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The Long March to Universal Coverage: Lessons from China

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Lilin Liang and
John C. Langenbrunner



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The Long March to Universal Coverage: Lessons from China¹

Lilin Liang² and John C. Langenbrunner³

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² Peking University, China Center for Health Development Studies, Beijing, China.

³ World Bank, Washington, DC.

The World Bank’s Universal Health Coverage Studies Series (UNICO)

All people aspire to receive quality, affordable health care. In recent years, this aspiration has spurred calls for universal health coverage (UHC) and has given birth to a global UHC movement. In 2005, this movement led the World Health Assembly to call on governments to “develop their health systems, so that all people have access to services and do not suffer financial hardship paying for them.” In December 2012, the movement prompted the United Nations General Assembly to call on governments to “urgently and significantly scale-up efforts to accelerate the transition towards universal access to affordable and quality healthcare services.” Today, some 30 middle-income countries are implementing programs that aim to advance the transition to UHC, and many other low- and middle-income countries are considering launching similar programs.

The World Bank supports the efforts of countries to share prosperity by transitioning toward UHC with the objectives of improving health outcomes, reducing the financial risks associated with ill health, and increasing equity. The Bank recognizes that there are many paths toward UHC and does not endorse a particular path or set of organizational or financial arrangements to reach it. Regardless of the path chosen, successful implementation requires that many instruments and institutions be in place. While different paths can be taken to expand coverage, all paths involve implementation challenges. With that in mind, the World Bank launched the Universal Health Coverage Studies Series (UNICO Study Series) to develop knowledge and operational tools designed to help countries tackle these implementation challenges in ways that are fiscally sustainable and that enhance equity and efficiency. The UNICO Studies Series consists of technical papers and country case studies that analyze different issues related to the challenges of UHC policy implementation.

The case studies in the series are based on the use of a standardized protocol to analyze the *nuts and bolts* of programs that have expanded coverage from the bottom up—programs that have started with the poor and vulnerable rather than those initiated in a trickle-down fashion. The protocol consists of nine modules with over 300 questions that are designed to elicit a detailed understanding of how countries are implementing five sets of policies to accomplish the following: (a) manage the benefits package, (b) manage processes to include the poor and vulnerable, (c) nudge efficiency reforms to the provision of care, (d) address new challenges in primary care, and (e) tweak financing mechanisms to align the incentives of different stakeholders in the health sector. To date, the *nuts and bolts* protocol has been used for two purposes: to create a database comparing programs implemented in different countries, and to produce case studies of programs in 24 developing countries and one high-income “comparator,” the state of Massachusetts in the United States. The protocol and case studies are being published as part of the UNICO Studies Series, and a comparative analysis will be available in 2013.

We trust that the protocol, case studies, and technical papers will provide UHC implementers with an expanded toolbox, make a contribution to discussions about UHC implementation, and that they will inform the UHC movement as it continues to expand worldwide.

Daniel Cotlear
UNICO Studies Series Task Team Leader
The World Bank
Washington, DC

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Abbreviations

BoCA	Bureau of Civil Affairs
BoF	Bureau of Finance
BoH	Bureau of Health
BoHRSS	Bureau of Human Resources, and Social Security
BP	benefits package
CMA	Catastrophic Medical Assistance
CMS	Cooperative Medical Scheme
CPC	Communist Party of China
EPHS	Equalizing Public Health Services
FFS	fee-for-service
GGH	general government expenditure on health
HCP	Health Coverage to the Poor
MA	Medical Assistance
MDGs	Millennium Development Goals
MoCA	Ministry of Civil Affairs
MoF	Ministry of Finance
MoH	Ministry of Health
MoHRSS	Ministry of Human Resource and Social Security
NDRC	National Development and Reform Committee
NHE	national health expenditure
NRCMS	New Rural Cooperative Medical Scheme
OECD	Organisation for Economic Co-operation and Development
OOP	out-of-pocket payment
PCPs	primary care providers
THE	total health expenditure
UEBMI	Urban Employee Basic Medical Insurance
UHC	universal health coverage
URBMI	Urban Resident Basic Medical Insurance
Y	Yuan

Executive Summary

The march to universal health coverage (UHC) in China is unparalleled. Since the establishment of the State Council Medical Reform team in 2006,⁴ the basic objective of China's health reforms has been to provide the whole nation with basic medical and health care, while ensuring equal access to, and affordability of, health services. The Chinese government announced the national Three-Year Reform Plan in 2009, after which the country has made remarkable progress toward achieving nearly universal health coverage. China's Reform Plan is a massive undertaking, requiring coordination across 15 national ministries that interact—in one way or another—with the health sector. With the government's injection of Y850 billion (US\$125 billion), five areas were targeted: health insurance, essential medicines, public hospital reform, primary care delivery, and public health services. Many achievements have been made to date. However, as the reform moves deeper into implementation, the government has recognized that some systemwide problems remain.

The recent health reform initiatives (State Council 2012a) under the 12th Five-Year Plan (2011–2015) continue to center on five areas. Building on recent experience, more effort is directed toward a structural change of the health system and building an environment that will facilitate policy implementation. This includes optimizing resource distribution, encouraging hospital competition, strengthening regulation and accountability, and enhancing human resources and information technology. Nevertheless, the current financing and delivery system struggles to transform financial input into effective, efficient, and quality care. Furthermore, the rapid increase in hospital cost under the fee-for-service system has not improved patient outcomes in a corresponding fashion.⁵

In this context, this case study aims to identify key dilemmas facing China's health coverage programs, with a focus on those covering the poor: the New Rural Cooperative Medical Scheme (NRCMS) piloted in 2003 and the Urban Resident Basic Medical Insurance (URBMI) rolled out from 2007.⁶ These two schemes, coupled with the Urban Employee Basic Medical Insurance (UEBMI), in place prior to 1998, covered 95 percent of the nation's residents by the end of 2011. In addition, the Medical Assistance (MA) Program, launched in 2003, provides supplemental financial support for a residual fraction of the population deemed the poorest of the poor. It is a government-run health-expenses safety-net program, assisting those covered by the social security system who cannot afford health insurance premiums and out-of-pocket medical bills. Therefore, it is central to the current discussion related to both UHC and the poor.

⁴ The SARS epidemic in 2003 highlighted the weaknesses of China's basic health care delivery system. In 2005, the State Council stated that "China's health reform has not been successful," which pressured health policy makers to take action.

⁵ Comparing the top 10 diseases in China between 1995 and 2011 (MoH 2012b), the standardized mortality rate of malignant neoplasms, endocrine, nutritional and metabolic diseases, heart disease, cerebrovascular disease, and diseases of the respiratory system increased significantly. Factors other than medical services, for example, life style and environment, have contributed to the increased mortality rate. However, for China's health system (not just health insurance) as a whole, higher hospital expenditures have not guaranteed better outcomes.

⁶ The case study follows the implicit framework of the UNICO Nuts and Bolts questionnaire instrument, which focuses on coverage programs for the poor. As such, the authors provide only a limited review of UHC issue areas outside the UNICO instrument, such as sources and redistribution of revenues, pooling of funds, challenges of decentralization, and some selected areas of governance.

While China has successfully extended the breadth of Health Coverage to the Poor (HCP), its scope (the comprehensiveness of services covered) and depth (the degree of financial risk protection) appear to be insufficient.⁷ Hospital admissions have increased significantly, suggesting improved access, up to 50 percent of current admissions may be amenable to more cost-effective outpatient care. Patients continue to bypass lower levels of care, creating long queues at high-level hospitals. Financial protection for households is not improving as fast as leaders would have expected, given a shallow benefits package with a simple cap on expenditures.

Those program-specific weaknesses might be tackled by addressing issues such as improving risk pooling, rectifying payment mechanisms, and adjusting benefits packages. However, China's HCP is part of broader health system reform. Thus, it is critical to look into problems beyond the HCP program design, such as institutional arrangements, intergovernmental transfers, and supply constraints. This case study concludes with a discussion of the impacts of HCP and the needed next steps to advance HCP as an intermediate objective to the country's longer-term goals of equitable access and high quality of services.⁸

⁷ The World Bank's UNICO initiative currently has no definition of UHC, nor has it embraced the use of performance indicators. The authors will use the World Health Organization definition and framework of UHC, which discusses scope, breadth, and depth, and review performance based on available evidence.

⁸ See, for example, Savedoff et al. (2012), in which the authors set out the goals of universal health coverage.

1. Evolution and Status of HCP in China

Trends of Health Expenditures

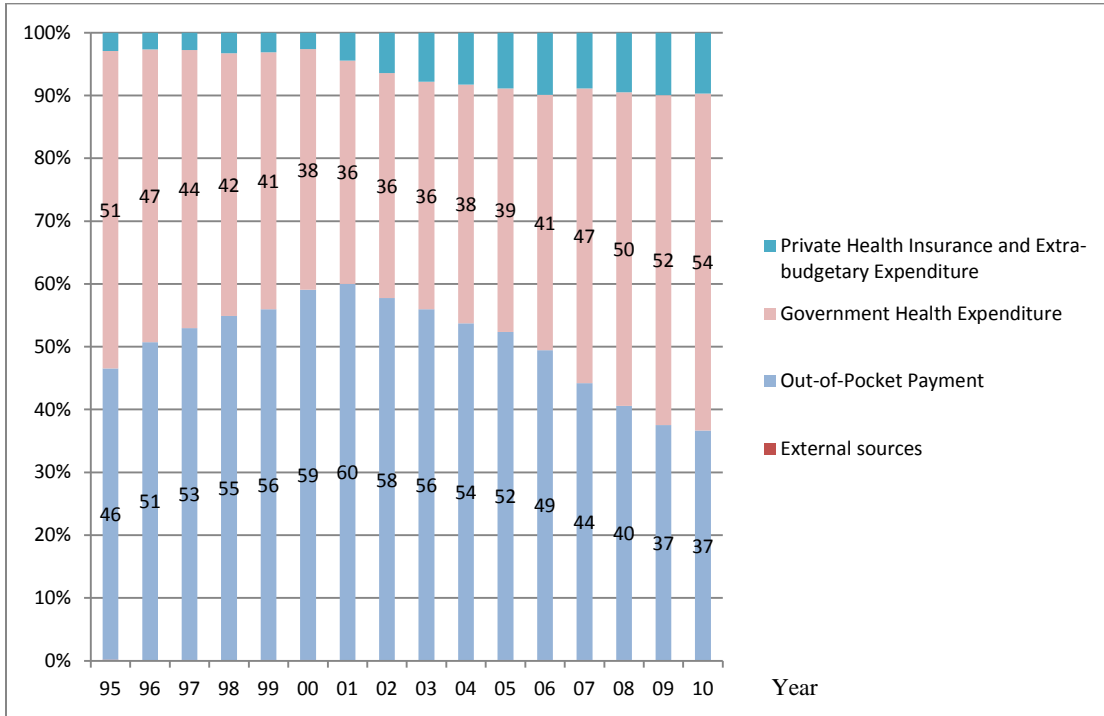
China's "fiscal capacity" is relatively positive; in 2010, the ratio of general government expenditure to GDP was 13.4 percent of GDP, whereas for an average upper-middle-income country was 15.2 percent (World Bank 2012). Between 2001 and 2010, China's total health expenditure (THE) as a share of GDP increased from 4.6 percent to 5.1 percent, which is moderate compared to an increase from 5.7 percent to 6.1 percent among upper-middle-income countries. The booming Chinese economy may have further created scope for THE to grow.

