China Health Sector Issues Note

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Note: This is a desk review of the English-language literature on China's health Sector undertaken prior to the first AAA mission. Some information may be outdated and/or inaccurate.

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I. INTRODUCTION

Since 1950, China has achieved legendary improvements in health outcomes. These improvements were achieved through innovative public health programs, provision of broadly accessible basic curative care, and broad systems of risk protection. These policies not only provided direct benefits to the population in terms of improved health, but also comprised an important investment in human capital which helped China take full advantage of the economic opportunities created by economic liberalization. The resultant economic growth has led to continued improvements in health outcomes, but economic and institutional reforms have also put growing stress on the health system. The government has sought to respond to the emerging problems and challenges, but the policy responses have sometimes had unintended consequences. The upshot is that China is now spending an ever-increasing share of its GDP on health, with questionable results. The gradual unravelling of the health system is having direct economic consequences, and also risks leading to an erosion of human capital. With these concerns in mind, this note provides a structured overview of the Chinese health system and its evolution since 1950s. It also seeks to assess overall health system performance with reference to some general criteria, and to highlight key challenges for the future.

II. SOME GROUND-CLEARING—HEALTH SYSTEMS AND THEIR OBJECTIVES

Health systems revolve around four groups of 'actors'—households, who are users of services as well as financiers of them; providers; third-party payers; and government. The involvement of government is a response to the market failures that arise in unregulated health insurance and health service markets. The former suffer from adverse selection—a tendency for 'good' risks to prefer self-insurance. Health service markets without government involvement suffer from exploitation by providers of their informational advantage over patients, an unduly small emphasis on programs that display externality and public goods characteristics (such as immunizations and the surveillance, prevention and control of communicable diseases), and inequalities in access and outcomes that are likely to be considered by most to be inequitable. In

their involvement in the health sector, governments have a responsibility to strive for efficient use of public funds, and most try to preserve limited freedoms for patients and providers.

Health systems exist ultimately to improve population health through the timely provision of appropriate health care. They comprise four groups of "actors" or entities—households, providers, third-party payers and government—and it is the relationships between them that define the health system.

Households, providers and third-party payers. Households are the users of health services, as well as producers of health (e.g. a mother providing ORT to a sick child). They are also—either directly through out-of-pocket expenditures or indirectly through tax payments, insurance contributions, and the like—the people who finance the health system. Health providers—primary care facilities, hospitals, pharmacists and informal providers—provide services to patients seeking care, or refer them to other providers. Health care can be a complex matter, and there is a presumption that the provider knows—or ought to know—more about the subject than the patient. This information asymmetry places the patient in a position of trust vis-à-vis the provider, and creates scope for the provider to abuse this position, by administering or prescribing unnecessary or inappropriate care. Providers have to be paid. In some countries—China is a case in point—providers receive a substantial portion of their income from direct payments from patients. However, because the incidence of illness is subject to a high degree of uncertainty, and because the costs to the patient in the event of illness can be substantial, there is a strong argument for some form of health insurance. Thus most health systems have a third set of actors, namely *financial intermediaries* or *third-party payers* who channel payments from households to providers via a risk pool. Voluntary insurers perform this function, but rarely does voluntary insurance work well in the health sector due to the phenomenon of '*adverse selection'*. This is the tendency for the better risks to prefer to self-insure, which leads to an ever smaller pool of ever worse risks. Premiums become unaffordable, or the cover is reduced to a level that defeats the whole objective of insurance. In the case of formal sector workers, firms and government can perform the insurance function, providing a scheme for their workers, sometimes sharing the contributions between the firm and the workers themselves. This overcomes the problem of adverse selection (low risk workers cannot opt out), but the risk pools are often small which leaves them vulnerable to unexpectedly high sickness and utilization rates. And, of course, such arrangements cover only formal sector workers, which can be a small minority of the population.

The role of government in a health system. The desirability of health insurance coupled with the vulnerability of private insurance to adverse selection is one of the reasons why in almost all countries there is the fourth actor in the health system, namely government. Some form of government oversight of health insurance—if not regulation—of the health insurance sector is called for. Some governments simply opt to perform themselves the insurance function, either directly through a formal (social) insurance program, or indirectly by financing—though not necessarily delivering—services themselves out of general (tax and non-tax) revenues. Government intervention in health insurance of any type has knock-on effects—for example, social insurance contributions paid by companies on behalf of their workers have implications for their costs and hence competitiveness. Governments need to balance the benefits of their intervention in the health insurance market against the costs.

But the *raison d'être* of government involvement in the health system goes beyond the need to help correct insurance market failures. Health care markets themselves are also subject to a variety of market failures that governments can, in principal at least, help to overcome. Regulations need to be set and enforced to ensure that providers do not exploit their informational advantage over patients. These regulations will typically specify who may practice medicine, the services they may provide, and the prices they may charge. This regulation also has knock-on effects—for example, regulating the prices of specific services and procedures will affect the incentives providers face to deliver the services and procedures in question. Government has again to balance the benefits of its intervention against any costs.

Governments have another role in the health sector, namely that of financing—or at least subsidizing—services and activities that have either '*externality*' or '*public goods*' characteristics. Immunizations, for example, benefit not only the immunized person, but also other people, by reducing the risk they get infected. Government subsidies are called for, since in their absence, there will be an inefficiently low rate of coverage. Communicable disease surveillance, prevention, treatment and control programs are a classic textbook example of public goods—they benefit everyone, and it is infeasible to exclude specific people from benefiting from such programs. Government financing of these and other core public health activities is indicated, and since in many cases monitoring a non-government supplier of such activities is difficult, and the costs of failure are so high, governments typically deliver them themselves. The final reason governments invariably get involved in the health sector is *equity*. Governments invariably attach at least some importance to the idea that at least *access* to health care ought to be equitable—for example, access ought not to vary too dramatically between the poor and better off. Many policymakers also attach importance to the notion of equity in health itself—for example, there ought not to be unduly large differences in health outcomes between the rich and the poor. Governments have a variety of instruments for promoting equity—subsidies to households to reduce the cost of services; subsidies to providers to reduce the cost to them of practicing in remote areas; and so on.

Reconciling government intervention with demand for efficiency and freedom of choice. Even governments who limit intervention in the health sector to the bare minimum, end up spending monies from general revenues, and there is inevitably a concern that such spending be efficient. There should be an appropriate balance between different government-financed programs (allocative efficiency), and for a given level of quality, government-financed health services ought to be delivered at minimum cost (technical efficiency). Whether in the pursuit of efficiency or in the pursuit of other objectives, governments typically attach some importance to the idea that patients and providers ought to be granted some freedom of choice—patients are usually left with at least some freedom over which providers to choose; and providers are usually left with some freedom in their decisions over where to practice, and what services to provide. The issue of precisely how much freedom patients and providers should be granted is hotly debated, and reflects philosophical differences over the question of how far such freedoms should be sacrificed in pursuit of other objectives.

III. How Health Care Is Financed In China—A Brief Overview

China spends an unexpectedly large share of its GDP on health. The share increased during the 1990s, especially in the late 1990s. Private finance has been the engine of recent spending growth, with private spending growing in real terms at an average annual rate of 20% during the 1990s. The private share of health spending grew from 37% in 1990 to 63% in 2000. Voluntary health insurance has all but disappeared as a financing source: in 1978, 20% of total health revenues came from the rural cooperative medical scheme (CMS), but the share is now below 1%. Out-of-pocket payments are now the principal type of private spending in China, and make up a larger share of health spending than in most other EAP countries. The prevalence of catastrophic health expenses (defined as spending in excess of 10% or 25% of nonfood spending) is higher in China than elsewhere, with the exception of Vietnam. Social insurance spending has declined as a share of public spending, and tax finance comes mostly and increasingly from local governments, particularly below the province level.

The public-private spending mix

By international standards, China devotes a high share of its GDP to private spending and a low share to government spending. Lower middle-income countries other than China devote, on average, and weighting for population size, around 2.5% of GDP to private health spending. China spends nearly 3.5%. The share of GDP a country devotes to government health spending increases with its GDP per capita. By international standards, a country with China's per capita income would be expected to spend around 2.4% of its GDP on government health spending. In the event, it spends just 1.9% (Table 1).

