Kan Bing Nan, Kan Bing Gui:
Challenges for China’s Healthcare System Thirty Years into Reform

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I. Introduction

Virtually all recent research and commentary on China’s healthcare system – in China and abroad – opens with some reference to the ubiquitous lament among PRC patients, “kan bing nan, kan bing gui” (getting medical care is difficult and expensive). This phrase even appears prominently in the 50-page outline of the 11th 5-year plan for national economic and social development of the People’s Republic of China.¹ Healthcare access and affordability have become key sources of social discontent in both urban and rural areas. A national poll of over 3000 people in 2005 reported that the top five problems people listed were healthcare “kan bing nan, kan bing gui” (75%), followed by income inequalities (67%), corruption (62%), educational expenses (58%) and social security (48%; Hu Shanlian 2007, p.6), with polls in 2008 reflecting a similar high priority on healthcare (Lianghui Diaocha 2008). In fact, in 2005 a research institute under the State Council issued a report stating that China’s healthcare reforms were “basically a failure” (Guowuyuan Fazhan Yanjiu Zhongxin Ketizu 2005) – earning healthcare reforms the dubious distinction of being the only major policy labeled a failure by a government agency.

Outside views of China’s health system reforms, including systems for assuring food and product safety, have been equally unflattering, evoking concern about a crisis or collapse that threatens both China’s social fabric and the health of global consumers. Headlines proclaim “China’s Failing Health System” (TIME 2003); “China’s Ailing Health Care” (BBC, 7 December 2004); “China’s Health Care Crisis” (CBS News, January 3, 2007).² The severe acute respiratory syndrome (SARS) epidemic in 2003 in particular focused an international spotlight on problems in China’s health sector. More recent developments of avian influenza do little to quell fears of China spawning “superbugs” that threaten global public health.³ The head of China’s Food and Drug Administration

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¹ The 11th Five Year Plan for National Economic and Social Development of the People’s Republic of China (2006-2010).
² SARS (Severe Acute Respiratory Syndrome) is a viral respiratory illness with symptoms similar to pneumonia.
³ Avian influenza is a highly contagious viral infection of birds and other animals.
was recently sentenced to death for corruption. Numerous product recalls have alarmed consumers. As China seeks to maintain an enhanced international profile as Olympic host and safeguard the reputation of the “made in China” label, problems in China’s health system remain a source of considerable concern.

Healthcare systems around the world confront challenges of improving quality, maintaining or extending access, and controlling costs even while new technologies inexorably increase the capabilities of medicine. Among industrial and traditionally market-based economies, experiments with more market-based incentives in the health sector constitute a “third wave” of international medical care reforms, according to Cutler (2002). China’s experiences provide some insight into the broader debate about the appropriate roles of government and market in the health sector. Several studies provide able reviews of China’s health and healthcare system reforms (e.g., Hsiao 1995; Bloom et al. 1997; Akin et al. 2005). But both the media coverage and the academic literature give conflicting appraisals of China’s reality: Is China’s healthcare system on the verge of collapse? Why is healthcare (perceived to be) so expensive and difficult to access in contemporary China? Have reforms “marketizing” healthcare drastically undermined progress in assuring affordable access for all? Or do hospitals and other providers constitute a last bastion of state control and bureaucratised monopoly in the name of equal access? Analysts and policy advisers have engaged in a sometimes acrimonious debate; some champion a government-led, National Health Service-like model, while others passionately argue that market forces should play a greater role (see for example G. Liu 2002, 2003; L. Li 2005; Q. Zhou 2007; M. Wu 2007). What are the prospects for China’s current reform efforts, including impressive expansion of government financing for healthcare and of health insurance cover for both the rural and urban populations (through the New Cooperative Medical System, NCMS, urban residence insurance program, and other ‘medicaid’ programs)?

In social policy as in medicine, the success of an intervention depends on the accuracy of the diagnosis. In this chapter, I examine China’s health system reforms since the 1980s, when the transition from a centrally planned economy to a “socialist market economy” began in earnest. The first section focuses on positive analysis: How has China’s health system evolved over the past quarter century? What have been the drivers
of that change? How do China’s health outcomes and healthcare system reforms compare to those of other countries, including other developing and transitional economies? The last section returns to the normative question: Are the problems plaguing China’s health system “growing pains” that the envisioned reforms will effectively address, or are they signs of a deeper crisis – a “ticking time bomb” -- that may derail China’s social and economic development?

The core of the argument is straightforward. Effectively expanding China’s healthcare coverage and redressing problems in service delivery will require difficult and thorough restructuring of the distorted incentives embedded in the current system, which arose early in the reform era. Following the success of dual-track reforms in other sectors of its economy, health policies intended to protect a “plan” track of access to basic healthcare even for the poorest patient while allowing a “market track” of providers allocating new, high tech, more discretionary services according to patient ability to pay and provider profit margins from regulated prices. The “plan” for basic access was not defined nor protected in terms of risk pooling. Thus when organizing financing for healthcare largely collapsed (because it was linked to agricultural communes and soft budget constraints for state-owned enterprises), little was put in its place (see Table 1). Only in the early years of the twentieth century, almost thirty years into China’s reforms, did the political economy of the SARS crisis and other links to social instability drive policymakers to reassess the problems in China’s healthcare system as a whole. As emphasized by prominent Chinese health economist Hu Shanlian of Fudan University, China’s kan bing nan, kan bing gui problem is a “systemic disease” (zhiduxing jibing), stemming mainly from the confluence of three factors: lack of insurance, inadequate government financing, and distorted payment incentives (Hu 2006). While consensus on the first two points appears to have emerged – with almost all proposals and policy statements emphasizing increased government investment and a goal of universal coverage – exactly how China will address the last crucial point about incentive structure remains unclear. Effectively restructuring incentives will be the key to whether government financing and universal coverage achieve the intended goals of ameliorating the kan bing nan, kan bing gui problem.
The chapter proceeds as follows. Section II first presents an overview of population health trends in China and the changing burden of disease. The relative stagnation in health improvement during rapid economic development presents a puzzle, and links between the risk factors for burden of disease and provider incentives provide a clue regarding the fundamental argument, that dysfunctional system incentives for healthcare providers are the root of the problem. The paper then turns to an analysis of China’s medical care system and its challenges, starting in Section III with a conceptual framework based in “growing out of the plan” (Naughton 1995) and dual-track reform (Lau, Qian and Roland 2000). Section IV delves deeper into the causes behind the *kan bing nan, kan bing gui* problem, highlighting the collapse in organized financing and the distortions in provider incentives. Section V places China’s experience in comparative international perspective, including a discussion of rising inequality. Section VI discusses the political economy behind China’s recent significant reforms, from the 2003 SARS epidemic (which profoundly raised the political profile of healthcare reform) to the 2006-2008 National Commission for Health System Reform and the current reform plan. Section VII concludes by returning to the question of whether or not the acknowledged problems in China’s healthcare system should be understood as “growing pains” and what challenges lie ahead in making China’s new commitment to universal coverage sustainable.

II. **Demographic and epidemiological transitions and China’s burden of disease**

China is famous for the success of “barefoot doctors” and other programs associated with extraordinary achievements in population health during the early decades of the People’s Republic of China (Sidel 1972; Jamison 1984). Some might question the statistics behind the dramatic health improvement during China’s “classical socialist” period (Kornai 1992), aware of the pervasive incentive for data distortion under such a system. However, even careful re-analysis of censuses and surveys largely confirms the story, with life expectancy estimated to have jumped from about 60 in the 1960s to over 71 by 2000 (Banister and Hill 2004).

During the reform era, improvements in health outcomes slowed relative to China’s breakneck economic growth. China began the reform era as an international
outlier, with health indicators significantly better than would be expected given China’s income level. Figure 1a illustrates this favorable outlier status for China’s infant mortality rate in 1980. Since then, China has “regressed to the mean” so that for most health indicators, China matched what would be expected given its per capita income (see Figure 1b and discussion in Eggleston, Wang and Rao 2006). Grigoriou, Guillaumont, and Yang (2005) also find that while China continued to out-performed most countries in terms of infant survival, China's relative advance decreased during the reform period, and the impact of household income on infant survival has increased.

While in principle this pattern need not signal “failure” – certainly the previous health improvements helped to fuel rapid economic gains, which in turn may be just as valuable as increased health improvements – it does pose a challenge to those who assume that economic growth is the key to longer, healthier lives. Why did China make such dramatic health gains when it was relatively poor, and then saw stagnation in health gains during a period of rapidly rising income? This apparent puzzle contributes to the perception that China’s health sector faces problems more deeply rooted than mere “growing pains.”

**Demographic and epidemiological transitions**

Understanding patterns of health change in China requires understanding China’s demographic and epidemiological transitions. Demographically, China benefited from a relatively young population, with a growing fraction of residents at prime working-age, helping to fuel economic growth. The controversial one child policy does not appear to be responsible for the onset of demographic transition but may have contributed to greater human capital investments per child, although rigorous analysis using twins suggests that “the contribution of the one-child policy in China to the development of its human capital was modest” (Rosenzweig and Zhang 2005). As Hussain (2002) notes, China’s steady deceleration in population growth beginning around 1970 predates the one-child policy and has had its largest impact in terms of decreasing the proportion of children and increasing the share of working-age adults in the population. As a result, the dependency ratio has fallen and is likely to continue to do so for many years despite significant aging of the population. Several scholars have highlighted the importance of
these demographic changes for the future of China’s health and healthcare systems, as well as for social and economic development more generally in China and other East Asian societies (e.g., Fogel 2003; Heller 2006; McNicoll 2006).

Just as importantly, China’s burden of disease is changing from that of a low-income country to one more closely resembling a high-income profile, especially in urban areas. Noncommunicable diseases account for over 70% of China’s disease burden by 2001, a rise of 20% in its relative share since 1990. Among the top ten causes of disease burden in China are cardiovascular diseases; chronic obstructive pulmonary disease (traceable to rampant male smoking and poor air quality from coal use and other air pollutants); and cancers. Depression, road traffic accidents, and age-related vision disorders are other non-infectious conditions among the top 10 leading causes of burden of disease in China (Table 2).

