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IMPACT OF THE RURAL REFORM ON FINANCING  
RURAL HEALTH SERVICES IN CHINA

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## ABSTRACT

The introduction of the rural responsibility system in 1980 has had a profound influence on rural living conditions and a major impact on several aspects of the rural health care system. Financing of health care by the rural cooperative insurance schemes, the availability and functions of primary medical care personnel (barefoot doctors or rural doctors) and the availability of community resources for health campaigns have all been affected. This paper reviews the changes that have occurred since 1980 and discusses the observed trends, problems and the secondary effects of the rural reform on urban health care delivery, with a particular focus on the health care financing experiences that have been implemented throughout China.

How can China adjust to these changes? A strategy to address these changes would include a sustained emphasis on preventive care, a need to train its health workers to focus on appropriate treatment technology, and continued experimentation in varying insurance schemes and reimbursement procedures to hospitals and individuals, with particular effort to maintain a balance between stimulating care providers to deliver sufficient high-quality services without inducing overconsumption because of profit motives.

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## Introduction

After the liberation, during the period from 1950 to 1980, the health status of the Chinese people has improved remarkably. Public health measures, combined with a reduction in malnutrition and improved water supplies and sanitation, have reduced the infant mortality rate from 250 per 1000 live births in 1950 to less than 50 in 1980. Life expectancy increased from 35 in 1949 to almost 70 in 1980 (1). Indeed, the achievement of accessible primary health care for virtually all people in a country with a per capita income as low as \$290 (1980) is unique in the world (2). The introduction of the rural responsibility system at the beginning of the 'eighties, which made the economic interest of the peasants directly linked to their capability, to the efforts they make and to the results of their production, has had a profound influence on rural living conditions. Among other things, per capita income increased from 290Y in 1980 to 436Y in 1987 (3).

The responsibility system also had a major impact on several aspects of the rural health care system. The financing of health care by the rural cooperative insurance schemes, the availability and functions of primary medical care personnel (barefoot doctors (BFDs) or rural doctors) and the availability of community resources for health campaigns have all been affected. Secondary effects, such as increased demand for higher quality care, have been felt by the higher levels of health care in the counties and urban areas. Other factors which will not be addressed in this paper but have also influenced the demand for health services are: the rapidly increasing prevalence of chronic and disabling diseases and the increased value now placed upon the health of children because of the one child family policy.

This paper will focus on the impact of the economic responsibility system which has resulted in an attrition of BFDs, change in the financing of rural health care, increased demand for higher quality medical care and decreased resources for preventive services. These developments challenge the viability of primary health care for all in rural China.

Can the Chinese maintain their relative success in providing preventive and primary care to the vast majority of the rural population? How should the Chinese respond to the new challenges they will face in the near future? This paper addresses these two issues. The outline is as follows. Chapter 1 presents the background of the Chinese health care delivery system before 1980, and changes that occurred since 1980 with the introduction of the responsibility system. Chapter 2 discusses the responses to changes that occurred after the rural reform. These include training issues, the demand for higher remunerations and trials with new forms of health care financing. Chapter 4 discusses the observed trends, in rural areas as well as the secondary effects on the urban health care delivery system. Chapter 5 draws conclusions for the long term development of the rural health care system in China.

## 1. THE RURAL HEALTH CARE SYSTEM

### Background

Chinese traditional medicine, dating back to 2500 B.C., is the world's oldest body of medical knowledge. It applies a wide variety of therapeutic measures, from acupuncture and moxibustion to thousands of herbal preparations. Until the 17th century the traditional medicine was the only one available to the Chinese people.

The first Jesuit missionaries with some knowledge of Western medicine began arriving in China at the beginning of the 17th century, but achieved only a limited impact. The first school of Western medicine, St. John's University Medical School, was founded by missionaries in Shanghai in 1880. In 1881 the Chinese established a second medical school in Tienjin. Western medicine was systematically introduced in 1917, and the number of graduates averaged 500 per year (9449 doctors graduated between 1928 and 1947). Thus, few people had access to Western medicine, which was available only in the major cities. Rural people received medical care from traditional medicine practitioners who had perpetuated their art by apprenticeship, a system that had lasted for more than 3000 years (4, 5).

By 1949 there were 276,000 doctors of traditional medicine who provided the bulk of therapeutic medical care to the Chinese people and 38,000 doctors of Western medicine, approximately one per 15,000 people (Table 1 shows the number of people per doctor between 1950 and 1980) (6, 7).

As a consequence of poverty and malnutrition, the population of China before 1949 was burdened by a high incidence and prevalence of infectious diseases, such as typhoid fever, cholera, and tuberculosis, and by premature

TABLE 1 Physicians of Western and Traditional Medicine as a Ratio of Population, 1950, 1952, 1965, 1980, 1986

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	Physicians of Western Medicine	Physician to Population Ratio	Physicians of Traditional Medicine	Physician to Population Ratio
1950	41,000	1:14,056	286,000	1:2,015
1952	51,736	1:11,563	306,000	1:1,955
1966	188,661	1: 3,900	321,430	1:2 289
1980	447,288	1: 2,190	262,185	1:3,736

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Source: World Bank data.

TABLE 2 Estimates of Life Expectancy and Infant Mortality,  
1949, 1982, 1986

Mortality Indicator	1949	1982	1986
Infant Mortality Rate (per thousand live births)	200	20.3	Urban 14.3 Rural 27.3
Life Expectancy (years)	35	68	68.9

Source: Chinese Health Statistical Digest, Ministry of Public Health, PRC,  
1986.



deaths. The crude death rate was 30 to 40 per 1000 population, the infant mortality rate was 200 per 1000 live births, and life expectancy was 35 years (Table 2). At that time there was little preventive medicine in China and there were only some general national or municipal public health services.

After 1949, traditional medicine continued to play an important role in the new China. Emphasis was placed on integrating traditional medicine and Western medicine, on rapidly increasing the number of health personnel, on providing better distribution of health manpower, and on focusing on public health works (i.e., improvement of environmental sanitation, vaccination against infectious diseases, and elimination of flies, mosquitos, rats, bedbugs and other pests).

During 1950 to 1980, a remarkable increase in life expectancy and a sharp reduction in the infant mortality rate were achieved. Life expectancy rose from 35 years in 1949 to almost 70 in 1980. The infant mortality rate declined from 200 per 1000 live births in 1949 to less than 50 in 1980. Much of China's success in improving the health of its people can be attributed to the health policies and the national health service delivery system.

Aiming to establish rapidly a health system that could cover the entire population, the People's Republic of China (PRC) established guidelines:

1. Emphasis on preventive services relative to curative services.
2. Training of health auxiliaries to take precedence over training high-level professionals.
3. Focusing resources to support preventive services, and to subsidize the cost of drugs and medical services.