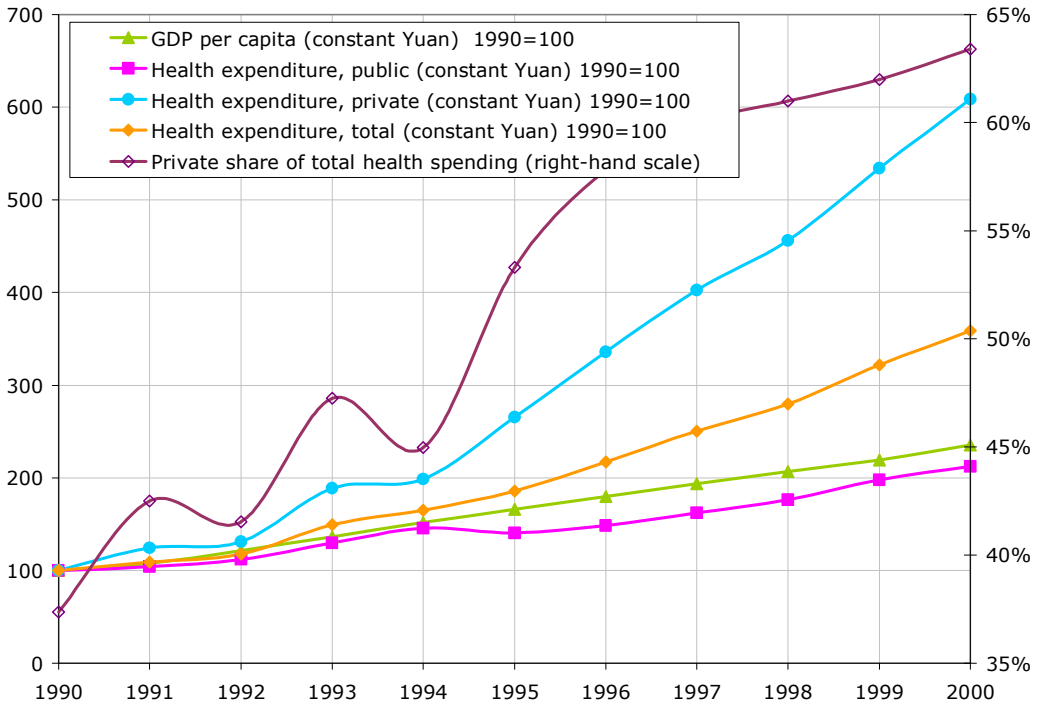
Table 1 - Health spending and financing China and other EAP countries/territories

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Total health spending per capita $US (official exchange rate)	$45	$19	$101	$33	$71	$21
Public health spending as % GDP	1.9%	0.6%	1.5%	1.6%	2.1%	1.3%
Private health spending as % GDP	3.4%	2.1%	1.0%	1.8%	1.6%	3.9%
Total health spending as % GDP	5.3%	2.7%	2.5%	3.4%	3.7%	5.2%
Private health spending as % total	64%	78%	40%	53%	43%	75%
Gross national income per capita $US	$940	$710	$3,540	$1,020	$1,980	$430
Gross national income per capita at PPP	$4,390	$2,990	$8,280	$4,280	$6,680	$2,240

Source: World Development Indicators

Health spending grew dramatically in the 1990s, fuelled by private spending. Total health spending in China grew in real terms by 250% during the 1990s—an average annual rate of increase of 14% (Figure 1). Private spending grew in real terms at an average annual rate of 20% during the 1990s, while public spending grew at a much more modest 8% per annum, slightly below the annual average rate of growth of per capita income (9%). As a result, the share of health spending accounted for by private spending grew from 37% in 1990 to 63% in 2000. Of the 122 countries for which data are available in *World Development Indicators* (WDI), only 12 have larger percentage increases in the private share during the 1990s.

Figure 1 - Health spending in the 1990s, China



Source: World Development Indicators

Private finance

Voluntary health insurance has all but disappeared as a financing source. In 1978, 20% of total health revenues came from the rural cooperative medical scheme (CMS) [1]. With the collapse of the CMS system during the late 1970s, 1980s and early 1990s (see below), this share shrank, reaching 5% in 1986 and 2% in 1993 [1]. Recent WHO estimates indicate that pre-payment plans (which presumably include the CMS system) account for less than 1% of total health spending (Table 1) [2].

Table 2 - Financing sources in China

Source of finance	% total	% public
Social health insurance	18.6%	51%
Central government tax-finance	0.4%	1%
Local government tax finance	17.7%	48%
Out-of-pocket expenditures	63.1%	
Private insurance (incl. CMS)	0.3%	
External resources	0.1%	
Total	100.1%	

Sources: Private and public split, split between social insurance and tax finance, and split between out-of-pocket payments and private insurance from WHO World Health Report 2002 [2]. Split between central and local government from World Bank China: National Development and Sub-National Finance [3].

Out-of-pocket payments are the principal type of private spending in China. The great majority of China's private health spending comes from out-of-pocket payments (Table 3). Only Indonesia and Vietnam among the larger EAP countries rely more heavily on out-of-pocket payments. The average urban Chinese household spends 5.7% of its income on out-of-pocket payments for health care, though the figure in rural areas is much lower. This compares with a countrywide figure for Vietnam of 5.5%. Household payments are highest as a share of income in the lowest income groups, though recent data indicate they became less regressive between 1993 and 1998 [4].[1] In China, there is evidence that medical expenses are a cause of impoverishment, and tentative comparisons suggest the problem may be more pronounced in China than in Vietnam [5, 6]. There is also evidence that exposure to risk of medical expenses causes rural Chinese households to hold more of their wealth in liquid form, and also to increase their wealth holdings [7]. The evidence from rural China also suggests that households there are unable to fully smooth their consumption when income shocks (due to a variety of factors including illness) occur [8]. This inability to self-insure against income shocks is most pronounced for the poor: for the poorest quintile, 40% of an income shock is passed onto current consumption, while the richest quintile is protected from almost 90% of an income shock. In terms of *income protection*, then, China's health system appears to be faring badly.

Table 3 - Out-of-pocket payments in China and other EAP countries/territories

	China			Hong Kong	Indonesia	Philippines	Thailand	Vietnam
	National	Urban	Rural					
Out-of-pocket expenditures as % total health spending (a)	61%			38%	70%	47%	36%	80%
Out-of-pocket expenditures as % total household consumption/income (population) (1998) (b)		5.7%	2.8%					5.5%
Out-of-pocket expenditures as % total household consumption/income (poorest quintile) (1998) (b)		8.5%	6.2%					4.9%
Poverty impact—percentage increase in headcount due to out-of-pocket payments (food-based extreme poverty line) (c)	44.3%							23%

Sources and notes: (a) World Health Report 2002 [9]. (b) Gao et al. [4] in the case of China, Wagstaff and van Doorslaer [6] in the case of Vietnam. In the case of China, out-of-pocket payments do not factor in reimbursement by insurers, and denominator is income rather than household consumption as is the case in the Vietnam statistic. (c) Liu et al. [10] in the case of China, Wagstaff and van Doorlsaer [6] in the case of Vietnam. Which poverty line is used in the case of China is unclear.

Public finance

Social insurance spending has declined as a share of public spending. Recent WHO estimates split government spending equally into social insurance and tax finance. The former includes the Government Insurance Scheme (GIS) and Labor Insurance Scheme (LIS). During the 1990s, the relative importance of social insurance in total government spending on health decreased: social insurance accounted for 73% of total public spending on health in 1993

[1] This is not made clear in Gao et al. [4], but calculation of progressivity indices from their data reveal this.

according to the World Bank [1] and for 62% in 1995 according to WHO [2]. This reflects the decline and reshaping of the GIS and LIS schemes—see below.

Tax finance comes mostly and increasingly from local governments. The lower-than-expected government health spending GDP share does not appear to be due to a below-average emphasis on health in public spending decisions: at 11%, China's health share of government spending is slightly higher than the LMIC average of 10.3%. Rather it seems to stem from the fact China's collects a smaller share of GDP in general government revenues than LMIC countries do on average. This reflects the fact that tax-financed or government-budget spending is almost entirely undertaken by *local* governments at four different levels (31 provincial level units, 331 prefectural level units, 2,109 counties, and 44,741 townships). Sub-provincial governments spend *and finance* the bulk of government tax-financed spending in health: counties and townships (with average populations of 580,000 and 27,000 respectively) pick up 55-60% of government budgetary expenses for health [3]. This emphasis on local government finance in health is highly unusual by international standards, and results in a highly unequal pattern of government spending on health across provinces and even more so across sub-provincial units. These inequalities have grown in recent years [3].

IV. THE EVOLUTION OF THIRD PARTY PAYERS IN CHINA

Since the early 1950s, three different insurance mechanisms were established in China: Government Insurance (GIS) and a Labour Insurance (LIS) Schemes in urban areas, and a Rural Collective Medical Scheme in rural areas. All effective insurance schemes need to: (i) ensure a diverse risk-pool; (ii) prevent adverse selection in the presence of risk heterogeneity; (iii) constrain client moral hazard; (iv) constrain provider moral hazard; and, (v) ensure effective administration. Considering these issues, the experience with health insurance in China has not been entirely successful. The rural scheme collapsed in the early 1980s, following the de-collectivization of agriculture. Subsequent attempts to set up collective financing schemes based on voluntary contributions have largely been unsuccessful due to village-level risk pools that are not sufficiently large, adverse selection and low participation, and ineffective administration. The GIS and LIS have also experienced problems. Under the GIS and LIS, government agencies and state enterprises self-insured. With the exception of very large agencies, the resultant risk-pools were too small to protect against catastrophic costs. Moreover, the combination of low co-payment and fee-for-service payment of providers has resulted in rapid cost-escalation, and, eventually, an erosion of benefits. The GIS and LIS have also not met the need of a growing private sector, and of the urban unemployed and poor. Currently, reforms are under way to broaden coverage and improve performance. In rural areas, a new Medical Care Assistance Scheme seeks to overcome some of the problems of the voluntary schemes by broadening the risk pool and providing financial incentives to participation. In urban areas, a new social insurance system, which extends beyond government agencies and state enterprises, has been introduced in many cities. It seeks to address both client and provider moral hazard. However, a large part of the urban population remains uncovered, and even those covered are exposed to considerable financial risks.

