

# HEALTH CARE IN CHINA



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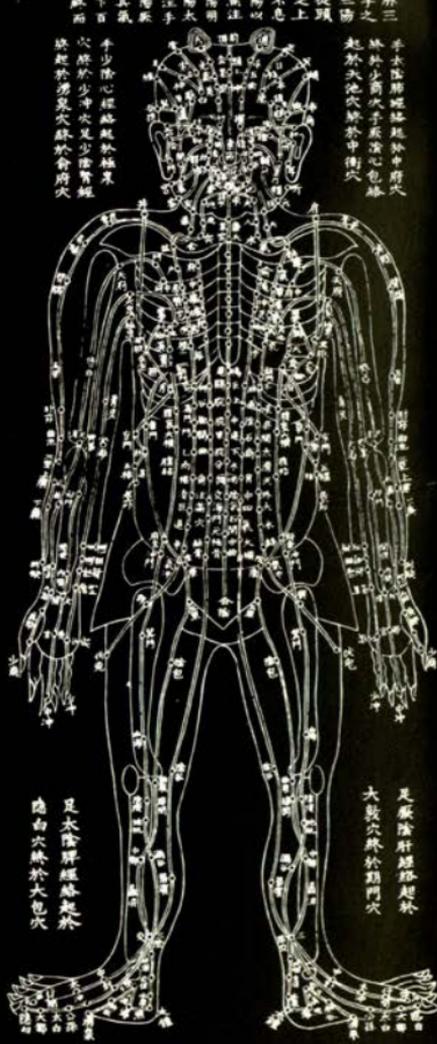
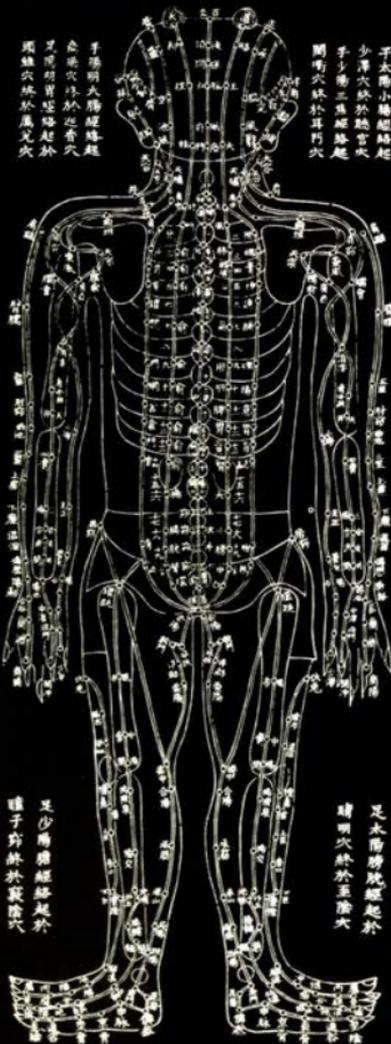
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# HEALTH CARE IN CHINA

by

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Front cover: The Imperial Dragon of China, as depicted on the porcelain made in the Royal Palace, AD 1426.

Back cover: The lines of the meridians on which the practice of acupuncture is based.

Illustrations from Mary Evans Picture Library.

## OFFICE OF HEALTH ECONOMICS

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## CONTENTS

Foreword	4
Acknowledgements	5
A Brief Review	6
Type of Medicine	6
Present Structure of Health Care	9
Provision of Health Care	10
Health Expenditure	20
Health Care Facilities and Manpower	28
Population and Health Status	34
Discussion of Issues	40
Conclusion	43
References	44

## FOREWORD

In this report our visiting scholar, Yinong Shao, has produced a fascinating picture of the health services in China in 1988. It is particularly remarkable because even a few years ago the wealth of statistics which it contains could not have been published. First and foremost Shao's Report is an indication of the new enlightened approach by the Chinese in allowing international discussion of their internal affairs.

The Chinese situation which the Report describes is impressive by any standards. Spending only half the proportion of national wealth on health care of that in Britain – and less than a third of that in some other Western countries – they appear to have achieved a standard of health which bears comparison to that of these richer countries. Life expectancy in China is close to that of European countries, and the dramatic reduction in infant mortality in recent years suggests that on that measure also they will soon be able to match the standards of the Western World.

Much of this appears to have been achieved by a successful concentration on public health and preventive medicine, which may perhaps only be possible within a highly disciplined and closely knit local community. The reduction in the birth rate and the apparently virtual elimination of sexually transmitted diseases suggest that it has been possible to set standards of social behaviour in China which have not been possible particularly in other less developed countries. No doubt this stems from the long cultural traditions of the Chinese people. It must be remembered that China has one of the oldest civilisations in the world, with a very long and distinguished scientific tradition.

The other aspect of Chinese health care which the report emphasises is its variability. Many villages still rely on privately financed health care, rather than a collective approach. There are also huge contrasts between the urban and rural levels of provision. And interestingly, even where health insurance is being introduced to extend health care in the rural areas, high levels of co-payment by the patients are still expected.

Thus China appears to be putting into practice principles which are often still debated in Western countries. They do not have the uniform and centralised systems of provision for health care which might have been expected of them. They have chosen instead a largely decentralised approach, with a very strong emphasis on individual and community participation, especially with reference to population control.

One illustration of community involvement seems to be the low ratio of nurses to doctors. In the West, doctors are substantially outnumbered by nurses. In China the reverse is true. This may be because the families and friends of the patients in China accept more of the responsibility for the care of the sick.

Undoubtedly, this Report has important lessons for its Western readers. It is not simply, for example, the co-existence of traditional Chinese medicine and Western methods of treatment, each having

their appropriate role. It is more the fact that a 'collectivist' country such as China seems to have a surprisingly 'free enterprise' approach to medical care. Hopefully such lessons will broaden the vision of those whose task it is to plan the future of medical care in Europe and the West.

George Teeling Smith

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Yinong Shao

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## A BRIEF REVIEW

It is well known that China was called 'the sick man of Asia' in the old days. That was not only because of its political and economic weakness, but also because of its bad health condition. According to some scattered data, there was no medical service in the countryside; there was only a sprinkling of traditional type doctors, and virtually no modern type doctors in the vast hinterland (1), and almost every known form of nutritional and infectious disease could be found all over the country. Although precise information is not available, certain estimates, however, did give some ideas. Before the year of 1949, the crude death rate was 25 per 1,000 population annually, more than double the rate of the technologically developed countries at that time. The infant mortality rate was about 200 deaths in the first year of life per 1,000 live births, in other words, one baby in five died during its first year (2); and the life expectancy was 35 years (3).

A series of changes have taken place since the founding of the People's Republic of China (October 1949). As early as 1950, the Chinese Government formulated a firm policy about health work which included four elements (3):

- 1) Serving the people (mainly for workers, peasants and soldiers);
- 2) Putting prevention first;
- 3) Integrating traditional Chinese medicine with Western medicine;
- 4) Advocating health work with mass movements.

For implementing such basic guidelines, Chinese people made great efforts and gradually found a way which was successful to meet the needs of primary medical care. During the 1950s and early 1960s the fundamental health care organizations, such as the three-tier health care network and the present health care schemes, were set up. Sanitation was improved and pests such as flies and mosquitoes were largely wiped out, opium addiction was brought to an end and venereal diseases were essentially eliminated (2).<sup>1</sup> But the 10 years of 'cultural revolution' (1966–1976) brought health work to a standstill. After that period, China's political and economic situation began to improve. Today life expectancy and infant mortality levels in China rival those of the developed world, and the leading causes of death are heart disease, cancer and stroke (4).

## TYPE OF MEDICINE

Two types of medicine co-exist in China at present; traditional Chinese medicine and Western medicine.

Traditional Chinese medicine has a history of several thousand years. Its theoretical basis was laid as early as the Qin and Han Dynasties (about 221 BC to AD 220). It made valuable contributions to the lives and procreation of the Chinese people. Through the centuries,

<sup>1</sup>As one of the side effects of the open-door policy to the outside world, some venereal diseases re-appeared in China and clinics for venereal disease have been restored recently in a few big cities.

Chinese ancestors kept up-to-date summaries of the experiences of struggling against diseases and set up the theoretic system of Chinese medicine step by step. For instance, acupuncture and moxibustion<sup>2</sup> are both based on a complex theory of meridians running over the surface of the body. At the same time, Chinese medicine formed its unique characteristics and considerable advantages. It became an important means for man to prevent and treat disease. People in China have faith in it and its peculiar curative effect and scientific values have been acknowledged by medical circles all over the world. The major focus of traditional Chinese medicine incorporates both diagnosis and therapy. Diagnostic methods include observation and questioning of the patient, detailed and prolonged palpation of the pulse. Therapy makes use of acupuncture, massage, moxibustion, deep breathing exercises (in Chinese we call it qigong), herbal medicine and so on.

The inheritance and development of traditional Chinese medicine have not been continually recognised. Before 1949 traditional Chinese medicine was nearly discarded (5). After liberation (1st October 1949) traditional Chinese medicine was put in an important position, especially during the 1950s when the number of doctors and institutions of Chinese medicine grew rapidly. But during the 'cultural revolution' (1966-1976), some radicals regarded traditional Chinese medicine as based on superstition, so it was neglected again. However, since 1978, traditional Chinese medicine has been restored and developed as shown by the figures in Table 1.

Higher education training in traditional Chinese medicine began in 1957. Table 2 shows the development in selected years. In addition to the colleges shown, there are also 22 secondary schools of traditional Chinese medicine and there are another 79 secondary medical schools in which some specialities of traditional Chinese medicine are offered. In 1985, enrolled students numbered 10,765 in these secondary schools.

Generally speaking, traditional Chinese medicine is the major source of care for most peasants in the rural areas today. However, Western medicine is more popular in urban areas. Doctors, institutions and hospital beds of Western medicine strikingly out-number doctors, institutions and hospital beds of traditional medicine. In 1985 there were 92 Western medical universities in China with 128,937 students enrolled and 493 secondary medical schools (Western medicine) with 210,676 students enrolled.

The above data show that Western medicine plays a very important role in modern China. Recently however, some signs indicate that, more and more, urban populations have an increasing interest in traditional Chinese medicine, especially for some hard-to-treat diseases, such as cancer, stroke and hypertension. In summary, chronic illnesses, pain, and preventive measures are often more effectively managed with traditional methods, whereas acute and infectious diseases respond better to Western medicine.

<sup>2</sup>Moxibustion is the treatment of disease by setting fire to a small heap of artemisia on the skin over the affected meridian.

Table 1 Number of doctors, beds and institutions of traditional Chinese medicine in China

	1952	1957	1963	1975	1978	1980	1984	1985
Doctors	306,000	337,022	339,291	288,635	251,088	262,185	324,266	336,224
Institutions	19	257	124	160	447	678	1,218	1,485
County and larger hospitals	19	257	124	160	409	647	1,179	1,444
Beds	224	5,684	9,254	13,675	33,973	49,977	86,541	112,319
Beds in County and larger hospitals	224	5,684	9,254	13,675	32,366	49,151	85,283	111,344
Institutions of Chinese Herbal Medicine	-	16	33	29	36	47	46	54

Source: China's Health Yearbook (1986).