### Before the Rural Reform

Without external aid China is said to have built a rural health care system that makes primary health care a right for each individual. This system operates on three levels: the brigade health station, the commune health center, and the county hospital (Table 3). The brigade health station is the base of the pyramid of the three-tier system. Two to four BFDs provide care for a population of 1000 to 3000. In 1982, almost 90 percent of brigades in rural China had a brigade health station and were covered by a rural cooperative insurance system. The BFDs provide basic curative care, distribute both Western and traditional medicine, and provide preventive services such as family planning and communicable disease surveillance. The brigade health station is financed through a cooperative health insurance system by collecting annual fees from brigade members, by selling medicinal herbs for profit and by a subsidy from a brigade welfare fund.<sup>1/</sup> It is also subsidized by the commune or county if there is a deficit. In addition, all preventive services and some drugs are provided by the county or province.

The commune health center provides curative medical care, epidemic prevention services, and maternal and child health care. The medical care division provides inpatient and outpatient services, including surgical operations such as abortions and sterilization. The epidemic prevention division is in charge of disease surveillance and the organization of health campaigns. The maternal child health division provides routine obstetrical and pediatrics services. The commune health centers receive referrals from

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<sup>1/</sup> The welfare fund is a small amount (1 percent) allocated from the net collective income of the brigade to be used for educational, health, cultural, and other public functions.

TABLE 3 Vertical and Horizontal Political Organization in Rural China

Administrative Level	Population Size of Typical Unit	Executive Branch of Government	Chinese Communist Party Unit	Unit Responsible for Health Services
Nation	1,008,175,000	State Council	Secretariat of Central Committee	Ministry of Health (supervisory)
Province (or Autonomous Region or Municipality)	2,000,000-100,000,000	Provincial Government	Provincial Party Committee	Provincial Health Bureau (supervisory) Hospitals, Epidemic station and MCH Stations
----- The Three Tier, County-Politico-Administrative Organization				
County	400,000-600,000	County Government	County Party Committee	County Health Bureau (supervisory), Hospital, Epidemic Station, MCH Station
Commune <sup>1/</sup> (Township)	15,000-50,000	Commune Management Committee	Commune Party Committee	Commune Health Center
Production Brigade (Village)	1,000-3,000	Brigade Leadership Group	Brigade Party Branch	Brigade Health Station

<sup>1/</sup> Since the introduction of the household responsibility system the commune that combined production with government functions has undergone reorganization. In the past, the commune was both an economic organization and a grassroots government agency. From 1980 on, the two were separated, and the town/township government was set up. Thus the commune is no longer so called.

from the brigade health stations and are responsible for technical supervision and training of BFDs at the production brigade level. The size of the commune health centers may vary from 5-7 observational beds to a small hospital of 50 beds.

The commune health centers, approximately 14 per county, are linked to the county hospital, which serves as the referral center for the entire county (from approximately 400,000 to 1,300,000 population). The county hospital provides technical support and supervises the lower-level health care units.

Thus, the BFDs at the base of the three-tier system play a key role in providing first-level contact between the community and the health care system and serve as entry points into the health care system. Ideally, referrals are triaged through them. However, peasants can and often do bypass the referral system by paying fees directly to the commune health centers or to the county hospital.

One special feature of the Chinese health care system is the integration of vertical programs that are initiated at the national level but implemented by primary care programs locally. For example, the vertical programs, such as immunization, malaria, and leprosy, are initiated by the epidemic prevention station. The BFD has a central role in the implementation and integration of services at the base level. The tasks in preventive services (e.g., vaccinations, delivery of birth control methods, identification of tuberculosis and malaria patients) are carried out by the BFD, who also provides curative care to the brigade members

Major health programs have been incrementally developed and implemented during 1950 to 1980. last 30 years. The BFD's training and

functions have always been directed to the most prevalent health problems of the people. Consequently, the BFD's practice has seen a spectrum of activities rather than one standardized profession.

After the revolution, the earliest health programs were directed toward reducing the most prevalent contagious diseases -- including cholera, tuberculosis, and malaria -- and with mass immunization programs, public education for personal hygiene, and pest control campaigns. The health workers concentrated their efforts on these programs. However, as socioeconomic conditions improved, concerns shifted toward increasing nutritional standards and providing a broad network of maternal and child care services to reduce the infant mortality rate. With better hygiene, better sanitary conditions, and reduction of the infant mortality rate since the late 1970s, birth control then became the next high priority, and preventive methods were taught to men and women by the BFDs. Thus, while health care needs changed, so did the activities of the BFDs as resources were directed to problems most in need of attention. These continuously shifting priorities in relationship to environmental and population needs may have been and may still be the key factor in the success of the BFD program and of the health care system in general.

#### After the Rural Reform

The introduction of the responsibility system and the modernization policy in 1980 led to a major change in rural health services. The model of self-reliant 3-tier health services has been replaced by a pluralistic system with a combination of private (fee for service) and public (government subsidized) services similar to the western type health care systems. Health

care financed by rural cooperative insurance schemes virtually collapsed from 90 percent coverage to less than 25 percent. The functions of the BFD and the availability of community resources for health campaigns have also decreased.

The success of the barefoot doctor's movement in China has been widely acclaimed as an example of what can be done with limited resources. The BFDs' contribution to the achievements of the Chinese health system has been facilitated by a high level of community participation and acceptance. Furthermore, by politically mobilizing the population, BFDs have carried out immunization programs, pest control campaigns, and environmental sanitation works. With political backing, the BFDs have been accepted as health workers by the community.

However, the function of the BFDs in China has changed with the political, economic, and ideological shifts that have taken place over the past decade. Under the previous collective system, agricultural labor was paid on a point system related to hours of labor input without reference to productivity. The BFD's were also paid on the same point system. The responsibility system now makes the individual household or group responsible for farming a specific plot of collectively owned land. The household/group contracts with the brigade to meet a specific production quota. Sales of any excess produce are retained by the household/group. The new economic incentives have resulted in significant income increases for the rural population.

Increased income for peasants has led to an increase in demand for health services and to a shift toward higher technology, higher-quality services. As the households replace collective production, the brigade's administrative organization is weakened. Cooperative health services are

collapsing rapidly. Brigade members are less interested in organizing cooperative insurance schemes; they now perceive the risk of pooling benefits provided by insurance as less advantageous because they can afford to pay medical fees. The time spent administering cooperative services is viewed as wasteful when that time can be spent more productively in farming activities. Peasants are also inclined to seek care earlier and more frequently as their incomes rise. This has changed the activities performed by BFDs, who were previously mainly paid by the work point system but now earn almost all of their income through fees for services. Many more curative than preventive activities are now being performed (8-13).