Nevertheless, there are concerns about the long-term sustainability of China's health financing strategies. During 1995–2010, the (nominal) general government expenditure on health (GGH) grew tenfold, from US\$17.3 billion to US\$171.5 billion, even though GDP grew by less than sevenfold. The strong government commitments to health care reform have scaled up GGH. However, an important question is, when the GDP growth slows, to what extent can the government maintain its fiscal commitments to the sector?

Figure 1 shows the dynamics of THE components for 1995–2010. During that period, the share of general government health expenditure increased from 51 percent to 54 percent, and that of out-of-pocket (OOP) payment decreased from 46 percent to 37 percent. The upward trend of THE and the downward trend of OOP has continued since 2001. These trends indicate that the increase in THE was largely driven by the growing public financial inputs (see figure 2), including the launch of heavily subsidized HCP, investment in health infrastructure, and subsidies to public health services (see Annex 3). There was a significant rise in the share of public health spending relative to all government expenditures (from 9.5 percent in 2001 to 12.1 percent in 2010), implying increased prioritization of the health sector.

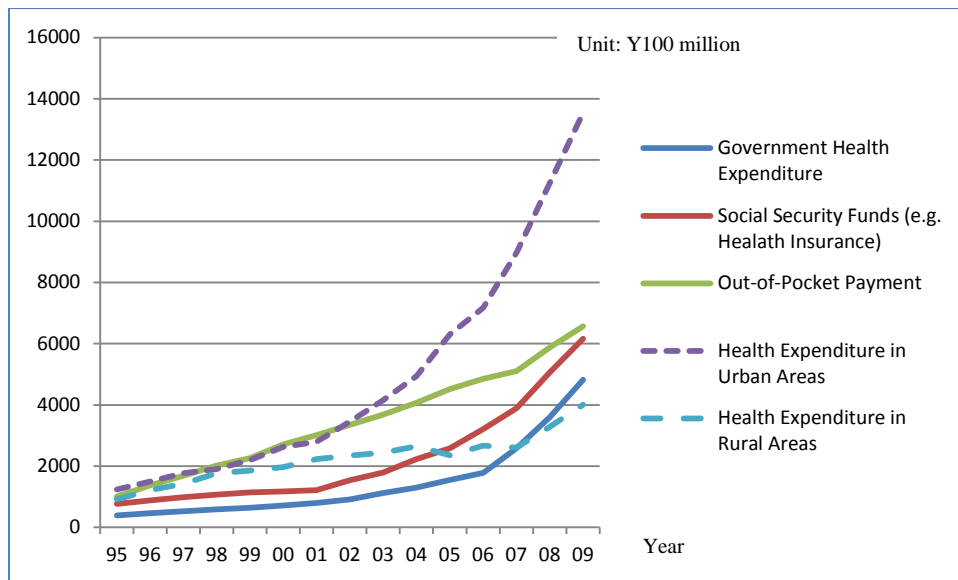
Although the OOP-to-THE ratio has been reduced significantly in China, it was still higher than the mean ratio of 33.4 percent in 2010 among upper-middle-income countries. This is suggestive of continued weakness of financial risk protection of HCP in China, which will be discussed in Section 5. In addition, total health expenditure in urban areas has grown disproportionately to that in rural areas (see figure 2), which could be associated with urbanization and the concentration of tertiary hospitals in large cities.

Figure 1 China Health Expenditure by Sources, 1995–2010



Source: World Health Organization National Health Account database (for the most recent updates, see <http://apps.who.int/nha/database>).

Figure 2 China Health Expenditure Trend, 1995–2009



Source: China Health Statistics Yearbook 2010.

Note: Government Health Expenditure (blue line) and Social Security Funds (red line) in figure 2 compose Government Health Expenditure (pink shade) in figure 1

Evolution of HCP

China has had an urban-rural divide for thousands of years. Revolutions have been built and succeeded on rural uprisings against the urban elite. Mao Ze Dong's political base was the rural peasant, but solving the urban-rural divide is not easy, even today. Unsurprisingly, development of HCP in China has followed different paths in the cities and in the countryside, due to the disparity in economic development between the urban and rural areas.

When the People's Republic of China was established in 1949, the Communist Party of China (CPC) strived to rebuild social solidarity. Establishing a social protection system was regarded as a means to achieve social equity. In 1951, the government introduced the Labor Insurance Scheme (for state-owned enterprise workers), and in 1952 the Government Employee Insurance Scheme (for civil servants, public services unit employees and retirees, university students, and disabled veterans). In rural areas, the embryo of the Cooperative Medical Scheme (CMS) emerged in a small town in Shanxi province in 1955.⁹ It started to proliferate under Chairman Mao's support.¹⁰ At its peak in the 1970s, the CMS covered 90 percent of China's rural population, ensuring access to basic health care at low cost¹¹ (Zhang et al. 2010).

However, in the wake of the collapse of a planned economy in the late 1970s, the village-based collective funds were replaced by family-based production. The CMS lost its institutional basis and eventually collapsed in the early 1980s.¹² Rural households since have increasingly suffered from high medical bills and poor health.¹³ The government later recognized an increasing voice of consumer dissatisfaction, and initiated actions needed to break the vicious cycle of medical impoverishment. In 2002, the New Rural Cooperative Medical Scheme (NRCMS) and Medial

⁹ With the financial support of local farmers and agriculture cooperatives, Mishan town of Shanxi province established a preventive health station to provide free preventive care (but not drugs). In 1958, under the movement of People's Commune, 740,000 agriculture cooperatives were merged into 26,000 people's communes (Zhang et al. 2010). Some production brigades within People's Communes established the CMS. In other words, the CMS was pooled and financed by the production brigades at the village level.

¹⁰ In 1965, Chairman Mao called for prioritization of rural health care, which significantly increased the rural health workforce and CMS coverage. During the Cultural Revolution (1966–76), establishment of the CMS became a political issue; all People's Communes were enthusiastic about getting the CMS up and running (Zhang et al. 2010).

¹¹ In addition to the CMS, barefoot doctors and the three-tiered health care network (county-town-village) together constituted China's rural health system during the planned economies (1949–78) (Lin et al. 2010b).

¹² Between 1985 and 2000, the average coverage rate of the CMS dropped to less than 10 percent (Zhang et al. 2010). Yet several rich areas continued to run the CMS under the supervision of the MoH.

¹³ There are different views on why the CMS was not been scaled up during the 1980s and 1990s. Some researchers believe that this is due to policy makers' misperception that markets in health—driven mostly by user charges—could provide equitable access to effective health care; while others argue that it is necessary to acknowledge multiple challenges facing policy makers, including sequencing reforms and reconciling conflicting interests (Bloom 2011). In the 1980s, the government had aimed to tackle the negative impacts of egalitarianism and the “big-pot system” (equal share of reward regardless of the work done) on productivity created by the People's Communes (Wang 2009). In this context, the focus of health policy was directed toward incentivizing health workers and empowering health institutions to improve efficiency. This includes the 1989 policy that permits public hospitals to charge for compensable services, that is, prescription drugs and high-technology tests to make up a decrease in government subsidies. In the 1990s, the rapid growth in health expenditure and commercialization of medical practice that resulted from market reforms and poor regulation prompted the government to initiate systemwide health reform. In 1997, the “Decision of the State Council on Health System Reform and Development” was issued, in which the NCMS was proposed—although not much progress was made until 2003.

Assistance (MA) program were proposed in a key document, “Decisions of the State Council on Strengthening Rural Health Care.” These two programs fit in with the government’s broader strategy of building a “harmonious society,” promoting greater equity, and balancing social development against economic growth.

The urban health insurance system was also profoundly affected by the transition toward a socialist-market economy. In the early 1980s, with rapid expansion of the free market, many state-owned enterprises went bankrupt; while some were transformed into for-profit units, which reduced employee welfare benefits. A majority of urban workers lost health insurance: between 1990 and 2000, the coverage rate of urban health programs decreased by 17 percentage points (Du 2009). This catalyzed the government to launch a new social health insurance scheme in 1998,¹⁴ the Urban Employment Basic Medical Insurance (UEBMI), as a replacement of the previous Labor Insurance Scheme.

The urban unemployed and urban school children were the last group to be covered by the state-run health insurance program. Almost 10 years after the introduction of the UEBMI, the government filled the gap in health coverage by launching the Urban Resident Basic Medical Insurance (URBMI). With the political and economic turbulence that shaped the current form of HCP in China, the relatively small but affluent Government Employee Insurance is the only scheme that had remained intact since before the 1990s.¹⁵

The MA scheme is China’s first national health safety net, spurred in part by the global campaign against poverty and by international experiences of government subsidies targeted to health care for the poor (Bloom 2009). Between 1997 and 2003, the “World Bank China Basic Health Service Project” (also known as the Health VIII project¹⁶), jointly funded by the UK Department for International Development and other institutes, introduced the Medical Financial Assistance (MFA) scheme to improve accessibility to health services of the poorest families (Hao et al 2010). This pilot scheme gained widespread political support and was soon extended to all rural areas in the name of the MA program.