Table 2 Number of colleges of traditional Chinese medicine and enrolled students

	1957	1962	1965	1975	1978	1980	1984	1985
Colleges	5	19	21	17	22	22	23	24
Students	1,020	-	10,155	13,538	18,825	25,282	26,698	28,450

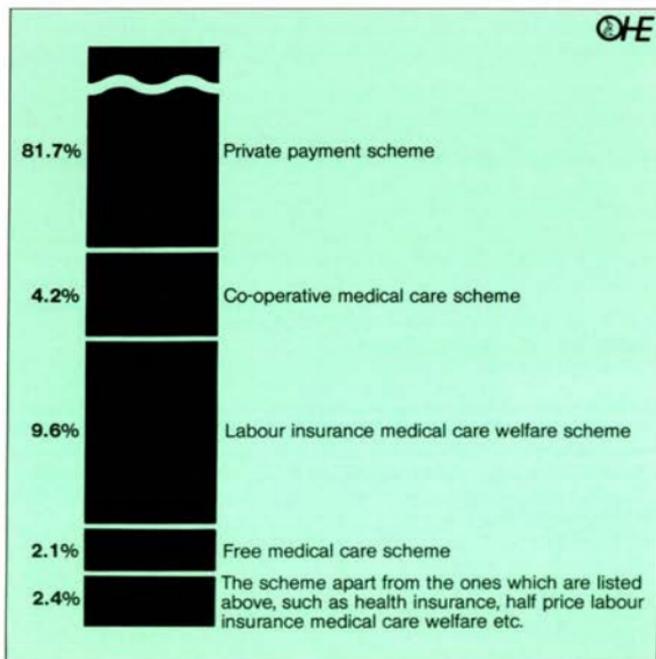
Source: China's Health Yearbook (1986).

## PRESENT STRUCTURE OF HEALTH CARE

The present three-tier health network was set up during the 1950s and it has made access to health care possible for everyone. In rural areas, the first tier is comprised of village doctors and health workers who provide both preventive and primary health care services. The second tier is the township hospital which serves ten to thirty villages around it. It offers medical services for more serious illnesses and more skilful preventive tasks. The third tier is the county hospital which serves the people who live in the county. The county hospital is staffed with senior doctors and is responsible for the most serious illnesses and guides some other health work.

In urban areas, the first tier consists of 'neighbourhood doctors' who work in the neighbourhood committee and 'factory doctors' who work in factories. They provide basic health care. The second and third tiers are district hospitals and municipal hospitals with functions similar to the township and county hospitals.

Figure 1 Provision of health care by population in China (1985)



## PROVISION OF HEALTH CARE

China is in the primary stage of socialism now. Due to the limitation of economic conditions and a large population, the present structure of health care is provided through: free medical care; labour insurance; co-operative medical care; health insurance and private payment. Figure 1 shows the proportion of the population receiving health care through each type of funding.

### Free medical care

Free medical care began in 1952 for government officials, staff of culture, science, education and health sector, the afore mentioned people who retire or leave the post to rest (sabbatical leave etc), college students, foreign specialists who work in China and second degree grade B disabled army men. The costs are met from the national budget.

During the last 30 odd years the total number of people enjoying free medical care has increased year by year. In 1985 there were 21.29 million people who belonged to this scheme which accounted for 2.05 per cent of the whole population (1,041 million in 1985). The total health expenditure of this scheme was 1,544 million yuan in 1985 which accounted for 6.31 per cent of the national health expenditure (24,486 million yuan). The average expenditure was 72.52 yuan per person per year. By 1986, the total number of people, the total expenditure and average expenditure on this scheme had increased to 23 million, 1,900 million yuan and 82 yuan respectively (6).

Over a long period of time, the number of people and the expenditure associated with free medical care increased rapidly. Table 3 illustrates this with figures for one city – Shanghai. From 1953 to 1986 in Shanghai, people who enjoyed free medical care increased 3.87 times and the total expenditure increased 2.86 times. However, the average

Table 3 Data for free medical care in Shanghai City; actual and constant prices\* – (in parentheses)

	1953	1960	1973	1980	1985	1986
People (10 thousand)	16.71	36.39	36.57	49.78	61.62	64.71
Total expenditure (10 thousand Yuan)	349 (295)	1105 (814)	1184 (817)	1973 (1052)	4192 (1086)	5443 (844)
Average expenditure per person (Yuan)	20.9 (17.7)	30.4 (22.4)	32.4 (22.3)	39.6 (21.1)	68.0 (17.6)	84.1 (13.0)

\*The constant prices are calculated by the author, using the general retail price index (1950=100) which was published by the state statistical bureau in 1987.

expenditure per person per year did not increase in 1985 and 1986. In fact, it decreased because new scheme beneficiaries rose faster than the increase in total expenditure.

Free medical care does benefit the people but, on the other hand, the zero price encourages the beneficiaries to over-use health services. It is necessary therefore to improve the management of the scheme and there are now some reform programmes appearing, but they are still in experimental stages.

### Labour insurance

Some people benefit from labour insurance for medical care. Through labour insurance free or partially free medical care is provided for employees and their direct relatives by any enterprise that pays to the nation taxes and profits from their products and services. According to the provisions of the Chinese government, enterprises can contribute to their employees welfare fund from their profits, before taxation. The maximum allowable amount is 11 per cent of total employees' wages, of which 5 per cent must be used for labour insurance medical care. If the medical expenses incurred go beyond the scope of the medical care fund, the rest of the welfare fund can be used too. The collective enterprises managed by county and city district governments provide their employees and their direct relatives with medical care welfare under these labour insurance regulations.

The costs of labour insurance medical care and free medical care are met from different sources but since they make the same provisions the same problems exist in both schemes. Here, too, experimental reforms are under way at the moment.

In 1985, the employees all over the country who enjoyed labour insurance medical care numbered about 100 million, accounting for 9.6 per cent of the whole population. The total expenditure for this scheme was 6,500 million yuan which accounted for 26.55 per cent of the whole national health expenditure. The average expenditure per person per year was 65 yuan (7).

### Co-operative medical care

Co-operative medical care first appeared in the middle of the 1950s. It is based on the principle of voluntary participation and relies on the strength of the collective economy. Before 1977, the co-operative medical care system had been operational in the rural areas of China, and the rural people had enjoyed some elementary medical care. It is reported that the scheme covered about 90 per cent of the population (720 million) in the rural areas when it was at its height (8). With the change of economic conditions, the development of a commodity economy and the increase of income in rural areas, the peasants are no longer satisfied with the rather limited medical care. As a result, villages with co-operative medical care systems have become fewer and fewer. According to Health Ministry data, in 1985, only 5.3 per cent of

716,639 villages in rural areas still had co-operative medical care systems. With an average village size of 1,150 people, we can make an estimate of 43.7 million people involved in co-operative medical care which accounted for about 4.2 per cent of the whole population.

### Health insurance

Just after the founding of New China (1949), the Chinese People's Insurance Company was set up and it ran various insurance businesses. But by the late 1950s, under the influence of the left, some people thought that China had realised its 'great leap forward' and the goal of a Communist Society was not far off. This meant everything could be provided by the state so that individuals would no longer need insurance. Furthermore in 1966 (the 'cultural revolution' began in that year), insurance work was regarded as capitalistic; consequently nobody dared mention insurance work.

With the change in the leadership of the Communist Party and the Government in 1978, China seemed to have a new lease of life. It has opened its doors to the outside world and pays attention to being practical including, in this respect, insurance. In 1982, the Chinese personal insurance service was restored after a gap of more than twenty years. And recently, a lot of experimental health insurance programmes have been organised in many areas (both urban and rural). From these experiences it is hoped to set up, gradually, a special Chinese health insurance scheme in which a large number of people can be covered, especially in rural areas (to make up for the decline in the co-operative medical care scheme).

At the end of 1985 the Ministry of Health determined that Meishan and Jianyang counties in Sichuan Province would be the two experimental units in the rural areas. They selected four villages at random and after more than one year's preparation, they began to offer health insurance to the peasants in 1987. It is hoped to extend this kind of

Table 4 Basic conditions in the four selected villages

	<i>Jianyang County</i>		<i>Meishan County</i>		<i>Total</i>
	<i>Tuanhe village</i>	<i>Panshan village</i>	<i>Jiquang village</i>	<i>Jinwang village</i>	
Number of families	470	454	737	522	2,183
Population	1,812	1,772	2,953	2,178	8,715
Average income per person in 1985 (Yuan)	302	202	332	262	—
Distance between village and township hospital (km)	1.5	2.5	4	1.5	—
Distance between village and county hospital (km)	25.0	19.5	31.0	28.5	—

health insurance nationwide at a later date. There follows a description of the practice of health insurance in these four villages.

#### *Basic conditions in selected villages*

Basic conditions, in terms of the population size, income and distance from hospital, in the four villages chosen for the health insurance experiment are indicated in Table 4.

#### *Insuree and the scope of insurance*

According to the provisions of the scheme, permanent residents in the chosen villages may be included in the programme with their households. Those who have enjoyed half-price labour insurance schemes<sup>3</sup> or whose partial medical costs have been paid by the village enterprises, and those who have had some medical subsidies from civil administration or village committees may join the scheme. But those (second degree grade A and above disabled army men) who receive medical subsidies may not join the scheme.

Generally, applicants for the scheme go through registration formalities once a year. However, those who belong to the growth population (such as newborn, married, demobilised soldiers etc) may join the scheme halfway. After finishing the procedures of registration, no-one can withdraw from the scheme.

When the insured person becomes ill he can see doctors at village health stations or township hospitals and, if necessary, he may be transferred to a higher level hospital (District or County hospital) for further diagnosis or treatment. After that, the patient can get a proportional refund from the village for the medical expenses of both inpatient and outpatient care (but not the registration fee<sup>4</sup>).

The following are not included in the scheme (9):

- (a) The items of medical treatment or medicine which cannot be refunded through the free medical care scheme, such as false teeth, tonics (like ginseng), supplementary equipment for disabled people, ambulance and other transportation services.
- (b) Medical services resulting from fights, attempted suicide, accidents at work and traffic accidents.
- (c) Medical services received at the hospital that are not part of the particular programme.
- (d) Family planning procedures and treatment for complications or sequelae.

#### *Fund raising and proportion of refund*

Funding for these health insurance schemes comes from three sources: township enterprises, village public welfare fund and insurees. The

<sup>3</sup>Half-price labour insurance schemes provide employees' relatives (state or collective enterprises) with a 50 per cent refund for medical services.

<sup>4</sup>In China, patients have to pay a very small amount of money (about 0.3 yuan) to register before seeing a doctor every time.

**Table 5 Average health insurance premium raised per person per year (yuan)**

	<i>Jiayang</i>		<i>Meishan</i>	
	<i>Tuanhe</i>	<i>Panshan</i>	<i>Jiguang</i>	<i>Jinwang</i>
Township enterprises	1.00	0.20	1.63	1.63
Welfare fund	1.50	1.50	2.00	2.00
Insurant	1.50	1.50	2.57	2.37
Total	4.00	3.20	6.20	6.00

Source Health Department of Sichuan Province.

**Table 6 The proportion of medical expenses refunded in selected villages**

	<i>Jiayang</i>		<i>Meishan</i>	
	<i>Tuanhe</i>	<i>Panshan</i>	<i>Jiguang</i>	<i>Jinwang</i>
Inpatient	70%	50%	50%	80%
Outpatient	30%	30%	40%	30%

Source Health Department of Sichuan Province.

premium is collected quarterly by the finance sector of the village. Table 5 shows the average premium raised per person per year in the four villages.

The proportion of the medical expenses refunded varies between villages. However, Table 6 indicates that the refund for inpatient care is always larger in comparison with outpatient care.

#### *The practice and management of health insurance*

The village health station and township hospital are responsible for providing primary medical services for the insurees. The district and county medical institutions are contracted to provide medical service for transferred patients.

The scheme is controlled by the following directives (9):

- (a) The members of the Village Health Insurance Management Group should include an accountant who is in charge of medical expense refunds and statistics, and a doctor who is in charge verifying the refund.
- (b) The insuree may see doctors at the village health station and the township hospital using their personal medical card. Transfer to higher level hospitals can only be done following the recommendation of the village doctors and approval by the Village Insurance Management Group. In an emergency the patient may go to the

nearest hospital within the county and then, with certification of the illness, claim a refund from the village.