## 2. RESPONSES TO THE RURAL REFORM

### Attrition of Barefoot Doctors

As peasants' potential income increased the income of BFDs, based on work points, fell behind. The responsibility system has raised the opportunity cost of work as a BFD by making agricultural or non-agricultural entrepreneurial activities relatively more attractive for BFDs. The number of BFDs have fallen from a peak of 1.6 million in 1975 to 1.28 million in 1986 (14). Chinese officials in the Ministry of Public Health, however, attribute this reduction to the dismissal of technically incompetent BFDs; thus the reduction in number may partly reflect an increase in quality. Indeed, the policy since 1980 has emphasized upgrading BFDs' skills. Additional training has been offered by qualified doctors at the commune health centers and county secondary training centers. A "rural doctor certificate" is awarded to those who have passed a qualification examination after retraining. The initial training of the newly recruited BFDs (now called Rural Doctors) is now a minimum of six months to one year in contrast to the three months term offered earlier.

### Privatization of Rural Health Services

In 1982, almost 90 percent of villages (formerly brigades) were covered by some form of cooperative insurance. By 1983-84, less than a quarter of villages retained a cooperative insurance scheme. New methods to pay for primary care at the grassroots level include a revolving fund, set up by the village to maintain the village health station's medical supplies. In addition, the rural doctor generates his income from profits earned from sales



of drugs and registration, injection, and other procedural fees. Another method is a private enterprise, in which the rural doctor sets himself up in medical practice.

After a period where the fee-for-services payment system dominated in the rural areas, with peasants out-of-pocket payments being the only source of revenues for medical services, alternative trials of financing basic medical care have emerged in villages, townships and counties throughout China. The rate of cooperative insurance has increased again, to about 50 percent in 1986. Paradoxically, the wealthier areas, where the village administration can offer high benefit levels and individual peasants can easily afford a premium, are now the ones with the highest insurance coverage. In the poorer provinces, cooperatives have virtually been completely replaced by fee-for-service systems.

#### Alternative Health Care Financing Experiences in China

The results of the many alternative health care financing experiences that are currently being tried in rural areas are published in the Jian Kang Bao ("Health Newspaper", published in Beijing). A review of the Jian Kang Bao from 1982 to 1986, showed an increased proportion of villages adopting varying schemes of collective medical insurance to finance the basic care. (Annex 1 summarizes reported financing options carried out in various provinces.) Furthermore, new methods of management, such as merging the village stations and township health centers under one administration, have also been attempted.

The financing options tried out in various parts of China range from public full health insurance coverage for all care, to no coverage at all

coupled with a fee-for-service structure. Unfortunately, but not surprisingly, the "evaluation" of the various experiments is very soft; in general it is found that "attitudes improved", "the system is more efficient" and "there is less waste". Consequently, the relative merits of the various alternatives should be judged with care, preferably based on more experience with such structures in other countries.

Though most of the discussion on the collapse of the cooperative system focuses on the question of how to provide health insurance for 800,000,000 peasants, the issue is sometimes casted in different terms: there was too much waste in the cooperative system; health workers were lazy, showed up late, left early; there was a lot of absenteeism; workers were rude to the patients; and the quality of care provided was bad.

It is hard to believe, however, that the system was abolished because of these problems. It is more likely that the disappearance of cooperative insurance was an unanticipated side-effect of the introduction of the responsibility system. The administration of the work point system dissolved and risk pooling for payment of medical care is no longer as attractive as peasants income increased. Still, the dissatisfaction with the old system may have been partly responsible for the lack of measures to save the system. In addition, in some cases subsidies exist to lower level facilities, from county level resources and even from enterprise funds, suggesting that concern for the financing of medical care for those units and individuals who cannot afford it themselves, is still part of the motivation for the health financing experiments.

The following summarizes the main points. The most general form of health-care financing currently found in the rural system is some combination

of fee-for-service and subsidies. That is, part of the cost for providing medical care is recovered by charging fees for goods and services, while part still comes from general government revenues. Within this very general framework of "two-level" financing a large variety of specific solutions exists.

#### At the County and Township Level

There has been considerable decentralization of responsibilities in the health sector in recent years. Budgeting authorities have been delegated to the provinces, the cities, the countries, and the townships. Most health expenditures are now met from total revenues, and only a small portion of expenditures are allocated from higher levels.

Government health workers at the county and township level currently face very strong incentives to improve their performance. The basic mechanism to achieve this is some type of "responsibility system". The most extreme form is an immediate cut in current salary (up to 50 percent) coupled with a bonus system based on performance to make up for the loss. Alternatively, performance payments are made to supplement salary. Performance is measured in terms of tasks finished, as defined by the county health bureau. A typical "evaluation" reads as follows:

- o Attendance days increased from 270 to 305 days
- o Quality of work increased
- o Drug expenditures reduced 30 percent
- o There were volunteers for immunization campaigns
- o "Unnecessary" expenses reduced 28 percent

- o More surgery performed
- o Revenues were up 5 percent

The last point, "revenues up" appears in virtually every evaluation. Clearly incentives are put in place to increase production by health workers. This explicit attempt to stimulate "supplier induced demand" contrasts sharply with the more familiar situation in Western countries where mechanisms are being invented to cut the direct tie between a physician's income and the number of tasks or operations he or she performs.

Increasingly over the last two years, township governments are assuming the entire burden to finance their own health services. Funds for major capital construction and equipment purchase are provided by the township finance bureau. The salaries of the workers are self-financed. In Hunan province 72 percent of township health centers are under administrative management of township governments. Many township health centers are totally self-financed, generating revenue from fees. Surplus income is used for bonuses and reserve funds. In some township health centers, work is contracted out to a group of health workers who generate revenues from fees. These revenues are used to cover salaries and expenditures.

Management style has also changed. In the past, a committee consisted of party cadres, and representatives from the medical staff managed the health units. Now the responsibility to manage the hospital is delegated to the medical director. The director assigns bonuses to his staff according to their performance, and he gets a bonus if the center's overall performance is judged by the health bureau to be above average.

At the Village Level

Though most of the experimental financing mechanisms within county and township level facilities aim at improving the performance of the workers, plain lack of financial resources motivates the search for adequate cost recovery schemes at the village level.

The following is a range of options currently in place in various parts of China:

- o The cooperative system is still in place, but the rural doctor pays the village for the use of the health station; a fee is charged for services and reimbursed by the cooperative; drugs are not covered by the cooperative and a co-payment is required for services.

This, by the way, is an interesting system that (a) forces the rural doctor to perform well and (b) puts economic incentives in place to prevent patients from "over-using medical care".

There are many variations in the cooperative system, depending on the economic status of the villages. Rich villages provide free drugs, free services and partial reimbursement for referrals; moderately well-to-do villages provide free services, but charge for drugs. Poor villages provide free preventive services and charge for the rest.

- o Rural doctors lease the health station, charge a fee-for-service. Revenues after the "rental fee" are their income. Under this system, preventive services are often not provided by the health workers because these generate very little income.