Similar to the rural MA scheme, the Chinese government drew lessons from another pilot project introduced in 2001 called the China/UK Urban Health and Poverty Project (UHPP). It aimed to increase utilization of community health services and to improve the health of poor people living in urban areas. The UHPP laid the foundation of the urban MA scheme launched later, in 2007 (MoCA 2007). To summarize, the MA program is different from the NRCMS and URBMI in that it is inspired by international work in China within the Chinese context. It links two large systems, health insurance and social security, that are already in place in China.

¹⁴ Prior to the launch of the UEBMI, in December 1994, the government undertook two well-known projects in Zhenjiang city of Jiangsu province and Jiujiang city of Jiangxi province, where social pooling combined with medical savings accounts was tried.

¹⁵ Since the introduction of the UEBMI in 1998, in many places the Government Employee Insurance (GEI) has been cancelled and integrated into the UEBMI. As of 2012, 80 to 90 percent of provinces no longer operate the GEI as an independent scheme.

¹⁶ The Health VIII project covered 97 poor counties in 10 western and central provinces.

China's Health Insurance Programs

Currently, China's social medical insurance system, regarded as the basis from which to achieve universal coverage, consists of three major schemes: the UEBMI, NRCMS, and URBMI. Each program has a government backstop fund or insurer.

Urban Employee Basic Medical Insurance (UEBMI)

UEBMI is a mandatory scheme, covering formal sector workers in urban areas. Employers contribute 6 to 8 percent of local worker's average salary and employees contribute 2 to 3 percent of their salary to the scheme. The scheme has two components, an integrated social pooling fund and individual Medical Savings Accounts (MSAs).¹⁷ Employee contributions plus 30 percent of employer contributions go to MSAs for outpatient services, deductibles, and any copayment paid by enrollees. The rest of employer contributions go to the social pooling fund, which is used for inpatient care.¹⁸ The UEBMI is largely pooled at the prefectural/municipal level (collectively termed city, hereafter) and managed by the Ministry of Human Resource and Social Security (MoHRSS).¹⁹ For the five levels of government administration in China—central, province, prefecture/municipality, county, and town—see figure A1.1 in Annex 1.

New Rural Cooperative Medical Scheme (NRCMS)

NRCMS is a *voluntary* health insurance program for rural residents, piloted during 2003–05 and rolled out during the 11th Five-year Plan (2006–2010). “Voluntary” in the China context, it is matched by strong incentives of central-level funding and by enrolment targets given to local authorities, who are assessed on how successful they are in meeting enrolment targets²⁰; so, de facto, it is hardly a true voluntary scheme.²¹

The scheme is managed by the Ministry of Health (MoH) at the central level and is pooled and managed at the local level by the Bureau of Health (BoH). It is heavily subsidized by direct government contribution from central, provincial, and local levels. In 2003, when the NRCMS

¹⁷ Medical Savings Accounts are criticized for being regressive and costly to administer and not containing costs (Dong 2006). Experts advise that these should be replaced by social pooling for outpatient services, and this is now being done in many counties and municipalities (Li et al 2011).

¹⁸ For employees and retirees of enterprises with financial difficulties and workers with flexible employment, the required contribution rate is lower and the contributions go to a separate fund called the Solitary Social Pooling Fund. For migrant workers, who have an unstable income and a lower salary, there is a separate pooling account, which requires 2 percent of the salary as contribution. Correspondingly, the benefits package for these groups is shallow compared to the others.

¹⁹ As of 2011, 57.8 percent of cities pooled the UEBMI and URBMI at the prefecture/municipal level, while other cities pooled the scheme at the district level (see figure A1.1). By the end of 2012, the prefecture-level pooling has been achieved in most cities (MoHRSS 2012a).

²⁰ For example, the State Council set the target of 90 percent of the NRCMS coverage rate in annual official documents (from 2009 to 2011), “Arrangements of Tasks for Five Priority Areas of Health Care System Reform,” and raised the target to 95 percent in the 2012 document.

²¹ For rural residents, the economic incentive to enroll is strong because of high government subsidies and media advertising. Although several studies have found that during periods of piloting, households with worse health were more likely to enroll (Zhang and Wang 2008; Wang et al. 2006), problems of adverse selection has diminished with the rapid expansion of the covered population.

was first piloted, the total Y30 (US\$4.8) per capita annual contribution was shared equally between the central government, local government, and individuals. By 2012, the total fund increased to Y300 (US\$48) per capita with the ratio for central government, local government, and individual contributions set at Y120:Y120:Y60.²²

Enrolment of the NCMS is on a household basis. The scheme primarily covers inpatient services. Initially, there was a household health savings account to cover outpatient services. Only a small proportion of individual contributions (Y20 in 2012 in many counties) goes to the household account,²³ which barely covers the cost of one outpatient visit. The savings accounts have never been effective in controlling expenditure (Wagstaff et al. 2009b), and thus there is a trend of moving toward the pooled outpatient funds. By 2011, 98 percent of county-level risk pools had initiated collective outpatient pooling.

Urban Resident Basic Medical Insurance (URBMI)

URBMI was rolled out for a nationwide pilot in 88 cities in 2007 and was launched nationwide in 2009. It is also a *voluntary* health insurance program covering urban residents who are not covered by the UEBMI. The main target groups are students, children, elderly people without previous employment, and the unemployed, essentially the urban informal sector (State Council 2007). The URBMI is largely pooled at the municipal/prefectural level and is managed by the MoHRSS. It follows a policy framework similar to UEBMI with respect to administration and social pooling, provider payment, and management of insurance funds. The major difference is that the URBMI by design has no Medical Savings Account and consists of only a social pooling account. Furthermore, the benefits package of URBMI focuses largely on inpatient and catastrophic outpatient expenses, which is shallower than the UEBMI.

The scheme is financed minimally from household contributions. Governments at different levels provide significant subsidies to central and western provinces at about the same level they provide subsidies to NRCMS enrollees to ensure equity. Employers are also encouraged to contribute for the family members of their employees.

Table 1 compares the UEBMI, NCMS, and URBMI for 2011. The per-capita fund for UEBMI is approximately seven times higher than that for the URBMI and eight times higher than that for the NRCMS. Therefore, it is essential to (over time) integrate different schemes to eliminate the inequality in benefits and to improve cross-subsidization from the well-off to the poor. Note that commercial (private) health insurance in China is limited to the wealthiest groups, with an enrolment rate of 6.9 percent total population in 2008 (MoH 2009a).

²² The premium contributions described here are the general rules of health financing set out by the State Council. In practice, the central government does not subsidize (rich) eastern provinces but contributes more than half of public funds to (poor) western provinces. Similarly, enrollees in eastern counties generally contribute more than those in poor counties, who pay less than the required amount.

²³ The purpose of household accounts is to encourage participation, because rural residents are concerned about government management of funds, about losing money, and about not being able to access money paid out as premiums.

In addition, the required minimum reimbursement rate for inpatient care is specified by the State Council (2012) for the NRCMS and URBMI, and so is the minimum benefits package cap for all three schemes. The average fees per discharge in public hospitals in 2011 was Y6,910 (MoH 2012b). After dividing the reimbursement per discharge (last row of first column in table 1) by Y6,910, the effective reimbursement rate²⁴ was 88.5 percent for UEBMI, 42 percent for URBMI and estimated to be less than 50 percent for NRCMS in 2011. The effective reimbursement rate for both URBMI and NRCMS is lower than mandated reimbursement rates of 70-75 percent.

Table 1 Summary of China's Three National Health Insurance Schemes, 2011

	UEBMI	NRCMS	URBMI
Overseeing ministry	MoHRSS	MoH	MoHRSS
Year of pilot/formal launch	1994/1998	2003/2006	2007/2009
Level of pooling	Prefecture/municipality	County	Prefecture/municipality
No. of risk pools (approx.)	330	2,600	330
Enrolment rate (%)	(>95) ^e	97.5	Data not available
Unit of enrolment	Individuals	Households	Individuals
Type of enrolment	Compulsory	Voluntary	Voluntary
Total fund (Y100 million) ^a	4,945	2,048	594
No. of enrollees			
- million	252	832	221
- as percent of total population ^b	18.7	61.9	16.4
Per capita fund (Y)	1,962.3	246.2	268.8
Benefits package	In- and outpatient care	Inpatient and critical outpatient care	Inpatient and critical outpatient care
Average reimbursement per discharge (Y) ^c	6,112	1235.5 in 2009	2,891
For 2012 on wards			
Mandated deductibles ^d	No	No	No
Mandated reimbursement rate			
- inpatient care	No (usually >80%)	70%	75%
- outpatient care	No	No	No
Effective reimbursement rate (based on actual data)			
- inpatient care	88.5%	(<50%) ^e	42%
Mandated reimbursement ceiling	No less than 6 times of the local worker's annual average wage, and no less than Y60,000	No less than 8 times the national annual average income of farmer, and no less than Y60,000	No less than 6 times a local residents' annual disposable income, and no less than Y60,000

Sources: *China Health Statistics Yearbook 2012* (MoH 2012b). "Summary of National Social Insurance in 2011" [in Chinese] (MoHRSS 2012c); *Statistical Bulletin of the Development of Human Resources and Social Security, 2011* [in Chinese] (MoHRSS 2012b); *The New Rural Cooperative Medical Scheme Statistical Manual, 2009* [in Chinese] (MoH 2010); *Major Work Arrangements for Deepening the Health Care System Reform in 2012* [In Chinese] (State Council 2012b).

Note: a. The total fund does not include surplus carried over from the previous year. b. The total population as of 2011 in China was 1.3 billion. c. Data on NRCMS average reimbursement per discharge are not available for 2011. d. The State Council has never stipulated deductibles, but they were widely used by the local governments to curb insurance outlays. e. Figures in parentheses are obtained from the news.

A Safety Net for the Poorest of the Poor: The Medical Assistance (MA) Program

The MA program was introduced in 2003 in conjunction with the NRCMS, with an aim to increase the coverage of the NRCMS by paying premiums for the poor. Following the introduction of the URBMI in 2007, MA took on the new responsibility of helping with the contributions and copayment of the target population to this new urban insurance scheme.²⁴ As an additional benefit to the existing benefits of medical insurance, MA contributes toward a share of the remainder of a medical bill that is not reimbursed by the NRCMS and URBMI. The MA program is managed by the Ministry of Civil Affairs (MoCA) and pooled at the county level by the Bureau of Civil Affairs (BoCA).