Urban insurance

The Government Insurance Scheme remains important in urban areas but suffers from cost-escalation and small risk pools. The GIS was set up in 1952 as a budget financed (central or local government) self-insurance system for government agencies. Although coverage has declined somewhat in recent years, 17.3% of the urban population reported that they were covered by the GIS in 1998 (see Table 5) [National Health Survey, quoted in 11]. The GIS provides coverage for civil servants, university students, and retired veterans. It offers a comprehensive benefits package from agency-operated clinics or hospitals, or from designated state hospitals, with modest co-payments. However, client moral hazard, combined with soft budget constraints and fee-for-service reimbursement has resulted in rapid cost escalation. Despite increasing budget allocations to the GIS throughout the 1970s and 1980s, many agencies are not able to cover the full costs of the insurance scheme through the subsidies they received, and have been forced to limit benefits or resort to using other budget lines.

The labour insurance scheme is experiencing similar problems, and the benefits package has been eroded. Employees at state and collectively owned enterprises have traditionally been covered through a Labour Insurance Scheme (LIS). Similarly to the GIS, the LIS was established in the early 1950s as part of a generous benefits package to employees at state and collectively owned enterprises. The LIS was financed through mandated contributions by state and collectively owned enterprises, and provided coverage for employees, retirees, and dependents (partial coverage). In 1993, the LIS provided insurance coverage for 33.6% of the urban population (Table 5), and state enterprises accounted for more than a quarter of total health spending. Beneficiaries received services either at enterprise-operated clinics or hospitals, or at designated hospitals on a reimbursement basis. However, during the 1980s and 1990s, the LIS began to experience many of the same problems that plagued the GIS. During this period, demographic trends, technological developments, and provider and client moral hazard contributed to a rapid growth in health care costs. As a consequence, many state enterprises were forced to default on their health care obligations, and there is some evidence that workers are dissuaded from accessing health care [12]. The financial strain of health care costs was sometimes exacerbated by the fact that, as a work-unit based self-insurance system, the risk pool was too small for most enterprises.

Recent reform efforts have sought to expand coverage, and to address cost escalation and the small risk pools. In recent years, non-public sector employment has grown rapidly. In this context, there is a need for a new health insurance system which dismantles the barriers between the public and non-public sectors, and which also addresses the problems of cost escalation and small risk-pools that has plagued the GIS and LIS. Health insurance reform began in early 1980s, initially in the form of *ad hoc* efforts to increase co-payment and to promote risk sharing between agencies and enterprises. Some largely unsuccessful attempts at deeper reform were initiated in the late 1980s, but it was not until 1994 that a structured health insurance experiment was introduced in Zhengjiang and Jiujiang. As part of these experiments, a mandated social insurance scheme that included both government agencies, state and collective enterprises, and private enterprises was established. The insurance schemes were managed by *Health Insurance Management Centres*, which were responsible for collecting insurance contributions and for contracting with providers. Individual and enterprise/agency contributions were allocated to *individual accounts* and to a *social pooling fund* according to an established formula. Under this

system, initial payments for medical care are made out of the individual account. Once the individual account has been depleted, medical expenses are paid out-of-pocket payment until an income-related ceiling has been reached. Thereafter, the social pooling fund covers medical expenditures. The new scheme provided for a considerably expanded risk pool, and also included measures to contain costs—both through higher co-payments, provider payment mechanisms, and, in some cases, the introduction of an essential drug list.

Reform of urban health insurance has now been implemented on a wide scale, but important problems remain. In 1996, the Zhengjiang and Jiujiang experiments were expanded to 57 cities, and in 1998, at the initiative of the State Council (under the oversight of the newly established Ministry of Labour and Social Security), the scheme was expanded more broadly. The new urban social insurance system provides for considerable local adaptation—e.g. in respect of provider payment, co-payment rates, and the structure of individual and social pooling accounts, and the scope for supplemental insurance. However, the central feature of contributions from both employers and employees to double accounts with considerable co-payment is common across cities. The new system addresses client moral hazard, and goes some way towards addressing provider moral hazard. However, some have questioned whether supply-side measures for containing costs are adequate [11]. Moreover, on the demand side, incentives for cost-containment come at the cost of reduced financial protection. This is not only through higher co-payments, but in many cities there is a cap on payments from the social pooling account, effectively leaving individuals uncovered for catastrophic illness. The new system also excludes dependents, the urban poor, the unemployed, and employees in loss-making state and collective enterprises that are unable to participate. Between 1993 and 1998, the percentage of uninsured urban residents increased from 27.3 to 44.1, and this trend has most likely continued in recent years [11].

Rural community financing schemes

Collective financing schemes in rural areas have all but collapsed. The Rural Community Medical System (RCMS) developed in the 1950s as a mutual assistance mechanism to establish access to basic drugs and primary health care. In the following decades, the scheme expanded, and by the late 1970s, 90% of the rural population were covered for basic preventive and curative care. The RCMS was financed by the community, primarily through mandatory contributions to the production brigade or village collective welfare fund, but also through direct contributions by farmers. In addition, most villages received some subsidies from township governments. In the early 1980s, de-collectivization led to the dismantling of the village collective welfare fund, and the eventual collapse of the RCMS in most villages. By the late 1980s, insurance coverage in rural areas was less than 3% .

Efforts to reform or reinvent rural community financing has only met with limited success. In some communities, insurance schemes based on voluntary contributions have replaced the RCMS. These schemes vary considerably in their benefit structure, but in most cases represent a benefit-reduction relative to the “old” RCMS. Many of the schemes suffer from poor administration and small risk pools. Moreover, the voluntary nature of these schemes tend to result in adverse selection. For example, in a 1997-2000 UNICEF Intervention Study, some townships could not enrol more than 40% of families, and collected prepayment covered only

10% of average medical expenditure. Efforts to overcome these problems have been constrained by tax legislation, which prohibits township governments from collecting CMS contributions on a mandatory basis (e.g. through local taxes). Although there have been some more successful community financing experiments—e.g. the Sichuan Rural Health Insurance Experiment—the majority of the rural population currently have very limited access to risk protection; according to the National Health Survey, only 6.5% were covered in 1998 [11].[2] The remainder of the population pay out-of-pocket, and must rely on self-insurance or informal support networks. In 2002, the Central Committee and State Council endorsed a new *voluntary* community-based financing model for serious diseases, based on the CMS model and with increased support from the government and a targeted system for the poor—the Medical Care Assistance System. Under the new scheme, central government will allocate 10 Yuan to each medical account of rural residents, and local governments are urged to match. Voluntary contributions for rural residents are also encouraged. It is expected that this scheme will cover about 50% of medical costs. Financial assistance should be made available for those in extreme poverty. The scheme is supposed to be implemented nationwide by 2010.

Private insurers

The private insurance market is of limited, but growing, importance in China. Between 1993 and 1998, private health insurance coverage has increased from 0.3 to 3.5% of the urban population. No representative data are available, but the importance of private health insurance has most likely continued in recent years. Although the market currently caters primarily for expatriate workers in China, there is a potential future niche in the market for supplementary insurance in urban areas (to cover for high co-payments and catastrophic illness). This development is however hampered by a weak legal and regulatory framework in most regions.

Trends in insurance coverage

Overall, survey evidence suggests that insurance coverage has declined and benefits have been eroded. As can be seen from Table 4, the coverage of all types of insurance declined between 1987 and 1997, except some of the special *ad hoc* prepayment schemes that have been set up in rural areas.[3] Overall coverage in the nine provinces covered in the survey declined from 26 to 23% between 1987 to 1997. Early evidence from a subsequent round of the survey suggests that this decline has continued, reaching approximately 20% in 2000. The overall decline is driven by a dramatic decline in coverage for the top two wealth quartiles, while there has actually been an increase in coverage for the poorer quartiles. However, equally important to coverage status, the benefits packages of different types of insurance has also been changing over time, with a decline in reimbursement rates for most types of insurance, in particular for outpatient care. It should be noted that the reimbursement rates for the special / other category, which is an important contributor to the rising coverage among the poor, are very low.

[2] Some villages have established pre-payment schemes or "insurance" for immunization and maternal and child health services. These prepaid programs are managed by the local health care providers and cover approximately 40% of the targeted population.

[3] These results refer to the eight provinces covered by the China Health and Nutrition Survey and are hence not representative for the country as a whole.