Modifications of private practice are also found. A rural doctor or a group of rural doctors is paid a base salary, plus bonuses for preventive

services. Revenues are generated by a fee-for-services system and accrue to the villages. Many other alternatives are reported to maintain preventive services. These include:

- o A capitation system is put in place at the village level for preventive activities, i.e. the village pays the rural doctor 30 fen per person per year. The rural doctor provides immunization, family planning services, etc. In addition the rural doctor charges a fee for curative services. The fee accrues to him.
- o Preventive services ("health maintenance services") are organized at the township level. A township health maintenance service operates with voluntary enrollment (50 fen per member). Preventive services are provided free of charge by rural doctors who contract with the township health center.
- o Immunization and delivery insurance are sold to village members. For example, a region in Henan province provides an immunization insurance for 16Y. A child receives all the vaccines required until 7 years of age. If the child comes down with measles, a compensation of Y20 is given, with poliomyelitis Y500 is given (15). Similarly for hospital deliveries, parturients can purchase an insurance premium of Y10 to guarantee her and her infant's safety. If maternal death occurs, the hospital pays Y2000; if the newborn dies Y200 is paid to the family (16).

From this large variety of options, a few general trends emerge: first, a fee-for-service for rural doctors and health workers (previously barefoot doctors) is virtually universal, thus providing a tie between tasks performed and revenues. Second, the worst health insurance coverage (often,

no coverage at all) is found in the poorest areas. The richest areas pretty much kept or reinstated the full coverage cooperative system. Third, rural doctors are mainly private entrepreneurs, having some "lease" arrangement with the village to operate the health station. Lastly, there is a shift from preventive to curative services.

### 3. SECONDARY EFFECTS ON THE URBAN HEALTH CARE SYSTEM

One emerging consequence of the rising income of peasants is that they are demanding higher quality medical care. In response to the high demand for inpatient and outpatient care which far outstrips bed and staff capacity of the city hospitals, city health officials are pressured to further expand higher level health facilities. The local governments, under decentralization policies, are allocating comparatively more resources to the tertiary level facilities over the primary and secondary services. The poor quality of staff and facilities at these lower levels in turn result in low demand for their services. Within a city/county/township, financial planning/allocation is further decentralized. As a result of this decentralization, viability of an individual hospital depends increasingly on its cost recovery.

Various methods of management responsibility systems have been introduced. Many hospitals have designated the hospital director to assume sole responsibility. This has increased efficiency and accountability. Previous indicative measures such as quotas on number of patients received every day have been dissolved. In order to increase revenues, hospitals have expanded their services, added specialty outpatient departments and offered consultation services to lower level facilities.

Over the last two years there has been an increased number of "medical coordination joint enterprises". These are joint enterprises between a group of hospitals (a larger institute joining operation with smaller hospitals, an urban hospital with rural hospitals; groups of specialized hospitals, local and army or enterprise hospitals.) This linkage or



coordination is an attempt to increase the efficiency of the current duplicative services. Many sectors, especially industry, own their own network of hospitals and health services. For example, in Heilongjian, enterprises own one-half of total available hospital beds and one-third of health manpower in the provinces. These resources are inefficiently managed and underutilized. An attempt to increase utilization by gradual divestiture began in 1981. By 1984, utilization of industry-owned hospital beds increased from 71 percent to 77 percent. 2884 beds were made available for both public and enterprise use in Heilongjian.

There is also reported commercialization of these "joint enterprises". For example, in Jilin, a hospital sends doctors to set up a clinic at the city's largest pharmaceutical company. The availability of the doctor and the convenience of the drug store is very attractive for patients seeking care, and is mutually beneficial to the hospital and the pharmaceutical company.

Perhaps the most far reaching reform reported so far regards hospital pricing. In various places, government and enterprise workers are now being charged cost-based hospital fees that well exceed the standard (nationwide) fees. As a result, like in other sectors, there is now a dual pricing system: a higher price for the government and enterprise insurance as compared to the price set for self-pay patients, which is set at 35-45 percent of cost. Thus, on the one hand, very serious extra financial claims are being laid upon the already troubled government and enterprise health insurance systems, while on the other hand, a potentially large contribution is

implicitly being made from government workers and other employees to medical care consumed by peasants. <sup>1/</sup>

Current prices are still set at 35-45 percent of cost (excluding salary). In addition, for the national price to be set at below cost levels, the price is the same at all levels of sophistication, i.e., price for procedures and hospitalization at provincial hospitals is the same as county or township level hospitals. This enhances unnecessary utilization of higher level services.

The hospitals are now concerned with the increasing deficit they are incurring because they are required to become self-sufficient under the decentralization policies. Pricing policy is the major issue. For each hospital day, the hospital loses 3-6Y. For each operation there is a loss of 20-30Y. Furthermore, reimbursement standards has not been updated for a long time. Capitation of government insurance in 1986 is based on 1978 price standard of 30Y P.C. per year. While there has been a 40 percent inflation for the base materials such as tape, gauze, cotton, sutures, prices of coal have risen by 200 percent; drug inflation is 76 percent. Cost of diagnostic procedures have also increased, especially the modern radiologic diagnostics such as CT scan and ultrasounds. Thus, increased peasant demand for urban health services add to the financial crisis urban hospitals are facing. With decreased subsidies from higher levels as financing of health services has become decentralized and with prices of medical services set at below cost,

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<sup>1/</sup> Although the dual pricing system increases the financial burden on the already heavily burdened government and enterprise institutions, the "dual pricing" in essence subsidizes the rural population, and mitigates the 1:10 imbalance in the rural-urban spending ratio of the 1970s.

the urban hospitals are pressured to reduce debt by improving hospital efficiency and as noted in many places by care providers generating demands through overprescription of medications and utilization of modern radiologic diagnostics.

#### 4. SUMMARY AND OPTIONS FOR THE FUTURE

The shift from collective to individual production has caused many changes in rural health care. The rural cooperative medical service and the organization of BFDs once tightly linked with the agricultural collectivization lost its financial base (the welfare fund). As peasants potential income increased, the opportunity cost of work as a barefoot doctor/rural doctor increased; this has contributed to a marked attrition of barefoot doctors. As individual/household production replaces collective production, village members are less interested in organizing cooperative medical insurance schemes; they now perceive the risk of pooling benefits provided by insurance as less advantageous because they can afford to pay medical fees. Peasants are also seeking care earlier as well as more frequent and better care. This has changed the activities performed by barefoot doctors/rural doctors, shifting the emphasis from preventive to curative activities. Finally, the increased demand for higher level services aggravates the already severe financial problems of the higher level (urban) health care system.

With decentralized financing policies, local governments are assuming the burden to pay for their own public sector such as health and education. Long-term investments in manpower training, preventive and public sanitation activities tend to be underfunded. The decrease in public allocation to preventive services is compounded by patients unwillingness to pay out of pocket for such services. This has resulted in a rise in the incidence of

measles and a decline in standards of environmental hygiene in various places.

Over the last few years health officials have increased the emphasis on subsidizing BFDs for preventive services in response to the noticeable decline in delivery of preventive services in the rural areas, because the fee for the immunizations is small. It has become unattractive for the BFDs to provide these services.