Enrolling in MA is free and voluntary. Targeting of MA is built upon the existing social security network that covers approximately 87 million poor people as of 2011. The MoCA claimed that the MA program has achieved 100 percent coverage of the target population.²⁵

A local management team comprising officials from departments of health, finance, civil affairs and human resources, and social security is typically set up to facilitate interaction and cooperation of different government agencies. This helps assure that MA can be integrated with health insurance schemes. In some areas, citizen participation is encouraged to monitor the MA. Furthermore, local governments are empowered to introduce various benefit policies based on the amount of funds available, and the needs of the local people.

The MA budget is financed mostly by central, provincial, and county governments with the share of central government (Y15 billion) increased to 80 percent in 2011 (MoCA 2012a). There are supplementary contributions from townships, lotteries, donations, and development assistance. Table 2 illustrates the MA payouts in 2011. MA paid the NRCMS premiums for 48.3 million people, which accounted for 5.8 percent of NRCMS enrollees in 2011, and the URBMI premiums for 15.5 million people, accounting for 7 percent of URBMI enrollees in the same year. In other words, the MA program increased the coverage rate of the NRCMS and URBMI by 6 to 7 percent, which is not trivial.

However, once the poor are enrolled in the health insurance schemes, only one-third of them (21.4 million divided by 63.8 million) received financial assistance paying for medical bills. This group of people accounted for 1.8 percent of the NRCMS enrollees and 3 percent of the URBMI in 2011, indicating that the rural MA program has a relatively minor role in HCP.

²⁴ The inauguration of the urban MA program was set out in an official document issued by the MoCA in 2005, "Opinions about Piloting an Urban MA System."

²⁵ Only limited data on MA are publicly available, perhaps due to MoCA's relatively weak standing across ministries.

Table 2 Expenditures and Beneficiaries of the Medical Assistance Program, 2011

	MA-Rural	MA-Urban	Total
Disbursement of funds (Y100 million)	120.0	67.6	187.6
Per million enrollees received financial assistance in paying			
- health insurance premiums	48.3 (5.8% of NRCMS enrollees)	15.5 (7% of URBMI enrollees)	63.8
- medical bills	14.7 (1.8% of NRCMS enrollees)	6.7 (3% of URBMI enrollees)	21.4
Disbursements per enrollee received financial assistance in paying (Y)			
- health insurance premiums	46	68	
- medical bills	636	794	

Source: *China Health Statistical Yearbook 2011* (MoH 2011). *China Civil Affairs' Statistical Yearbook: Statistics of China Social Services* (MoCA 2012)

Note: In most cases, medical bills refer to inpatient care. Data on separated disbursements for inpatients and outpatients are not available.

In addition, table 2 shows that in 2011, the MA disbursement per medical bill was Y636 for rural beneficiaries and Y794 for urban beneficiaries. Using data on 2011 national average inpatient fees, MA contributed only 9 percent (Y636 divided by Y6,910) to 11 percent (Y764 divided by Y6,910) of fees for an average MA inpatient. Taking account of the effective reimbursement rate of the URBMI (see table 1), the urban poor still had to pay 47 percent of the hospital bill. Although MA is a top-up benefit for the poor, the additional benefit is slim for most of the poor.

The reason for the low financial risk protection of the MA program stems from improper designs of its benefits package (see Section 3) and inadequate MA funds. In 2010, the expenditures of NRCMS, URBMI, and UEBMI accounted for 6.6 percent, 1.8 percent, and 17.0 percent of THE, respectively, whereas MA took up only 0.67 percent of THE, which is the lowest among all types of social programs (see figure A2.1 in Annex 2). Currently, with limited funds and a large population covered, MA can only assist most people with paying premiums and a small group of people paying catastrophic medical expenses. With the government commitment to increase the MA fund under the 12th Five-Year Plan,²⁶ the depth of MA benefits may increase.

2. Challenges Concerning Institutional Arrangements and Financing of HCP

China's HCP is facing various challenges, some of which are linked to governance and fiscal policy, such as institutional arrangements, intergovernmental transfers, and provider incentives (discussed in Section 2). Some are related to the program design, that is, targeting and the benefits package (Section 3). The others are concerned with the health system, namely the constraint in supply capacity and information infrastructure (Section 4).

²⁶ Between 2010 and 2011, the central government's fiscal transfer for the MA program increased by 15.5 percent. In 2011, MA accounted for 6.1 percent of total social security disbursements managed by the MoCA (MoCA 2012a).

Institutional Architecture

The institutional arrangements of HCP in China are extensive but fragmented, with multiple ministries and health reform offices²⁷ being required at the different levels of government. At the central level, the leading organization is the State Council, which is responsible for proposing national agendas and designating the accountability of related ministries. Under the state's general guidelines, the appointed ministries draw up operational plans; within individual ministries, the corresponding departments (at provincial level) and bureaus (at city/county level) implement the plans. Table 3 summarizes key government agencies under the State Council held accountable to HCP.

As seen in table 3, there is considerable fragmentation of power among ministries. For example, health planning, investing, and pricing (of drugs, devices, and services) are the major responsibility of the National Development and Reform Committee (NDRC). The MoH (which is held accountable for population health) does not have full control over financing, which is shared among the Ministry of Finance (MoF) (via budget transfers), the NDRC (via pricing), the Ministry of Agriculture (via safeguarding rural residents' welfare), and the other two insurers: the MOHRSS and MoCA (Yip et al. 2012). Dispersion of institutional power has inevitably diminished the role of MoH in promoting universal health coverage. Institutional complexities have made assignments of government accountability of HCP difficult.

Table 3 Government Accountability in Relation to HCP

Government agencies	The State Council								
	MoH	MoHRSS	MoCA	MoF	MoP	NDRC	ODCP	MoA	SFDA
HCP functions									
Service delivery						★ investment			
Financing	★ NRCMS	★ URBMI	★ MA	★		★ pricing		★	
Human resources	★	★			★		★		
Social security/relief		★	★	★					
Pricing						★			
Policy/regulations	★					★ planning			★

Note: MoA = Ministry of Agriculture; MoCA = Ministry of Civil Affairs; MoF = Ministry of Finance; Ministry of Personnel; MoH = Ministry of Health; MoHRSS = Ministry of Human Resources and Social Security; NDRC = National Development and Reform Committee; ODCP = Organization Department of Chinese Communist Party; SFDA = State Food and Drug Administration,

Program execution lies with city/county governments. They are allowed to develop implementation mechanisms according to the central rules and the socioeconomic development of localities. The State Council's strategy has been to define broad objectives and enforce

²⁷ The leader of the health reform office at the national level is the vice director of the NDRC; at the provincial level, the vice governor; and at the county level, the vice mayor.

minimum requirements, leaving local leaders scope for innovation. This system of central planning with local adaptations facilitates a certain degree of deconcentration (but not as far as devolution) with regard to administration, resource allocation, and decision making. Furthermore, the policy makers have encouraged local governments to carry out various pilots before translating new approaches into policy guidelines. This has reflected China's approach to manage transition, known as "crossing the river by feeling for the stones."²⁸ It is neither a top-down imposition of command nor a bottom-up construction of new principles, but an interaction between a powerful state and local authorities (Bloom et al. 2009).

This management system has the advantage of meeting local needs while simultaneously maintaining political mandates. Local party leaders, for example, must meet coverage targets even in voluntary programs. Nevertheless, a drawback is that the central government has been slow to create laws and regulations to guide local authorities (Bloom et al. 2009). As a result, there remain substantial inequalities in HCP benefits and utilization across localities. Furthermore, there are multiple institutional and capacity issues at the county level (Yan et al. 2011), which has been borne out under the World Bank Health XI project focused on 40 rural counties in 8 provinces.

In addition, vertical integration of HCP functions is less than optimal. The MoH/BoH is responsible to not only monitor service delivery, license professionals, and accredit hospitals, but also to provide services through its own public hospitals, which accounted for nearly 90 percent of the total number of beds in China (Ministry of Health 2011). In some areas, the county/city hospital director is the deputy director of the local health authority, in which case a conflict of interest exists regarding public hospital reform.

In acknowledging the problem, the 12th Five-Year Plan (2011–2015) has called for the separation of regulation from operation of public hospitals.²⁹ As of January 2012, among all 336 prefectures in China, 27 percent have set up a public hospital governing body (mostly within the Department of Health) and 16 percent introduced corporate governance (MoH 2012c). However, there are problems with implementation, a lack of supporting policies, and a lack of agreement on the pilot's objectives (Wu 2012). Therefore, these reforms are preliminary and have not resolved issues of conflicts of interest.

The present interministerial structure requires constant internal negotiation over balance of power. This has resulted in rampant rent-seeking, shirking of responsibilities, bureaucracy, and high transaction costs (Yip et al. 2012). Since different ministries tend to pursue different bureaucratic objectives, streamlining the functions of various ministries is fundamental to the success of both health reforms and HCP. Currently, there is no consensus in China on whether the MoH or the MoHRSS should take the lead in HCP. There is a trend of integrating the NRCMS and URBMI throughout the nation (see Section 5 for pooling of funds), and each ministry has been territorial about keeping its own scheme.

²⁸ The quote is from Deng Xiaoping, "paramount leader" of China between 1978 and 1992 to reflect China's approach to a transition to a new brand of socialist thinking, termed "socialist market economy." Deng opened China to foreign investment, the global market, and new but limited private competition.

²⁹ As of 2012, comprehensive public hospital reform was initiated by the central government in 17 pilot cities and by provincial governments in 37 cities/counties/districts (MoH 2012c).