Table 4 - Coverage and reimbursement rates by type of insurance (%)

	1987	1991	1993	1997
Coverage (any insurance) by wealth quartile				
Poorest quartile	5.5	4.6	3.1	10.7
Q2	11.1	8.3	6.9	13.9
Q3	24.7	24.1	17.9	21.2
Richest quartile	63.0	63.7	59.5	47.1
Overall	**26.0**	**24.8**	**21.5**	**23.0**
Coverage				
Public / worker	18.1	17.8	15.7	11.5
Dependent	2.4	2.3	1.6	0.7
Collective	2.5	3.8	2.6	0.6
Special / other	3.0	1.0	2.2	10.1
Overall	**26.0**	**24.8**	**21.5**	**23.0**
Reimbursement rate (outpatient)				
Public / worker	74.0	75.2	67.0	57.7
Dependent	57.9	62.6	58.7	64.3
Collective	63.8	55.7	29.4	70.2
Special / other	47.2	50.4	25.7	19.9
Overall	**69.3**	**66.2**	**57.2**	**40.0**
Reimbursement rate (inpatient)				
Public / worker	82.1	83.8	81.4	79.8
Dependent	56.8	64.4	60.1	71.7
Collective	47.1	51.0	37.3	85.0
Special / other	49.7	49.2	72.7	44.9
Overall	**74.5**	**71.7**	**73.4**	**64.4**
Coverage of prenatal and delivery services				
Public / worker	58.3	61.1	59.3	34.7
Dependent	68.1	74.2	67.3	57.8
Collective	29.8	51.2	50.0	41.7
Special / other	35.9	31.5	37.9	36.8
Overall	**18.2**	**30.0**	**22.5**	**8.2**

Source: China Health and Nutrition Survey, reported in Akin et al. [13]

From a slightly different perspective, evidence from two nation-wide (NHHIS) surveys confirms the above story. Between 1993 and 1998, self-payment increased for all income groups in urban areas, although most strikingly for the poorest quintiles. This suggests that the increase in coverage among the poor (reported above) has been confined to the rural areas. In rural areas, most individuals self-paid already in 1993, and there were only minor changes in the period until 1998.

Table 5 - Trends in insurance coverage and self-payment (%)

	Urban		Rural	
	1993	**1998**	**1993**	**1998**
Insurance coverage by type				
GIS	18.9	17.3	1.6	0.6
LIS	33.6	24.9	1.0	0.1
Semi-LIS	13.2	6.2	0.7	0.1
CMS	-	-	6.6	6.6
Private (commercial) insurance	0.3	3.5	0.2	1.4
Collective	0.7	1.5	0.1	0.0
Other	7.1	4.0	4.2	2.9
Self-payment by quintile				
Poorest quintile	38.7	66.7	75.4	85.6
Q2	27.4	50.8	95.6	92.1
Q3	19.8	40.7	93.4	91.5
Q4	16.3	30.0	86.1	89.3
Richest quintile	16.7	23.4	78.8	82.3
Overall	**24.5**	**42.7**	**85.6**	**88.3**

Source: NHHIS 1993 and 1998, reported in Gao et al. [4]

Government budget programs

The government health spending is not providing effective risk protection and is not targeted to the poor. By pooling tax revenues to finance health services, the government also serves as an insurer and third party payer. Relative to other countries, tax-financed government spending on health care comprises only a small share of total health sector spending. A considerable share of public spending on health—approximately 40-50% —is channelled into the GIS. Excluding insurance expenditures, government spending accounts for approximately 11% of total health sector spending (WHO 2000). This represents a considerable decline from 28% in 1978, and 14% in 1993 [3], reflecting a steady fall in government revenues and the growth of privately financed health expenditures. Non-insurance health spending supports the direct provision of health services through government subsidies, thereby permitting providers to deliver some services for free or at prices that are below cost. The bulk of government subsidies (60-70%) are allocated to secondary and higher level health care providers, with the largest share accruing to county and city hospitals. In most areas, government subsidies to primary providers (village health posts) is limited to minor payments to support preventive activities, if they exist at all. Public health and family planning programs account for 10-20% of (non-insurance) government spending, with the remaining resources allocated to capital expenditures, traditional medicine, administration, etc. While government subsidies and price regulation make services available at below cost, the current allocation of government resources are biased in favour of urban areas and higher levels of care, with self- or community-financing of lower levels. There are also notable regional disparities in per capita subsidies, largely reflecting local revenue generating capacity. Overall, resources are not effectively targeted to the poor. Regional inequities cannot easily be addressed in the context of the current fiscal framework, in which the scope for inter-regional equalizing transfers is very limited. However, more effective targeting could be achieved by shifting resources away from higher levels of care towards primary care

and public health services. Aside from direct subsidies to providers, the government could also target resources by providing or subsidizing insurance coverage for poor or vulnerable groups.

Table 6 - Government subsidies by provider type (1999)

	Share of government subsidy	Population served
City hospitals	53%	25%
County hospitals	20%	32%
Township health centers	27%	43%

Source: MOH and MPS), quoted in World Bank [3]

Table 7 - Overview of insurance schemes

	Background	Who is covered?	What is covered?	Financing and payment	Issues
GIS	Established up in 1952. Self-insurance by state agencies, financed by dedicated budget appropriations. In many cities, the GIS has been replaced by new social insurance scheme, but remains in some cities/enterprises.	Employees and retirees of central, provincial, and local governments, disabled veterans, and university students. Dependents not covered (sometimes partial coverage). In 1993, 18% of urban population covered; fell to 16% in 1998 (National Health Surveys).	Comprehensive benefits with minimal cost-sharing.	Financed through budget of central or local government. Large state agencies often set up own clinics or hospitals. Alternatively, on basis of reimbursement at designated hospitals. Fee-for service payment based on government-set schedule.	Since late 1970s, budgets did not cover full costs, and institutions were forced to use other budget lines. Small risk-pool for some agencies. Fee-for-service and low co-payments contributed to cost-escalation.
LIS	Established in 1951. Self-insurance by state enterprises and collectively owned enterprise. In many cities, the LIS has been replaced by new social insurance scheme, but remains in some cities/enterprises.	Permanent workers in state and collectively owned enterprises. Direct dependents are partially covered. In 1993, 35% of urban population covered; fell to 23% in 1998 (National Health Surveys).	Comprehensive benefits with minimal cost-sharing. Dependents are covered at 50%.	Firms have to contribute 14% of wage bill to health insurance and other social benefits. Larger enterprises establish own clinics or hospitals. Alternatively, on basis of reimbursement at designated hospitals. Fee-for service payment based on government-set schedule.	As health care costs have been rising, required contributions often do not cover medical expenses. Many enterprises unable to provide intended benefits, and utilization of health services is sometimes discouraged. With the exception of very large enterprises, risk pools are too small in the case of self-insurance.
"New" urban social insurance schemes	Experiment in Zhengjiang and Jiujiang, initiated in 1994 stimulated broad-based reform effort in 1998 to replace GIS/LIS. New system sought to dismantle barrier between public and non-public sector, expand risk pool, and contain costs. Participation is mandatory for public sector agencies, state and collectively owned enterprises, as well as private enterprises.	Employees and retirees in participating agencies and enterprises.	Arrangements vary across cities. Based on dual-account system, where individual account (with co-payments) is used for initial expenditures, followed by out-of-pocket payments up to an income-related limit, and then access to a social pooling account. Access to pooling account is capped (4 times average wage in region). Dependents are not covered.	Financed through contributions by both employer and employees (e.g. 6% of wage by employer, 2% by employee; arrangements vary across cities). Funds managed by Social Insurance Bureau (typically within local government) which accredit and contract with providers. Payment system varies (fee-for-service, per diem, capitation, etc.)	Seeks to achieve cost-containment by addressing client moral hazard (higher co-payment through individual account), and to some extent provider moral hazard (through provider payment system and other mechanisms). Also, in some cases, essential drug list has been introduced. Although a mandatory scheme, legal and regulatory framework currently inadequate for ensuring compliance. For example. many private enterprises have refused to participate.

Table 7 (continued)

	Background	Who is covered?	What is covered?	Financing and payment	Issues
"Old" RCMS	Based on "spontaneous" community-financing schemes established in rural areas in 1950s. System was expanded following the Cultural Revolution, when the scheme was promoted	All village residents	Free or nearly free basic preventive and curative care. Modest co-payments for drugs, and higher co-payments for referral care	Most of financing from Production Brigade / Village Collective Welfare Fund (mandatory contributions by farmers), but also premiums and government subsidies.	Dependency on community financing resulted in considerable inequalities across communities in benefits package. Risk pool was often too small, and, in some cases, corruption and mismanagement eroded trust and confidence.
Ad-hoc community financing arrangements (post RCMS)	Variegated (local or external) attempts to replace RCMS. Arrangements vary across communities.	Contributing participants	Benefits package varies. Partial coverage of basic preventive and curative care. In wealthier communities, a more comprehensive package which covers a percentage of hospitalization expenses is sometimes offered.	Voluntary contributions, managed by village collective or jointly by village or township. Sometimes also community health funds, derived from township enterprises, village tax revenue Funds are managed by a local township health center committee, and each village clinic has own account to pay for material and pharmaceuticals.	Poor administration, small risk pools, and adverse selection
Special / other insurance schemes	Many village doctors sell contract or prepayment insurance for immunization and maternal and child health services (one or four year contracts).	Contributing participants. Schemes reported to reach 40% or more of children in local area (WB97)		Voluntary contributions	
Private insurance schemes	Growing importance, but still limited coverage, mainly in urban areas.	Contributing participants.	Coverage for expatriate residents. Also supplementary coverage for specific illnesses, or for co-payments or catastrophic illness not covered by new social insurance.	Voluntary contributions	