- (c) Insurees involved in half-price labour insurance schemes, labour insurance schemes of township enterprises, and those who have obtained other forms of medical subsidies, can claim a proportional refund after deducting the money already received from the above schemes.
- (d) If a fraud, perpetrated by the insuree during the consultation and refund, is found the Village Health Insurance Management Group has the right to withhold the money from the insuree. If it is serious, the Management Group must investigate the matter further.
- (e) In principle, the health insurance scheme should be self-financing at the village level, but the Management Group in the county or township may take 10 per cent of the premium as a contingency reserve.
- (f) The Village Insurance Management Group should ensure that the income of the health professionals providing the medical service for the scheme is not lower than before joining the scheme. Some allowances or awards should be granted to those who work well. The money for this kind of use can be taken from the administration fee. At the same time, it may be necessary to deprive someone of their appointment if they are not suitable for the job, often employ trickery or do not accept criticism.
- (g) Before starting the scheme, the members of the Management Group and providers of the medical service should be trained in the field of health insurance.
- (h) If something happens unexpectedly during the operation of the health insurance scheme, the County Committee of health insurance and the village health insurance management group should be consulted about the problem.

After a period of time, the peasants understood the scheme and welcomed it. By the end of 1987, 98 per cent of rural people in the experimental villages had joined the scheme. Due to this success the government wish to make this the main type of health insurance in China.

There are some other types of health insurance experiments in China of which three will be presented in the following sections.

#### *Planned immunisation insurance for children*

During the last three years, this kind of single item insurance has been run all over the country. In Hebei Province, 1,973 villages included within 18 cities and 117 counties (or districts) have this kind of insurance. Insured children now total 1.47 million accounting for 78.6 per cent of the whole age group in that province. The insured children's parents make contracts with the insurance agency and pay premiums of 7 to 10 yuan – the insurance period lasts from birth to the seventh year. The immunisation (free of charge) includes eight diseases: measles, diphtheria, pertussis, tetanus, poliomyelitis, epidemic cerebro-

spinal meningitis, epidemic encephalitis B (Japanese encephalitis) and tuberculosis. If despite inoculation, these diseases occur for some reason, the insurance agency will pay for all the related medical expenses of treatment. If the children die of the disease or become disabled, the insurance agency will make some compensation for that. The insurance agency was set up by the Health sector of the Government. It is run on a non-profit basis. Of the surplus premium, a small part is used to grant some allowance or awards to the village doctors and related health professionals. The larger part left is used to train health manpower and for the maintenance of the equipment for storage of vaccines (10).

#### *Maternity hospital care insurance*

This scheme was sponsored by an insurance company. In the city of Wuhan (in Hubei Province), those who are being cared for in the hospital appointed by the insurance company may join the scheme. The insurance covers exceptional medical expenses incurred during the period of hospital stay during childbirth. The premium for healthy women is 10 yuan, whereas for those who have some problems, such as heart disease, it is 14 yuan. If, during the insured period, the insured woman dies of the delivery, the insurance company will pay 1,800 yuan for the death; if the newborn baby dies during the delivery, the company will pay 200 yuan for the death. For every contract, the insurance company pays 10 per cent commission to the hospital (10).

#### *Dental insurance for pupils and middle school students*

At the beginning of 1986, Yucheng and another three counties in Shanxi Province offered experimental dental health insurance for primary school pupils and middle school students. The schools made contracts with the village doctors. Every student paid a premium of one yuan per year. The doctors were then responsible for three kinds of medical service (10):

- (a) Delivering a monthly lecture about dental health for students and ensuring everyone knows about diseases of the oral cavity.
- (b) Examining the student's teeth twice a year and establishing a file for every student.
- (c) Providing timely medical treatment for common tooth decay or arranging transfer of serious cases to a higher level hospital for further diagnosis or treatment.

In summary, at present, there are four forms of experimental health insurance in China:

1. the health insurance provided by a combination of the Chinese People's Insurance Company and Government Health Sector (eg experimental health insurance in villages);
2. the insurance company through an agent to deal with insurance operation (eg maternity insurance);

3. the health insurance set up by health sector (eg immunisation of infants);
4. the health institutions bearing the direct health responsibility (eg dental insurance).

At this time, the exact number of people who are covered by health insurance schemes is not known.

### Private medical care

Generally speaking, people in rural areas not included in any of the schemes mentioned above receive medical care at their own expense, as do all self-employed persons. In addition, some relatives of city workers have to pay for their own care. In the whole country, it was estimated that about 850 million people, accounting for 81.7 per cent of the whole population, received medical services in this way in 1985. A question which could be asked is 'do these people have any problem obtaining medical services?'

To begin to answer this question, data from the study performed by Aorong Zhu *et al.* in 1987 (11) comparing the co-operative medical care scheme with the private payment scheme, will be cited.

In this study, the researchers made an investigation of 104 villages<sup>5</sup> which covered 110,443 people. Within this total population, there were 61,850 people belonging to the co-operative medical care scheme in 52

Table 7 Comparison of basic conditions in two groups

	<i>Co-operative</i>	<i>Private</i>
Percentage of population 0 to 14 years old	28.65	28.11
Percentage of population over 65 years old	6.22	6.89
Gross illiteracy rate	36.23	33.72

Source see reference 16.

Table 8 Comparison: use of outpatient care over two weeks

	<i>Co-operative</i>	<i>Private</i>
Rate of physician contacts (%)*	89.17	81.80
Speed of physician contacts (%)**	65.76	47.62
Rate of no physician contacts because of economic reasons (%)	5.34	27.37

\*The frequency people go to see doctors when they get ill.

\*\*The frequency of patients going to see doctors within 24 hours of their illness occurring.

Source see reference 16.

<sup>5</sup>All the villages had chosen their own health care schemes which had been in practice for 5 years from 1982.

**Table 9 Comparison: use of inpatient care in 1986**

	<i>Co-operative</i>	<i>Private</i>
Rate of hospitalisation (%)	95.42	52.96
Rate of no hospitalisation because of economic reasons (%)	6.32	19.33

Source see reference 16.

**Table 10 Comparison: use of maternity services**

	<i>Co-operative</i>	<i>Private</i>
Antenatal examination rate (%)	54.81	40.58
Sterile delivery rate (%)	92.70	85.63
Delivery rate in hospital (%)	26.92	16.06
Post-delivery follow-up rate (%)	79.38	69.18
Average number of antenatal examinations	1.72	1.03
Average number of post-delivery follow-ups	1.85	1.30

Source see reference 16.

**Table 11 Comparison of some health indicators**

	<i>Co-operative</i>	<i>Private</i>
Infant mortality (per thousand)	27.60	25.09
Death rate of 0-4 year olds (per thousand)	3.81	4.54
Gross death rate (per thousand)	6.51	7.59
Life expectancy (years)	73.51	72.21
Six infectious disease morbidity under age of 7 years (1/100 thousand)	90.76	175.16

Six infectious diseases are: measles, poliomyelitis, tuberculosis, pertussis, diphtheria and tetanus.

Source see reference 16.

**Table 12 Comparison: health expenditure in 1986**

	<i>Co-operative</i>	<i>Private</i>
Average health expenditure per person per year (yuan)	15.21	12.19
Average private health expenditure per person per year (yuan)	11.14	12.13
Percentage of average private health expenditure per person per year (%)	73.24	99.51

Source see reference 16.

villages and 48,393 people belonging to the private payment scheme in the other 52 villages. The basic conditions in the two groups were more or less the same (see Table 7).

The researchers investigated the extent to which the two groups used health services. Table 8 presents the use of outpatient care between the two groups over 2 weeks. The rate of physician contacts (ie frequency of consultation when ill) in the co-operative medical care group was 7.37 per cent higher than that of the private payment group. Similarly, the speed of physician contacts (ie consultation within 24 hours of illness occurring) in the co-operative group was 18.14 per cent higher than that of the private payment group. For reasons of cost, the rate of no physician contacts in the private payment group was 22.03 per cent higher than that of the co-operative medical care group.

Table 9 presents the use of inpatient care between the two groups. In 1986, the rate of hospitalisation through co-operative medical care groups was 42.46 per cent higher than that for the private payment groups. Patients not hospitalised for reasons of costs in private payment group was 13.01 per cent higher than that for the co-operative medical care group.

Table 10 presents the use of maternity services between the two groups. It shows that for all six indicators the use of services by the co-operative medical care group was greater than by the private payment group. The researchers also made comparisons of some other health indicators which are depicted in Table 11. Except for infant mortality, other health indicators in the co-operative group were better than the private group. The researchers did not explain why infant mortality in the co-operative group was higher than in the private group.

Table 12 presents the comparison of health expenditure. Per capita expenditure per year in the co-operative group was 1.2 times higher than the private group; and the percentage of personal expenditure on health in the co-operative group was 26.27 per cent lower than in the private group.

To summarise, although the populations in the co-operative medical care group and the private payment group are very similar, almost every indicator of the private payment group is inferior to that of the co-operative medical care group. This shows clearly that a real problem exists to enable the patients in the private payment group to enjoy medical services equal to those enjoyed by the co-operative care group.

## HEALTH EXPENDITURE

The major components of the total health spending in China are shown in Table 13. Health expenditure is funded from four main sources: the state budget (central and local government budgets) (items 1, 2, 3, 5 and 8 in Table 13 belong to this source); state enterprises' welfare fund (part of items 4, 6 and 9) collective enterprises' welfare fund (part of items 4, 6 and 9); and individual outlays (item 7). The estimated total health expenditure in 1985 was 24,486 million yuan which accounted for 3.5 per cent of national income and 3.2 per cent of Gross Domestic Product.

From 1980 to 1985, the total sum of China's health expenditure increased 63 per cent (from 12,210 million yuan to 19,956 million yuan). At the same time, the per capita health expenditure increased 54 per cent, from 12.37 yuan to 19.10 yuan. Table 13 also shows that within the total health spending, about 69 per cent of funding came from the state budget or state and collective enterprises' welfare fund (all items except item 7 and item C) and about 31 per cent of funding came from personal expenditure (item 7). The expenditure on free medical care and labour insurance medical care welfare schemes accounted for 6.3 per cent and 26.5 per cent of the total health spending respectively. But these two schemes covered only 2.05 per cent and 9.6 per cent of the total population, respectively.

### Running cost of health sector

Among all the expenses financed by the state budget the largest is the running cost of the health sector (item 1). This includes the recurrent expenses of various health institutions run by health administration authorities at various levels, such as staff salaries, equipment, maintenance and supplies. Table 14 indicates the distribution of these running costs in 1985. The Chinese government have put prevention as the foremost task for health work. However, the budget for prevention is smaller than for curative treatment. In 1985, only 16.3 per cent of the total running cost was for prevention, anti-epidemic services, maternity and child health care (items 4 and 6 in Table 14). However, hospitals and township hospitals took up 60.2 per cent of the total running cost (items 1, 2 and 3). The reason for this situation is due to the Chinese medical care pricing policy. During the last three decades, the Chinese government reduced the medical care prices several times so that the charges were far less than actual costs. As a result, hospitals could not balance receipts with expenses and had to get increasing subsidies from the state budget (central and local government). Furthermore, the largest part of these subsidies was not for the development of the hospitals, but for the payment of labour (as staff and workers' salaries). After realizing the problem, the Chinese government has now laid down a flexible policy which allows hospitals to raise the price of medical services step by step until they reach the level of actual cost. At the moment, there are two pricing systems: one for people meeting their own expenses who pay at a lower price, and the other for people

Table 13 The estimated value of China's health expenditure (constant prices)

Unit = 1 million yuan.

	1980	%	1985		%	1985/1980
			Price in 1985	Constant Price*		
<b>A. Total recurrent expenditure</b>	11,540	94.5	22,581	18,404	92.2	1.59
1. Running cost of health sector	3,020	24.7	5,482	4,468	22.4	1.48
2. Free medical care expenses	670	3.5	1,544	1,258	6.3	1.88
3. Higher medical education expenses	220	1.8	315	257	1.3	1.17
4. Health recurrent expenditure from other sectors	200	1.6	400	326	1.6	1.63
5. Family planning expenses	330	2.7	740	603	3.0	1.83
6. Labour insurance expenses	3,480	28.5	6,500	5,298	26.5	1.52
7. Patient outlays in cash	3,620	29.6	7,600	6,156	31.0	1.70
<b>B. Total health capital construction investment</b>	670	5.4	1,830	1,492	7.5	2.23
8. Health sector capital construction investment	570	4.7	1,530	1,247	6.2	2.19
9. Health capital construction investment from other sectors	100	0.8	300	245	1.2	2.45
<b>C. Foreign loans</b>	-		75	61	0.3	-
<b>Total</b>	12,210	100	24,486	19,956	100	1.63

\*The calculation of constant prices used the general retail price index published by the State Statistical Bureau in 1987. (1980=100).

