Administration Bureau and all the health administration entities at each level of local government run services and manage institutions which overlap in function. This complicates policymaking and the routine operations of the health care system. On the other hand, the health care institutions in other sectors, such as industry, are not sufficiently employed. The utilization of these service facilities is much lower than that of institutions within the health sector. If the management of all these administrative entities and service facilities could be rationalized, the health care network would be much more efficient and cost-effective. Reform is neverending.

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