V. PROVIDERS—PAYMENT AND PERFORMANCE

In the last five decades, health care provision in China has gone through turbulent change. Before 1950, provision of health care was heavily dominated by the private sector. As part of the collectivization of agriculture, clinics gradually became publicly owned and operated. Through heavy investment in both human resources and infrastructure, the scope and coverage of both preventive and curative health services expanded rapidly between 1950 and 1980. In the early 1980s, the health system went through some dramatic changes. Following the de-collectivization of agriculture, rural collective financing schemes collapsed. In parallel, central government devolved power to sub-national governments, which in many cases did not have sufficient resources to finance health care. In the absence of adequate budgets, they granted greater independence to health facilities, and permitted them to rely more extensively on user fees to support their operation. Also, after having been banned in 1967, private medical practice was again permitted in 1980, resulting in the gradual expansion of the private health care sector. Many public providers experienced financial difficulties, and during the 1980s the number of village health posts and township health centers declined. Moreover, many village health workers chose to leave the profession due to inadequate compensation. Subsequent reforms have sought to render providers more financially sustainable. However, the current system has also created notable inefficiencies and inequities, and is in need of reform.

An overview of health care providers in China

The health care system consists of a three-tier rural system, an urban hospital system, and vertical public health programs. Since the 1950s, health care provision in rural areas has been based on a three tier system. At the bottom level, village health posts provide basic curative and preventive care. The village health posts are staffed by village doctors with only limited training (4-6 months). Even after the collapse of the RCMS, village health posts remain the cornerstone of the health care system; in 1998, they accounted for 46% of all outpatient visits. At the second tier, Township Health Centers (THC) serve as the first referral level. They have an average of 15-20 beds and provide both preventive, outpatient, and basic inpatient care. At the third tier, there are nearly 6,000 country hospitals—usually the last point of referral for the rural population—with an average of 300 beds. In contrast to the rural health system, which is the responsibility of county or township governments, the approximately 11,000 city hospitals are the responsibility of provincial or prefectual government. A large share of these hospitals are state-owned and operated. However, since the 1950s, state enterprises have been providing health services directly to their employees, retirees, and dependents through their own facilities.[4] In parallel to hospitals and village clinics, there is a system of vertical public health services. The Maternal and Child Health Program (MCH) provides maternal and child care, conduct field visits and supervise the lower level institutes, down to townships and villages; the Epidemic Prevention Service (EPS) specialize in disease prevention and health promotion, including prevention of infectious diseases, child immunizations, control of endemic diseases and nutritional deficiencies, health education, disease surveillance, and monitoring of sanitation; and

[4] In 1997, state enterprises employed approximately one quarter of all health workers (1.4 million) and operate a quarter of hospital beds (700,000).

the Family Planning and Reproductive Health Program (FPRH) is responsible for implementing the governments family planning program.[5]

Traditional Medicine plays an important role in the Chinese health sector. Traditional Chinese medicine (TCM) has a long history, but it was only in the 1950s that it began to be integrated into the national health care system.[6] Today, TCM is a popular and important source of health care. In a recent household survey in three provinces, 74% of individuals claimed that they prefer to see a practitioner that practices both Western and Chinese medicine [14]. TCM is also highly accessible. Every city has a hospital practicing traditional Chinese medicine, and there are plans for expansion so that every county is covered [15].[7] Moreover, 95% of the Western hospitals also have departments of traditional Chinese medicine, and 40% of prescribed medicines are traditional [18].[8]

The role of the private sector has expanded rapidly since it became legal in 1980. Private health care provision became legal in China in 1980. Many private providers emerged through a gradual transition, whereby government or community subsidies dried out and assets and management responsibility were partly or fully transferred to private operators. This was the case, for example, with many village health posts, and, more recently, some rural health centers.[9] More recently, the private sector has also expanded in urban areas, and private clinics now provide a considerable share of health services. For example, in a 2001 household survey implemented in three provinces, 33% of individuals claimed that their last health care visit was with a private practitioner [14]. For users, the appeal of the private sector does not seem to be quality—many of the respondents rated public doctors more highly than private doctors, and they expressed concern about a lack of qualifications in the private sector—but rather price. The private sector is often cheaper and is seen as a good choice for minor illnesses. Users of private facilities also report being more satisfied with the care, in particular in relation to the courtesy and respect they receive. Even though private health care provision has been legal for over 20 years, the regulatory framework remains weak and poorly enforced. This creates considerable risks for users, but also limits the potentially useful role that the private sector can play. For example, many private sector providers complain that their services are not covered by insurers, even though both price and quality are equivalent to what is offered by the private sector [14].

[5] The FPRH is managed by the Family Planning Commission, unlike the MCH and EPS, which are managed by the MOH.
[6] The main traditional treatments include herbal remedies, acupuncture, acupressure and massage, and moxibustion.
[7] In 1995, there were 2,522 traditional medicine hospitals, with 353,000 staff and 236,000 beds [16]. Practitioners of western medicine report a high level of acceptance and belief in traditional methods and medicines [17].
[8] Herbal medicines accounted for 33.1% of the drug market in China [16].
[9] As a consequence of this gradual transition, the distinction between the public and private sector is unclear. For example, in the case of village clinics, some facilities are fully private (privately owned buildings and equipment), some or fully public (publicly owned buildings and equipment), but in many cases asset ownership is mixed. There is also considerable variation in provider payment modalities.

Table 8 - Importance of different types of providers in terms of utilization

	Outpatient visits	Inpatient visits
Private clinic	12.0	-
Village Clinic	46.3	-
THC	25.3	35.4
County hospital	11.9	46.7
City hospital	2.2	11.7
Other	2.3	6.2

Source: [CHSI 1998, quoted in 3]

Table 9 - Overview of health care providers (*INCOMPLETE*)

	units	beds	workers	Year
City hospitals	11,000	1,914,000	2,825,000	2000
County hospitals	5,811	1,500,000		2000
Township health centers	49,000	1,034,000	1,000,000	
Village health posts	800,000		1.330,000	
County MCH	1,500			
County EPS	1,700		250,000	1997
Traditional hospitals	2,522	236,000	353,000	1995
Private clinics	160,000			1997

Source: World Bank [19], MOH 2000 [quoted in 20], WHO [16]

Financing and payment of providers

Since the 1980s, health care providers have become increasingly dependent on out-of-pocket payments. For many years, health care providers in China were fully financed thorough government subsidies or insurance contributions. The situation changed drastically in 1980, when RCMSs collapsed, input costs increased, and government subsidies declined. In this new environment, government subsidies declined as a share of the total operating costs of providers.[10] Under the "Management Responsibility System" (MRS), introduced in the early and mid-1980s, rural health centers and hospital departments received a fixed subsidy, and were required to meet any further financing requirements through own revenues. In rural areas, where only 8.8% of the rural population had some form of insurance in 1998 [NHHIS, quoted in 4], these revenues are derived almost exclusively from out-of-pocket payments for fees and drugs. Although providers in urban areas also rely heavily on out-of-pocket payments, they receive a greater share of their revenues from insurance reimbursement. Although provider payment methods vary across insurance schemes—for example, the new urban social insurance systems have experimented with capitation and case-based payments—fee-for-service payments are still prevalent.

Health service prices continue to be highly regulated and have resulted in distorted incentives for providers. Both out-of-pocket fees and reimbursements from third party insurers—set out in the Yellow Book—are regulated by the Price Commission. There are four key aspect

[10] Already in 1983, the government subsidy covered only 30-60% of the basic salary payment of rural health centers, and by 1999 the subsidy accounted for only 8% of total hospital expenditures, 12.4% of THC, 39.4% of EPS, 29.8% of MCH [MOH 1999, quoted in 3].

of the current pricing system. First, in an effort to ensure access to basic services, prices are set so as to permit cross-subsidization. Many basic services are priced considerably below costs, while there is a profit margin on technology-intensive procedures and diagnostic tests—e.g. remote control X-ray, CT scans and MRI. This pricing structure creates incentives for hospitals to shift supply away from unprofitable services towards services that are priced above costs [see, e.g. \Barnum, 1993 #571]. Second, the price structure for drugs permits a mark-up of 15% for Western drugs, and 25% for Chinese traditional drugs. Drug sales are now an important source of revenue for hospitals. For example, in a study of four county hospitals in 1989, medicine sales accounted for an average of 55% of total income (including government subsidies) [18].[11] However, the mark-up also creates incentives to over-prescribe, and for prescribing more expensive (and possibly inappropriate) drugs. Third, further distortions arise from the use of a two-tier pricing system, whereby the charges for insured are considerably higher than for the uninsured. This will lead providers to prefer insured patients, possibly limiting access to or quality of services provided to uninsured patients. Finally, although many prices have been maintained below costs, they still comprise a significant barrier to access for many users. In 1996, government proposals led some hospitals to introduce a discount policy. However, the proposals were not supported by any binding legislation or financial incentives for providers to promote compliance. Evidence from some hospitals suggests that discounts are not granted often enough, and that the level of discount is typically insufficient to adequately limit the financial impact of health care costs [22].