Note

- 1) The estimated value for 1980 was obtained from the Planning and Financing Department of Health Ministry of China.
- 2) The data of items 1, 2, 5, 6, 8 of 1985 have been obtained from the Health Ministry of China. The datum of item 10 is published by the Statistic Bureau of China. Other data are estimated by Le-xun Du, according to the related information.
- 3) The expenses on co-operative medical care scheme and health insurance scheme are inside the total current expenditure.

Table 14 The distribution of the running costs of the health sector in 1985

Unit = million yuan.

	<i>Whole country</i>		<i>Central budget</i>		<i>Local budget</i>	
	SUM	%	SUM	%	SUM	%
1. Hospital recurrent expenses	2,114.8	38.6	119.5	38.2	1,995.2	38.6
2. Recurrent expenses for hospitals of traditional Chinese medicine	287.8	5.2	15.9	5.1	271.9	5.3
3. Subsidy to township hospitals	898.1	16.4	–	–	898.1	17.4
4. Running costs for health and anti-epidemic stations	753.2	13.7	16.2	5.2	737.0	14.2
5. Recurrent expenses for medicine inspection institutions	64.7	1.2	3.5	1.1	61.1	1.2
6. Recurrent expenses for maternity and child care	142.5	2.6	–	–	142.5	2.8
7. Expenses for science research	162.5	3.0	59.6	19.1	102.9	2.0
8. Expenses for secondary medical schools	245.4	4.5	4.3	1.4	241.1	4.7
9. Expenses for cadre training	45.4	0.8	0.09		45.3	0.8
10. Subsidy to the co-operative medical care scheme	25.3	0.4			25.3	0.4
11. Recurrent expenses for the nursery	4.1	0.1			4.1	0.1
12. Fund to meet unpaid medical bills	9.8	0.2			9.8	0.2
13. Miscellaneous	728.4	13.3	93.6	29.9	634.9	12.3
Total	5,481.9	100.0	312.7	100.0	5,169.2	100.0

Source The Health Ministry of China, Beijing.

**Table 15 The national health capital construction investment (constant prices)**

	1981	1982	1983	1984	1985
SUM (million yuan)*	625	797 (782)	909 (877)	1,120 (1,048)	1,530 (1,288)

\*The numbers in brackets are comparable price. (1981 = 100).

Source The Health Ministry of China, Beijing.

**Table 16 The national running cost of the health sector (constant prices)**

	1981	1982	1983	1984	1985
SUM (million yuan)*	3,274	3,766 (3,694)	4,195 (4,048)	4,816 (4,508)	5,482 (4,616)

\*The numbers in brackets are comparable price. (1981 = 100).

Source The Health Ministry of China, Beijing.

covered by some health care scheme who pay the actual cost. It is hoped later to allocate much more money to prevention, especially for prevention of chronic diseases, such as cardiovascular disease and cancer which have become the main causes of death in China.

### Capital construction investment

The capital construction investment in the health sector is mainly for building hospitals and purchasing equipment for new and enlarged institutions. The fund for renewing original equipment of some institutions comes from a special appropriation of the running cost. Table 15 indicates the national health capital construction investment in selected years (1981 to 1985).

Both the national health capital construction investment and the running cost increased annually which have encouraged the development of the health sector (see Table 16).

### Regional differences

Table 17 illustrates some regional differences in the level of per capita health expenditure, based on *ad hoc* surveys. It shows that the per capita health expenditure in cities is much higher than that in counties. Tables 18, 19 and 20 indicate that the average outpatient, inpatient and running costs per capita in cities are all considerably higher than in counties. According to data from health service sample surveys performed by the Health Ministry of China in 1985, the average per capita

**Table 17 Health expenditure in different areas (constant prices)**

	Year	Per capita health expenditure (yuan)	Percentage of national income %
Shanghai County (in Shanghai Municipality)	1980	16.55	—
Ningan County (in Heilongjiang Province)	1982	22.72 (21.72)*	5.81
Tongxian County (in Beijing Municipality)	1983	18.78 (17.67)	3.26
Jinxian County (in Liaoning Province)	1984	31.10 (28.33)	3.80
Kangping County (in Liaoning Province)	1984	21.71 (19.78)	4.98
City of Changchun	1985	70.54 (57.49)	—
City of Shenyang	1985	82.73 (67.42)	4.08
City of Harbin	1986	103.39 (76.92)	6.03

\*The numbers in brackets are constant prices calculated by the author using the general retail price index (1980 = 100).

Source see reference 12.

**Table 18 The average expenses for outpatient care in 1985**

	Population (million)	%	Average physician contacts (times)	Average charge per consultation (yuan)	Average expenses per person (yuan)
City	21.2	20.35	3.8	5.77	21.93
County	82.9	79.65	2.6	2.50	6.50
Total	104.1	100.00	2.84	3.39	9.64

Source The Health Ministry of China, Beijing.

health expenditure in urban areas is about 47.37 yuan and 11.30 yuan in rural areas (13). Health expenditure in urban areas is four times greater than that of rural areas. What is more, in some areas where the economy is relatively well-developed, for instance in the cities of Changchun, Shenyang and Harbin, the per capita health expenditure has reached 57, 67 and 77 yuan per annum respectively. One of the major reasons for this sort of differential is the different coverage of health care schemes between urban and rural areas (see Tables 21 and 22). In the rural areas more than 80 per cent of people pay for medical care out of their own pocket whilst in urban areas almost 80 per cent of people receive subsidised medical care.

**Table 19 The average expenses for inpatient care in 1985**

	Population (million)	%	Average stay in hospital (days)	Average charge per day (yuan)	Average inpatient expenses (yuan) per person
City	21.2	20.35	1.30	12.03	15.64
County	82.9	79.65	0.50	5.00	2.50
Total	104.1	100.00	0.66	7.83	5.17

Source The Health Ministry of China, Beijing.

**Table 20 The average running cost per capita in 1985**

	Population (million)	%	Average running cost (yuan) per capita
City	21.2	20.35	9.80
County	82.9	79.65	2.30
Total	104.1	100.00	5.48

Source The Health Ministry of China, Beijing.

**Table 21 The percentage coverage of health care schemes in cities of selected provinces in 1985**

Province	Free medical care	Labour insurance	Half-price Labour insurance	Private payment	Total
Beijing	27.24	46.78	19.24	6.73	100
Shanghai	8.72	57.63	31.45	2.20	100
Liaoning	26.24	39.79	25.72	8.25	100
Jilin	7.22	42.60	35.41	14.78	100
Jiangshu	7.80	70.73	16.15	5.31	100
Fujian	11.97	26.00	28.96	33.07	100
Hubei	20.80	47.03	20.00	12.18	100
Sichuan	15.26	44.19	20.76	19.79	100
Shaanxi	20.53	33.59	19.46	26.43	100
Total	16.23	45.64	24.18	13.94	100

Source The Health Ministry of China, Beijing.

Table 22 The percentage coverage of health care schemes in rural areas of selected provinces (1985)

<i>Province</i>	<i>Free medical care</i>	<i>Labour insurance</i>	<i>Half-price labour insurance</i>	<i>Co-operative medical care</i>	<i>Private payment</i>	<i>Others</i>	<i>Total</i>
Shanxi	2.61	1.89	0.20	44.54	50.74	0.01	100
Inner Mongolia	6.87	3.33	2.05	0.06	87.33	0.36	100
Jilin	3.41	7.70	3.52	2.53	82.54	0.30	100
Heilongjiang	5.50	3.63	3.14	0.35	87.37	0.02	100
Jiangshu	1.12	10.89	1.78	27.09	58.78	0.24	100
Anhui	2.08	2.62	0.93	0.25	94.11	0.01	100
Guangdong	3.19	6.27	3.11	11.76	74.94	0.73	100
Yunan	0.61	1.34	0.42	0.39	89.22	8.02	100
Shaanxi	0.36	0.15	0.68	0.18	98.62	0.03	100
Total	2.85	4.18	1.75	9.57	80.59	1.07	100

Source The Health Ministry of China, Beijing.

Table 23 The number of national health institutions and beds

	<i>Absolute number</i>								
	1949	1957	1965	1975	1978	1980	1984	1985	1985/1949
<b>A Total health institutions</b>	3,670	122,954	224,226	151,733	169,732	180,553	198,256	200,866	54.7
1. Hospital	2,600	4,179	42,711	62,425	64,421	65,450	67,169	59,614	22.9
County hospitals and above among the total hospitals	2,600	4,179	5,445	7,757	8,841	9,478	10,935	11,497	4.4
2. Convalescent homes	30	835	887	297	389	470	599	640	21.3
3. Outpatient department (Clinic)	769	102,262	170,430	80,739	94,395	102,474	117,028	126,604	164.6
4. Special prevention and treatment institutions	11	626	822	683	887	1,138	1,458	1,566	142.4
5. Health and anti-epidemic station	-	1,626	2,499	2,912	2,989	3,105	3,339	3,410	-
6. Maternity and child care institutions	9	4,599	2,795	2,025	2,459	2,610	2,716	2,724	302.7
7. Medicine inspection institutions	1	28	131	310	844	1,213	1,258	1,420	1,420.0
8. Medical science research institutions	3	38	94	141	219	282	307	323	107.7
<b>B Total beds</b>	84,625	461,802	1,033,305	1,764,329	2,041,681	2,184,423	2,412,362	2,487,086	29.4
Hospital beds	80,000	294,733	765,558	1,598,232	1,856,391	1,982,176	2,165,519	2,229,219	27.9
Beds in convalescent homes	3,900	68,860	98,388	37,158	50,864	67,941	95,343	106,192	27.2

Note In 1985, clinics that were not equipped with any beds were excluded from the definition of 'hospital'. This reduced the total number of hospitals.

Source The Health Ministry of China, Beijing.

## HEALTH CARE FACILITIES AND MANPOWER

Since the founding of new China in 1949, the number of health institutions, hospital beds and health personnel have increased dramatically. Over the following 35 years, China added 197,196 health institutions, of which 57,014 were hospitals, with a net gain of 2,149,219 beds (see Table 23). By 1985 hospital beds had reached 2.229 million, which was 27.9 times higher than in 1949 (see Figure 2) and the total number of health professionals had risen to 3,411 million, which was 6.75 times greater than the 0.505 million health professionals in 1949 (see Figure 3).

In China the number of doctors is greater than the number of nurses. In 1985, there were 724,238 senior doctors which accounted for 21.2 per cent of the total national health professionals; and there were 636,974 nurses accounting for 18.7 per cent of the total national health professionals. Table 24 indicates the type and percentage of health professionals. Figure 4 indicates the development of doctors and nurses over selected years.