Yet in poorer areas, particularly in rural and inland China, infectious diseases and malnutrition remain prominent health problems. Pulmonary Tuberculosis is still in 2005 among the top 10 leading causes of death in China’s rural areas (see Table 3). Mendez and Popkin (2004) note that changes in diet and activity throughout the developing world – broadly associated with urbanization and globalization – have contributed to increasing prevalence of obesity. Unsurprisingly, then, both obesity and malnutrition are among the top ten risk factors contributing to China’s burden of disease (ibid). Emerging infectious diseases also pose a risk in both urban and rural areas, especially the risk of more general spread of HIV/AIDS from the current concentration among high-risk groups such as intravenous drug users – though to the government’s credit, new policies have begun to address that threat.

As for many developing and transitional economies, China also has a large burden of disease from mental health disorders (Kleinman and Mechanic 1981; Shen 1993; Stockman 1994; Chen 1995; Ji 1995; Rhi et al. 1995; Ji 1996; Phillips 1998; Yip 2005). According to China’s statistics, mental conditions are among the top ten leading causes of death for both men and women in both urban and rural areas (Tables 3 and 4).

In sum, China enters the 21st century facing a “double burden” of diseases common in both developing and industrialized economies. A focus on reducing
behaviors that lead to chronic disease – including smoking, unhealthy diets and sedentary lifestyles – will be important to reduce burdens of future morbidity and mortality.

There are also clear links from the disease burden to the perverse incentives in the healthcare delivery system, such as financially reward invasive procedures over lower tech methods that are often far safer and cost-effective. For example, contaminated injections are responsible for 2% of China’s total disease burden in 2001, the 10th leading risk factor for China’s burden of disease. Improving the incentives facing healthcare providers will no doubt also be central to achieving health gains for China’s over one billion residents in the coming years. The next section turns to how and why these dysfunctional healthcare system incentives arose during China’s transition and how recent reforms address the problem.

III. A Conceptual Framework

China’s economic reforms, beginning with agriculture in the 1980s (Lin 1992), have achieved unprecedented success in lifting average incomes and bringing millions out of poverty (Qian 2000; Ravallion and Chen 2007). Yet the same approach to reform that worked so dramatically for other sectors of the economy did not give rise to a coherent and sustainable system for healthcare financing and delivery.

Figure 2 illustrates China’s “growing out of the plan” through the relative growth of the non-state sector as a share of Gross Domestic Product (GDP). The graph shows China’s total and state-controlled GDP from 1980 to 2005 in internationally comparable dollars and taking account of effects of inflation. From an economy dominated by state control at the onset of reforms, China has seen a higher growth rate of the non-state than the state sector, thus “growing out of the plan” (a term coined by Barry Naughton in the 1980s and the title of his 1995 book on China’s reforms [Naughton 1995]). State-controlled GDP has grown in absolute and real terms, but the non-state share of the economy has outpaced that growth significantly. The result is that state-controlled output is a steadily declining share of China’s economy.

Economic theory can explain China’s dual-track reforms by focusing on how China continued to enforce a planning “track” through regulated prices and/or production quotas, while allowing market-based incentives to govern firms’ production decisions on
the margin (such as through sales of above-quota production at market-based prices). The resulting market-based signals for resource allocation spurred economic growth and allowed the planned share of the economy to shrink in relative terms as China’s economy “grew out of the plan.”

This section summarizes the theory of dual-track reforms and discusses why the distinctive features of the health sector made applying a similar approach to healthcare problematic.

**The Economic Theory of Dual-track Reforms**

In “Reform Without Losers: An Interpretation of China's Dual-Track Approach to Transition,” Lau, Qian, and Roland (2000) suggest that China’s successful economic transition could be understood as using dual market- and plan- tracks to create “reform without losers.” They posit that China’s ability to enforce continued central planning while allowing a “market track” enabled reform to be simultaneously efficient and Pareto-improving (making everyone better off). Enforcing a central plan prevented “disorganization” (Blanchard and Kremer 1997) of the production process as firms struggled to secure new market-based contracts for procuring all inputs and selling all outputs. Such a “disorganization” effect has become a leading theory for why all transition economies except China and Vietnam experienced transformational recessions (Campos and Coricelli 2002).

One key feature of China’s dual track system was the emphasis on ‘grandfathering’ the old system: those who benefited from plan-based prices and allocations could continue to enjoy those benefits (or economic rents). Under the dual-track system, those plan benefits constituted inframarginal lump-sum transfers from producing to consuming firms or vice versa, depending on whether the plan price was set below or above the market price. They were “inframarginal” in the sense that they did not govern firms’ behavior on the margin, since decisions about expanding or contracting investment and production would be based on market prices. Lau, Qian and Roland (2000) show that even if the efficient quantity is less than the planned quantity, so that transition to markets would entail contractions in production, the dual-track system works as long as the government enforces the plan in terms of rents rather than physical
quantities. Importantly, such a dual-track system also benefits from using existing planning institutions rather than relying on rapid development of new coordinating institutions (ibid). Evidence corroborates this story of “growing out of the plan,” at least through the early transition years before production quotas were phased out for many goods and services.

Such a dual-track system works most readily along the chain of production for industrial goods, with firms as both the “planned suppliers” and “rationed users.” The framework applies less smoothly to goods sold directly to consumers (ibid), much less non-retradeable services such as medical care. (Ability to re-trade products sold on one track in another is critical to the efficiency properties of “full market liberalization,” allowing firms to purchase on the market to fulfill plan production quotas.)

The Problems of Defining a Dual Track for Healthcare

Multiple features of healthcare complicate a dual track approach, ultimately rendering such a reform neither efficient nor Pareto-improving. Despite these complications, I submit that China in a real sense did apply a dual-track approach to the health sector, broadly in parallel with reforms in other sectors of the economy. Loosely interpreted, the dual track approach meant guaranteeing access to some basic amount of a good or service under “old system rules,” while allowing market-based incentives to govern expansion or newer goods and services. This principle could be applied to health – and I argue that it was. Central to the dual track was enforcing “the plan” in terms of regulated prices for the services commonly available to patients at the outset of reforms. Allowing market-based prices or regulated prices with a profit margin for newer services (and for pharmaceuticals) seemed consistent with market track reforms for most other sectors in China.

Unfortunately the “plan” was not defined in terms of insurance or risk pooling, but rather in terms of specific services. China’s population experienced a precipitous decline in effective health insurance coverage that arose from agricultural de-collectivization and the break-down of the “iron rice bowl” policy for urban formal sector employees (Eggleston et al. 2007). Moreover, planners apparently underestimated the supply-side response to distortions in regulated prices. In fact, these two policies are
linked: lack of third-party payers in China (see Table 1) meant that the price that consumers paid was the same as the price suppliers received, and a low price to guarantee patient access implied a low incentive for suppliers to invest or produce.9

As health economists are wont to point out, the characteristics of healthcare, while not individually unique, in combination make healthcare distinctive and less amenable to market-based allocation without significant “market failures.”10 Most prominent among these characteristics in the value attached to health. While medical care is not the most important determinant of an individual’s health—lifestyle choices and other factors are often more important health determinants (Fuch 1974)—timely and appropriate medical care nevertheless can often be a matter of life or death. Hence allocating access to healthcare is a controversial exercise in “pricing the priceless” (Newhouse 2002).

Related to the seminal value of health is a “norm of equal access”: in many societies, a majority of people feel that everyone has a right to basic health care. This norm is sometimes expressed as “specific egalitarianism,” or supporting equal distribution of specific goods and services considered necessities.11 Recent evidence that Chinese citizens also embrace this norm comes from another chapter in this book (Whyte, “What Do Chinese Citizens See As Fair and Unfair about Current Inequalities?”, especially Table 4, “Attitudes toward the rich enjoying advantages”): while the majority of Chinese appear to accept inequalities as long as they are based on merit and not unfair advantages, they view healthcare a little differently. They are more likely to view as inequitable rich people buying better healthcare for their families, compared to other goods and services that income affords the wealthy. Unequal access to healthcare smacks of inequity more than do inequalities in housing, education, or income per se. These perceptions reveal a problem with China’s heavy reliance on patient self-payment for healthcare during the reform era – affording the wealthy far better access than the poor. The perceived inequity of such a system has played a significant role in recent efforts to abandon the previous dual-track approach and achieve universal coverage.

Other important characteristics of healthcare include uncertainty and the demand for insurance, and asymmetry of information. Insurance or risk pooling is a vital component of a healthcare system, and introduces an important institutional feature of the health sector, a third-party payer, between the consumer and the provider. The consumer,
insurer and the provider each have different information (about current and future state of health, propensity to use medical care, appropriate treatment for a given medical condition, and so on) that give rise to problems of adverse selection (the sick more likely to buy insurance) and risk selection (insurer or provider ‘cream skimming’ or ‘cherry picking’). Moreover, when individuals are insured, they tend to overuse services because they do not face the full cost of those services, a behavior called moral hazard. When patients as a group overuse medical services because they appear close to “free,” eventually the cost of supplying insurance coverage will rise. Deterring moral hazard will usually require imposing on the patient some of the costs of care at time of use. But deductibles and co-insurance re-impose financial risk on consumers and may decrease their access to medical care. As a result, health insurance involves a fundamental trade-off between spreading risk and giving appropriate incentives for efficient use of medical care.

The health sector also confronts challenges from supply-side power, the relative defenselessness and desperation of the patient, and potentially misaligned incentives between the three main players – patient, provider, and payer/insurer – and the three key goals of access, quality, and reasonable cost.