Intergovernmental Transfers

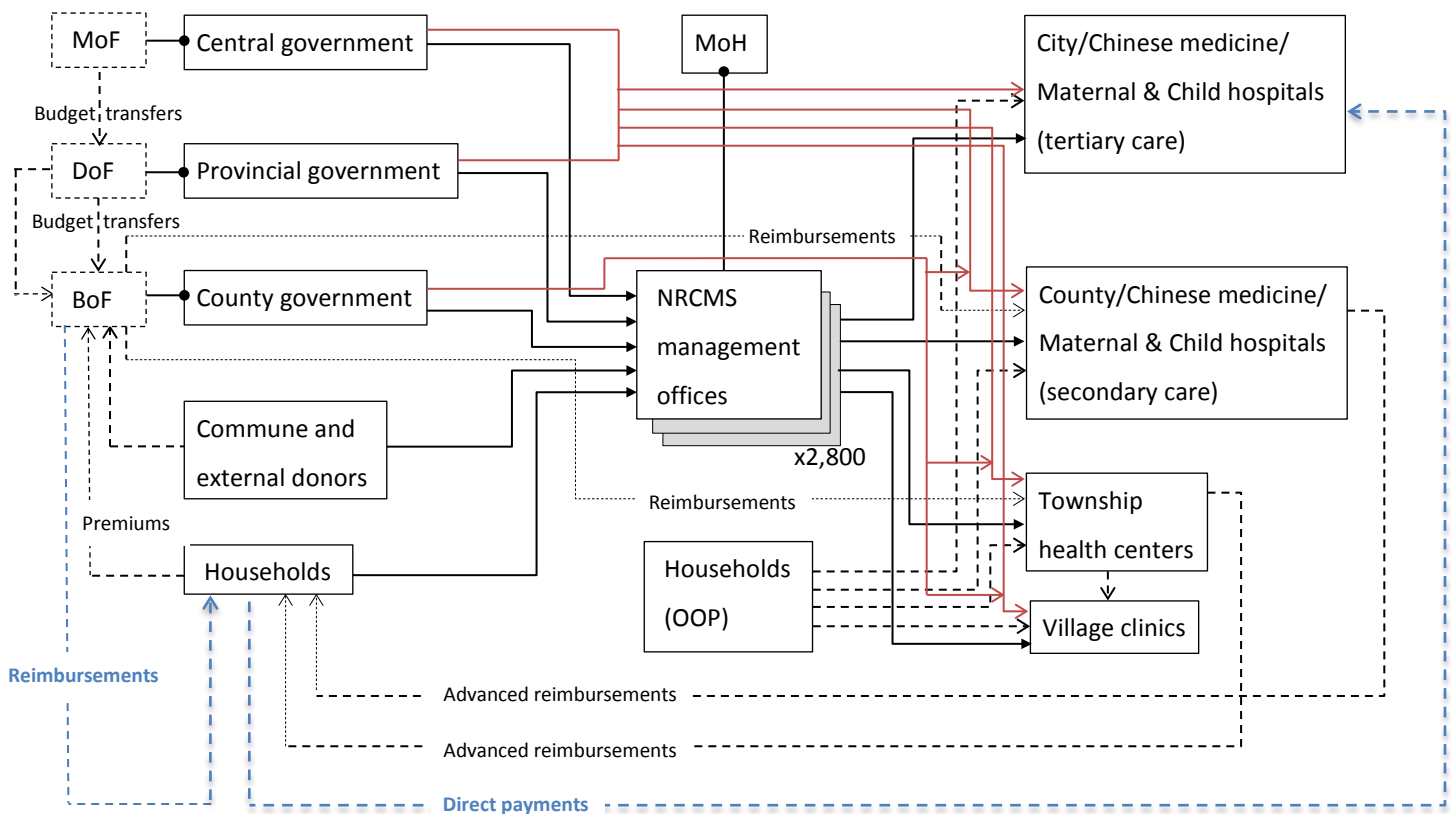
To illustrate how China's complex institutional arrangement has affected the HCP fund management, this section looks into financial flows of the NRCM. As figure 3 shows, the MoH unifies the pooling agent, payer, and purchaser of the NRCMS in one institute called the NRCMS Management Office under the jurisdiction of the county BoH. There are approximately 2,800 offices nationwide, so the number of risk pools is large. The NRCMS Offices are responsible for collecting premiums, managing funds, contracting providers, and reimbursing patients.³⁰ They receive government per-capita subsidies (without risk adjustments) through the MoF, which transfers budgets to the designated bank account held by the county Bureau of Finance (BoF). Likewise, the MoCA helps the enrolled poor with the NRCMS premiums (through the MA program) by paying the BoF directly on the per-poor basis, which is shown as budget transfers in the diagram. In practice, the account holder (BoF) is separated from the financial agent (NRCM Office) to prevent fund misuse.

Figure 3 Flows of Health Care Funds in Rural Areas in China

Sources of funds

Financial agents

Health providers



³⁰ As of 2010 in approximately 10 counties, the NRCMS business was contracted out to a private carrier or third-party, administrator-type arrangement. Recently, the State Council has encouraged local governments to focus on management and monitoring of the NRCMS by delegating the routine tasks (for example, hospital claims and data collection) to private carriers

—— Denotes the flows of funds under the framework of NRCMS administration.
- - - - Denotes the fund flows in operation, without considering cross-county flows.
——● Denotes affiliation.
—— Denotes supply-side subsidies (for example, matching funds, earmarked transfers, and line-item budgets) under the framework of public governance.
BoF = Bureau of Finance; DoF = Department of Finance; MoF = Ministry of Finance; MoH = Ministry of Health; OOP = out-of-pocket payment.

Source: Authors.

Notes:

- a. All levels of governmental administration that are higher than counties but lower than the central government are denoted as provincial government, such as municipalities and prefectures.
- b. The commune funds are more commonly seen in eastern China. External donors include those of the NRCMS and MA programs.
- c. All funds go into the designated bank account of the BoF, which also holds an account of fund outflows. These two accounts form a closed system, under which the funds can be used only for making reimbursements.
- d. When patients seek care at local/county medical institutions (mostly primary and secondary care providers), they will pay only the part of the bill that is not covered by the benefits package. The providers bear the rest of the costs (shown as advanced reimbursements in the figure) and claim reimbursements afterward from the BoF.
- e. If the information cannot be exchanged between the provider and the insurer, patients who seek care outside the county of enrolment will pay the bill in full (termed direct payments in the figure) and then claim reimbursement afterward in their home counties (see blue lines). This usually happens when patients go to tertiary hospitals located in big cities. However, this situation should improve after local NCMS information systems are connected to the provincial-level platform (for example, Anhui) or national platform.
- f. The NRCMS has set up branches at the township level to manage reimbursements claimed by local medical institutions. The township office collects and checks claim data and then reports to the county office for approval of the transfer of funds. Money is transferred from the BoF to the designated NRCMS outflow account at the township level and then to the THC. Finally, THC transfers the funds to village clinics.

Many counties in China run a “one-stop” consumer bill payment system at the time of discharge, at which point patients must pay their share of the bill. For counties without this one-stop service, the enrollees will have to pay hospitals the full bill, and then claim the money back from the NRCMS office, the Bureau of Human Resources, and Social Security (BoHRSS, the counterpart of the NRCMS Office under the URBMI), and/or the Bureau of Civil Affairs (BoCA, the pooling agent for the MA program) at their city/county of enrolment. The procedures are often complicated by workers living and working in different geographic areas, and by reimbursement offices running limited hours. These factors have reduced the number of beneficiaries willing or able to make claims (Zhang et al. 2010).

A major drawback of the HCP fiscal system is that there are multiple sources of inflows and outflows. The NRCMS, URBMI, and MA program all charge the local Bureau of Finance with smoothing financial flows locally. In this context, consolidating different programs under one broader scheme or moving the level of pooling to provinces may improve the efficiency of intergovernmental transfers.

Another related issue is that the process of earmarked transfers from central to local governments is usually prolonged and unmonitored, which necessitates a change in China’s public sector governance (Brix et al. 2010). The local pooling agents do not always receive full government contribution toward the HCP funds, and the delay in distributing the NRCMS funds to counties ranges from three months to one year (Zhang et al. 2010). This has caused a backlash from service providers, since they are forced to bear the health care costs until the funds are available.

In addition, the tax revenue-sharing system adopted in China in 1994 has not eliminated the disparity between rich and poor localities in health expenditure³¹ (Wagstaff et al. 2009b). Poor counties often encounter difficulties in raising the HCP matching funds, which further defers the fiscal transfers. Regional disparities in fiscal capacity have remained, which requires earmarked transfers to lessen the fiscal pressure of poor provinces. Yet, transfers have not become efficient instruments for the fair allocation of health resources (Pan and Liu 2012).

From a systemwide perspective, there is an inconsistency in the goals of the MoF and MoH. The MoF favors performance-based funding to traditional input-based budget allocation in order to hold the MoH accountable for the effectiveness of HCP. However, the MoH and MoHRSS are more concerned about providers depleting and overspending insurance funds, which has stimulated provider payment reform in China.

Pricing and Provider Payment Mechanisms

As of 2011, more than 70 percent of counties/cities have piloted new payment methods with an aim to shift away from the traditional fee-for-service (FFS) system to prospective payments. Preliminary findings on impacts of reimbursement reforms have been reported, including global budgets in Shanghai and the other two cities (Tang et al. 2012); case-based payments in Henan and Jiangsu province (Li et al. 2010; Meng and Sun 2012); prepayments (monthly global budgets with a quality-volume contingent bonus) in Hainan province (Yip and Eggleston 2004); fixed price per outpatient visit and per inpatient day (irrespective of diagnoses) in the city of Nantong, Jiangsu Province (Meng et al. 2004); base salaries plus pay-for-performance in Guizhou province (Wang et al. 2011); and per-diem payments in a psychiatric hospital in Beijing (Jian and Guo, 2009).³² However, most of the payment initiatives are experimental, and thus have not led to a fundamental change in providers' financial incentives.

The existing FFS price schedule³³ set by the NDRC undervalues basic primary care services, but overvalues laboratory and high-tech diagnostic tests, and underprices medical services (Reynolds and McKee 2011; Yip et al. 2010). The government has priced medical services below marginal costs to encourage basic health care services (Wang 2009). However, induced demand by

³¹ Under the planned economy, China adopted a centralized fiscal/tax policy known as “unified collection and allocation of funds” to ensure equalization. In the early 1980s, following market reforms, the central government began to delegate the responsibility of balancing budgets to subnational governments by introducing a fiscal system that (a) separated revenue from expenditure, and (b) classified revenue and expenditure according to the affiliation of an enterprise. This system, termed “cooking in separate kitchens,” was executed on the basis of fiscal contracts between local and central governments. This policy motivated local governments to generate more revenue, but also led to an increase in geographic disparities in fiscal resources (Wagstaff et al. 2009b). The fiscal-contract mechanism turned out to be problematic. Thus, in 1994, it was replaced by the Tax Sharing System, which divides tax sources into local and central. Nevertheless, a problem with Tax Sharing System is that the expenditure and revenue authority is not matched. In 2010, the local governments spent 82 percent of general government expenditure but collected only 49 percent of total government revenue (National Bureau of Statistics of China 2011a).