Figure 2 Hospital beds in China in selected years (million)

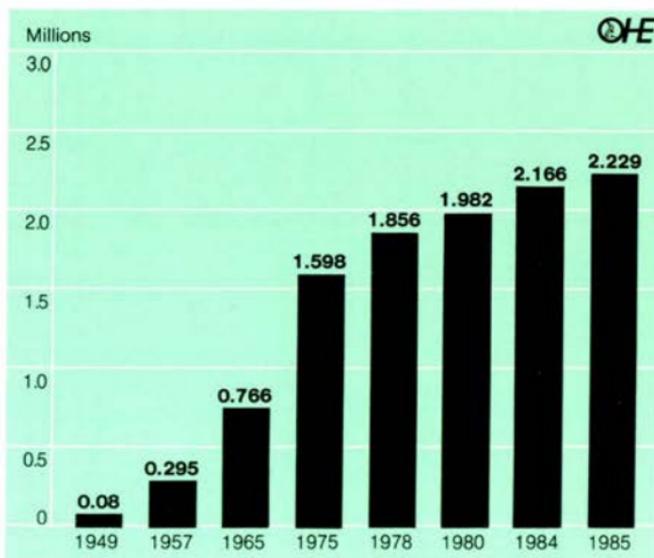
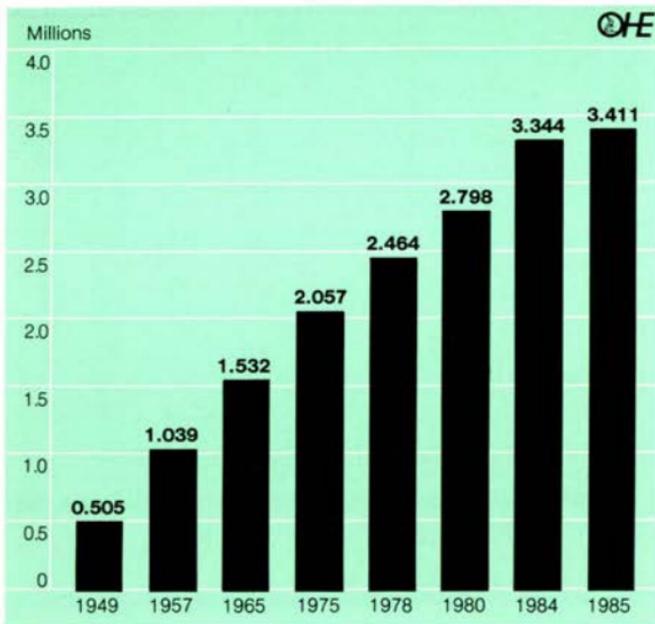


Figure 3 Health professionals in China in selected years (million)

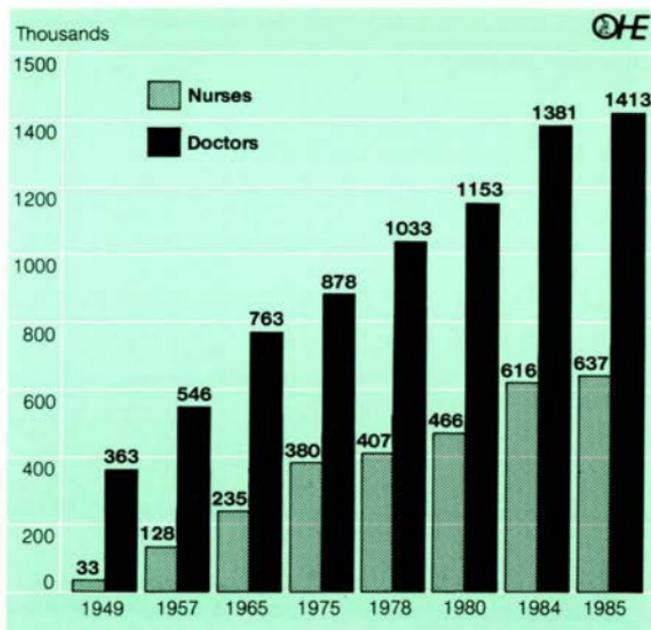


Source: The Health Ministry of China, Beijing.

By comparison in the UK there were approximately 51,300 whole time equivalent (WTE) medical and dental staff employed in the hospital and community service in September 1985. In addition, there were a further 58,700 medical, dental and optical staff employed under the auspices of family practitioner committees; and there were 403,300 WTE nurses, midwives and other nursing staff working in the NHS in March 1986 (14).

Although the Chinese government has made great efforts to increase medical facilities and personnel, the average number of beds and senior doctors per thousand population are very small. In 1985, the numbers were 2.14 and 0.7 respectively (see Table 25). The distribution of medical facilities and personnel are very uneven. In urban areas facilities are much better than in rural areas. For instance, in 1983 when 24 per cent of the population lived in urban areas, 41 per cent of the hospital beds and 49 per cent of doctors were located in urban places (15). In

Figure 4 Doctors and nurses in China in selected years (thousand)



Note: Doctors include senior, junior and assistant doctors.

Source: The Health Ministry of China, Beijing.

1985, the average number of beds and senior doctors were 4.54 and 2.15 per thousand people in cities; only 1.53, 0.32 per thousand respectively in counties (16). In order to change this situation, the Chinese government is encouraging medical students to move to the countryside after graduation and is calling on medical institutions to enrol more indigenous rural personnel who could then deliver health care, after graduation in rural areas.

Over the past three decades, medical education has developed rapidly. Higher medical colleges increased 5.3 times from 1949 to 1985 and enrolled students increased 10.3 times; students enrolled in secondary medical schools increased 14.4 times (see Table 26 and Figure 5). The numbers of male and female students in higher medical colleges are more or less equal. However, the female students in secondary medical schools are in the majority.

Table 24 The type and percentage of national health professionals

	<i>Absolute number</i>	<i>Percentage</i>
Total health professionals	3,410,910	100.0
<b>A. Senior health professionals</b>	884,034	25.9
Traditional Chinese medicine practitioners	119,965	3.5
Western medicine practitioners	602,237	17.7
Senior doctors who were trained in the integration of Chinese and Western medicine	2,036	0.06
Ward sisters	68,265	2.0
Pharmacists (including Chinese medicine pharmacist)	46,866	1.4
Pathologists and other medical technicians	23,478	0.7
<b>B. Intermediate health professionals</b>	1,610,564	47.2
Junior traditional Chinese medicine practitioners	150,147	4.4
Junior Western medicine practitioners	472,784	13.9
Nurses	568,709	16.7
Midwives	75,517	2.2
Junior pharmacists (including Chinese medicine)	144,502	4.2
Junior laboratory technician	74,495	2.2
<b>C. Primary health professionals</b>	916,312	26.9

*Note* The majority of the intermediate health professionals were graduates from secondary medical schools and most of the primary health professionals were trained in short-term courses (six months, one year or a bit longer than that), 1985.

Table 25 Average number of hospital beds and health professionals per thousand population in selected years

	1949	1957	1965	1975	1978	1980	1985
<i>Hospital beds</i>	0.15	0.46	1.06	1.74	1.94	2.02	2.14
City	0.63	2.08	3.78	4.61	4.85	4.70	4.54
County	0.05	0.14	0.51	1.23	1.41	1.48	1.53
<i>Health professionals</i>	0.93	1.61	2.11	2.24	2.57	2.85	3.28
City	1.87	3.60	5.37	6.92	7.73	8.03	7.92
County	0.73	1.22	1.46	1.41	1.63	1.81	2.09
<i>Doctors</i>	0.67	0.84	1.05	0.95	1.08	1.17	1.36
City	0.70	1.30	2.22	2.66	2.99	3.22	3.35
County	0.66	0.76	0.82	0.65	0.73	0.76	0.85
<i>Senior doctors</i>	0.58	0.64	0.70	0.57	0.60	0.72	0.70
City	0.54	0.86	1.41	1.61	1.89	2.14	2.15
County	0.59	0.59	0.56	0.38	0.41	0.44	0.32
<i>Nurses</i>	0.06	0.20	0.32	0.41	0.61	0.47	0.61
City	0.25	0.94	1.45	1.74	1.74	1.83	1.85
County	0.02	0.05	0.10	0.18	0.19	0.20	0.30

*Source* The Health Ministry of China, Beijing.

Table 26 National medical colleges (schools) and enrolled students

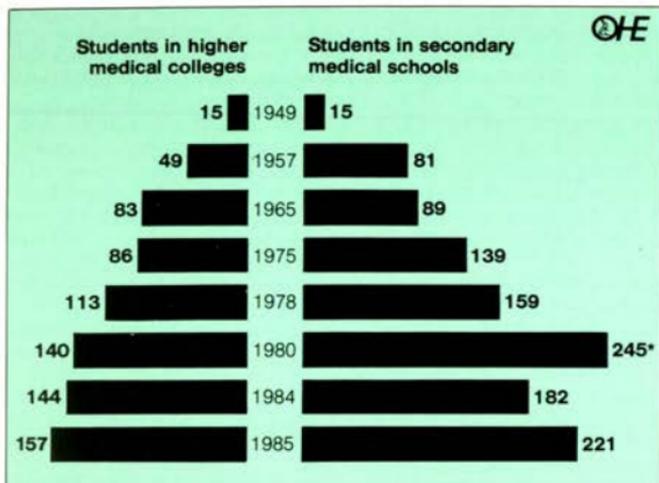
	1949	1957	1965	1975	1978	1980	1984	1985
Number of higher medical colleges	22	37	92	88	98	109	114	116
Students	15,234	49,107	82,861	86,336	112,990	139,569	143,855	157,388
Number of secondary medical schools	–	182	298	480	520	555	506	515
Students	15,387	81,079	88,972	139,113	158,673	244,695	182,283	221,441

*Note* Colleges (schools): include traditional, Western medicine colleges and pharmaceutical colleges but exclude universities in which medical colleges or departments only account for part of its components.

*Students* including expanded enrolled students and students of medical specialties in other Universities.

*Source* The Health Ministry of China, Beijing.

Figure 5 Students in higher medical colleges and in secondary medical schools in China in selected years (thousand)



Higher medical college graduates: 557,721 (1949–1985)

Secondary medical school graduates: 1,183,250 (1949–1985)

\*The number of students in 1980 was much greater than in 1984 and 1985 because of expanded enrolment. Later the government adjusted the policy and controlled the number enrolled in order to guarantee the quality.

Source: The Health Ministry of China, Beijing.

## POPULATION AND HEALTH STATUS

China has the largest population in the world. Table 27 shows the development of the population in China in selected years. In 1985, the population reached 1,041 million (excluding the army men who are on active service). According to the data of the third national population census in 1982, the structure of the age groups was as follows: 0–19 year olds accounted for 45.94 per cent of the total population; 20–34 year olds accounted for 24.12 per cent; 35–59 year olds accounted for 22.33 per cent and 60 years old and above accounted for 7.61 per cent of the whole population. (See Table 28).

In 1987, about 8 per cent of the population were 60 years old and above. According to an estimate, by the year 2000 and 2025, the number of old people (over 60 years) will account for 11 per cent and 20 per cent respectively of the whole population (17). With the implementation of the Chinese government's policy of one child per couple, more and more parents will pay greater attention to their child's health. That will mean from now on the demand for better health care will increase rapidly. This is a real challenge for China. Since 1949, the death rate has fallen and the life expectancy has risen gradually. In 1985, the death rate was 6.6 per cent and the life expectancy was 68.92 years (male 66.96 years; female 70.98 years) (18) (see Table 29). Infant mortality has declined remarkably during the last several decades (see Table 30).

The hierarchy of leading causes of death in China has changed. Figure 6, shows the change in mortality from infectious diseases and

Table 27 Population in China in selected years

Year	Absolute number (million)	Percentage	
		Male	Female
1952	575	51.9	48.1
1957	647	51.8	48.2
1962	673	51.3	48.7
1965	725	51.2	48.8
1970	830	51.4	48.6
1975	924	51.5	48.5
1978	963	51.5	48.5
1980	987	51.5	48.5
1982*	1,008	51.5	48.5
1984	1,035	51.6	48.4
1985*	1,045	–	–

Note The number includes 21 provinces, 5 autonomous regions, 3 municipalities and army men in active service.

\*Date from China's Statistical Yearbook 1986.

chronic diseases in Shanghai during the last three decades.

The leading causes of death in the whole country from 1973-75 are shown in Table 31. Over 10 years ago cardiovascular diseases were the major cause of death. This situation has not changed. Tables 32 and 33 indicate the first ten major diseases' mortalities and percentage in some cities and counties in 1985.

With the nationwide immunisation of children, the incidence of many infectious diseases in China has declined markedly. For the year 1985, the incidence of measles was down to 34.5 cases per 100,000 population; pertussis 11.8 per 100,000; diphtheria, 0.14; and polio, 0.13 per 100,000 people (20). Complete control of every infectious disease, parasitic diseases (like schistosomiasis, malaria, filariasis) and endemic disease (like goitre) has, however, a long way to go.