Considering these characteristics makes clear how difficult it is to define and implement a successful dual-track reform in the health sector. The central challenge is how to define the “plan” and the “market” for healthcare. Except perhaps for certain population health services, no government planner can define and enforce a “plan” for delivering a specific quantity of services to specific patients: healthcare requires the mediation of a healthcare provider to match services to patient “need” or effective demand. Thus, for healthcare “plan quantities” would not be contractible. The government would have to enforce the plan according to rents instead of quantities even if efficiency required expansion of output. But the government cannot enforce the plan in terms of rents either, because planners do not know consumer’s “true demand”: asymmetric information, moral hazard, individual heterogeneity, and the potential for supplier-induced demand make it difficult if not impossible to “grandfather” access to certain healthcare services while allowing markets to allocate other healthcare services. Government could try to enforce access in terms of entitlements to “basic care” rather
than quantities of specific services, but this further begs the question of how to define “basic” medical services.

Thus the underlying explanations of the *kan bing nan kan bing gui* problem, according to this conceptual framework, itself has a dual track: first, risk pooling institutions (including tax-based financing) for healthcare deteriorated, as manifest in a decreasing share of government financing for health and concomitant reliance on patient out-of-pocket financing. This collapse was in turn linked to problems with local governance and a transformational decline in central government revenues during the early period of economic reform. Second, distortions in the system of incentives for providers, intended as a substitute for risk pooling, in fact exacerbated the problems of access by financially penalizing population health and low-cost interventions while financially rewarding oversupply of high-tech interventions and dispensing medications. These factors, together with the increasing capabilities of medicine, made getting medical treatment increasingly difficult and costly for patients (*kan bing nan, kan bing gui*), and are the topic of more detailed discussion in the next section.

IV. *Kan Bing Nan, Kan Bing Gui: In Search of the Causes*

**Collapse of Risk Pooling**

Has the health sector experienced a “growing out of the plan” similar to that for other sectors of the economy? Figure 3 shows that in terms expenditures on health, China has indeed seen a parallel pattern since 1980. The vertical axis plots total and government expenditure on health in 2000 US PPP dollars from the WHO national health accounts data and data from the China National Health Accounts Report (MOH 2004). Figure 3 shows that government expenditure on health has grown in absolute, real terms, but has shrunk as a fraction of total expenditures on health (TEH) in China. Government expenditures on health declined from 79% of TEH in 1980 to only 36% in 2001, with a slight rebound since then (to 39% in 2005). Since the mid-1990s, private financing has constituted a larger share of total health spending than government financing. Note that government expenditures include social insurance, as is standard for national health accounting. Thus, the government spending figures include government financing.
flowing both to the demand side (social insurance) and to the supply side (through government-owned providers), with some shift between the two (see Figure 4). Since tax-based financing inherently cross-subsidizes peoples and regions, depending on tax progressivity and other features of the tax system, government financing represents a form of risk pooling. This form of risk pooling shrank as a share of total health spending during the reform era. The striking parallel between Figures 2 and 3 provides some *prima facie* evidence that China’s “crossing the river by feeling for the stones” in the health sector approximated a dual track reform approach.

In short, as China’s economy grew, health spending also grew rapidly, with the vast majority of that growth coming from private financing. Stated as such, one cannot say much about welfare implications. Private financing can in principle include commercial insurance and other risk-pooling mechanisms that protect patients from risk and enable access to services when needed.

Much more revealing about the “pain” of reform is the fact that that the vast majority of the private financing in China takes the form of “out-of-pocket” payments – namely, households paying out of their own pockets when they need healthcare (Figure 5 and Table 1). Before 1996, estimates of China’s national health accounts suggest that China’s private healthcare spending was entirely out-of-pocket, the most regressive form. Since then, prepaid and risk-pooling plans have grown somewhat, but by 2005 accounted for less than 10% of private spending.

Thus, China in 2005 financed the majority of healthcare services with a “tax on the sick.” This means that the majority of health spending in China does not involve any risk pooling, either through social health insurance or tax-based financing. This lack of insurance can be considered both an equity and an efficiency concern: the poor are most vulnerable to risk, and all uninsured are denied an efficient mechanism to transfer wealth across states of the world. Those with large expenses such as hospitalizations are especially disadvantaged. As Dollar (2007) notes, the problem of unaffordable hospital care in China reflects both lack of insurance and costly care, as measured by inpatient episode spending as a percent of household consumption per capita. Average medical expense per inpatient grew from an already high 29% of per capita GDP in 1990 to 33% of per capita GDP in 2005. In a family was below average income or experienced a
hospitalization of above-average expense, it could wipe out annual income and savings. Unsurprisingly, then, affordability of healthcare ranked among Chinese citizen’s top concerns (Hu 2006; Lianghui Diaocha 2008).

**System incentives and provider behavior**

One hypothesis that might explain why medical care is expensive and difficult to obtain is that supply has not kept up with demand (e.g. Chow 2006). High prices would flow from market power of government providers or simple inability of the limited financing of new supply to keep up with the demand of a growing, urbanizing, and aging population.

Although a relative disequilibrium between physical supply and effective demand may be part of the story, it appears unlikely to be the whole story. For example, China’s supply of physicians and inpatient beds per capita approximates international norms for China’s income level (see Figure 6ab; although richer transition economies tended to have more physicians and beds per capita than European norms). China has more physicians per capita than wealthier Malaysia and Thailand, and not many fewer than some significantly higher per capita income countries like Singapore and South Korea (Figure 6a). The total supply of hospitals beds per 1,000 people in China increased from 2.02 in 1980 to 2.45 in 2005, more than in Mexico or Malaysia (Figure 6b).

Perhaps more tellingly, occupancy rates have generally fallen since the 1980s, from already low levels at township hospitals, suggesting an oversupply. Between 1985 and 2005, occupancy rates at township-level hospitals decreased from 46.0 to 37.7 (a rebound after a low of 31.3 in 2001); over the same period occupancy rates in general-acute hospitals fell from an average of 87.0 to 76.6. Although large regional disparities assure that undersupply remains a significant barrier for the poorest parts of China, lack of doctors and hospitals is not a convincing explanation of the “kan bing nan” problem nationally.

Another hypothesis, frequently heard in the policy debate in and about China, is that the current ills of the system all stem from “privatization run amok.” According to this view, commercialization of the healthcare sector turned the whole system over to a
flawed “market track” and thus precipitated innumerable market failures that reduced quality and access while fueling expenditure growth.

While there are some elements of truth in such an account, other elements are exaggerated, oversimplified, and simply not consistent with the facts. A review of empirical evidence on determinants of provider performance in both the Chinese and English literatures (Eggleston et al. 2007) suggests that privatization of healthcare delivery is neither the main culprit nor the magic pill for China’s health system challenges.

The healthcare delivery system in China originally was 100% government controlled and organized according to three tiers: village clinics, township health centers (THCs), and county hospitals in rural areas; and street clinics, district hospitals, and city hospitals in cities. The most complex cases could be referred to provincial and national hospitals for more specialized care. Ownership structure of delivery evolved in a pattern somewhat parallel to that of healthcare financing. By the 21st century fully half of China’s healthcare organizations were private for-profit organizations. However, most of those organizations are small, ambulatory care providers, such as rural clinics. Larger organizations, especially urban secondary and tertiary hospitals – the “commanding heights” of healthcare delivery – remain under government control. Consistent with the general SOE policy of “grasping the large and letting go of the small,” private sector entry and (limited) privatization have transformed ownership structure while keeping key providers, particularly hospitals, under government ownership.

Indeed, it was only in mid-2000 that China developed an official policy for organizational transformation of hospitals and similar provider organizations, by requiring them to declare for-profit or nonprofit status. Nonprofit firms were subject to price regulation and exempt from taxes, with government-owned nonprofits continuing to be entitled to some (relatively small) government subsidies. In contrast, for-profit firms have to pay taxes and can set their own prices (see discussion in Eggleston and Yip 2004; Eggleston et al. 2007). In urban areas, some private providers also entered to serve the expatriate markets, and gradually began to expand to serve the Chinese population that was willing and able to afford healthcare services at high-income-country prices.15
By 2006, the overall market share of private for-profit providers remained in the single digits (e.g., 3.6% of total visits and 2.8% of hospitalizations), but was higher for specialty hospitals (where for-profits accounted for 14% of inpatients) and especially for outpatient departments (50% of patients). Unfortunately there is little good data on private not-for-profit providers, an important – often dominant – category of ownership for many countries’ healthcare providers.\(^{16}\)

Moreover, during the reform era, government ownership ceased to imply government financing of care. As discussed above, China’s healthcare financing became much more reliant on out-of-pocket fees to patients, despite the continued presence of government delivery for most hospital services (and their large outpatient departments). The reason was that government hospitals received a shrinking share of their revenues from government subsidies (on average less than 10%), funds largely devoted to supporting retirees and some basic salaries for current staff. The vast majority of government hospital income comes from patient fees (user charges) for diagnostics, treatment, and dispensing pharmaceuticals.\(^{17}\)

Therefore patients in China do not face the same choice set common in many developing countries, choosing between subsidized government services or paying for private services; instead, Chinese patients pay for their services in both public and private providers. As Liu et al. (2006) note, “neither literature review nor our primary data analysis provides any support for the notion that the private sector charges a higher price and they serve primarily the better-off people. Quite on the contrary, available data seem to suggest that not only the private sector tends to serve disproportionately the low-middle income groups (this may well be due to its relative lower direct and indirect costs), consumer satisfaction also seems to be higher with regards to certain dimensions of the private than public sector” (p.212). Shen et al. (2007) collected data on 48 hospitals (31 public and 17 private) in Taizhou city, Zhejiang province, finding that compared to government hospitals, private hospitals are smaller, specialized, and on average charge lower fees and earn a smaller proportion of revenue from drug sales. Eggleston et al. (2008) find similar results for a sample of over 300 public and private hospitals in Guangdong province.
Thus, while the private sector has grown significantly in China during the reform era, its share of inpatient delivery was still in the single digits. The transformation of outpatient services, especially for China’s rural majority, was more dramatic: since the 1980s, most Chinese patients visit village doctors and other providers that support their household income from charging fees for services – in other words, private, for-profit providers serving an uninsured population. Furthermore, even government-owned providers tended to act as ‘net-revenue maximizers,’ receiving minimal direct government support and deriving most revenue from user charges. Those user charges in turn systematically diverge from the true social net benefit of services, sending highly distorted signals to providers (see studies on price regulation reviewed in Eggleston et al. 2007). It is this combination of system incentives facing both public and private providers, and not private sector ownership \textit{per se}, that most plausibly explains the \textit{kan bing nan kan bing gui} problem.