Provider performance

The current incentive structure has contributed to poor provider performance, including rising costs… In the last two decades, health care costs have increased rapidly. Between 1993 and 1998, medical expenses per outpatient visit increased from US$2.5 to US$7.8 [CHSI 1999, quoted in 22]. Drug spending now accounts for 52% of total health spending, compared to 15-40% in most other developing countries. The cost escalation has been driven by many factors that lie beyond the health system—e.g. rising income, demographic changes, and the growing importance of non-communicable diseases—but the current provider payment system is also an important culprit. Under fee-for-service payment and profitable drug prescription, providers have a strong incentive to over-prescribe, prescribe expensive drugs, and excessive diagnostic and treatment procedures. These incentives have been sharpened by the use of individual-level incentive systems, whereby the financial bonuses received by doctors are tied to the revenues they generate through provision of services and prescription of drugs.[12] In this context, provider moral hazard is only constrained by professionalism, patient ability to pay, or, in the case of insured patients, the capacity of insurers to control providers. These constraints are clearly not working effectively in China.

…inefficient service mix… As government subsidies have declined, providers have been pushed to increase their own revenue-generating effort. As part of this effort, hospitals and health

[11] This estimate has been confirmed in other studies. See, e.g. [21].
[12] For example, most county hospitals in Shandong provide a 10 yuan bonus to the doctor for each CT test ordered [21].

centers have sought to expand their provision of profitable services.[13] Many MCH centers are now selling drugs and focusing on maternity services for which they can charge, while EPS stations have begun offering outpatient care and have expanded revenue generating activities such as sanitary inspections. At a system level, the upshot is not only duplication of capacity and an over-provision of services with relatively low cost-effectiveness, but also the displacement of essential activities such as basic curative care, public health programs, outreach, and support and supervision.[14]

…informal revenue generation effort… Beyond efforts at providing more services and drugs, providers are resorting to other means of meeting their costs. Overcharging has become increasingly prevalent in the post-reform period—either through loopholes or through illegal practices. In a small scale study of hospitals in Shendong province, it was found that hospitals routinely overcharged by a margin of around 90% of the regulated fees [21], typically by "unbundling" services. In many cases, patients also make other forms of informal contributions—including gifts ("red packages"), supplies of drugs and equipment, and informal payments—in order to receive faster or more attentive treatment [23]. Kickbacks from drug or equipment suppliers have also become an important source of extra income for facilities and workers. For a mid-scale hospital, the value of these kickbacks may be as high as the government subsidies [23]. In addition, some workers and facilities are compensated for referrals, for specific procedures, or for prescribing particular drugs. Although some payments are legal as long as they are recorded, little is known about the actual scope and effect of these payments. Finally, many hospitals and township health centers have engaged in "side-line" activities to generate revenue, ranging from hotel and restaurant operation to industrial production.

*…system breakdown and privatization…*Notwithstanding efforts to fill financing gaps through expanded service provision, informal charging, and other means, many providers have experienced financial difficulties. Most immediately, these difficulties have resulted in layoffs of qualified health workers, a gradual reduction in salaries, supply shortages, and a lack of facility maintenance. But many facilities, in particular village health posts and rural health centers, have also gone bankrupt; between the late-1970s and the mid-1980s the number of operating health posts fell from 55,000 to 45,000 and the number of health workers decreased by 36% between 1980 and 1989 [24]. Reflecting an alternative response to financial difficulties, there has been a gradual process of privatization. Currently, nearly 50% of village health posts are fully or partly privately owned and operated. More recently, a number and county and township governments have also experimented with the privatization of hospitals and health centers [25].

[13] The distorted prices also lead hospitals to seek to increase their capacity to provide profitable services—e.g. through hospital investments. For example, many hospitals reportedly organize investor groups (which tend to include hospital staff) to purchase expensive equipment such as ultra-sound or CT scanners. In many cases, these investments are not used to capacity, leading to operational inefficiency.

[14] Higher level facilities have a formal responsibility for lower level units, but this has all but collapsed. For example, the EPS used to supervise and support village health posts, but this function has been weakened as funding has declined and institutional arrangements have changed.

VI. OUTCOMES AND UTILIZATION

China's legendary performance on child mortality appears to have started unraveling. The annual rate of decline has fallen dramatically, despite the fact that other East Asia countries—some of whom have achieved similar low rates—have seen accelerations in their rates of decline. Child malnutrition is low by East Asia standards and has kept falling during the 1990s, but inequalities across income groups are wider than in neighboring countries. There are concerns over communicable diseases, including HIV/AIDS and SARS. Research on utilization paints a mixed picture. Coverage rates of key MCH interventions seem to be high by East Asia standards, but it is unclear what the recent trend has been. Whether utilization of services among the sick has fallen is unclear from the studies to date. Overall utilization levels of providers seem to have fallen in the 1990s, but there is evidence that among the rural poor rates have increased.

Health outcomes

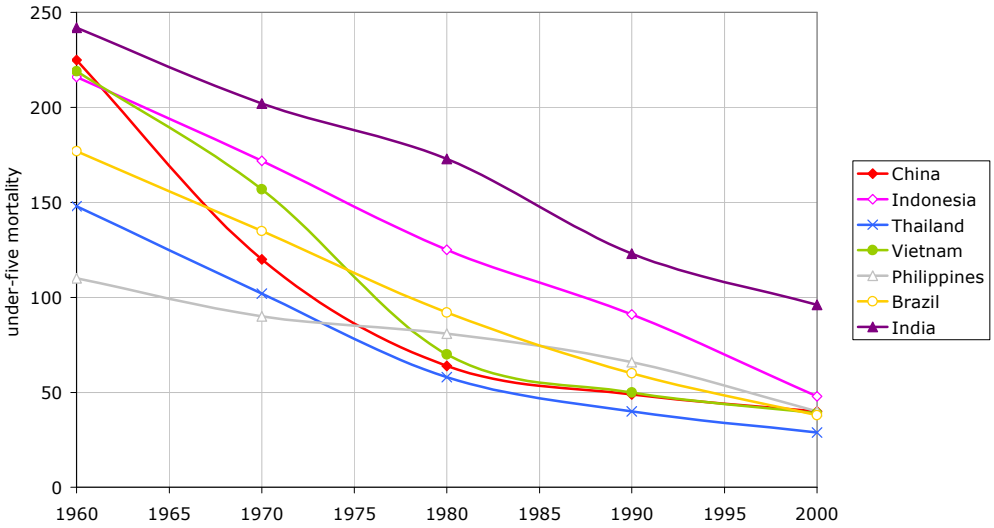
Child mortality—the legend unravels. China's successes in the 1960s and 1970s in reducing child mortality are legendary (Figure 2). But during the 1980s, the pace slowed dramatically, according to UNICEF data, and in the 1990s the pace slowed even more (Figure 3). Vietnam, and to a lesser extent Thailand, which also saw fairly fast rates of decline during the 1960s and 1970s, saw similar slowdowns in the 1980s and 1990s. By contrast in Indonesia, Lao PDR, Malaysia and the Philippines, the pace of decline in the under-five mortality rate quickened during the 1980s, and again during the 1990s. All four countries experienced substantially faster rates of decline during the 1990s than China did, even though in the case of Malaysia the rate itself was also substantially lower (9 per 1000 in 2000, compared to 40 per 1000). The disappointment is not that China's rate is high (it is still low given its per capita income) or that the pace of decline is very small (2% per annum is still an appreciable rate). Rather it is that recent progress is a pale shadow of the successes of the 1960s and 1970s, and a disappointing contrast to the recent successes of neighboring countries, many of which have managed to quicken the pace of decline despite having low rates. The UNICEF data contrast somewhat with a recent study based on Chinese data, that shows a faster rate of decline during the 1990s, and an especially large rate of decline in rural areas (6% per annum compared to 3.5% in urban areas) [4].

Malnutrition—progress on levels but wide inequalities. China's experience with malnutrition is, at least on the face of it, more encouraging. Not only is its rate of underweight among children low by regional standards, its progress during the 1990s appears to have been no worse—and may even have been better—than its neighbors (Figure 4). Success on the national average masks, however, the wide soecioeconomic inequalities in child malnutrition in China—relatively and absolutely-speaking, poor children lag further behind the rich in China than they do in other East Asian countries (Figure 5).

Other health outcomes. China's TB death rate (19) and its MMR (60) are low by regional standards (averages are 27 and 186 respectively). Although HIV/AIDS infection rates are highly uncertain in China, a recent report put it to 0.2% in 2001, with 4:1 male/female ratio [26]. A large share of HIV infections—up to 90% according to the National HIC Surveillance System—are related to needle sharing by injection drug users and faulty blood plasma collection

procedures.[15] Other factors have also contributed, including a dramatic rise in reported STIs and continuing shortages of disposable material (and inadequate sterilization procedures) among health care providers. Some of the current risk factors, such as the illegal blood collection companies, have been addressed by the government, but the UNAIDS has noted that the awareness, understanding, and openness about HIV/AIDS is limited—both among policy makers and the public—and that on the basis of current trends, HIV/AIDS can come to spread rapidly in coming years. [26] In 2003, there was, of course, the SARS epidemic, the cost to the economy of which is as yet un-estimated, and the implications of which for the health care system have yet to be fully absorbed.