Table 28 Population by age group in 1982

Age group	Total population	Per cent of total population		
		Both sexes	Male	Female
All ages	1,008,152,137	100.00	51.52	48.48
0 – 4	94,704,361	9.39	4.86	4.53
5 – 9	110,735,871	10.98	5.65	5.33
10 – 14	131,810,957	13.07	6.73	6.34
15 – 19	125,997,658	12.50	6.39	6.11
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40 – 44	48,490,741	4.81	2.57	2.24
45 – 49	47,454,949	4.71	2.49	2.22
50 – 54	40,856,112	4.05	2.14	1.91
55 – 59	33,932,129	3.37	1.74	1.63
60 – 64	27,387,069	2.72	1.36	1.36
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95 – 99	35,294	—	—	—
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Unknown	771	—	—	—

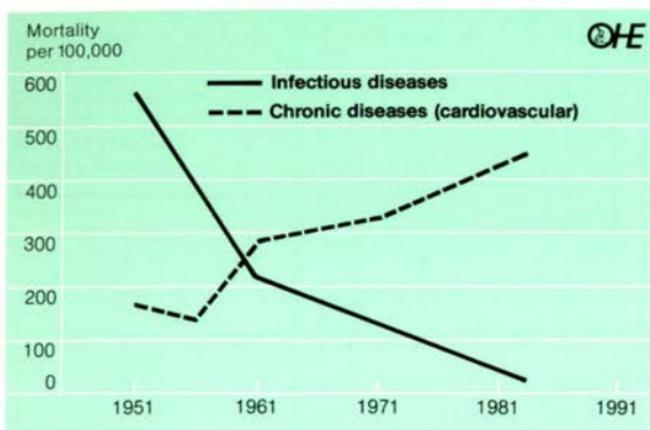
Source: Statistical Yearbook of China (1986).

Table 29 Birth, death and natural growth rate (per thousand)

Year	Birth rate	Death rate	Natural growth rate
Pre-1949	35.0	25.0	10.0
1949	36.0	20.0	16.0
1952	37.0	17.0	20.0
1957	34.0	10.8	23.2
1965	37.9	9.5	28.4
1978	18.3	6.3	12.0
1980	18.2	6.3	11.9
1984	17.5	6.7	10.8
1985	17.8	6.6	11.2

Source: The Health Ministry of China, Beijing.

Figure 6 The change in infectious disease mortality and chronic disease mortality in Shanghai from 1951–1983



Source See Reference 19.

Table 30 Infant mortality in selected years (per thousand)

Year	Total	City	County
Pre-1949	200	120	–
1954	138.5	–	–
1958	80.8	50.8	89.1
1973–1975	47.0	–	–
1981	34.7	–	–
1983	–	13.6	26.5
1984	–	13.4	24.4
1985	–	14.0	25.1

Source Based on sample surveys by The Health Ministry of China, Beijing.

Table 31 China, leading causes of death, 1973–75

Cause of death	National						Cities						Counties – Towns					
	Total		Male		Female		Total		Male		Female		Total		Male		Female	
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
Cardiovascular <sup>1</sup>	26	1	23	1	28	1	38	1	36	1	42	1	24	1	22	1	26	1
Respiratory	16	2	15	2	16	2	11	3	11	4	12	3	16	2	16	2	16	2
Cancer	10	3	11	3	9	3	16	2	18	2	14	2	10	4	11	4	9	5
Accidents	9	4	11	4	8	6	9	4	11	3	7	4	10	3	11	3	9	4
Digestive	9	5	9	5	8	5	6	5	6	5	5	5	9	5	9	5	8	6
Infectious <sup>2</sup>	8	6	8	6	9	4	4	7	4	7	4	7	9	6	9	6	9	3
Neonatal	6	7	7	7	6	7	2	8	2	8	2	8	7	7	8	7	6	7
Tuberculosis	6	8	6	8	6	8	5	6	5	6	4	6	6	8	6	8	6	8
Urinary	2	9	2	9	2	9	2	9	2	9	2	9	2	9	2	9	2	9

Notes Data from the Cancer Epidemiology Survey of 1976, based on all recorded deaths for the three years 1973–75 for areas with 93 per cent of China's population.

<sup>1</sup>Cardiovascular' includes heart diseases and stroke.

<sup>2</sup>Infectious' does not include tuberculosis.

Source The Health Ministry of China, Beijing.

**Table 32 Cities: The first ten major diseases<sup>1</sup> – mortality and percentage in 1985**

<i>Cause of death</i>	<i>Mortality (1/100 thousand)</i>	<i>Percentage of total deaths</i>
Heart disease	131.04	23.39
Cerebrovascular disease	117.52	20.98
Cancer	113.86	20.32
Respiratory disease	50.85	9.08
Digestive disease	23.34	4.17
Accidents	22.37	3.99
Tuberculosis	10.22	1.82
Poisoning	10.13	1.81
Urinary disease	9.12	1.63
Infectious disease	7.92	1.41
<b>Total</b>		<b>88.60</b>

*Source* The Health Ministry of China, Beijing.

**Table 33 Counties: The first ten major diseases<sup>1</sup> – mortality and percentage in 1985**

<i>Cause of death</i>	<i>Mortality (1/100 thousand)</i>	<i>Percentage of total deaths</i>
Heart disease	165.80	25.47
Cerebrovascular disease	101.31	15.57
Cancer	98.76	15.17
Respiratory disease	79.74	12.25
Digestive disease	35.54	5.46
Poisoning	24.98	3.84
Tuberculosis	24.19	3.72
Accidents	21.84	3.36
Infectious disease	13.96	2.14
Neonatal disease	870.40*	1.68
<b>Total</b>		<b>88.66</b>

\*Based on deaths per 100 thousand live births.

*Source* The Health Ministry of China, Beijing.

Table 22 The percentage coverage of health care schemes in rural areas of selected provinces (1985)

<i>Province</i>	<i>Free medical care</i>	<i>Labour insurance</i>	<i>Half-price labour insurance</i>	<i>Co-operative medical care</i>	<i>Private payment</i>	<i>Others</i>	<i>Total</i>
Shanxi	2.61	1.89	0.20	44.54	50.74	0.01	100
Inner Mongolia	6.87	3.33	2.05	0.06	87.33	0.36	100
Jilin	3.41	7.70	3.52	2.53	82.54	0.30	100
Heilongjiang	5.50	3.63	3.14	0.35	87.37	0.02	100
Jiangshu	1.12	10.89	1.78	27.09	58.78	0.24	100
Anhui	2.08	2.62	0.93	0.25	94.11	0.01	100
Guangdong	3.19	6.27	3.11	11.76	74.94	0.73	100
Yunan	0.61	1.34	0.42	0.39	89.22	8.02	100
Shaanxi	0.36	0.15	0.68	0.18	98.62	0.03	100
Total	2.85	4.18	1.75	9.57	80.59	1.07	100

Source The Health Ministry of China, Beijing.

Table 23 The number of national health institutions and beds

	<i>Absolute number</i>								
	1949	1957	1965	1975	1978	1980	1984	1985	1985/1949
<b>A Total health institutions</b>	3,670	122,954	224,226	151,733	169,732	180,553	198,256	200,866	54.7
1. Hospital	2,600	4,179	42,711	62,425	64,421	65,450	67,169	59,614	22.9
County hospitals and above among the total hospitals	2,600	4,179	5,445	7,757	8,841	9,478	10,935	11,497	4.4
2. Convalescent homes	30	835	887	297	389	470	599	640	21.3
3. Outpatient department (Clinic)	769	102,262	170,430	80,739	94,395	102,474	117,028	126,604	164.6
4. Special prevention and treatment institutions	11	626	822	683	887	1,138	1,458	1,566	142.4
5. Health and anti-epidemic station	-	1,626	2,499	2,912	2,989	3,105	3,339	3,410	-
6. Maternity and child care institutions	9	4,599	2,795	2,025	2,459	2,610	2,716	2,724	302.7
7. Medicine inspection institutions	1	28	131	310	844	1,213	1,258	1,420	1,420.0
8. Medical science research institutions	3	38	94	141	219	282	307	323	107.7
<b>B Total beds</b>	84,625	461,802	1,033,305	1,764,329	2,041,681	2,184,423	2,412,362	2,487,086	29.4
Hospital beds	80,000	294,733	765,558	1,598,232	1,856,391	1,982,176	2,165,519	2,229,219	27.9
Beds in convalescent homes	3,900	68,860	98,388	37,158	50,864	67,941	95,343	106,192	27.2

Note In 1985, clinics that were not equipped with any beds were excluded from the definition of 'hospital'. This reduced the total number of hospitals.

Source The Health Ministry of China, Beijing.

## HEALTH CARE FACILITIES AND MANPOWER

Since the founding of new China in 1949, the number of health institutions, hospital beds and health personnel have increased dramatically. Over the following 35 years, China added 197,196 health institutions, of which 57,014 were hospitals, with a net gain of 2,149,219 beds (see Table 23). By 1985 hospital beds had reached 2.229 million, which was 27.9 times higher than in 1949 (see Figure 2) and the total number of health professionals had risen to 3,411 million, which was 6.75 times greater than the 0.505 million health professionals in 1949 (see Figure 3).

In China the number of doctors is greater than the number of nurses. In 1985, there were 724,238 senior doctors which accounted for 21.2 per cent of the total national health professionals; and there were 636,974 nurses accounting for 18.7 per cent of the total national health professionals. Table 24 indicates the type and percentage of health professionals. Figure 4 indicates the development of doctors and nurses over selected years.

Figure 2 Hospital beds in China in selected years (million)

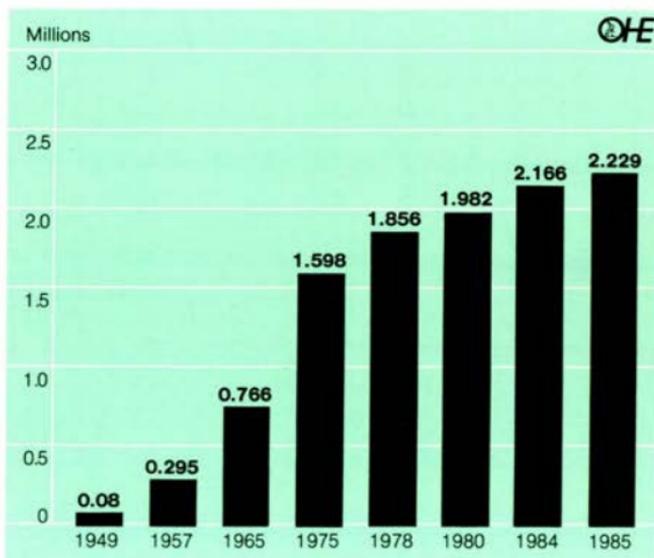
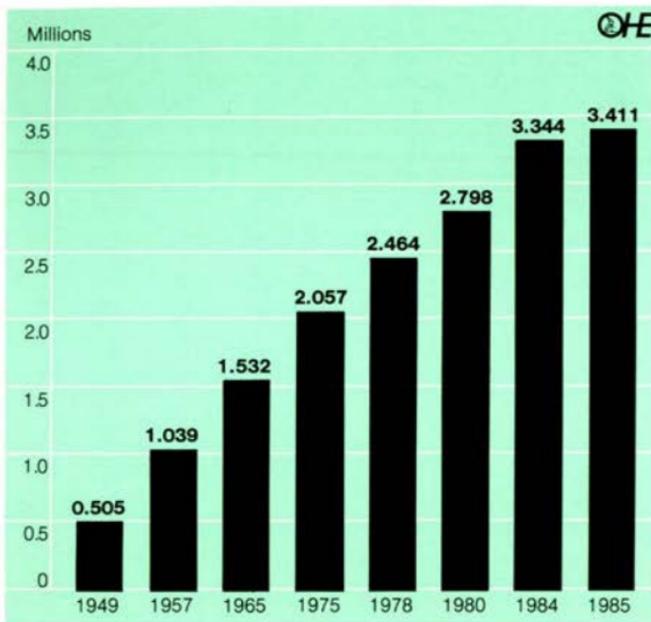


Figure 3 Health professionals in China in selected years (million)

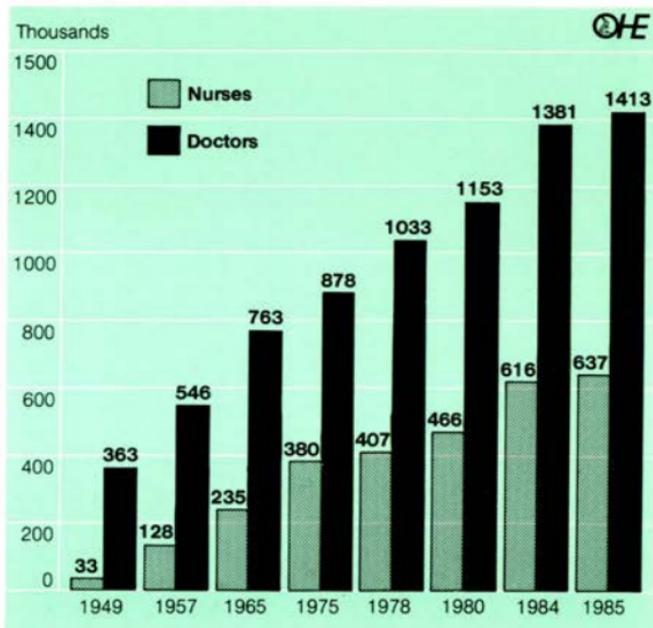


Source: The Health Ministry of China, Beijing.