The evidence regarding distorted payment incentives is especially striking. Fee-for-service (FFS) payment is well recognized to contain perverse incentives to over- and under-provide services according to profitability (Newhouse 2002); studies of payment reforms in China (e.g., Yip and Eggleston 2001) corroborate the growing international evidence on this point. To cite another example, price regulation allows providers a substantial mark-up over wholesale prices when dispensing drugs. It is therefore unsurprising that even after years of efforts to reduce hospital reliance on drug sales, for the average hospital in China in 2006 drugs accounted for 41.5% of total revenues and 37.8% of total expenditures -- indicating the importance of drug sales for a hospital’s bottom line (Table 4). Drug expenditures represented 52.8% of expenditure per inpatient episode and 64.2% of expenditure per outpatient visit in 1995, with mild decreases since then (Table 4).

Distorted payment incentives also make improving quality difficult. For example, an expert group studying a sample of township health centers and village clinics in Chongqing and Gansu determined that less than 2% of prescriptions were “rational” (consistent with best practice, given the clinical indications). Antibiotics constituted fully 70% of prescriptions in Henan village clinics and township health centers (see Eggleston et al. 2007). Evidence suggests that provider payment reforms – toward bundled payment
and “pay for performance” -- hold promise for controlling expenditure growth and improving quality without sacrificing equity goals, although careful monitoring is required.\textsuperscript{18}

V. **China’s Health Policy Reform Challenges in Comparative Perspective**

**Economic system transition**

China’s overall spending on health, a little less than 6% of GDP, is roughly what one would expect for its economic level and demographic structure (Figure 7), although the heavy reliance on out-of-pocket spending is more of an international outlier (Figure 8). Since an increase in the private share of the economy, and in particular in under-the-table payments for healthcare (Lewis 2007), might be expected for an economy transitioning from central planning to markets, how does China’s “growing out of the plan” in the health sector compare to that of other transitional economies? This section addresses that question.

China and Vietnam were the only transitional economies that did not experience “transformational recessions” (Kornai 1994) – large falls in per capita income associated with shifting to market-based economies. Figure 9 shows the real per capita GDP in selected transitional economies, juxtaposing the steady growth of China and Vietnam (form a low base) with the transformational recessions of other (richer) transitional economies such as Poland, Russia, and Romania.

Ironically, the prime candidate for explaining why macroeconomic transition in China (and Vietnam) was easier than for all other transition economies is also leading explanatory factor for why achieving universal healthcare coverage in a market-based economy was so difficult. That reason: a large rural, agricultural-based population.\textsuperscript{19} The “disorganization” effects (Blanchard and Kremer 1997) of systemic transition were stronger in more urban and industrialized economies, but risk pooling institutions were also more resilient. In other words, it has proven easier to maintain near-universal health coverage during transition when the economy was more urban and higher income. The contrast with Central and Eastern Europe (CEE) is striking: CEE managed to keep universal coverage despite transformational recession, whereas China had a majority
without insurance (Table 1), despite rapid economic growth (Figure 2; see Kornai and Eggleston 2001 and Eggleston 2007 on health sector reforms in Central and Eastern Europe and their possible implications for China).

The possible reasons for this irony are not difficult to discern. Countries throughout the world find it difficult to extend coverage to the self-employed and informal sectors. To oversimplify, establishing social insurance based on payroll taxes is difficult when the majority of the population is not on a payroll. In China, experiments throughout the 1990s with re-establishing community financing in rural areas finally culminated in the current effort to achieve nationwide New Cooperative Medical System coverage in 2008. In that effort, as elsewhere, the difficulties in collecting premiums household to household suggest that tax financing may be a more efficient method for financing coverage of the informal sector (which cannot be covered by payroll deductions).

**Inequality**

Income inequality has increased significantly in almost all transition economies, in some cases to very high levels (with Gini coefficients over 47 in the Ukraine and over 51 in Russia in the 1990s; Roland 2000, p.21). China's estimated Gini coefficient increased from 36 in the mid-1980s to 41.4 a decade later (ibid). To some extent, increasing inequality is an almost inevitable part of moving from central planning to markets. Some forms of inequality may even be desirable: for example, returns to education have increased significantly. As Z. Liu (2005) points out, since low educational attainment among rural residents and low rewards to education in rural employment contribute to China’s wide urban-rural gap, the *hukou* (household registration) system restricting urbanization is a major contributing factor to rural-urban inequality. Dollar (2007) identifies three additional policy features that exacerbate China’s inequalities: restrictions on selling rural land; the decentralized fiscal system; and the large trade surplus. According to some estimates, the rise of inequality in China was the most significant contributor to growing regional inequality in East Asia (Datt and Walker 2004).
Several studies have explored the health and healthcare implications of China’s growing income inequalities (Liu, Hsiao and Eggleston 1999; Akin, Dow, and Lance 2004). For example, focusing on children, Adams and Hannum (2005) use the 1989, 1993 and 1997 waves of the China Health and Nutrition Survey to examine school enrollment, grade-for-age in school, and access to health insurance. They find that all three measures improved and that socioeconomic disparities, though wide, were not increasing. Community resources and their unequal distribution in China did appear to matter for social services, a finding consistent with much of the literature. Indeed, “where you live does matter” is the subtitle of Chen, Eastwood, and Yen (2007)’s study of childhood malnutrition patterns in China. Across provinces, the ratio of maximum to minimum provincial average life expectancy was 1.26 in 1990 and fell slightly to 1.21 in 2000. In 2000, regional life expectancies ranged from a low of 62.5 for men in Tibet to a high of 80 for women in Shanghai (MOH online statistical digest).

As these statistics reveal, health disparities compound income disparities, leading to even wider gaps in “full income” (life expectancy multiplied by per capita income) across regions (Table 5) and between urban and rural areas. Accounting for risk further widens urban-rural disparities for several reasons: Higher income volatility in rural areas increases the effective urban-rural income gap (Whalley and Yue 2006); higher healthcare spending risk in rural China also increases the effective urban-rural gap in well-being; and rural residents are also more likely to suffer the death of a child or a wife and mother in childbirth.  

These risks – and lack of risk pooling – exacerbate poverty and relative deprivation. Those who suffer catastrophic health events may spend down family savings and assets to pay for healthcare, while simultaneously loosing the income of a wage earner for a nontrivial time period. Gan, Xu, and Yao (2006) estimate that a household suffering a major health shock on average falls short of its normal income trajectory by 11.8% over 15 years, and would not recover for 19 years. A study using the 1998 National Health Survey data revealed that out-of-pocket medical spending raised the number of rural households living below the poverty line by 44.3% and increased the poverty gap by 146% (Liu and Rao 2006, p.80). This large impact of medical spending
on poverty proved to be one of the key points convincing top policymakers to establish government-subsidized health insurance in rural areas.

VI. The Political Economy of Reform

Healthcare reformers not only must answer difficult technical questions of appropriate policy and regulation, but must also confront a complicated web of interest groups, each advocating for reforms that support its interests. The former problems of content can make the latter problems of political economy all the more delicate and intransigent. Even when virtually all stakeholders are discontent with the current system, conflicts of interest can conflate with and exacerbate contrary views on appropriate policy reforms. Evidence is open to interpretation, and limited evidence on some policy questions leaves ample scope for recommendations to be driven by the recommenders’ beliefs and values. As Victor Fuchs concluded from a survey of experts in the US, many policy questions have embedded questions of fact, and when the questions of fact lack a conclusive evidence base, experts tend to let their values drive their policy recommendations (Fuchs 1996).

Unlike pension reform, healthcare reform has to deal with a large supply-side of entrenched interests among health service providers. Like education, personal healthcare services are largely private goods (investment in individual human capital), albeit sometimes with large externalities, and allocating access involves prominent questions of provider incentives and selection problems from choice (or competition). But unlike education, healthcare involves insurance, so the market structure of financing and delivery are arguably more complex. And perhaps most importantly, health systems are deeply imbedded in a country’s history and culture. Thus, although the specific policy context varies across countries, implementing evidence-based and carefully evaluated health policy reforms are a challenge everywhere.

In China, the odyssey of major health system reform dates back at least to the 2003 SARS crisis. China’s new political leadership, General Secretary and President Hu Jintao and Premier Wen Jiabao, officially took office just as the crisis was peaking in March 2003. As Saich (2006) notes, “before they could develop an effective profile of their own, they were knocked off course, but SARS may have provided them with an
unprecedented opportunity to establish themselves as modern leaders concerned with the welfare of the people” (Saich 2006, p. 71). After months of cover-up, official policy shifted course in April. The leaders dismissed Minister of Health Zhang Wenkang and Beijing Mayor Meng Xuenong, and placed Vice Premier Wu Yi in charge of the Ministry of Health and anti-SARS efforts, with a central command center under the State Council. By the end of the episode more than 120 dismissals of local officials were linked to the SARS crisis. China established a new emergency management organization and enhanced transparency and accountability in the public health reporting and political systems. The SARS crisis focused unprecedented top political leadership and international attention on the weaknesses in China’s health sector. As a direct result, health sector reforms gained high national priority.