The reported trials with insurance schemes over the last 4-5 years in many provinces show that the problems caused by the breakdown of the cooperative finance system is being recognized. The cooperative medical services had provided accessible and affordable basic health care throughout China. Given the disparities in China, it is impossible to identify one ideal insurance scheme that will suit the needs of the nation's 800 million rural population. It is clear that the Chinese government needs to continue the experimentation and evaluation with alternative schemes that are suitable to the different needs of the rural population.

The impact of rural reform also had significant repercussions on the urban health services. As income of peasants rise, their demand for better quality services places additional burdens on the urban health services. Furthermore, accompanying the rapid growth in the population of the elderly, the demand for services is increasing. Chronic diseases account for two-thirds of disease morbidity and mortality. As medical technology improves, more sophisticated equipment and procedures, though not the most cost effective, are used by the doctors and requested by the patients. At the same time, resources required to provide basic health services are becoming increasingly limited.

China's policy in the past three decades has concentrated on providing access to basic care. The BFDs were provided with short specific training and equipped just to the level needed to give simple medical care. Now, under the national emphasis on technical sophistication, major efforts are being made to retrain the BFDs and to lengthen their initial training. The goal is to bring BFDs up to the standard of middle-level health workers. BFDs who pass the examinations are issued a rural doctor certificate. Thus, the data show an emerging pattern of more professionalized health workers. With a rural doctor certificate a BFD tends to practice mainly curative care. He sees more patients and consequently prescribes more drugs (17). Increased professionalization of the health workers implies higher cost for primary care. These costs are being paid for by the patients out of their own pockets, since the health insurance system that was part of the welfare fund has collapsed. These changes also tend to decrease the level of preventive activities.

Without cooperative health insurance, the cost of curative care has become an entry threshold to the poor. A survey in 30 counties in Hubei province indicated that 55 percent of households (up to 63 percent in mountainous, poorer areas) indicated that price was too high and unaffordable as a reason for not seeking health care when needed (18). Although new finance schemes are being tried in various provinces, charging a fee for services has become the dominant financing mode, and there are reports of over-prescription and inappropriate mark-ups of drugs in an attempt to increase profit.

How can China address these problems? It does not suffice to say that there are definite regional variations in mortality rates, health service

infrastructure and health resource availability. For a country with over 1 billion population, the regional disparities are large and they are increasing. So there is not one prescription for the country. How can China finance its own health care delivery? Data show that the richer provinces or regions can afford and are willing to pay for a spectrum of interventions-- from health maintenance, primary and secondary prevention, curative care to rehabilitative care. Health insurance schemes for minor and major risk pooling is doable and desirable. In these areas, the elderly are even willing to purchase additional medical care insurance after retirement. But the poorer regions and provinces have no choice but to rely on some combination of subsidies and fee for service. China is in a position to avoid the errors that many developed and developing countries have made in putting all available resources into curative care, while ignoring preventive care and public health measures to improve community environmental hygiene and to control communicable diseases.

In all cases, China should not lose its focus on preventive care. As recognized now by the developed countries, single pursuit of advanced curative technology will not decrease mortality nor morbidity of the population. A balanced mix of strategies is necessary. In 1979, the surgeon general of the United States published Healthy People, Report on Health Promotion and Disease Prevention, which represented an "emerging consensus among scientists and the health community that the nation's health strategy must be dramatically recast to emphasize the prevention of disease" (19). This was followed in 1980 by a report, "Promoting Health, Preventing Disease", which set out objectives for improving the health of the population (20). The same year a Canadian task force published a major report recommending "health protection packages" for

each stage of life--combination of screening tests, vaccinations and counselling to prevent disease (21). Educational campaigns to encourage people to exercise, quit smoking, and adopt other health practices have been launched in several European countries (22).

One way to secure the prevention focus is through training. China has shown its capability to train a large number of BFDs, the single largest group of community health workers in the world, to focus on the pressing issues the nation faces, to serve every man, woman and child, and to provide basic care, family planning services and drugs. Today, at a time of rapid technological change in medical science, China needs to train its health workers to focus on appropriate treatment technology and to pursue a spectrum of intervention strategies aimed at different phases of the natural history of diseases, which entails health promotion and maintenance, primary and secondary prevention, restorative care, rehabilitation, extended care and terminal care, rather to focus only on curative care. In addition, government policies should encourage a healthier life-style by individuals, given the evidence that many medical problems are behavioral.

China needs to continue to experiment with alternative financing schemes. Research in many countries including the U.S. has shown that copayment can reduce overutilization of health services and that health maintenance organizations which provide both preventive and curative services at a pre-set insurance premium have reduced the cost of medical care without lowering the quality of services. Thus policymakers in China need to maintain a balance between stimulating health care providers to deliver sufficient high quality services without inducing overconsumption of medical care (such as drugs and high technology diagnostics) because of profit motives. In the



relatively well-off areas, experience with user fees needs to be evaluated and in the poorer regions the government needs to continue providing subsidized services.

Finally, China urgently needs to examine the varying insurance alternatives that could provide again accessible and affordable health care to its rural population, which not so long ago has earned China the widely acclaimed reputation for having built a rural health care system that makes primary health care a right of each individual. To maintain this reputation is China's biggest challenge in the health care sector.

Reports and Critiques of Health Care  
Financing Options Carried Out in Various Provinces

A. Reform in Government and Labor Insurance and Urban Services

JKB, April 3, 1984, no. 2012

Harbin. A district hospital set up a committee to manage government insurance. Central registration files of government members are set up to match member's name and picture. All referrals and transfers require approval by designated doctor. This resulted in lower insurance expenditures with an average of 2.61Y per month per member instead of the standard of 4.25Y.

JKB, April 26, 1984, no. 2022

Beijing. Dual charge standards. For government and labor insurance patients, charges are set to cost. This has increased income for the hospital and decreased deficit. Benefits: increased equipment installation for hospitals, enterprise improved management in referral registry to avoid over-transfer of patients. Enterprise hospitals increase investment in upgrading technical standards of health personnel, decrease referrals and transfers to big hospitals from its own health institutions.

JKB, August 9, 1984, no. 2067

Tienjin city. Used dual charge system. This has helped to improve quality of hospital service and improve management of labor insurance members, reduced expenditure of labor insurance.

JKB, October 9, 1984, no. 2093

Liaoning Province. Shengyang city and 6 other neighboring cities started to charge the government and labor insurance at cost.

JKB, October 9, 1984, no. 2093

Fujian province. Health bureau allows reimbursement of government and labor insurance people to claim for "home bed" expenses.