By comparison in the UK there were approximately 51,300 whole time equivalent (WTE) medical and dental staff employed in the hospital and community service in September 1985. In addition, there were a further 58,700 medical, dental and optical staff employed under the auspices of family practitioner committees; and there were 403,300 WTE nurses, midwives and other nursing staff working in the NHS in March 1986 (14).

Although the Chinese government has made great efforts to increase medical facilities and personnel, the average number of beds and senior doctors per thousand population are very small. In 1985, the numbers were 2.14 and 0.7 respectively (see Table 25). The distribution of medical facilities and personnel are very uneven. In urban areas facilities are much better than in rural areas. For instance, in 1983 when 24 per cent of the population lived in urban areas, 41 per cent of the hospital beds and 49 per cent of doctors were located in urban places (15). In

Figure 4 Doctors and nurses in China in selected years (thousand)



Note Doctors include senior, junior and assistant doctors.

Source The Health Ministry of China, Beijing.

1985, the average number of beds and senior doctors were 4.54 and 2.15 per thousand people in cities; only 1.53, 0.32 per thousand respectively in counties (16). In order to change this situation, the Chinese government is encouraging medical students to move to the countryside after graduation and is calling on medical institutions to enrol more indigenous rural personnel who could then deliver health care, after graduation in rural areas.

Over the past three decades, medical education has developed rapidly. Higher medical colleges increased 5.3 times from 1949 to 1985 and enrolled students increased 10.3 times; students enrolled in secondary medical schools increased 14.4 times (see Table 26 and Figure 5). The numbers of male and female students in higher medical colleges are more or less equal. However, the female students in secondary medical schools are in the majority.

Table 24 The type and percentage of national health professionals

	<i>Absolute number</i>	<i>Percentage</i>
Total health professionals	3,410,910	100.0
<b>A. Senior health professionals</b>	884,034	25.9
Traditional Chinese medicine practitioners	119,965	3.5
Western medicine practitioners	602,237	17.7
Senior doctors who were trained in the integration of Chinese and Western medicine	2,036	0.06
Ward sisters	68,265	2.0
Pharmacists (including Chinese medicine pharmacist)	46,866	1.4
Pathologists and other medical technicians	23,478	0.7
<b>B. Intermediate health professionals</b>	1,610,564	47.2
Junior traditional Chinese medicine practitioners	150,147	4.4
Junior Western medicine practitioners	472,784	13.9
Nurses	568,709	16.7
Midwives	75,517	2.2
Junior pharmacists (including Chinese medicine)	144,502	4.2
Junior laboratory technician	74,495	2.2
<b>C. Primary health professionals</b>	916,312	26.9

*Note* The majority of the intermediate health professionals were graduates from secondary medical schools and most of the primary health professionals were trained in short-term courses (six months, one year or a bit longer than that), 1985.

Table 25 Average number of hospital beds and health professionals per thousand population in selected years

	1949	1957	1965	1975	1978	1980	1985
<i>Hospital beds</i>	0.15	0.46	1.06	1.74	1.94	2.02	2.14
City	0.63	2.08	3.78	4.61	4.85	4.70	4.54
County	0.05	0.14	0.51	1.23	1.41	1.48	1.53
<i>Health professionals</i>	0.93	1.61	2.11	2.24	2.57	2.85	3.28
City	1.87	3.60	5.37	6.92	7.73	8.03	7.92
County	0.73	1.22	1.46	1.41	1.63	1.81	2.09
<i>Doctors</i>	0.67	0.84	1.05	0.95	1.08	1.17	1.36
City	0.70	1.30	2.22	2.66	2.99	3.22	3.35
County	0.66	0.76	0.82	0.65	0.73	0.76	0.85
<i>Senior doctors</i>	0.58	0.64	0.70	0.57	0.60	0.72	0.70
City	0.54	0.86	1.41	1.61	1.89	2.14	2.15
County	0.59	0.59	0.56	0.38	0.41	0.44	0.32
<i>Nurses</i>	0.06	0.20	0.32	0.41	0.61	0.47	0.61
City	0.25	0.94	1.45	1.74	1.74	1.83	1.85
County	0.02	0.05	0.10	0.18	0.19	0.20	0.30

*Source* The Health Ministry of China, Beijing.

Table 26 National medical colleges (schools) and enrolled students

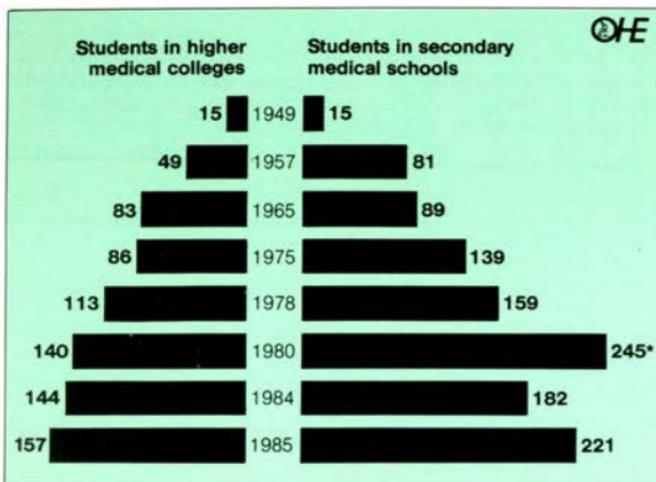
	1949	1957	1965	1975	1978	1980	1984	1985
Number of higher medical colleges	22	37	92	88	98	109	114	116
Students	15,234	49,107	82,861	86,336	112,990	139,569	143,855	157,388
Number of secondary medical schools	–	182	298	480	520	555	506	515
Students	15,387	81,079	88,972	139,113	158,673	244,695	182,283	221,441

*Note* Colleges (schools); include traditional, Western medicine colleges and pharmaceutical colleges but exclude universities in which medical colleges or departments only account for part of its components.

*Students* including expanded enrolled students and students of medical specialties in other Universities.

*Source* The Health Ministry of China, Beijing.

Figure 5 Students in higher medical colleges and in secondary medical schools in China in selected years (thousand)



Higher medical college graduates: 557,721 (1949–1985)  
 Secondary medical school graduates: 1,183,250 (1949–1985)

\*The number of students in 1980 was much greater than in 1984 and 1985 because of expanded enrolment. Later the government adjusted the policy and controlled the number enrolled in order to guarantee the quality.

Source The Health Ministry of China, Beijing.

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40 – 44	48,490,741	4.81	2.57	2.24
45 – 49	47,454,949	4.71	2.49	2.22
50 – 54	40,856,112	4.05	2.14	1.91
55 – 59	33,932,129	3.37	1.74	1.63
60 – 64	27,387,069	2.72	1.36	1.36
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75 – 79	8,617,043	0.85	0.34	0.51
80 – 84	3,704,605	0.37	0.14	0.23
85 – 89	1,088,295	0.11	0.04	0.07
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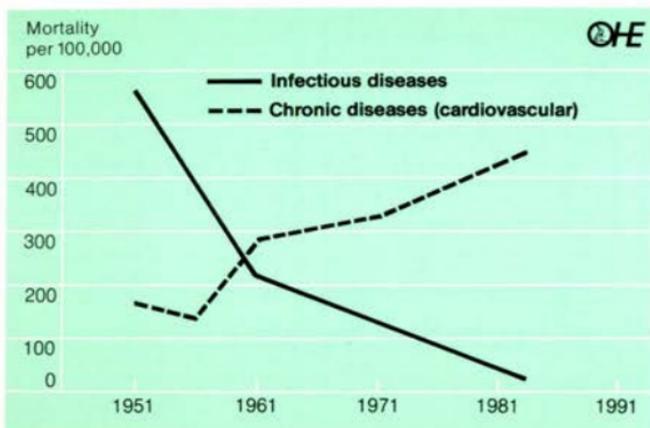
Source: Statistical Yearbook of China (1986).

**Table 29 Birth, death and natural growth rate (per thousand)**

Year	Birth rate	Death rate	Natural growth rate
Pre-1949	35.0	25.0	10.0
1949	36.0	20.0	16.0
1952	37.0	17.0	20.0
1957	34.0	10.8	23.2
1965	37.9	9.5	28.4
1978	18.3	6.3	12.0
1980	18.2	6.3	11.9
1984	17.5	6.7	10.8
1985	17.8	6.6	11.2

Source: The Health Ministry of China, Beijing.

Figure 6 The change in infectious disease mortality and chronic disease mortality in Shanghai from 1951–1983



Source See Reference 19.

Table 30 Infant mortality in selected years (per thousand)

Year	Total	City	County
Pre-1949	200	120	–
1954	138.5	–	–
1958	80.8	50.8	89.1
1973–1975	47.0	–	–
1981	34.7	–	–
1983	–	13.6	26.5
1984	–	13.4	24.4
1985	–	14.0	25.1

Source Based on sample surveys by The Health Ministry of China, Beijing.

Table 31 China, leading causes of death, 1973–75

Cause of death	National			Cities						Counties – Towns								
	Total		Male		Female		Total		Male		Female		Total		Male		Female	
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
Cardiovascular <sup>1</sup>	26	1	23	1	28	1	38	1	36	1	42	1	24	1	22	1	26	1
Respiratory	16	2	15	2	16	2	11	3	11	4	12	3	16	2	16	2	16	2
Cancer	10	3	11	3	9	3	16	2	18	2	14	2	10	4	11	4	9	5
Accidents	9	4	11	4	8	6	9	4	11	3	7	4	10	3	11	3	9	4
Digestive	9	5	9	5	8	5	6	5	6	5	5	5	9	5	9	5	8	6
Infectious <sup>2</sup>	8	6	8	6	9	4	4	7	4	7	4	7	9	6	9	6	9	3
Neonatal	6	7	7	7	6	7	2	8	2	8	2	8	7	7	8	7	6	7
Tuberculosis	6	8	6	8	6	8	5	6	5	6	4	6	6	8	6	8	6	8
Urinary	2	9	2	9	2	9	2	9	2	9	2	9	2	9	2	9	2	9

Notes: Data from the Cancer Epidemiology Survey of 1976, based on all recorded deaths for the three years 1973–75 for areas with 93 per cent of China's population.

<sup>1</sup>'Cardiovascular' includes heart diseases and stroke.

<sup>2</sup>'Infectious' does not include tuberculosis.