One of the first programs to benefit from this newfound priority on health reform was the New Cooperative Medical System in China’s vast rural areas, launched in late 2002. The government had announced that rural coverage should rely on community financing back in 1996. However, as Liu and Rao (2006) suggest, the government was reluctant to subsidize rural insurance, hoping instead that rising incomes would lead to demand for private organized financing, with an appropriate supply-side response. Unfortunately and perhaps unsurprisingly, pilot programs throughout the 1990s did not lead to a groundswell of increasing coverage. Some commercial insurance did penetrate into rural areas; as shown in Table 1, the percent of rural residents nationally who reported having commercial health insurance increased from 1.4 in 1998 to 8.3 in 2003. However, such policies appeared to primarily target limited and favorable risk pools (such as coverage for school children) and failed to provide comprehensive coverage even to the small fraction of rural residents who purchased them.

It was not until a couple years into the new millennium that China announced a government-subsidized program for rural health insurance. The contrast with the 1990s was that the central government committed substantial resources to subsidizing voluntary enrollment. The original financing scheme called for 10 RMB yuan each from the central government, the local government, and rural households; this later was increased to 20/20/10 and in December 2007 to 40/40/20, reflecting increasingly significant government subsidization. The low initial financing necessitated relatively shallow
coverage, with high deductibles and co-insurance rates, and low caps on insurance reimbursement. As a result, even insured rural residents continued to face significant healthcare financing risk, with large regional variations. Nevertheless, NCMS puts in place a national institution for risk pooling (at the county level) that can be gradually expanded to cover more services. Early evaluations (although complicated by endogenous placement of NCMS pilots and lack of comparable control groups) indicate that NCMS has improved access to care, especially increasing inpatient utilization rates; although adverse selection exists – enrollment is higher among chronically sick members – it has not derailed risk pooling (see for example Wagstaff et al. 2007; MOH 2007).

Yet the design of NCMS, emphasizing reimbursement for inpatient expenses, sidestepped the crucial issue of reforming provider incentives. Arguably recognition of the fact that risk pooling alone would not solve the kan bing nan kan bing gui problem prompted the broader inquiry into how to restructure the healthcare system as a whole. Premier Wen Jiabao referred to NCMS and the larger reform plan in the “Report on the Work of the Government” delivered at the First Session of the Eleventh National People’s Congress on March 5, 2008:

We will fully implement the new type of rural cooperative medical care system in all rural areas. Within two years, we will raise the standard for financing from 50 yuan to 100 yuan per person per year, with central and local government contributions to be raised from 40 yuan to 80 yuan per person. The State Council commissioned a study of the issue of how to deepen reform of the system of pharmaceuticals and health care. A preliminary plan has been produced and will soon be publicized to solicit opinions from the general public. The basic goal of the reform is to maintain the public service nature of public medical and health care services and set up a basic medical and health care system to provide people with basic medical and health care services that are safe, effective, convenient and affordable. We must resolutely carry out this reform to provide everyone with access to basic medical and health services and improve their health” (Wen Jiabao 2008).

According to key informant interviews and as Premier Wen mentions, by late 2006, the state council decided that a high-level inter-ministerial commission should be tasked with the challenge of developing a blueprint for China’s health system. Thus the “National Commission on Health System Reform” was born. The commission included originally ten, later fourteen, government agencies, co-chaired by the National Development and
Reform Commission (NDRC) and the Ministry of Health. Leadership by the powerful NDRC is expected to help broker compromise among the many disparate ministries with jurisdictions overlapping in the health sector, each with its own interests and point of view. For example, the Ministry of Health, as manager of the current delivery system, generally favors supply-side subsidies, while the Ministry of Labor and Social Security clearly favors a separate insurance purchaser role. Statements by the leadership of the China Insurance Regulatory Commission (CIRC) make it no secret that the CIRC strongly supports promoting commercial health insurance, at least as a supplementary system of coverage in urban and perhaps rural areas as well.  

As part of this mediation and brainstorming process, according to media reports and informant interviews, the national commission on health system reform took the interesting and somewhat unusual step of soliciting about ten reform proposals from independent research organizations (including several Chinese universities, the World Health Organization, the World Bank, and the international consulting firm McKinsey). The reform plan announcement was postponed multiple times, no doubt reflecting the complicated political economy of health sector reform. The actual reform process will unfold over years to come, as pilots are evaluated and scaled up nationwide.

One of the key issues of reform design has been whether the government should subsidize the supply side directly, as in a public integrated model or National Health Service, or instead should subsidize the demand side, through a social insurance model. China’s answer to this question will fall somewhere on the spectrum pioneered by numerous other countries. As Docteur and Oxley (2003) note, the public-integrated or Beveridge model, prevalent in the Nordic countries and the UK before 1990s reforms, combines on-budget financing of health-care provision with hospital providers that are part of the government sector. In contrast, under the public-contract model, public payers—such as social insurance funds—contract with private health-care providers, as in most continental European countries and Canada. Only the United States and Switzerland rely on a private insurance/private provider model, with insurance mandatory in Switzerland and voluntary in the United States. Many countries feature a mixture of systems. Even in the US, for example, Medicare uses a public-contract model and the Veteran’s Administration combines a public integrated model with contracting.
Community hospitals owned by local governments receive both direct government subsidies and commercial and social insurance payments. A specific government program of disproportionate share payments subsidizes hospitals serving a large share of lower-paying or non-paying patients. Although the major recipients are government hospitals, private hospitals who meet the criteria also receive these subsidies. Thus, most countries feature some combination of demand-side and supply-side financing.

Most transitional economies, especially in central and eastern Europe, emphasized subsidizing the demand side by introducing (or re-introducing) Bismarckian social insurance, but with public hospital budgets (supply-side financing) for capital investment and some recurrent expenditure.

The outlines of China’s reforms are similar. Apparent consensus exists on two critical issues: the need for greater government financing for healthcare, and the goal of universal coverage (at a basic level). China piloted a new urban resident insurance program in 2007, supplementing the Basic Medical Insurance for the urban employed introduced in the 1990s, NCMS since 2002/03 for the self-employed rural majority, and other new insurance and medical support programs for the poor. The challenge ahead is to build these programs, and their associated reform initiatives, into a coherent and effective system of incentives that can provide access to quality care at reasonable cost for all China’s 1.3 billion individuals.

VII. Conclusions

Innovation, Institutions and Incentives

International medical care reforms in higher-income countries over the past half century came in three waves, according to Cutler (2002): The first, after World War II, focused on establishing universal coverage and equal access. Then, in the face of rapidly increasing healthcare expenditures, a wave of reforms implemented controls, rationing, and expenditure caps. More recently, countries have begun to introduce incentives and competition into healthcare systems to a greater extent than previously was the case. The capabilities of medicine continue expand, bringing new ways of saving and extending
lives and increasing the quality of life – at significant expense. All societies face challenges in making the fruits of those innovations accessible and affordable to all.

China’s health system challenges need to be understood against this global backdrop of policy experimentation and difficult social trade-offs. The ultimate success or failure of China’s health system reform process lies not with the broad outlines of reform, as important as those are. Rather, “the devil is in the details,” especially regarding governance and incentive structures. Truly and sustainably resolving the kan bing nan, kan bing gui problem, at least insomuch as any country has been able to rein in expenditure growth while guaranteeing equitable access to the fruits of medical innovations, will also require some attention to payment incentives (including the problem of provider reliance on drug dispensing revenue: “yi yao yang yi”), quality assurance, efficient insurance management, accountability, patient satisfaction, and responsiveness.

Increasing government financing and achieving risk pooling on a national scale – tremendously important and laudable as they are – are only half of a solution. Without reform of the payment and delivery system, the financing reforms will not be sustainable. Indeed, it is plausible to argue that the dysfunctional system incentives could continue for such a long time in China before precipitating a policy response precisely because patients’ ability to pay out-of-pocket put some demand-side constraint on the system. As insurance coverage expands, those demand constraints will loosen. The difficult task of constraining health expenditures then falls to the organized payers: social insurance schemes and policymakers allocating tax financing.

The rhetoric in China tends of oversimplify and sometimes directly blame providers for exploiting asymmetric information to manipulate patients and thus inflate healthcare expenditures. Just as it would be wrong to say that providers are immune to economic incentives, it is equally misleading to allege that “supplier-induced demand” is the sole factor driving healthcare spending increases. China’s access problems are not attributable solely to the greed, incompetence or malfeasance of some “bad apples.” The system-wide incentive problems, rather than individually greedy and unprofessional providers, would be the more logical focal point for analysts and patients’ ire, but sometimes this is not easy to capture in media soundbites or policy statements.
The importance of system incentives is aptly captured by the title of a classic article in the management literature: “On the Folly of Rewarding A, While Hoping for B” (Kerr 1975). China’s healthcare reforms since 1980 have been strongly shaped by at least two such pairs of misaligned goals and rewards. The first was the dysfunctional incentives for healthcare providers. Policymakers were hoping for assuring access through low “plan” prices for basic healthcare services and cross-subsidization of population health services from curative care. However, policies actually rewarded providers for emphasizing profitable high tech diagnostics, curative care, and dispensing drugs.

A second important area of potentially misaligned incentives was in terms of local governance and China’s political contract system. Performance contracts that local governments and officials have to sign reward achieving “hard targets” on economic growth, social stability, and family planning. Policy statements suggest that the leadership was hoping for balanced attention to “soft goals” of social development, such as environmental protection and public health. Unfortunately, such a mismatch of incentives meant that it took a crisis like SARS to highlight the inadequacy of public health and social protection systems, directly threatening social stability. As Tony Saich (2006) has suggested, “if social development goals were written into these contracts and given more weight, this would be a major step forward in changing local government incentives” (p.100). With China’s leadership openly acknowledging the need to create a more “harmonious society,” social development goals may begin to garner the attention they deserve in the incentive structure for public servants.

“Growing Pains” in China’s Healthcare System?

So, are the problems plaguing China’s healthcare system properly understood as “growing pains”? Not in the sense that these problems were an inevitable result of China’s rapid growth and transition from plan to market. But they are indeed “growing pains” in the sense that China can and quite probably will “grow out of them,” and already appears committed to doing so.  