JKB, November 4, 1984, no. 2104

Guizhou province. Approved 4 modifications in urban health services. (1) multi-method, multi-layer health services. Mine enterprise and industry can establish health services for its workers or contract with the health bureau. Retired TCM or minority doctors can set up home private practice, and retired obstetricians or midwives can start home obstetrics centers. (2) Modify management standards. Hospital director responsibility system. Director has the authority to choose his own staff, assign bonuses and set subsidies. He can try different charge standards for procedures and hospital fees. (3) Modify work standard--simplify outpatient procedures, encourage

home beds, open hospital laboratory for outside services, and allow own medical staff to set up outside consultation services. (4) Modify task assignment--hire staff based on tasks; workers are under contract by tasks.

JKB, November 29, 1984, no. 2115

1. Government subsidy according to bed days and outpatient work load. 2. Director responsibility system; establish a post for a full-time administrative secretary to assist the director in daily administrative affairs. 3. Remuneration changes: fluctuating bonus based on completion of assigned tasks; housekeeping and maintenance department contract work from hospital; bonus associated with volume of tasks; service subsidy--overtime and home visits are paid at a fee of 30% of the charge. 4. Adjust hospital services. Increase outpatient department operation hours to 14 hours each day, and staff night clinics by well-known doctors. Hospital lab and radiology departments contract service with enterprise hospitals.

JKB, December 27, 1984, no. 2127

Beijing. Some work units reform government insurance reimbursement scheme. Set fixed amount for each member; individual can keep the savings. In 1982 tried copayment for outpatient services: 20% copayment and savings go to individuals. If medical care exceeded 12Y due to serious illness, can make petition for a special subsidy. Results: increased savings on drugs, reduction in over-prescription.

JKB, June 30, 1987, no. 2597

Bingyang, Guangxi. Financial decentralization to individual hospitals resulted in inability of hospitals to afford capital construction/equipment.

JKB, March 13, 1986, no. 2326

Provision of pension insurance and accident insurance. In addition to pension contribution, workers can pay an additional fee per month into an insurance, so that an insurance company will pay 70% of medical fee. Participants are mainly contract workers and labor workers from collective units. In Shanghai there were 2,000 such collectives with 30,000 participants. In Beijing there were 60,000 participants in accident/trauma insurance. In Wuhan 8,000 participate in maternal/child safety insurance.

JKB, March 16, 1986, no. 2328

Henan, Fongchiu county. Decrease government insurance expenditure. Establishment of government insurance administration office; each member allocates 3.5Y per month for outpatient fees, limited prescription, reimburse only 3 prescriptions for 3 days, each prescription not to exceed 2Y. Approval for admission required.

JKB, October 4, 1986, no. 2443

Jiling. Health bureau provides market analysis information to health units. Unmet needs of population. Based on the information, traditional Chinese medicine hospital has added a gastrointestinal department, affiliated with the city hospital's hemorrhoid department. Result: income increased by three times.

\*JKB, October 14, 1986, no. 2449

Hospital management reform. Director of hospitals is accountable for management of the hospital; however, technical experts are not necessarily management experts.

JKB, October 16, 1986, no. 2450

Problem with director responsibility system. Party representatives still block decisions made by director; they want "old cadres to receive high priority".

JKB, June 2, 1987, no. 2581

Chongqing city. Maternal child insurance/delivery insurance: pay 6-10Y to be insured; payment 1800Y for mother, 200Y for newborn in case of death.

JKB, June 25, 1987, no. 2594

Privatization of a district hospital. Result: an increase in revenue by 45%; a decrease of referrals and patient transfers; an increase in equipment purchases; and an increase in outpatient volume and bed utilization.

B. Reforms in Village Health Services and Barefoot Doctor/Rural Doctor Remuneration and Practice

JKB, October 7, 1984, no. 2092

Sichuan, Pei Ling City, Barefoot Doctor remuneration. Each village member contributes 10-15Y, welfare fund contributes 120-150Y per person, each village member contributes an average 0.1-0.15Y per person per year. This helped solve the problem of decreased preventive care, maintenance care, and access to medical care.

JKB, September 11, 1984, no. 2081

Under a central issue paper, "must strengthen rural sector and encourage health services development by state, collective and individual administration" in 1983. A village doctor started his own health unit and became self-sufficient. The unit has 7 beds, 1 electrocardiograph, 1 microscope, 1 oxygen tank, 1 50mAmp Xray. The health unit has about 200 types of Western medicine, and 50 types of injectables. The BFD is also in charge of immunization and family planning work for the 2700 village members.

JKB, October 18, 1984, no. 2094

Hebei province, Shahe city, Xicheng village. Rural doctors form a Joint Health Hospital. The rural doctors are on contracts; their salaries depend on assigned tasks, with fluctuating bonuses for those who work more. Village provides funding for in-service training to obtain rural doctor certificates. BFDs are fired if they do not pass after 3 examinations.

JKB, November 18, 1984, no. 2110

Shanxi, Luliang region. Salary set according to tasks.

JKB, December 11, 1984, no. 2120

Gansu, Hui county. Due to a noted decrease in preventive activities, 18 rural doctors were assigned to provide preventive services. The charge is 10 yen

per vaccination, of which 7 cents is paid to the rural doctor. Those BFDs who do not want to provide preventive services need to pay 3-5Y to the epidemic prevention station. This fee will be used to pay those who agree to deliver preventive services.

JKB, December 16, 1984, no. 2122

Sichuan, Guanhang county. The BFD can run his own health clinic. BFD income sources are: charges for services (66%); preventive work subsidy (17%); and income from responsibility land (18%).

JKB, December 25, 1984, no. 2126

Guangxi, Zhaping county. County health bureau contracts preventive tasks to community health centers, which in turn contract to BFDs. Each BFD receives 15Y per year for preventive work; poor villages each month pay BFD 10-15Y as subsidy. In richer villages BFDs earn income through fee for services.

JKB, December 16, 1984, no. 2122

Taiyan. Reform service delivery to guarantee prevention. One-third of commune health center staff are fixed to provide prevention; give set tasks and fluctuating salary. Two-thirds of staff set for curative activities; salary depends on revenue earned from delivery of curative services. In villages preventive workers are guaranteed to have salary and bonus.

JKB, December 16, 1984, no. 2122

Sichuan, Guanhang county. Since 1982 had a total reform in health services; village health stations become private, in charge of loss/gain, BFDs manage the stations and earn income from fee for services. Commune health center provides in-service training each year to the BFDs.

JKB, December 27, 1984, no. 2127

Guangzhou. 10 suburban counties reform their service delivery: 48% brigades in charge of health station; 14% group of rural doctors contract for services; 31% individual rural doctors contract for services; 7% commune health center administrate/manage the health station in brigade.

JKB, December 27, 1984, no. 2127

Jiangsu, PiaoShui county. Responsibility system in villages--analysis of prescriptions. There was an increase in price per prescription, and an increase in the use of antibiotics. 75% of prescriptions were antibiotics, and 38% had 2 antibiotics per prescription. 86% of prescriptions had injectable or intravenous medications. Injection fees accounted for 29% of the brigade health station's income (average 1.23Y per prescription). Decrease maternal child health activities. No delivery, no prenatal care, no gynecological checks.