³² Beijing has developed a diagnosis-related groups system, but it has not been linked to hospital payments and is only used for the purpose of monitoring.

³³ The FFS schedule contains approximately 4,170 fee items at the central level, with variations in the number and type of items across provinces. Within a province, the fees of the same item can vary with hospital level.

providers has led to the opposite impact. Overtreatment is prevalent,³⁴ leading to excessive growth in health expenditure. The FFS system, coupled with line-item budget allocation, which encourages providers to build more beds and buy more equipment,³⁵ provides a toxic mix of perverse incentives of inducing demand (Langenbrunner 2011).

In 2012, the government reviewed the price schedule and intends to increase the price for labor-intensive services, such as diagnosis, operation, and nursing. It is expected that new pricing mechanisms plus payment methods that aim to align doctors' and patients' interests will lessen undesirable financial incentives.³⁶ However, for HCP to successfully reduce patients' financial burden, corruption in the health system will need to be tackled. This includes prevailing "informal" payment from patients to doctors, collusion between doctors and pharmaceutical companies to promote drug sales, and hospital wage structures that are linked to the amount of revenue generated by individual doctors.³⁷

In particular, public hospitals in China are mostly self-financed, with just under 10 percent of income from government "supply-side" subsidies. They are allowed to retain and distribute profits, thus resembling behavior of "for-profit" institutions (Hsiao and Maynard 2009). What is more, doctors are allowed to sell drugs directly to patients with a 15 percent mark-ups over the acquisition price. During 2003–10, drug sales accounted for 42 to 44 percent of hospital revenue (Ministry of Health 2011). To mitigate overprescription and high drug costs, in 2012, the "zero-markup" drug policy,³⁸ which is expected to roll out by 2015, was introduced in 311 counties. However, there is significant opposition from stakeholders, including local governments, which are reluctant to subsidize hospitals for income loss under the new policy. Pharmaceutical reform and public hospital reform have long been considered the most challenging and long-term areas across the five reform areas. The government has explored various mechanisms to accelerate the separation of description and dispensing of drugs.

³⁴ For example, researchers find that the ongoing phenomenon of antibiotic abuse is driven by doctors rather than patients (Currie, Lin, and Wei 2011).

³⁵ The supply-side recurrent health budget allocation was originated from the asset-building strategy adopted by the central government during the planned economy. Between 1949 and 1978, the supply capacity of the health system was low. Increasing the state-owned health capital assets (hospital facilities and beds) and workforce (number of doctors and nurses) not only was fundamental to health planning but also enhanced the political legitimacy of the Communist Party (Lin et al. 2010a). Although the government has gradually reduced budgetary subsidies over the years, this allocation mechanism, which links budgets to the number of beds and staff, has continued to this day.

³⁶ As of 2012, all 336 pilot prefectures have increased the price of medical services as part of public hospital reform strategies (MoH 2012c).

³⁷ An exception is Shanghai, which, since 2011, has imposed on public hospitals a cap on the total revenue that can be used to pay for doctors' salaries.

³⁸ The zero-markup policy was first introduced in primary care institutions in 2009. It requires physicians to prescribe only drugs on the Essential Drug List and to sell them at wholesale prices. This initiative is accompanied by a purchaser (insurer) intervention, which increases the patient reimbursement rate for essential medicine by 10 percent. The Essential Drug List was published by the MoH in 2009. It selects a subset of drugs (205 Western and 102 Chinese medicines) from the National Drug Reimbursement List, which was first issued by the MoHRSS in 2000.

3. Problems with Targeting and Benefits Packages of HCP

Targeting

Unlike the NRCMS and URBMI, which are purely geographic based, the MA program targets three major groups that are already covered by China's social security system: the poor (termed "Di Bao"), the disadvantaged ("Wu Bao"), and the nonpoor households that suffer large and potentially impoverishing medical expenses ("Te Kun").³⁹ In other words, to become an MA beneficiary, one must be eligible for social benefits in the first place. Table 4 summarizes the criteria, identification, and enrolment in relation to the three groups.

Table 4 Comparison of the Type of Beneficiaries under the MA Program, 2011

Criteria	Te Kun	Wu Bao	Di Bao
	Locally determined criteria	No ability to work, no savings/income, and no relatives	Locally determined poverty line
Type of enrolment	Voluntary	Voluntary	Voluntary
Mechanisms for identification	Self-reported financial hardship reviewed by the village/neighborhood representative committee and the BoCA	Through household survey (conducted by the BoCA)	Through household survey conducted by the BoCA
Unit of enrolment	Household	Individual	Household
Social benefits	Regular or temporary cash assistance	The "five-guarantees": food, clothing, housing, medical care, and a proper burial	Subsidies and in-kind benefits
Population covered (million)	6	5.5	Rural: 53.1 Urban: 22.8 Total:75.9

Source: China Civil Affairs' Statistical Yearbook 2012.

Note: BoCA = Bureau of Civil Affairs.

The BoCA in each county/city manages China's social security network. It runs the database for people who receive social benefits and thus is responsible for enrolling them in the MA program.⁴⁰ However, targeting of MA has been ineffective because approximately one-third of provinces and one-half of counties have not fully established the "Di Bao" system, and 85

³⁹ Some counties also target the disabled and old people in near-poor families.

⁴⁰ Everyone in China has a unique social security or enrolment scheme number. Each has computerized enrolment records for providers. Many areas are now issuing ID cards to validate enrolment. Some areas do it as a public-private partnership with local banks.

percent of counties are without “Di Bao” locating in the poorest areas of central and western China.⁴¹

How effective the BoCA is in carrying out household surveys will determine how successfully the poor are enrolled in the Wu Bao and Di Bao system. This is because participation into these social welfare schemes is voluntary. The BoCA needs to inform the poor of their eligibility and encourage them to apply. After the poor are enrolled in Di Bao, the BoCA carries out random means tests monthly in urban areas and every three to six months in rural areas to validate beneficiary eligibility, even though carrying out the means tests appears to be a burden for the BoCA.

In terms of “Te Kun,” its enrolment is often subject to the relationship of the applicant with the local representatives. Hence, the near-poor, who cannot afford expensive medical bills, could be left out by the social security system and thus the MA program.

Furthermore, the MA program is also voluntary. It is common that “Di Bao” households and “Wu Bao” people do not enroll in MA until they foresee or have incurred health expenditures. Comparing table 2 and table 4, it can be seen that of Te Kun, Wu Bao, and Di Bao beneficiaries (87.4 million), approximately 73 percent participated in the MA scheme. Therefore, there could be adverse selection problems.

Fundamentally, China does not have a national system to identify the poor. Identification criteria differ between poor and wealthy counties. Only a few provinces have merged the county database for the poor. The MA program does not have the means to target those beyond the partial coverage of the social protection system. Therefore, those who have lost social protection will usually lose MA altogether.

The incentive facing the MoCA is to enroll the identified poor in health insurance, so that their medical bills are shared by the MoH and MoHRSS. However, two ongoing factors have discouraged local authorities from extending the coverage of the MA program: first, the central government does not subsidize the MA operational costs, which means the more enrollees, the higher the local government expenditure and workload; and second, program finance has been unpredictable due to the implicit, non-evidence-based formula used by the central government to allocate the MA funds.

Regarding the NRCMS, it has targeted residents with rural “Hu Kou” that accounted for 66.1 percent (886 million) of the Chinese population as of 2010 (Ministry of Health 2011). “Hu Kou” is a residential registration policy introduced in 1985 as a mean of population control. It designates a citizen as rural or nonrural, which determines the welfare and social insurance to which she or he is entitled. A rural Hu Kou is given to one who owns the land granted by the

⁴¹ One reason for partial implementation of Di Bao is that the responsibility of financing Di Bao primarily falls on local governments. Only a small share of the Di Bao funds come from provincial governments. Therefore, even with earmarked fiscal transfers, poor counties can still find it difficult to raise sufficient funds.

government, typically a farmer. Nevertheless, in 2010, 212 million people⁴² with rural Hu Kou moved to urban areas.

There is an ongoing debate about who should be responsible for the welfare of migrant workers: Should it be the employer, the local government of their registered home, or the local government of their current residence? Currently, city governments are concerned about expanding the URBMI to cover migrant workers due to an expected increase in city financial burden. To resolve these issues, China needs to reform the outdated Hu-Kou system, clarify government accountability, and integrate the strategy of targeting into broader socioeconomic and fiscal policies that will smooth the process of urbanization.

Targeting of the URBMI also appears to be challenging, primarily due to the difficulties in measuring the size of the urban informal sector or informal employment in China. The target population was officially declared at “more than 200 million,”⁴³ and yet there is no publicly available information on the coverage rate of the URBMI (Cao 2012). Furthermore, people who are entitled to enroll into URBMI may choose to opt out because its premiums (Y100 in 2011) are higher than the NRCMS (Y50 in 2011), and its benefits are generally more shallow. The affordability of URBMI premiums could deter needy populations from participation (Li et al. 2011).

The Benefits Package

The benefits package (BP) in China is determined by the reimbursement rules and is less concerned about the type of services covered. Most items on the FFS price schedule are reimbursable, subject to deductibles and copayments. Local authorities are empowered to decide on the scope of the BP on the basis of local needs and resources available.⁴⁴ Hence, the BP varies across counties/cities and over time. Table 5 summarizes the BP at Qishan county, Shaanxi province, in 2011, as an example.

⁴² The figure of 212 million was obtained by deducting the rural “Hu-Kou” population (886 million) from population actually living in rural areas (674 million) (National Bureau of Statistics of China 2011a). If looking at the composition of 666 million people living in urban areas in 2010, migrant workers constituted approximately 32 percent of urban residents. According to the National Population Census 2010, the number of migrant workers increased by 81.07 percent (National Bureau of Statistics of China 2011b).