Let me first elaborate on why the pervasive access problems in China’s healthcare system were not an inevitable offshoot of China’s rapid economic growth. Many other
transitional economies were able to maintain population coverage -- at a weakened but nevertheless creditable level -- despite collapsing economies during their transformation recessions. Thus it strains credulity to assert that China could not have put in place a program resembling NCMS while growing rapidly during the beginning reform period. After all, China had pioneered broad coverage in the 1970s, and even shallow but consistent coverage would have been preferable to a collapse and then re-building of risk pooling institutions. There are no major design features of NCMS that would have precluded such a system from having been put in place much earlier. Between the collapse of CMS and the implementation of NCMS, China’s rural majority faced a whole generation without health insurance (Figure 10).

There would appear to have been two major obstacles to maintaining insurance cover without that gap: first, strained government finances, and second, lack of trust in local governance. Despite economic growth and lack of a transformational recession, China did experience a “transformational” decline in central government revenues that squeezed resources precisely when new social protection mechanisms were needed (see discussion in World Bank 2008). Fiscal decentralization accentuated the problem for poorer areas. Second, the association of CMS with the Cultural Revolution and collective economy combined with the lack of confidence in local governance to give rural China an institutional vacuum for pooling healthcare risk. Without a trusted organization for managing insurance funds, farmers would rather stuff money in their mattresses than pay premiums to someone who was likely to abscond with their funds. This perspective of rural governance failure contrasts with the widely held view in the transitional economics literature that China succeeded where others failed precise because China’s government never collapsed and therefore was able to enforce dual-track reforms to “grow out of the plan.”

In this sense, “reform without losers” in China, although viable for industrial and agricultural product markets, faced serious challenges for social services. The government could not creditably “enforce the plan” (access to basic services) because of corruption and lack of faith in village and township governance (to manage health insurance funds or directly supply services). Although many scholars study China’s rural economic growth and evolution of governance (e.g., Oi 1995 and 1999), research into the
link between local governance and healthcare effectiveness is rather limited (see discussion in Liu and Rao 2006). In an interesting recent paper, Gan, Xu, and Yao (2006) study 48 Chinese villages between 1986 and 2002, finding that villages are more likely to establish a healthcare coverage plan after introducing village elections. Their research linking village elections to health coverage is based on the logical and empirically defendable assumption that families suffering a health shock impose negative externalities on richer families by borrowing from them. One implication is that improvements in local governance will be crucial for sustainability of healthcare reforms providing universal coverage.

Even currently, it seems highly unlikely that China can implement mandatory coverage; the system is voluntary (albeit “quasi-voluntary”). Voluntary enrollment does provide a limited “market signal” about whether the program is working and some protection for residents against failures of local governance or insurance management. But voluntary enrollment has the disadvantage of limiting China's ability to reach the goal of universal coverage (and leading to problems of adverse selection). As the father of health economics, Victor Fuchs, has pointed out (Fuchs 1975), universal coverage requires subsidization and compulsion. China has committed to subsidize insurance, but compulsion appears to be off the table. This commitment to choice (despite the complexity it presents for universal coverage) may come as a surprise to those who view China as a totalitarian state.

Achieving universal healthcare coverage in China will not be easy for other institutional reasons as well. Guaranteeing basic healthcare coverage for all citizens is rarely a simple process, typically requiring the coordination and expansion of multiple insurance funds over many years as well as nontrivial government subsidies for the most vulnerable. Japan achieved universal healthcare coverage in 1961, when GDP per capita (in constant 2000 US$) was 7883. South Korea achieved universal coverage in 1989 with GDP per capita of 6130. Mexico, which appears on track to achieve universal coverage by 2010 (Knaul and Frenk 2005), has GDP per capita of 6387. In contrast, China’s current GDP per capita is only 1595. (All GDP figures are in constant 2000 US dollars, excerpted from the World Bank WDI online database.) Of course the country that spends the most per capita on healthcare -- the US -- has yet to achieve universal coverage.
Despite the manifest challenges, achieving universal coverage fits with China’s social and macroeconomic goals -- building a “harmonious society,” addressing disparities, re-balancing economic growth toward domestic demand and the service sector (Dollar 2007), and upgrading industrial structure and promoting innovation.\(^{31}\) Above all, resolving the healthcare affordability problems figures prominently in efforts to assure social stability. Ironically, it was the importance of assuring stability and CCP legitimacy by quelling corruption, rather than awareness of the economic inefficiency of not enforcing the “plan” under dual-track reforms (Lau, Qian, and Roland 2000), that lay the foundation for “reform without losers.” After all, probably the most prominent slogan during the 1989 student protests was “down with \textit{guandao}” -- officials enriching themselves by turning access to plan-track goods into market-track profits. The harsh sentencing of selected corrupt officials, including the former head of the Chinese Food and Drug Administration, can be interpreted in this light.

Policymakers’ commitment to extending health insurance coverage arguably stems from the realization that social stability may prove a mirage without an effective social safety net.\(^{32}\) Once broad coverage is in place, policymakers in their role as payers cannot escape confronting the difficult social trade-offs associated with making healthcare accessible yet financially sustainable. For these reasons, cautious optimism about China’s healthcare system reforms appears warranted, despite the uneven progress to date.
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Lianghui diaocha (poll taken for the "two meetings"). 2008.  


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<table>
<thead>
<tr>
<th></th>
<th>National</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI</td>
<td>n/a</td>
<td>n/a</td>
<td>8.9</td>
</tr>
<tr>
<td>GIS</td>
<td>5.8</td>
<td>4.9</td>
<td>1.2</td>
</tr>
<tr>
<td>LIS</td>
<td>9.7</td>
<td>6.2</td>
<td>1.3</td>
</tr>
<tr>
<td>CMS</td>
<td>7.7</td>
<td>5.6</td>
<td>8.8</td>
</tr>
<tr>
<td>Other social insurance</td>
<td>6.6</td>
<td>5</td>
<td>2</td>
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<tr>
<td>Commercial insurance</td>
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<td>1.9</td>
<td>7.6</td>
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<td><strong>Uninsured</strong></td>
<td><strong>69.9</strong></td>
<td><strong>76.4</strong></td>
<td><strong>70.3</strong></td>
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Source: Ministry of Health, Center for Health Statistics and Information, *Zhongguo Weisheng Fuwu Diaocha Yanjiu: Disanci Guojia Weisheng Fuwu Diaocha Fenxi Baogao* (Analysis Report of National Health Services Survey in 2003), p.16. BMI denotes basic medical insurance, the municipality-level risk pooling system for urban employees. GIS and LIS stand for the original government and labor insurance systems, respectively. CMS denotes cooperative medical schemes in rural areas; in 2003 this includes new CMS enrollment.
Table 2. Ten leading causes of burden of disease, China and low- and middle-income countries, 2001

DALY = Disability-adjusted life year

<table>
<thead>
<tr>
<th>CHINA</th>
<th>Percent of total DALYs</th>
<th>Low- and middle-income countries (including China)</th>
<th>Percent of total DALYs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Cerebrovascular disease</td>
<td>9.7</td>
<td>1 Perinatal conditions</td>
<td>6.4</td>
</tr>
<tr>
<td>2 Chronic obstructive pulmonary disease</td>
<td>6.4</td>
<td>2 Lower respiratory infections</td>
<td>6.0</td>
</tr>
<tr>
<td>3 Perinatal conditions</td>
<td>4.9</td>
<td>3 Ischaemic heart disease</td>
<td>5.2</td>
</tr>
<tr>
<td>4 Unipolar depressive disorders</td>
<td>4.5</td>
<td>4 HIV/AIDS</td>
<td>5.1</td>
</tr>
<tr>
<td>5 Ischaemic heart disease</td>
<td>3.4</td>
<td>5 Cerebrovascular disease</td>
<td>4.5</td>
</tr>
<tr>
<td>6 Road traffic accidents</td>
<td>3.1</td>
<td>6 Diarrhoeal diseases</td>
<td>4.2</td>
</tr>
<tr>
<td>7 Age-related vision disorders</td>
<td>2.6</td>
<td>7 Unipolar depressive disorders</td>
<td>3.1</td>
</tr>
<tr>
<td>8 Self-inflicted injuries</td>
<td>2.6</td>
<td>8 Malaria</td>
<td>2.9</td>
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<td>9 Stomach cancer</td>
<td>2.5</td>
<td>9 Tuberculosis</td>
<td>2.6</td>
</tr>
<tr>
<td>10 Lower respiratory infections</td>
<td>2.5</td>
<td>1 Chronic obstructive pulmonary disease</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Table 3a. Ten leading causes of death in China’s rural areas, total and for men and women separately, 2005

<table>
<thead>
<tr>
<th>No.</th>
<th>Cause of Death</th>
<th>As % of Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>91.87</td>
</tr>
<tr>
<td>1</td>
<td>Diseases of the Respiratory System</td>
<td>23.45</td>
</tr>
<tr>
<td>2</td>
<td>Cerebrovascular Disease</td>
<td>21.17</td>
</tr>
<tr>
<td>3</td>
<td>Malignant Tumour</td>
<td>20.29</td>
</tr>
<tr>
<td>4</td>
<td>Heart Trouble</td>
<td>11.77</td>
</tr>
<tr>
<td>5</td>
<td>Trauma and Toxicosis</td>
<td>8.47</td>
</tr>
<tr>
<td>6</td>
<td>Diseases of the Digestive System</td>
<td>3.24</td>
</tr>
<tr>
<td>7</td>
<td>Disease of the Genitourinary System</td>
<td>1.32</td>
</tr>
<tr>
<td>8</td>
<td>Endocrine, Nutritional &amp; Metabolic Diseases</td>
<td>1.17</td>
</tr>
<tr>
<td>9</td>
<td>Pulmonary Tuberculosis</td>
<td>0.55</td>
</tr>
<tr>
<td>10</td>
<td>Mental Disorders</td>
<td>0.44</td>
</tr>
</tbody>
</table>

|     | **Male Total**                                      | 92.16                |
| 1   | Malignant Tumour                                     | 23.05                |
| 2   | Diseases of the Respiratory System                  | 21.20                |
| 3   | Cerebrovascular Disease                             | 20.60                |
| 4   | Heart Trouble                                       | 10.35                |
| 5   | Trauma and Toxicosis                                | 9.89                 |
| 6   | Diseases of the Digestive System                    | 3.85                 |
| 7   | Disease of the Genitourinary System                 | 1.27                 |
| 8   | Endocrine, Nutritional & Metabolic Diseases         | 0.91                 |
| 9   | Pulmonary Tuberculosis                              | 0.67                 |
| 10  | Mental Disorders                                    | 0.37                 |

|     | **Female Total**                                    | 90.95                |
| 1   | Diseases of the Respiratory System                  | 26.60                |
| 2   | Cerebrovascular Disease                             | 21.95                |
| 3   | Malignant Tumour                                     | 15.93                |
| 4   | Heart Trouble                                       | 13.75                |
| 5   | Trauma and Toxicosis                                | 6.49                 |
| 6   | Diseases of the Digestive System                    | 2.39                 |
| 7   | Endocrine, Nutritional & Metabolic Diseases         | 1.54                 |
| 8   | Disease of the Genitourinary System                 | 1.39                 |
| 9   | Mental Disorders                                    | 0.54                 |
| 10  | Pulmonary Tuberculosis                              | 0.37                 |

a) Statistics in the table cover full or partial areas of 78 counties, including counties in Beijing.