Source: The Health Ministry of China, Beijing.

**Table 32 Cities: The first ten major diseases' – mortality and percentage in 1985**

<i>Cause of death</i>	<i>Mortality (1/100 thousand)</i>	<i>Percentage of total deaths</i>
Heart disease	131.04	23.39
Cerebrovascular disease	117.52	20.98
Cancer	113.86	20.32
Respiratory disease	50.85	9.08
Digestive disease	23.34	4.17
Accidents	22.37	3.99
Tuberculosis	10.22	1.82
Poisoning	10.13	1.81
Urinary disease	9.12	1.63
Infectious disease	7.92	1.41
<b>Total</b>		<b>88.60</b>

*Source* The Health Ministry of China, Beijing.

**Table 33 Counties: The first ten major diseases' – mortality and percentage in 1985**

<i>Cause of death</i>	<i>Mortality (1/100 thousand)</i>	<i>Percentage of total deaths</i>
Heart disease	165.80	25.47
Cerebrovascular disease	101.31	15.57
Cancer	98.76	15.17
Respiratory disease	79.74	12.25
Digestive disease	35.54	5.46
Poisoning	24.98	3.84
Tuberculosis	24.19	3.72
Accidents	21.84	3.36
Infectious disease	13.96	2.14
Neonatal disease	870.40*	1.68
<b>Total</b>		<b>88.66</b>

\*Based on deaths per 100 thousand live births.

*Source* The Health Ministry of China, Beijing.

## DISCUSSION OF ISSUES

### Experience and lessons learned

As mentioned earlier, health care has been organised in China for nearly 40 years (1949–present) and the total health expenditure still only accounts for about 3 per cent of gross domestic product (GDP) per year. In comparison with developed countries and some developing countries, health spending is very small. Despite this, the achievements are obvious: the pattern of health problems has changed from infectious diseases to the chronic diseases; the crude death rate has fallen to about 7 per cent; the infant mortality has declined to about 35 per 1,000 live births and life expectancy has risen to 68 years. The credit for these improvements should be given to the prevention policy and the establishment of the three-tier health care network. In implementing the prevention policy, the Chinese government has relied on the mass movement rather than on allocating large amounts of resources. In fact the prevention policy accounts for about 16 per cent of the total health care running cost. There are, for example, nationwide 'patriotic health campaigns' twice a year (usually in Spring and Autumn). These campaigns include the following aspects: spreading health knowledge; reforming bad habits; improving water resources (in rural areas); cleaning the house (individual house and public sites) and controlling pests etc. During these campaigns, the competition between provinces, cities, counties, districts, factories, schools and suchlike is conducted by the national patriotic health campaign committees. Rewards and punishments are available for the winners and losers (mainly focused on public opinion). By this sort of mass movement, the sanitation has been improved remarkably, which has at least provided the prerequisite for reducing the incidence and mortality of infectious diseases.

The three-tier health care network was set up during the 1950s. This network made it possible for everyone to use the health service and it completely changed the condition in most rural areas where there had been neither doctors nor medicine. By 1985, the first tier health organisations were present in 625,992 villages accounting for 87.4 per cent of the total village in the countryside (21).

On the whole, the three-tier health care network is the pillar of the delivery of Chinese health care. It has proved suitable to China's needs and it is the cheapest way to attain certain health goals.

China's achievements in health work are positive, but they are far from perfect. During the past decades, China made a lot of mistakes. Too many administrative orders and disregard for market forces made health work lack vitality. Unlike most countries with a dual system (state and private) China only allowed state run health care. No competition was available which, to some extent, restricted the development of the health sector. In the 1950s and 1960s, the government reduced health service prices three times in spite of China's economic position and different income levels between urban and rural areas.

This made all the hospitals run at a loss. In most cities, the low-price medical services have been over-used. Heavy pressure was put on hospitals both for outpatient and inpatient care. The hospitals became poorer and poorer. Although the condition has been improved in recent years by introducing different charge systems, the lesson should be remembered for all time.

### Geographical distribution of resources

Eighty per cent of people in China live in the countryside. Before liberation (October 1949), health services were almost unavailable for the rural people. Efforts to provide health care in the rural areas began with the founding of new China. In the 1950s and 1960s many 'bare-foot doctors' (now village doctors) were trained and the three-tier health care network was set up which met the basic medical needs of the peasants. Compared with urban areas, differentials still exist: in 1985, there were only 0.32 senior doctors and 1.53 hospital beds per 1,000 population in rural areas, whereas there were 2.15 senior doctors and 4.54 hospital beds per 1,000 population in urban areas. According to data from the urban-rural health service sample survey, the average per capita health expenditure is about 47.37 yuan in urban areas, and only about 11.30 yuan in rural areas. The former is four times the latter. It is a really arduous task for China to stabilise the present health resources in rural areas and to gradually reduce the distinction between the urban and rural areas.

### Trends in medicine

China's constitution stipulates the development of traditional Chinese medicine and Western medicine. That means the two types of medicine will exist at the same time. In order to strengthen traditional medicine, the central government in 1985 pointed out: traditional medicine and Western medicine are of equal importance for Chinese people. On the one hand, traditional medicine is a unique characteristic and offers advantages for China's health sector so that China cannot discard it but must preserve and develop it. On the other hand, traditional medicine must use advanced scientific technology and modern means to promote the development of itself. China should keep on carrying out the policy of integrating traditional medicine with Western medicine. The two types of medicine should be co-ordinated, learn from each other, make up for each other's deficiencies and give full play to each other's advantages.

### Future prospects

China has made impressive progress on health work since 1949. Frankly speaking, however, China's present condition and expansion of its health sector is not compatible with the people's increasing demand. In 1985, there were only 2.14 hospital beds and 0.7 senior doctors per

1,000 population. This is far less than that of the developed countries, and even compared with some developing countries, China lags behind. In some areas, it is not easy for people to see doctors and it is even more difficult to be hospitalised. In some border and the minority areas, infectious and endemic diseases are still a major menace to people's health. In rural areas, most people are beyond any health care schemes. The prevention and treatment of cardiovascular and cerebrovascular diseases, and cancers, which make up the leading causes of death in China, are very weak. Environmental pollution and some unfavourable life habits are becoming prominent health problems (22).

In facing these problems, the Chinese government has had to adjust its health policy and relax restrictions. In recent years, nationwide reform of health work has taken place and has developed many new aspects, as discussed below.

#### *Raising health funds through multiple channels and finding new ways to develop health undertakings*

Nowadays, the central government, local government and industry work together to provide health care. There is an increasing number of collectives and individuals setting up their own health institutions which induce competition with hospitals run by the state. By the end of 1986, the number of doctors who had opened their own clinics had reached 0.133 million.

#### *Growth in combined medical bodies*

In China, health institutions are provided by the different sectors (e.g. mines, industry, army) and it used to be rare to find contact between sectors. Perhaps this is one of the limitations of the present managing system (sector ownership). Most factory, mine and army hospitals had large resources, but the utilisation rate was low (23) and the resources were not available to outside society. To tap into and use health resources comprehensively, a lot of health institutions in different sectors have voluntarily formed a combined medical body. This offers a new way to mitigate the difficulty of physician contacts and hospitalisation. It also promotes the mobilisation of qualified personnel and technology. The combined medical bodies take four forms (24):

- i) Running hospitals jointly;
- ii) Setting-up joint wards;
- iii) Single-item or multiple-item technology co-operation;
- iv) inviting technical advisers.

In the city of Taiyuan (Shanxi Province), 64 factory and mine hospitals combined with hospitals run by the health sector and opened their doors to general society. The utilisation rate of hospital beds has risen from 40 per cent to more than 70 per cent. That is equal to establishing three new hospitals with 300 beds in each (25).

In 1986 and 1987, some new forms of combined medical bodies emerged. Something like urban hospitals combined with rural health institutions and large hospitals combined with small. All these changes

have tapped the latent power of large hospitals and strengthened the vigour of small hospitals especially in rural areas. To some extent, the combined medical body has similarity with Health Maintenance Organisations (in respect of maximising productivity in resource use).

#### *Developing household sickbeds*

Since 1983, more and more household sickbeds have been set up in China. Large numbers of health professionals go out of hospital to the cities and townships. They deliver health care in patients' homes for patients who will benefit most, namely the old, weak, disabled and patients with chronic diseases. This is welcomed by the patients and it reduces the pressure on hospital beds. Today the management of household sickbeds is becoming standardised (by establishing consultations, making rounds of the 'wards' and keeping medical records). By the end of 1985, there were 0.91 million household sickbeds in the whole country (26).

Practising health insurance programmes in rural areas, as discussed earlier, is another means for reform in the health care system.

## CONCLUSION

China has formed its own health care system and has been widely acclaimed for its success. With the socio-economic development, however, many new problems remain to be solved. Only by relying on the reform and constant exploration of new ideas can China make further progress in its health work.

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# 伏人明堂圖

# 正人明堂圖

凡人兩手足各有三陰三陽脈以合為十二經也手之三陰經腕至平手之三陽從平至足是足之三陰從足上走入腹絡脈傳注周流不息故經脈者行血氣通陰陽以榮於身者也其始從中脈注手太陰陽明陽明注足陽明太陰太陰注手少陰太陽太陽注足太陽少陰少陰注手心主少陽太陽注足少陽厥陰厥陰注手太陰其氣當以平旦為起以滿水下百刻晝夜流行與天同度然而復始也

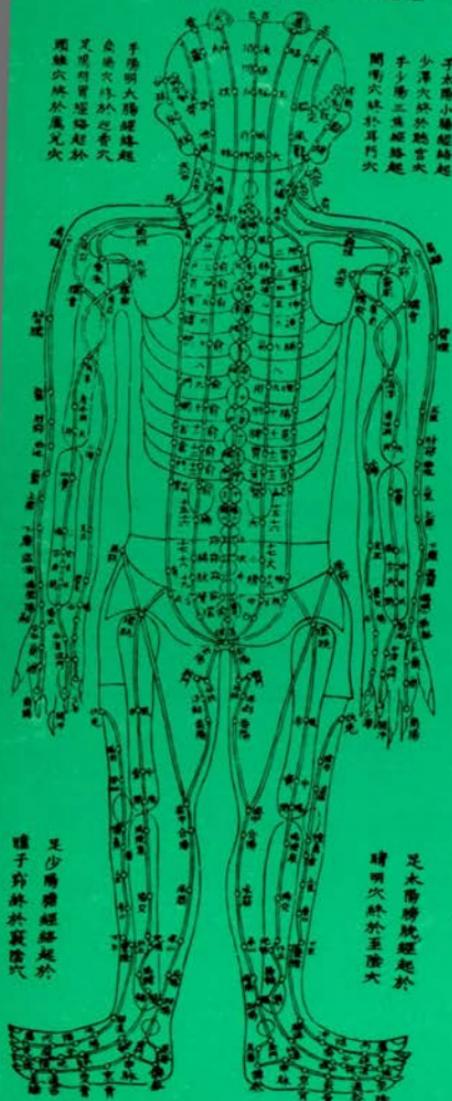
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一十六丈二尺人  
一平脈行三十寸  
吸脈行三十寸吸  
定息合行六十寸人  
一日一夜凡一萬  
三千五百息脈行  
五十度周於身全  
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手太陰經絡起於中府穴  
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起於天池穴終於中衝穴

手少陰心經絡起於極泉  
穴終於少冲穴足少陰腎經  
絡起於湧泉穴終於會府穴

手太陽小腸經絡起  
少澤穴終於聽宮穴  
手少陽三焦經絡起  
關衝穴終於耳門穴

手陽明大腸經絡起  
商陽穴終於迎香穴  
足陽明胃經絡起於  
厲兌穴終於厲兌穴



足厥陰肝經絡起於  
大敦穴終於期門穴

足太陽脾經絡起於  
隱白穴終於大包穴

足太陰脾經絡起於  
晴明穴終於至陰穴

足少陽膽經絡起於  
瞳子髎終於竅陰穴