⁴³ According to the *2010 China Statistical Yearbook* (National Bureau of Statistics of China 2011a), the urban formal sector employed 128 million people, where the total urban employment was 347 million. The difference between the two was 219 million, comprising self-employed individuals (44.7 million), private enterprises (60.7 million), and unclassified workers (113.6 million). Adding the registered urban unemployment (9 million individuals) to 219 million yielded 228 million people. Those people are potentially eligible for the URBMI. However, this figure is only approximate because it does not include the unregistered job seekers and uninsured school children in urban areas, but includes migrant workers who are covered by the NRCMS and private enterprise employees who have already enrolled in the Enterprise Employee Insurance (see figure A2.1) and UEBMI.

⁴⁴ Most benefits packages, for example, exclude CT and MRI scans. Another example is that provincial governments set the price of essential drugs within the range of national retail prices issued by the NDRC. They can also adjust the scope of the national Essential Drug List to some extent.

Table 5 Benefits Package in Qishan County in Shaanxi Province, 2011

	Inpatient Care				Outpatient Care	
	THC	Level 1 Hospital	County/City Level 2 Hospital	City/Provincial Level 3 Hospital	12 Major Chronic Diseases	Others
Deductibles (Y)	180	300	400/800	1,000/1,500	Fixed reimbursement per year per capita, or reimburse 50% of fees per visit	0
Co-insurance (paid by the insured)	85%	70%	70%/50%	50%/45%		THC 55% VC 65%

Note: The inflation-adjusted average income of rural residents in Shaanxi is Y3,232 in 2010 (Ministry of Health 2011).

THC = Township Health Center; VC = Village Clinic.

As of 2012, the NRCMS annual reimbursement rate for inpatient care is capped at 8 times of national annual average income of farmers and no less than Y60,000 (State Council 2012b). The reimbursement rate (for costs falling between deductibles and cap) promised by the government was 70 percent. Yet the effective reimbursement rate is lower. Some counties/cities have increased the reimbursement cap to 10 times individual income, or no less than Y80,000. However, OOP has been high because of high deductibles, which account for approximately 10 percent of rural residents' annual income. Another factor is that reimbursement ceilings are too low to cover catastrophic spending.

Furthermore, less than 60 percent of local BPs included general outpatient care under the URBMI, and less than 80 percent included general outpatient care under the NRCMS (Yip et al. 2012). Exclusion of outpatient care, which is fundamental to the prevention and treatment of noncommunicable diseases, has been found to reduce the effectiveness of financial risk protection (Yip and Hsiao 2009). Another related issue is that most BPs set the outpatient reimbursement rate at a level which is too low, such that patients tend to delay treatment until the illness has become too serious to be treated in an outpatient setting.

The MoH, aware that people remain dissatisfied with the shallow BPs,⁴⁵ has taken several steps. The scope of BPs has been gradually extended to cover selected noncommunicable diseases in some counties, and a *Seguro Popular* (Mexico) style program⁴⁶ was established for “catastrophic coverage” to target major diseases and individuals who are facing expensive medical bills. Depending on locality, the government’s initiatives take two general forms:

- Designated funds for major diseases (termed Major Disease Protection), including children’s acute leukemia, congenital heart disease and terminal kidney diseases, cervical cancer, breast cancer, mental illness, and drug-resistant pulmonary tuberculosis, among others. For those diseases, there is no deductible or reimbursement cap. The reserved funds will pay at least 70 percent of total medical bills. On top of this, for Wu Bao or Di Bao beneficiaries, the MA program will pay another 20 to 30 percent of the expenditure (via a pilot scheme called Catastrophic Medical Assistance, CMA), meaning that the poor pay less than 10 percent of

⁴⁵ The 4th National Health Services Survey (MoH 2009a) shows that the dissatisfaction rate related to high inpatient care OOP was 30 percent in 2008.

⁴⁶ See Garcia-Diaz and Sosa-Rubi (2011) for related program information.

fees. This type of BP is often accompanied by the case-based payment method and clinical pathways to contain costs.

- Designated funds for catastrophic expenses exceeding the reimbursement ceiling (called Major Disease Insurance), regardless of the kinds of diseases. For example, in Qishan county in Shaanxi province, the fees exceeding the ordinary cap of Y30,000 are covered by the designated funds, and those exceeding the second cap of Y300,000 are paid by the CMA program for “Wu Bao” and “Di Bao” families.

The third form of catastrophic coverage is supplementary medical insurance, which is less common and still at an experimental stage. The NRCMS agency uses the funds to purchase private/commercial catastrophic medical insurance for the NRCMS enrollees, or sets up its own supplementary insurance scheme to allow people to top up.

With respect to the MA benefits package (except CMA), it resembles that of health insurance, covering primarily inpatient care. In some affluent cities, outpatient treatment for chronic and common diseases is also covered. There are deductibles, benefit caps, and fixed ratios of MA contribution to OOP, ranging from 50 to 70 percent. Only in several localities, the benefits package takes the form of fixed lump-sum cash transfers. Some local governments provided Di Bao with discount cards for purchasing drugs and paying medical bills. In general, the MA benefits package varies considerably across localities.

A problem with the MA benefits package is that even moderate deductibles can be a financial burden for very poor people. In a household survey (MoCA 2007), the poor complained that deductibles had deterred them from going to see a doctor.⁴⁷ In a study, the author shows that immediate reimbursement significantly increases the likelihood of patients seeking outpatient treatment in China (Zhong 2011). Therefore, reducing financial barriers for the poor will be necessary. In 2012, the State Council called for an increase in benefit caps and removal of deductibles that have excluded poor people from receiving MA benefits.

Note that the NCMS designation of funds for major diseases was piloted in 2010, where only children’s leukemia and heart disease were covered. As of 2012, the Catastrophic Protection Scheme has covered 20 major diseases (State Council 2012b). The MoCA has been working closely with the MoH on catastrophic coverage. Starting in 2013, the CMA will be rolled out in 273 districts/counties (MoCA 2012b).

Overall, China has made progress in expanding the benefits package. However, there is an underlying concern: local insurance agents lack the capacity to manage and cost out the BP. More generous BPs could lead to higher costs and, eventually, to a deficit of HCP. This may explain why deductibles and benefit caps are imposed on even the poorest of the poor. Currently, adjustments to BPs are primarily to meet the annual target of a 5 to 10 percent fund surplus for the health insurance schemes and less than 15 percent for the MA.⁴⁸ Little economic evaluation has been conducted to select cost-effective treatments for the BPs. Furthermore, many poor

⁴⁷ In China, patients have to pay hospitals a deposit in order to be hospitalized.

⁴⁸ If the reserve fund exceeds the target, the pooling agent will make “second-time” reimbursements to patients by the end of the year.

people do not know what benefits they are entitled to. This has affected the effectiveness of the MA and NRCMS reimbursement policy (Ministry of Civil Affairs, 2007; Yi et al. 2011).

4. Constraints of Supply Capacity and Information Technology of HCP

Supply Bottleneck

Under the three-year plan (2009–11), Y283 billion was injected to build 2,800 county hospitals and to renovate primary care facilities. While China has expanded rural health infrastructure and improved public health through various vertical programs (see Annex 3), training and retaining rural health care workers has been a great challenge. China is facing multiple structural problems within its health care delivery system: the infrastructure has improved, but primary care human resources have lagged behind in terms of quantity and quality. The statistics show that as of 2009, the number of hospital beds per 1,000 people in China reached 4.2, which was higher than the average of 3.7 for upper-middle-income countries. However, China is short of qualified (registered) family doctors: there were only 1.4 physicians per 1,000 population, whereas the average of upper-middle-income countries was 1.7 (World Bank 2012). The shortage of nurses is more severe. As of 2010, the number of nurses and midwives per 1,000 people in China was 1.4, which is considerably lower than the 2.6 in upper-middle-income countries (World Bank 2012).

The government has taken various initiatives to strengthen health human resources. In 2002, the MoH issued the 2001–2015 Health Workforce Development Plan, which sets targets on the number of registered doctors and nurses, the share of health professionals receiving training, qualifications and continuous education, and the share of rural doctors acquiring licenses of assistant doctors.⁴⁹ Another important document in 2002, the “Decision of the State Council on Further Development of the Rural Health Care System,” requires all medical schools to prioritize general medical education to meet the demand for high-quality rural health workers. In accordance with the Decision, new medical staff employed by urban medical institutions are bound by law to serve rural populations. Moreover, since 2005, poor western and central provinces have benefited from a program called “*dui kou zhi yuan*” (Targeted Aid), which has now been rolled out to all provinces. The project requires doctors working in Level 2 and higher hospitals to spend part of their career in rural areas (see table A1.1 in Annex 1 for hospital classifications).

These policies have achieved some success in the short run. However, without a good medical team that can build a long-term relationship and win the trust of local people, the dilemma of attracting patients to primary care facilities will continue to exist. In particular, poor human resources at lower levels have contributed to distorted patterns of service utilization. The perceived difference in quality of care between primary care providers and large hospitals is so high that people are willing to pay high costs and travel long distances to seek better care. Coupled with the fact that there is no “gatekeeper” in China’s health delivery system, people often bypass lower levels and go to the highest-level hospital they can access and wait in lines

⁴⁹ The other targets include the share of general practitioners among community health workers, the share of community health workers among total health workers, and the share of hospital managers receiving on-the-job training. The Plan also stipulates that all rural doctors should hold technical high school degrees and above. However, not all targets have been met.

for hours (sometimes days)—on a first-come, first-served basis. Consequently, institutions at lower levels are usually empty and high-level hospitals are teeming with people waiting for attention.

Currently, many villages still rely on the traditional “barefoot doctors” of Mao’s time to deliver primary care.⁵⁰ Medical graduates have little incentive to work in rural areas because of the unattractive wage rate, working conditions, living standards, and job prospects.⁵¹ Widespread concerns about poor-quality care at the lower level and underutilization of primary care have pointed to the fact that public investment in infrastructure alone will not resolve supply constraints.

Although the government has advocated bilateral referrals between primary care providers and hospitals, the coordination between different segments is weak, due to the absence of an integrated management and information system and a lack of incentives for doctors to refer patients. This has led to inefficiency of health spending, since value for money can be improved by treating simple diseases in primary care settings.