Table 3b. Ten leading causes of death in China’s urban areas, total and for men and women separately, 2005

<table>
<thead>
<tr>
<th>No.</th>
<th>Cause of Death</th>
<th>As % of Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>92.03</td>
</tr>
<tr>
<td>1</td>
<td>Malignant Tumour</td>
<td>22.94</td>
</tr>
<tr>
<td>2</td>
<td>Cerebrovascular Disease</td>
<td>21.23</td>
</tr>
<tr>
<td>3</td>
<td>Heart Trouble</td>
<td>17.89</td>
</tr>
<tr>
<td>4</td>
<td>Diseases of the Respiratory System</td>
<td>12.57</td>
</tr>
<tr>
<td>5</td>
<td>Trauma and Toxicosis</td>
<td>8.25</td>
</tr>
<tr>
<td>6</td>
<td>Diseases of the Digestive System</td>
<td>3.30</td>
</tr>
<tr>
<td>7</td>
<td>Endocrine, Nutritional &amp; Metabolic Diseases</td>
<td>2.50</td>
</tr>
<tr>
<td>8</td>
<td>Disease of the Genitourinary System</td>
<td>1.56</td>
</tr>
<tr>
<td>9</td>
<td>Mental Disorders</td>
<td>0.95</td>
</tr>
<tr>
<td>10</td>
<td>Disease of the Nervous System</td>
<td>0.84</td>
</tr>
<tr>
<td><strong>Male Total</strong></td>
<td></td>
<td>91.55</td>
</tr>
<tr>
<td>1</td>
<td>Malignant Tumour</td>
<td>26.05</td>
</tr>
<tr>
<td>2</td>
<td>Cerebrovascular Disease</td>
<td>19.01</td>
</tr>
<tr>
<td>3</td>
<td>Heart Trouble</td>
<td>16.22</td>
</tr>
<tr>
<td>4</td>
<td>Diseases of the Respiratory System</td>
<td>12.37</td>
</tr>
<tr>
<td>5</td>
<td>Trauma and Toxicosis</td>
<td>9.27</td>
</tr>
<tr>
<td>6</td>
<td>Diseases of the Digestive System</td>
<td>3.67</td>
</tr>
<tr>
<td>7</td>
<td>Endocrine, Nutritional &amp; Metabolic Diseases</td>
<td>1.93</td>
</tr>
<tr>
<td>8</td>
<td>Disease of the Genitourinary System</td>
<td>1.45</td>
</tr>
<tr>
<td>9</td>
<td>Disease of the Nervous System</td>
<td>0.79</td>
</tr>
<tr>
<td>10</td>
<td>Mental Disorders</td>
<td>0.79</td>
</tr>
<tr>
<td><strong>Female Total</strong></td>
<td></td>
<td>89.88</td>
</tr>
<tr>
<td>1</td>
<td>Cerebrovascular Disease</td>
<td>21.82</td>
</tr>
<tr>
<td>2</td>
<td>Heart Trouble</td>
<td>20.09</td>
</tr>
<tr>
<td>3</td>
<td>Malignant Tumour</td>
<td>18.36</td>
</tr>
<tr>
<td>4</td>
<td>Diseases of the Respiratory System</td>
<td>12.83</td>
</tr>
<tr>
<td>5</td>
<td>Trauma and Toxicosis</td>
<td>6.90</td>
</tr>
<tr>
<td>6</td>
<td>Endocrine, Nutritional &amp; Metabolic Diseases</td>
<td>3.27</td>
</tr>
<tr>
<td>7</td>
<td>Diseases of the Digestive System</td>
<td>2.79</td>
</tr>
<tr>
<td>8</td>
<td>Disease of the Genitourinary System</td>
<td>1.70</td>
</tr>
<tr>
<td>9</td>
<td>Mental Disorders</td>
<td>1.15</td>
</tr>
<tr>
<td>10</td>
<td>Disease of the Nervous System</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Table 4. Pharmaceutical spending

Drug expenditures as % of expenditure per inpatient episode or outpatient visit, all hospitals

<table>
<thead>
<tr>
<th></th>
<th>Hospitalization</th>
<th>Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>52.8%</td>
<td>64.2%</td>
</tr>
<tr>
<td>2000</td>
<td>46.1%</td>
<td>58.6%</td>
</tr>
<tr>
<td>2005</td>
<td>43.9%</td>
<td>52.0%</td>
</tr>
</tbody>
</table>

Drug spending as % of general hospital income and expenditure, 2006

<table>
<thead>
<tr>
<th></th>
<th>合计</th>
<th>中央属</th>
<th>省属</th>
<th>省辖市属</th>
<th>地辖市属医院</th>
<th>县属</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>MOH</td>
<td>Provincial</td>
<td>City/Prefecture</td>
<td>Hospital of City at County Level</td>
<td>Hospital</td>
</tr>
<tr>
<td>Drug income as % of hospital income</td>
<td>41.5%</td>
<td>42.1%</td>
<td>42.2%</td>
<td>41.3%</td>
<td>42.3%</td>
<td>40.0%</td>
</tr>
<tr>
<td>Drug expenditure as % of hospital expenditure</td>
<td>37.8%</td>
<td>37.5%</td>
<td>36.4%</td>
<td>38.0%</td>
<td>39.4%</td>
<td>37.7%</td>
</tr>
<tr>
<td>Drug spending as % of average spending per outpatient visit</td>
<td>50.5%</td>
<td>55.3%</td>
<td>52.6%</td>
<td>50.9%</td>
<td>49.2%</td>
<td>45.6%</td>
</tr>
<tr>
<td>Drug spending as % of average spending per inpatient</td>
<td>42.7%</td>
<td>39.5%</td>
<td>41.9%</td>
<td>42.1%</td>
<td>45.0%</td>
<td>44.3%</td>
</tr>
</tbody>
</table>
Table 5. Regional inequalities in urban “full income” (life expectancy * urban per capita disposable income), 1990 and 2000

<table>
<thead>
<tr>
<th>Region</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beijing</td>
<td>1.32</td>
<td>1.74</td>
</tr>
<tr>
<td>Tianjin</td>
<td>1.20</td>
<td>1.35</td>
</tr>
<tr>
<td>Hebei</td>
<td>1.00</td>
<td>0.91</td>
</tr>
<tr>
<td>Shanxi</td>
<td>0.90</td>
<td>0.75</td>
</tr>
<tr>
<td>Inner Mongolia</td>
<td>0.77</td>
<td>0.79</td>
</tr>
<tr>
<td>Liaoning</td>
<td>1.11</td>
<td>0.87</td>
</tr>
<tr>
<td>Jilin</td>
<td>0.78</td>
<td>0.78</td>
</tr>
<tr>
<td>Heilongjiang</td>
<td>0.82</td>
<td>0.79</td>
</tr>
<tr>
<td>Shanghai</td>
<td>1.66</td>
<td>2.02</td>
</tr>
<tr>
<td>Jiangsu</td>
<td>1.06</td>
<td>1.11</td>
</tr>
<tr>
<td>Zhejiang</td>
<td>1.41</td>
<td>1.53</td>
</tr>
<tr>
<td>Anhui</td>
<td>0.96</td>
<td>0.84</td>
</tr>
<tr>
<td>Fujian</td>
<td>1.22</td>
<td>1.19</td>
</tr>
<tr>
<td>Jiangxi</td>
<td>0.80</td>
<td>0.78</td>
</tr>
<tr>
<td>Shandong</td>
<td>1.05</td>
<td>1.06</td>
</tr>
<tr>
<td>Henan</td>
<td>0.82</td>
<td>0.75</td>
</tr>
<tr>
<td>Hubei</td>
<td>0.97</td>
<td>0.87</td>
</tr>
<tr>
<td>Hunan</td>
<td>1.08</td>
<td>0.97</td>
</tr>
<tr>
<td>Guangdong</td>
<td>1.70</td>
<td>1.58</td>
</tr>
<tr>
<td>Guangxi</td>
<td>1.01</td>
<td>0.92</td>
</tr>
<tr>
<td>Hainan</td>
<td>1.17</td>
<td>0.86</td>
</tr>
<tr>
<td>Chongqing</td>
<td>1.00</td>
<td>part of Sichuan</td>
</tr>
<tr>
<td>Sichuan</td>
<td>1.00</td>
<td>0.93</td>
</tr>
<tr>
<td>Guizhou</td>
<td>0.91</td>
<td>0.75</td>
</tr>
<tr>
<td>Yunnan</td>
<td>0.98</td>
<td>0.92</td>
</tr>
<tr>
<td>Tibet</td>
<td>1.02</td>
<td>1.06</td>
</tr>
<tr>
<td>Shaanxi</td>
<td>0.94</td>
<td>0.79</td>
</tr>
<tr>
<td>Gansu</td>
<td>0.82</td>
<td>0.73</td>
</tr>
<tr>
<td>Qinghai</td>
<td>0.69</td>
<td>0.75</td>
</tr>
<tr>
<td>Ningxia</td>
<td>0.97</td>
<td>0.76</td>
</tr>
<tr>
<td>Xinjiang</td>
<td>0.86</td>
<td>0.84</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.69</td>
<td>0.73</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.70</td>
<td>2.02</td>
</tr>
<tr>
<td>Ratio max/min</td>
<td>2.46</td>
<td>2.76</td>
</tr>
</tbody>
</table>
Figure 1. China’s infant mortality rate in 1980 and 2000 in comparative perspective

Figure 1a. Infant mortality rate and per capita GDP in 1980

Figure 1b. Infant mortality rate and per capita GDP in 2000

Source: World Bank World Development Indicators database.
Figure 2.