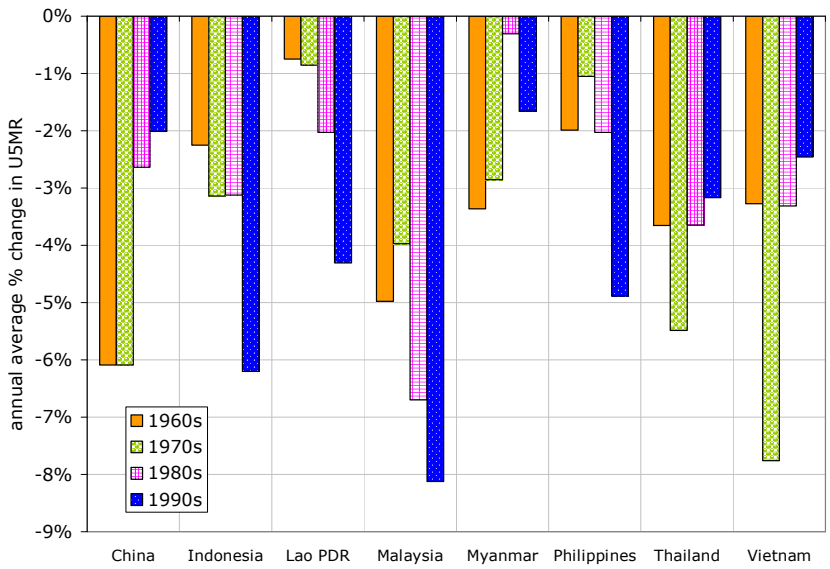
Figure 2 - China's fast decline in under-five mortality during the 1960s and 1970s left in with one of the lowest rates in East Asia



Source: UNICEF data www.childinfo.org

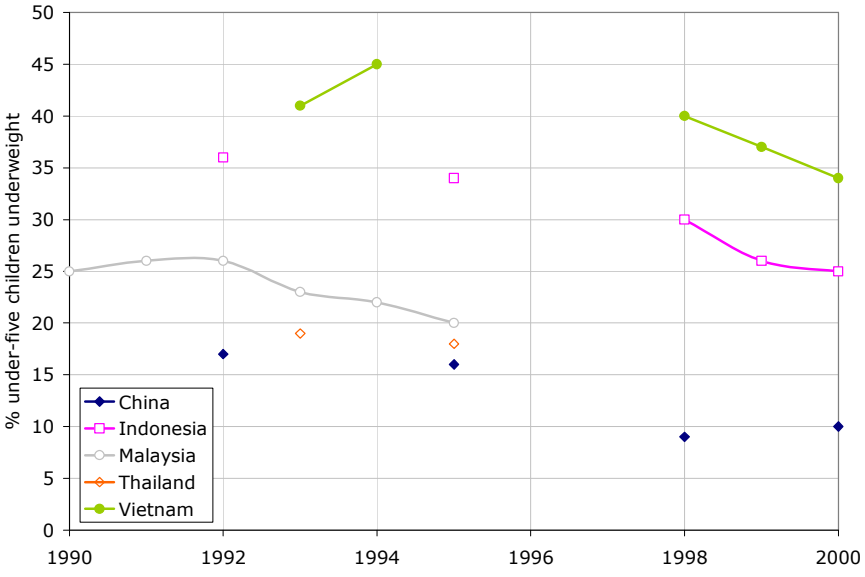
[15] In recent years, blood-collecting companies have operated illegally in many provinces. In order to reduce anemia among users (and permit more frequent donations), these companies have often re-injected red blood cells, where these have been separated from the blood plasma after mixing the blood of many users. These practices, as well as needle sharing and inadequate bio-security procedures among providers, are a concern not only in respect of HIV/AIDS, but are also related to the growing incidence of Hepatitis B and C.

Figure 3 - In the 1990s the pace of under-five mortality decline slowed in China, but quickened in most other East Asian countries



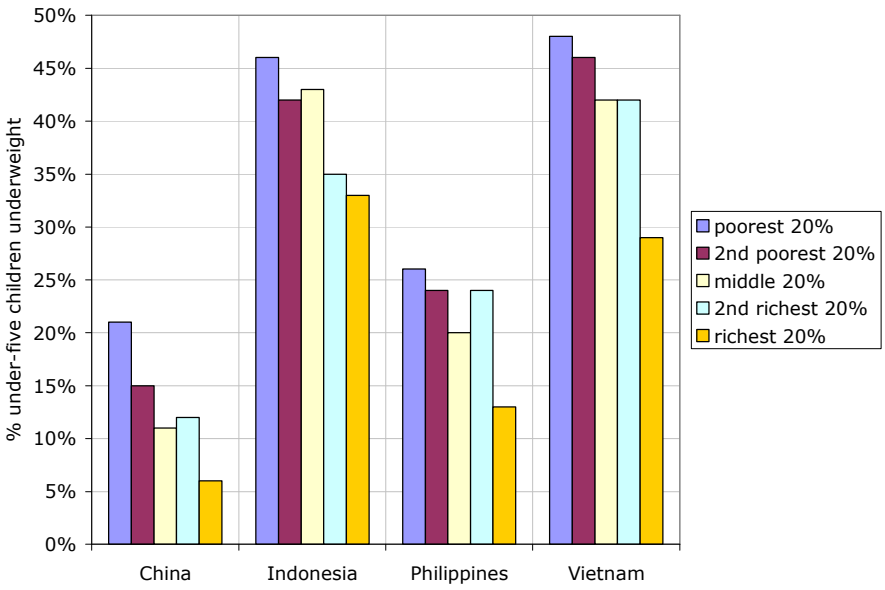
Source: UNICEF data

Figure 4 - China's rate of malnutrition among children is low and has stayed low during the 1990s



Source: WHO data

Figure 5 - By regional standards, inequalities in malnutrition between rich and poor children are high in China's

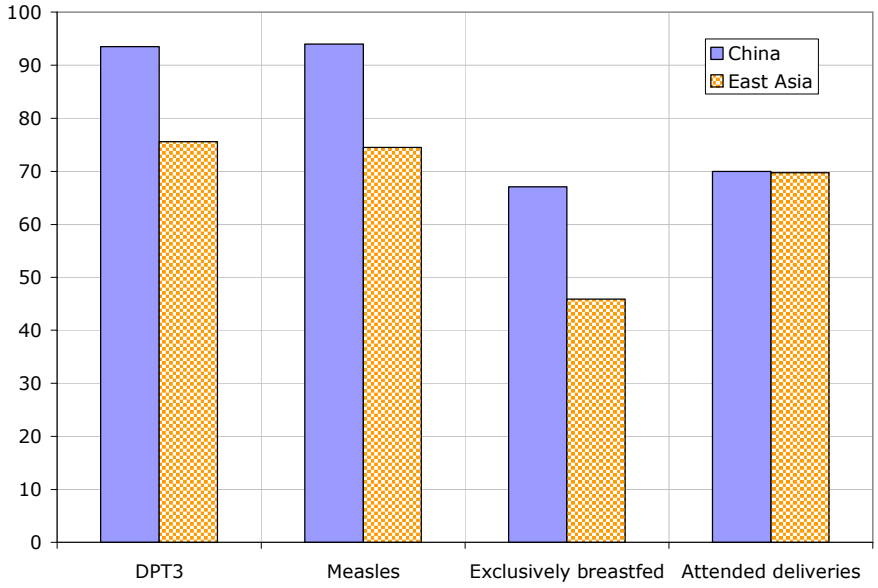


Source: [27]

Health service utilization

China achieves high coverage rates for key MCH interventions. For those of the key child health interventions [28] for which internationally comparable data are available, China has rates of coverage that are high in absolute terms and relative to those of other East Asian countries (Figure 6). It is less clear what the trends in these indicators have been recently. UNICEF has revised downwards its estimates of immunization coverage for the late 1990s, but although its charts show a downturn, this is simply a reflection of the decision to revise the estimates downwards *only after 1998*. Nor is it clear what is known about socio-economic differences in coverage rates.