JKB, July 15, 1984, no. 2056

Sichuan, Guanhang. BFDs are charging fee for service. This resolved the financial burden of the county. Subsidy is given only for preventive services. Individual members who use preventive services pay for the services.

JKB, April 2, 1987, no. 2546

Shangdong. Health service administration decentralized to township level; results in improved finance and planning of health services.

JKB, April 5, 1987, no. 2548

Shangdong, Jiannan county. Set up joint contract responsibility system in 1985. In high income villages, collective insurance was formed; in average income villages, group and individual rural doctors managed the health stations, and charged a mark-up for drug fees. This encouraged the better qualified rural doctors to start private practice.

JKB, April 18, 1987, no. 2555

Shanxi. Various models on village finance of health services: (1) individual contract; (2) task contract; (3) technical control--rural doctors in charge of technical guidance and inspection of individual households. (4) cadres contract--household supervision on hygiene of referrals and patient transfers, increase in equipment purchase, increase in outpatient volume and bed utilization.

JKB, January 8, 1987, no. 2498.

Hunan province. 72% of township health centers are under the administration of the township government management. In market items, Gansu, many township health centers are under individual or collective management.

JKB, February 17, 1987, no. 2521.

Rural doctors provide health care for profit; service improved.

JKB, January 30, 1986, no.2302.

Hunan. Of 3,000 township health centers, 95% are under responsibility system with activities expanded.

JKB, March 25, 1986, no. 2333

Fujian, Fuqing county. 6 major township health centers and 21 township health centers join to form a conglomeration and then divide catchment areas for service delivery. Rural doctors salary form revenue (salary, subsidy and bonus depend on volume and quality of work). Over last few years, attitude of health workers has improved.

JKB, October 12, 1986, no. 2448

Decentralize township health centers to township government. Result: resource allocation to the township health centers increased.

JKB, November 20, 1986, no. 2470

Jiangsu, Najiang county. Format in financing rural health services: (1) 88 villages insured medical and drugs; (2) 256 villages insured medical but not drugs; (3) village contract rural doctors to assign task, pay salary and bonus.

JKB, June 29, 1986, no. 2388

Henan. Methods of rural health care delivery: (1) collective villages station - 15%; (2) township health centers set station at village - 1.4%; (3)

rural doctors collectively contract - 1.7%; (4) rural doctors individual contract - 32%; (5) rural doctors private - 34%.

JKB, April 19, 1987, no. 2556

Sichuan, Heijiang county. Each county member gives 10 fen for remuneration of rural doctors.

JKB, April 30, 1987, no. 2562

In 1986, nationally, there were 47,000 township health centers and 711,000 beds, an average of 15.1 beds per township health center. The major township health center had 31 beds per maternal health center. 87.8% of villages had health stations, 3.6% of village health stations were administered by the township; 10.8% of village health stations were run by rural doctors and health aides jointly, 44% by other formats, 4% consisted of individual rural doctors. There were a total of 1.28 million barefoot doctors and rural doctors, 14,000 less than 1985; rural doctors consisted of 694,000, an increase of 51,000.

JKB, May 26, 1987, no. 2577

Hunan. Use Bank loan to reform health services, increase prices, decentralize township health centers to township government, finance health care, change management of hospital finance - 1 up, 1 down, 1 loan, 1 reform.

JKB, June 16, 1987, no. 2589

Hebei, Guan county. Methods in rural doctor's salary: (1) monthly wage is equivalent to labor worker (10%); (2) equivalent to official cadre's salary for the village that do not have sideline industry (40%); (3) repay time lost in agriculture (15%). In summary, barefoot doctor/rural doctors salaries was approximately 690Y higher than the average county inhabitant.

JKB, June 21, 1987, no. 2592

Shanghai, Jiading county. Village and township health units are administered under one management: establish a committee which consists of representatives of the township government, township health center, finance planning, senior citizen, industry and agriculture. Town sets the budget for health services. Rural doctor's salary is equivalent to the income of a village official cadre. This increased preventive work provided by rural doctors.

### C. Preventive Services

JKB, July 17, 1984, no. 2057

Guandong, Xini county. Charges labor fee for preventive services. Each child is charged 2Y preventive fee at birth in order to receive all vaccines until the age of 8. This encouraged delivery of preventive activities by BFDs.

JKB, July 24, 1984, no. 2060

Tienjin, Jinhai county. BFD paid on salary and subsidy, average 3000Y per year, as compared to village members income which is 1266Y per year in this village. Village paid the BFD 1000Y per year, and the BFD charges fee for services: outpatient registration fee is 10 fens, injection is 10 fens, lab examination is 40 fens, xray is 30 fens.

JKB, July 17, 1984, no. 2057

Ministry of Public Health and Finance Ministry jointly issued a document "Trial of charging for preventive services". Some regions should charge preventive services and injection fee.

JKB, April 21, 1987, no. 2557

Wuhan, Xinshou county. A cooperative insurance is set up, 20 fens per person per year, deducted from sideline income. This is a one-time payment to township hospitals for preventive activities.

JKB, January 10, 1987, no. 2499

Jilin Province. Preventive and maternal/child health reform. The division of prevention merged all its units under one management: immunization, tuberculosis control and health education. Township health centers establish their own prevention centers, and use the responsibility to contract out preventive tasks. In high density areas, prevention centers operate every day instead of a periodic schedule.

JKB, March 13, 1986, no. 2326

"Fluctuating Salary" to encourage completion of prevention tasks.

JKB, April 19, 1986, no. 2347

Anchiu county, Shangdong. Insurance for immunization preventable diseases: polio, tuberculosis, pertussis, measles, Jap B, and diphtheria.

D. Joint Medical Services: "Conglomeration" of Services

JKB, October 11, 1984, no. 2093

Liaoning, Shengyang city. City/district mine enterprises contract with 12 hospitals to provide regionalized medical services. These medical units were previously scattered small health units, but now function as an integrated system. This allows a hospital to serve as the tertiary hospital, which decreased the outside referral rate from 7 to 2 percent.

JKB, April 16, 1987, no. 2554

At Northeast province, problems arise with "joint hospitals" where a contract was signed between a high level and a lower level hospital. Consultation fee charged by the high level hospital is very high. A technical assistance fee as high as 4000Y per year is becoming unaffordable. In addition, each visit the lower level hospital pays 10Y for food subsidy and transport, which increased to 48Y from 1986 to 1987.

JKB, March 13, 1986, no. 2329

Jiling. Joint medical enterprise: city hospitals link with factory health units to set up affiliation and open services for the public. The same hospitals also join with rehabilitation hospitals for inpatient care and set up specialty departments.



JKB, November 20, 1986, no. 2470

Shanxi. Joint medical units: high level health units join with lower health center.

E. Issues

JKB, October 28, 1984, no. 2101

Shanghai. Government and labor insurance members waste drugs. Resale of drugs obtained free to street shop. Use father's name who is a government employee for admission to hospital, claim 400Y worth of drugs.