"Growing out of the Plan" in China: Relative Growth of the Nonstate Sector
Figure 3. “Growing Out of the Plan” in the Health Sector?

Total and Government Expenditure on Health, 1980-2005

- Government expenditure on health (billion PPP 2000 US$)
- Total expenditure on health (billion PPP 2000 US$)
Figure 4. The structure of healthcare financing in China, 1980-2005
Figure 5. China’s private spending is overwhelmingly out-of-pocket, with limited commercial insurance developing recently.

Private Health Spending in China: Almost All Out-of-Pocket

- Prepaid and risk-pooling plans as % of PvtHE
- Private households' out-of-pocket payment as % of PvtHE
Figure 6. Physicians and inpatient beds in China in comparative perspective

Physicians (density per 1,000 population), early 2000s; Economies arrayed by increasing GDP per capita; Transition economies in red

Hospital beds (per 10,000 population), 2003; Economies arrayed by increasing GDP per capita; Transition economies in red
Figure 7. Total expenditure on health as percentage of gross domestic product, 2003

Figure 8. Out-of-pocket spending as percentage of total health spending, 2003

Figure 9. Real per capita GDP in selection transitional economies, 1980 – 2006

Figure 9a. Real per capita GDP

Real per capita GDP in selected transitional economies, 1990-2006

Figure 9b. Index (1990 = 100) of real per capita GDP

China and Vietnam Avoided Transformational Recessions
Figure 10. A generation in rural China without health insurance


Note: Comparable national data not available for 1983 and 1988, though localized studies suggest CMS coverage collapsed in the early 1980s and was at 10 percent or less before the end of the 1980s.

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* This chapter is dedicated to the loving memory of Dr. Li Yishen, skilled surgeon and gentle soul; may he rest in peace.

1 Section 10 of the outline, “Building a Socialist Harmonious Society,” lists as a goal during the next five years “resolving the problem of limited healthcare resources and expensive medical care” (*renzhen jiejue qunzhong kanbing nan kanbing gui wenti*; see [http://ghs.ndrc.gov.cn/15ghgy/W0200605262657598075309.jpg](http://ghs.ndrc.gov.cn/15ghgy/W0200605262657598075309.jpg)).

Indeed, according to historical research [Langford 2005] China may have been the source of the 1918-19 influenza virus, causing a deadly global pandemic.


Cook and Dummer (2004) refer to this as “a new epidemiological phase, characterized by increasing life expectancy and diseases of affluence coupled with the emergence and re-emergence of infectious diseases” (p. 329).

Such unsafe injections, commonly leading to hepatitis B or C transmission, receive generous reimbursement and have come to be viewed by many patients, particularly in rural areas, as a sign of quality care. Ironically, intravenous injections are actually a leading risk factor for compounding burden of disease.

The GDP data in Figure 1 are in 2000 US dollars at purchasing power parity (PPP), drawn from the World Development Indicator database (World Bank, available at http://wwwr.worldbank.org/data). The estimates of the state-controlled share of the economy (1998 to 2003) come from Garnaut and co-authors (2005, p.10).

The share of the economy actually allocated according to “central planning” is considerably less, since the dual-track pricing system of the earlier reform period has gradually been phased out for most goods and services, so that state-controlled firms in China now largely operate in competitive markets.

Also see Eggleston and Yip (1994) for a discussion of why low prices for basic services failed to guarantee access in China.


For a review of the international literature on inequalities in health and healthcare, see Wagstaff and van Doorslaer 2000.

 Granted, China’s increase in private financing during two decades of rapid economic growth runs counter to much international experience: private financing tends to fall with economic development, since the income elasticity of public financing exceeds 1 (Schieber and Maeda 1999). But transition from central planning to markets would tend to suggest that private financing might increase in China, and indeed it has (although to a much greater extent than for most other transition economies, as will be discussed further below).

Sources for these calculations are the 2006 Health Statistics Yearbook, p.659; the 1997 Health Statistics Yearbook, p.423; and GDP per capita from China statistical yearbooks, as compiled in “China data online” (http://chinadataonline.org/member/macroy/macroytshow.asp?code=A0101).

Data are from MOH Yearbook of Public Health, 1997 and 2006; The Almanac of China's Hospitals (Zhongguo Yiyuan Nianjian 2006).
As a manager of one private healthcare organization said [discussion in July 2007], they benefit from the need for China’s increasingly globally competitive firms to compete to attract managerial talent – both Chinese and foreign – with benefit packages that include attractive healthcare coverage, including access to medical services at US or European standards.

China’s statistics are categorized according to the 2000 organizational reforms into for-profit and nonprofit, with no differentiation within the latter. (Some statistics use a non-overlapping categorization by unit of control, so that we have some data for example on providers owned by the Ministry of Health versus SOEs.) Liu et al (2005) assert that “under current regulation in China, ‘for-profit’ is synonymous with ‘private’ because there are very few private non-profit health care organizations” (p.3). Although there appear to be more non-government nonprofit hospitals in some areas (such as the sample of Guangdong hospitals analyzed in Eggleston et al. 2007), no comparable nationwide data are currently available.

For more detailed analysis of hospital finances, see Liu et al. 2006 and Eggleston et al. 2008.

See Rozelle and Swinnen (2004) for more detail about the agricultural sector in transition economies.

Wu and Treiman (2004) and Dollar (2007) also discuss the role of the hukou system in contributing to growing inequalities in China during much of the reform era.

Although the higher child mortality and maternal mortality rates in rural areas would be directly reflected in lower life expectancy compared to urban areas, the effects of such deaths on other family members is not directly quantified in any health statistics but surely takes it toll in terms of rural well-being.

To mention just one example, physician dispensing of medication has been an accepted institution in most of East Asia, and China has much to learn from the controversial reforms separating prescribing and dispensing in Korea, Japan, and Taiwan (see the numerous country-specific chapters in Eggleston 2008).

From the first recorded case in southern China in November 2002 to its global control by July 2003, SARS infected over 8,000 people and was responsible for 916 deaths (Kleinman and Watson 2006, p.21). The majority of SARS victims were mainland Chinese.

The precise role of these steps in containing SARS and other public health threats since then remains controversial, and may not be clear until tested by future outbreaks of potential pandemic diseases. Those hoping that SARS might be “China’s Chernobyl” or “China’s Waterloo” -- spurring fundamental political change or providing “an opportunity to show off its growing scientific prowess to the international community” -- were disappointed (Cao 2004; Saich 2006).

For further writings about SARS, see for example Duckett 2003; Shannon and Willoughby 2004; Schnur 2006; Schwartz and Evans 2007.


In October 2002, the government promulgated the “Decision on Strengthening Rural Health Work” (“Guanyu Jinyibu Jiaqiang Nongcun Weisheng Gongzuo de Jueding”) which proposed new cooperative
medical system ("Xinxing Nongcun Hezuo Yiliao Zhidu," aka NCMS, xin nong he). NCMS has been highlighted in speeches by President Hu and Premier Wen; a task force headed by Vice Premier Wu Yi oversees implementation, with experimental sites in selected provinces later followed by more general expansion. The outline of the 11th 5-year plan for national economic and social development also lists expanding NCMS enrollment as one of only 22 “major indicators of economic and social development in the 11th five-year plan period” (http://ghs.ndrc.gov.cn/15ghgy/t20060526_70573.htm). Between 2003 and 2007, the State Council held four annual work meetings on NCMS implementation; in 2007, the target date for nationwide coverage was moved up from 2010 to 2008.

Examples include the speeches by Meng Zhaoyi, Director General, International Department, CIRC, and Fang Li, Deputy Director General, Life Insurance Department, CIRC, at the CIRC-NAIC Joint Seminar on Health Insurance, 18-19 June 2007, Yichang, Hubei, PRC.

Although the proposals and the solicitation process are formally secret, reportedly the original list included Peking University, Fudan University, the State Council Development Research Center, the World Health Organization, the World Bank, and McKinsey, and was later expanded to include proposals from Beijing Normal University, Tsinghua University, and People’s University.

After all, if any country were to experience “growing pains”, it would have to be China – no other country has had such a record of growth, sustained for 25 years.

For example, biopharmaceuticals (shengwu yiyao) are listed among the seven high-tech industries for focused development during the current 5-year plan, and innovative medicines and “prevention and control of key communicable diseases such as AIDS and viral hepatitis” are listed among the priority programs in the development of science and technology (http://ghs.ndrc.gov.cn/15ghgy/t20060526_70573.htm).

China issued an official White Paper on “China’s Social Security and Its Policy” in 2004. The first paragraph highlights and acknowledges the importance of assuring social stability as a motivation for reforming China’s social security system: “Social security is one of the most important socio-economic systems for a country in modern times. To establish and improve a social security system corresponding to the level of economic development is a logical requirement for coordinated economic and social development. It is also an important guarantee for the social stability and the long-term political stability of a country” (p.1, italics added, http://english.gov.cn/official/2005-07/28/content_18024.htm, accessed August 28, 2007).