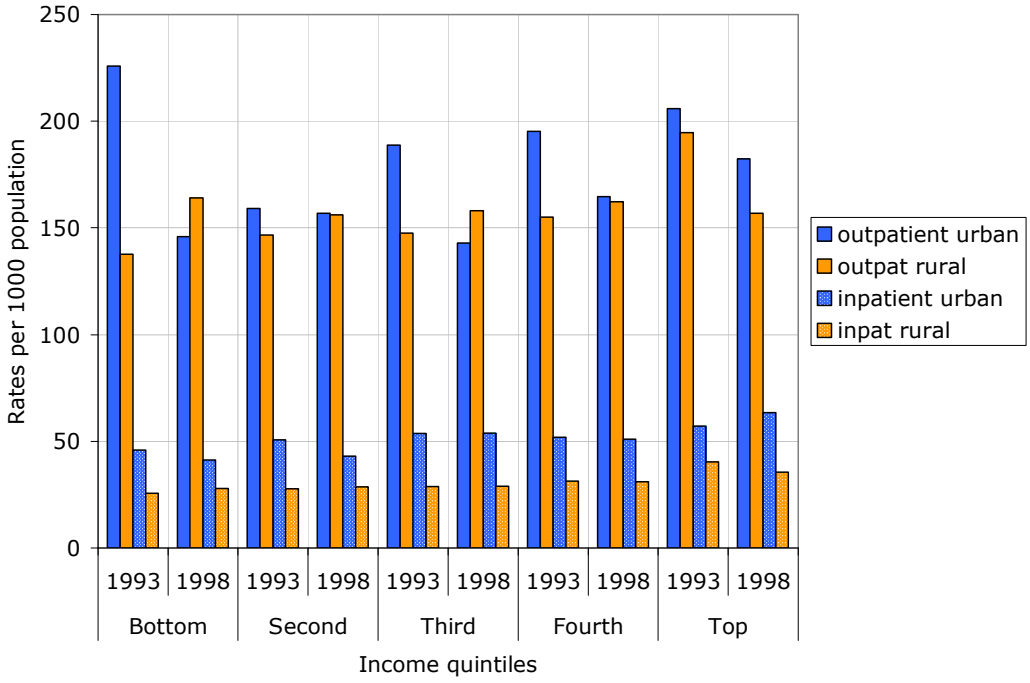
Figure 6 - China compares favorably on key MCH intervention indicators



Source: WHO data

Has utilization of health services declined during the 1990s? Among whom? Results from the China Health and Nutrition Survey suggest—somewhat surprisingly—that despite the upheavals of the 1990s, there were no significant changes between waves in the proportion of sick people seeking care, either between the 1989 and 1993 waves, or between the 1993 and 1999 waves [29]. Indeed, there was a slight *increase* in the proportion of sick people seeking care between 1993 and 1999, albeit not a significant one (the *t*-statistic was 1.4). Results from the 1993 and 1998 National Health Surveys paint a quite different picture [30]. While the percentages obtaining care when sick increased between 1993 and 1998, a larger proportion self-treated (classified as obtaining care). Among those sick, care seeking from a provider fell, with levels of inpatient care usage falling quite dramatically, especially among the poor. Between 1993 and 1998, there was a sharp increase in the percentage of people referred to hospital but *not receiving inpatient services*. The increase was larger among the poor. Over this same period, "financial difficulty" became the most frequent reason (65% of answers) why people who were referred to hospital did not receive inpatient care (a rise from 40% in 1992). Another study [4] using yet another dataset paints a more mixed picture, with the rural poor *increasing* their utilization of inpatient but especially outpatient services, and the urban population (with the exception of the richest quintile) reducing theirs (Figure 7).

Figure 7 - A mixed picture of change—the rural poor increase their service utilization while the urban population reduce theirs



Source: [4]

VII. GOVERNMENT "STEWARDSHIP"—THE CHALLENGES AHEAD

As indicated in section II, government plays a variety of important roles in the health sector. The Chinese government, having introduced a number of measures during the 1980s that are recognized now to have been counterproductive, has recently engaged on a variety of positive reforms. The reform process is not, however, complete. More could usefully be done in each of the four areas where governments traditionally have a role in the health sector: improving the functioning of health insurance; the regulation of providers; classic public health activities; and the promotion of equity.

Further reforms in health insurance would yield payoffs. One key function of government is to overcome the failures that would occur in a free health insurance market. The new urban social insurance system—with its larger risk pools, tighter control of moral hazard and inclusion of the private as well as public sectors—is a distinct step forwards. There are, however, unresolved issues. It is doubtful whether supply-side measures for containing costs and promoting efficiency are adequate, and further reforms to provider payment mechanisms are almost certain to be required. It is likely that the demand-side measures to curtail moral hazard may entail too large a sacrifice of financial protection. There is the issue of how currently uncovered urban residents—dependents of workers, the urban poor, the unemployed, and employees in loss-making state and collective enterprises—can be brought in to the scheme. As far as rural health insurance is concerned, government efforts to reform or reinvent rural

community financing have met with only limited success, not least because the issues of adverse selection and sufficiency of risk pool size have not been properly addressed. The contrast could not be greater between the *urban* reform agenda, where problems have been identified and new institutions developed, and the *rural* agenda, where underlying problems have *not* been properly acknowledged and the focus has been on revitalizing a likely outdated institution. One area where reform does appear to be promising is the Medical Care Assistance System, whose attraction is it explicitly faces up to the fact that the rural health-financing problem will not be solved without the help of central government.

In the absence of further reforms in health insurance, the problems of the past will continue. Lack of insurance will hold back the development of the rural health system, keeping health levels unduly low. Aside from the intrinsic benefits of better health, improved health through better health insurance would bring economic benefits too: recent research indicates that health 'human capital' played an important role in the rapid income growth of the 1990s.[31] Improvements in health insurance will bring other economic benefits too. In the absence of change, health 'shocks' will continue to drive households into poverty, thus feeding a vicious circle of poverty and ill health. To avoid this, households without health insurance—the great majority in China—will continue to have inefficiently high levels of savings, which will hold back consumer spending and economic growth. Many will seek out employment with health insurance attached to it, in preference to jobs without health insurance. This too will hold back economic growth by reducing the pool of labor on which small private firms—a major source of growth—can draw. Urban workers lucky enough to have employment-based health insurance will be reluctant to move on to a job without insurance, thus creating yet further rigidities in the labor market. Improved government intervention in health insurance thus holds the promise of lower rates of income poverty, higher levels of consumer spending, a more flexible labor market, and faster economic growth.

Better regulation of providers would reduce inefficiency. Government has a second set of roles concerning the setting and enforcing of regulations to ensure that providers do not exploit their informational advantage over patients. Recent positive steps by government include the requirement that drug revenues must be passed from the hospital to the local government [31], and the recent introduction of a medical licensing system for rural doctors [10]. However, it seems unlikely that these will be sufficient. Regulation of providers is very weak. This is true in respect of public providers, where quality control and the enforcement of price regulation are weak, but is particularly severe in the respect of the private sector. Currently the lax framework for regulation (and enforcement) of private sector activity exposes patients to considerable risks of malpractice and unscrupulous providers. But by obstructing the establishment of private practice and limiting insurance coverage to public providers, current regulation also restricts the potentially useful role that the private sector could play in the health sector.

There is scope to step up classic public health government functions. A third role for government is that of financing—or at least subsidizing—services and activities that have '*externality*' and '*public goods*' characteristics. The recent SARS epidemic launched a debate about whether greater priority needed to be accorded to core public health functions in China, and has prompted a series of reforms. Whether these go far enough to getting these issues sufficiently high up the priorities of central government is a moot point. There is clearly a tension, as in other countries, between decentralization and ensuring nationwide externality and

public good issues are properly dealt with. Evidence suggests—from China but elsewhere too—that the proper discharge of public health functions requires a strong role of central government. Yet, central government spending in China has been *declining*. This—coupled with a lack of prioritisation in spending allocations—has resulted in several public health programs—e.g. the MCH and EPS—being currently under-funded. We also drew attention above to concerns that have been expressed about the government's strategy vis-à-vis other public health issues, such as HIV/AIDS and blood safety. Low spending and low priority to core public health activities has damaging consequences. Providers end up trying to charge more, provide more services, and by shifting their effort towards revenue-generating services that may be of limited therapeutic value and may even be harmful. There are negative economic consequences too, as the SARS epidemic illustrated.

Government could do more to promote equity. A final role for government is the promotion of equity. Here doubts have been raised, and it is clear that gaps exist—across income groups, between rural and urban areas, and so on. Whether these gaps are widening is less clear. Claims are often made of widening gaps, but evidence of the opposite happening is also evident—infant mortality has been falling faster in *rural* areas than in urban areas; the poorest 80% of the rural population increased its health service utilization between 1993 and 1998 (the urban population reduced its); out-of-pocket payments became less regressive between 1993 and 1998 in *both* rural *and* urban areas; health insurance coverage, according to one recent study, increased between 1993 and 1997 among the poorest quartile while it fell among the top quartile; and so on. This is not to say that gaps do not exist. On the contrary, it seems likely—though comparative data are hard to come by—that poor-nonpoor gaps and the specific disadvantages faced by the poor vis-à-vis health care are probably greater in China than elsewhere in East Asia. What *is* clear is that existing policies and the aforementioned and other policy reforms seem more likely to benefit the better-off urban population than the comparatively poor rural population. The majority of government spending goes into health insurance programs and the higher levels of the health system, and the geographical targeting of central government sending is very limited. Most of the government subsidies accrue to better off households who are covered by insurance and/or use hospital services. Beyond targeting the poor through focusing on health services that the poor use and/or benefit from, there may be scope for more direct targeting through public funding of financial assistance schemes, exemption programs, or subsidized insurance for the poor.

10 October 2003

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