JKB, November 27, 1984, no. 2114

Issues in health services. (1) appropriate charge of fee; government labor and self-pay need to charge at cost. (2) adjust certain services based on standard/capacity of hospitals. (3) cosmetic surgery should be surcharged to make up for losses in other services. (4) improve living environment. (5) use of responsibility system should not, however, equate quality with quantity.

JKB, April 2, 1987, no. 2546

Liaoning. Development of health services must be coordinated to avoid duplication. CT fever: in Liaoning, 26 sets of CT scanners, of which 6 sets are in Shengyang city. Inappropriate cluster of hospitals, 4-5 hospitals, each with over 400 beds, concentrated in the city proper. At every level-- province, city, county and township--set up "cadre ward" with sofas and desks in private rooms. Lack of specialization among hospitals; each hospital should expand to provide all specialties. Expansion of beds and equipment is not matched with a simultaneous increase of personnel.

JKB, April 4, 1987, no. 2547

Review of appropriate use of drugs. A study conducted by Peking Union Medical College shows that in a survey of 16 hospitals in Shanghai city, of cases received, 26% of outpatients received inappropriate drugs; in Guanzhou city, a survey of 3,020 cases - 20% inappropriate drugs; in Changsha, in 311 deaths, 15 cases, 7 hospitals were related to inappropriate use of drugs. Inappropriate combination of drugs accounted for 90% of cases of misuse.

JKB, April 4, 1987, no. 2547

Jianxi. Health bureau stresses each region needs to incorporate preventive health maintenance into regular budget planning.

JKB, April 4, 1987, no. 2547

Shenyang military medical hospital: stress prevention needs to be incorporated into health activities. Between April and September, a survey of 7,826 outpatients of which injury accounted for 43.76% of cases, and stroke, 7%.

JKB, May 21, 1987, no. 2574

Government insurance expenditures increases every year. In 1978, the expenditure was 2.73 billion. In 1985, 6.5 billion yuan was needed.

JKB, January 8, 1987, no. 2498

On inflation and the need for price adjustment: in Shanghai, 40.6% inflation from the period 1980 to 1985, so hospitals are at 70 million Y deficit after government subsidy. Since 1980, in Guanzhou, market prices have been adjusted nine times. In Tienjin, price has adjusted every year. In Chongqing, hospitals have responded by adjusting those items which have fluctuated much with high inflation market items. In Gansu, there was an average 50% inflation in market items.

JKB, January 15, 1987, no. 2502

Hubei. A survey of 1,189 households in 30 counties was taken for reasons why they were not seeking care: (1) 55% can't afford it - price too high; 62.9% of mountainous areas indicate price as a reason for not seeking care. Rural doctors seek provide - give unnecessary high numbers of prescriptions. (2) 27.8% believe they can postpone illness and will spontaneously resolve. (3) 12% are concerned about low technical level of BFD, hence seek care at hospital when they really have to. (In Hubei, one-third of BFDs do not reach rural doctor level.)

JKB, January 17, 1987, no. 2503

Heilongjiang. Industry owns one-half of total hospital beds, utilization only 71%. Since 1981 start to socialize these facilities for public use, utilization increased to 77%. In 1987 begin "one system management", provincial city and industrial health services unified, increase availability of beds by 2884, equivalent to an increase of six 500-bed hospitals. Emphasis on rural health: one-third of collective health stations dissolved since the responsibility system, preventive activities decreased. Last few years major emphasis placed to consolidated 28,000 rural doctors; now collective health station is available in 85% of villages.

JKB, February 11, 1986, no. 2309

Critique of township health centers: need to increase technical skills, manpower development, management, and decrease numbers of beds by changing to observation beds.

JKB, March 16, 1986, no. 2328

Problems with private practice. A Beijing private doctor advertises for his expertise. An evaluation for anemia resulted in 7 prescriptions.

JKB, March 20, 1986, no. 2330

Shanghai farmers, in a 5,706 household survey: 645 households are willing to self-pay for regular maintenance health care; in 1,723 households with children, 85% are willing to pay for regular child maintenance checks; in 836 households with pregnant women, 80% are willing to pay for prenatal care.

JKB, March 25, 1986, no. 2333

Sichuan, Guanhan county. 1052 health staff in county and township health centers, all of primary and secondary technical level. Since 1982, county put primary emphasis on technical training and used county training school as the center for in-service training; 800 staff were retrained.

JKB, November 2, 1986, no. 2460

Demand/supply conflict. With 3 major price deflations in the past, the price of medical service still at 35-43% of cost. County and above facilities: each hospital day lose 3-6Y, each operation lose 20-30Y, Beijing Children's Hospital subsidized 92 cents (not including salary) for each outpatient visit hospital.

JKB, November 2, 1986, no. 2460

Editorial. Enterprise administered hospital units account for half of counties available resources, health manpower account for one-third, beds account for one-quarter, but not fully utilized, utilization rate at 50% for enterprise hospitals; so unit based administration cannot adequately optimize existing potential.

JKB, November 4, 1986, no. 2461

Editorial. Thoughts on reform of health services. Inequity: urban/rural, labor/peasants. Estimate 40% of labor/government fee wasted every year about 2 billion Y. Recent changes: capitation to outpatient fee, save money, hospitals which require copayment can save money.

JKB, November 18, 1986, no. 2469

Hebei. Over 10% decrease in rural doctors over the last few years (8,638 rural doctors in 1981 to 7,614 in 1986). Low salary secondary to responsibility system, no subsidy, low technical skills.

JKB, November 25, 1986, no. 2473

Heilongjiang's health strategy: upgrade training of all health workers, increase salary of rural doctors, increase investment in prevention activities, increase township health center's resource allocation to preventive activities. Popularize health education in secondary schools.

JKB, December 13, 1986, no. 2483

Guanxi. Between 1980 and 1984, in every year government insurance expenditure exceeded 50%. In Yunan province, government insurance increased by 88% from 1980 to 1985. Reasons: (1) materials inflation, average cost of materials (1984/1979) increased by 38%; coal increased 200%. (2) inflation of drugs: Jiangsu (1985/1978) drug cost increased by 76%. (3) increased number of government insured workers. (4) increased demographic shift, more people by government insurance are retirees, and capitation still at 1978 standard of 30Y per capita per year, e.g. 1985, Liaoning, cases of cancer and disabled staff among retired workers accounted for 8.9% of total government insured population. This group used 25% of medical/drug expenditure, average 225Y p.c.py as compared with other government members who spend on average per year 61Y. (5) inappropriate drug wastage 10-15%.

JKB, May 1, 1986, no. 2354

Guangzhou. "A case of inappropriate charge". Change dressing, 5Y, change sheet, 1Y, prepare TCM concoction, 1Y; and if patient complains, stop treatment and medication. The case was investigated by the health bureau after complaints; hospital returned surcharges.

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