At present, the source of the bottleneck is twofold. First, the Chinese education system has cultivated many health workers with low educational background but not enough qualified medical professionals. There is a mismatch of supply and demand for the health workforce, partly because the health and education departments have not been well coordinated (Pei et al. 2010). Second, human resources distribute disproportionally across geographic areas and medical institutions (*China Daily*, 2010). Large numbers of the health workforce (especially the already scarce elites) are concentrated in urban areas, eastern regions, and large tertiary hospitals (to the extent of oversupply),⁵² where rural areas, western provinces, and primary care institutions lack well-educated medical staff, which has contributed to inequality in access to care.

The Information Environment

Most public hospitals and health centers in China have person-level data systems, as found in high-income Organisation for Economic Co-operation and Development (OECD) countries. There is an information system for inpatient records called the “front-page,” which is a kind of discharge abstract. It contains information on patient demographic features (age, gender) and socioeconomic status (marriage, employment), date of admission/discharge, diagnosis codes

⁵⁰ The history of barefoot (peasant) doctors in China can be traced back to 1950s, when rural economies took the form of cooperative production. Some farmers received three to six months training and became barefoot doctors, providing basic health services to members of production brigades (approximately 2,500 people) and production teams (approximately 500 people). The role of barefoot doctors ranges from organizing local health campaigns and promoting disease prevention and health education to treating common diseases using Chinese and Western medicine (Hillier and Jewell 1983). After the People’s Commune System collapsed, many barefoot doctors became private practitioners.

⁵¹ As of 2010, among all health professionals (that is, doctors, nurses, technicians, and pharmacists) working in township health centers, 0.1 percent had postgraduate degrees, 5.6 percent had bachelor’s degrees, 52.2 percent had technical high school degrees, and others had a degree below the senior high school level or no degree (MoH 2011).

⁵² As of 2010, the number of health professionals per 1,000 population was 13.6 in Beijing and 9.7 in Shanghai, but 2.5 in Quizhou province and 3.1 in Anhui province (MoH 2010).

(ICD-10), procedure codes (ICD-9-CM-3), the doctor's/nurse's name, and itemized fees. The data are mostly used by the local government to make reimbursements. Other than that, they have not been widely used to improve performance or quality of services, as in developed nations, or for routine monitoring and evaluation purposes.

Despite the fact that rich data exist at the provider and insurer levels, development of operational platforms that allow data exchange began only in recent years. Most information systems have limited geographic coverage. As of 2012, eight provinces (Fujian, Jiangsu, Hunan, Yunnan, Zhejiang, Guangdong, Qinghai, and Jiangxi) fully or partially installed a provincial-level UR/EBMI information system (MoHRSS 2012a). This allows information to be shared among local insurers within the same province to make real-time reimbursements to patients. However, mechanisms for cross-province data exchange are not yet in place. In addition, the MoHRSS initiated an E-government project (called the "Jin Bao" project) in 2002, aiming to build an operational platform that connects central, provincial, and prefectural governments. The future national social security information system is part of this wider project. However, there are some obstacles to be overcome, such as standardizing operation of UREMBI and URBMI (MoHRSS 2012a).

The NRCMS is facing similar problems with regard to the information environment. While most provinces have introduced provincial-level or city-level platforms to handle cross-county reimbursements, those platforms usually have limited coverage. In 2011, Anhui was the first province to achieve full coverage of the NCMS management information system, which links all cities, counties, and towns and 86 percent of villages (MoH 2012a).

At the national level, a nationwide NRCMS information platform is under construction by the MoH. During 2012, the national platform was linked to Henan and Hainan provinces and seven other provinces (MoH 2012d). In the future, it is expected that migrant workers will be able to claim reimbursements across provinces.

Over a longer period, those information platforms should have functions in addition to reimbursing patients, such as monitoring hospital claims data and treatment patterns. In this context, it is important to improve coding of clinical data. Medical informatics is likely to play a key role in merging the scattered local databases. Currently, there is substantial variation in coding quality among medical institutions (especially primary and secondary care institutions), and not every county or city uses standardized coding. Without an integrated coding and medical records system, it will be difficult for HCP to facilitate patient-centered, integrated care.

In terms of the information system for outpatient care, it is generally weak at the county level and below. This is because a large proportion of outpatient visits are not reimbursed by HCP. Thus, the government and primary care providers have little incentive to invest in information infrastructure. However, improving outpatient electronic data will benefit HCP in terms of promoting bilateral referrals and shifting treatment for noncommunicable diseases from inpatient to outpatient settings. Issues of fraud may also be dealt with more easily if the insurer can track patients at different locations over time.

The lack of a well-functioning information system may partly explain why China has yet to develop a monitoring and evaluation system. Another reason is that there is no regulatory

institution for the insurance functions and for the provider functions other than line ministries. There are published national data on indicators for output, such as fees and number of admissions; the frequency of person-time that received reimbursement; and the amount of expenditure reimbursed. However, those are not measures of provider quality and performance, patient financial protection, and patient outcome, which is an important aspect of HCP performance. New initiatives on measuring performance evaluation have emerged. Recent publications suggest improved attention. Still, more systematic evaluation is needed in China to draw a more robust conclusion of HCP performance (Yip et al. 2012; You and Kobayashi 2009).

5. Impacts of HCP and Next Steps on the Path to Universal Coverage

Effects of HCP

Access to health services

At one level, China has nearly achieved universal health coverage. The 2011 National Health Services Survey shows that insurance coverage increased from 29.7 percent to 95.7 percent during 2003–11 (Meng et al. 2012). Between 2003 and 2008, the portion of people who fell ill and sought no medical care due to financial difficulties decreased 9 percentage points to 29.2 percent (MoH 2009a). A recent investigation demonstrated that the NRCMS has improved hospital efficiency in noncoastal regions, thus promoting medical service accessibility for rural residents (Hu 2012). However, the gap remained (although with some improvement since health reform) in accessibility to care between rural and urban areas and between western and eastern regions in terms of the distance and traveling time between home and the nearest medical institution (MoH 2009a). Empirical evidence regarding URBMI is sparse due to its relatively short period of implementation.

Health Status

Studies on the effect of HCP on health status are scarce. Existing evidence suggests that the impact of HCP on health status varies among programs. The World Bank's Health VIII project in Gansu province reports mixed results (Wagstaff and Yu 2007). An experimental community-based health insurance scheme in Guizhou province was found to have a positive impact on health outcomes (Wang et al. 2009), yet a study evaluating the NRCMS (Chen and Jin 2012; Lei and Lin 2009;) shows no improvement in health status. One reason for the inconsistency in research findings is that it is difficult to establish causality between health insurance and health outcomes that are determined by both the demand-side (for example, HCP) and supply-side interventions (Giedion and Diaz 2010). Local variations in program design and execution also influence the effectiveness of health insurance to improve health.

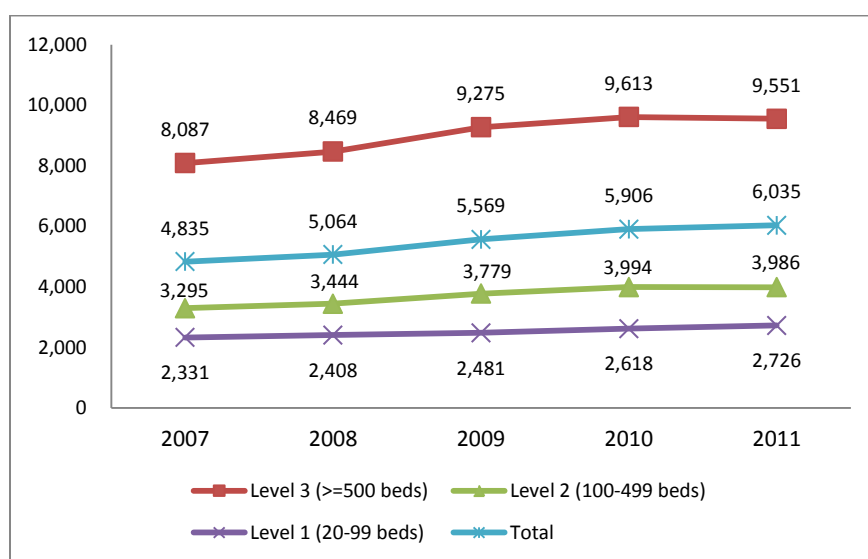
Utilization of care

The introduction of the NRCMS significantly increased health service utilization. In 2003, the proportion of rural residents that reported illness but did not see a health professional was 44.7 percent. This ratio decreased to 37.7 percent in 2008 for the NRCMS enrollees (MoH 2009a). A study shows that NRCMS enrollees increased the utilization of preventive care, particularly general physical examinations, and decreased the use of barefoot doctors (Lei and Lin 2009).

However, concerns have arisen regarding the growth in patient volume; the standardized hospital admission rate almost doubled, from 3.4 percent to 6.5 percent between 2003 and 2008. It has been observed that in rural areas, the doctor and patient collude to shift the treatment from outpatient to inpatient settings so they both would receive a higher reimbursement. Some conditions can be treated more cost-effectively in outpatient settings, but they are treated in hospitals, so there is a waste of medical resources. It is estimated that 30 to 50 percent of hospital admissions are not necessary (World Bank 2010).

In terms of the care-seeking pattern, there is a slight improvement in allocative efficiency. The fraction of patients who chose primary care providers as their first contact increased by 11.7 percentage points between 2003 and 2008 to 73.7 percent (MoH 2009a). Nevertheless, cost savings derived from a marginal increase in the use of primary care could be offset by the increase in intensity of hospital care. During 2007–11, the inflation-adjusted average inpatient fees grew by 18 percent (from Y8,087 to Y9,551) in tertiary hospitals, by 21 percent in large county and city hospitals, and by 17 percent in small county and city hospitals (and large township/community health centers) (see figure 4). Moreover, it was found that hospitalization fees were higher for the insured and the uninsured due to longer hospital stays and higher drug expenses (Pan et al. 2009). An investigation is warranted into the relationship between health insurance coverage and a shift toward a resource-intensive practice style.

Figure 4 Fees per Discharge from Public Hospitals, 2007–2011
(adjusted by consumer price index, 2007 price = Y100, USD1 = Y6.25)

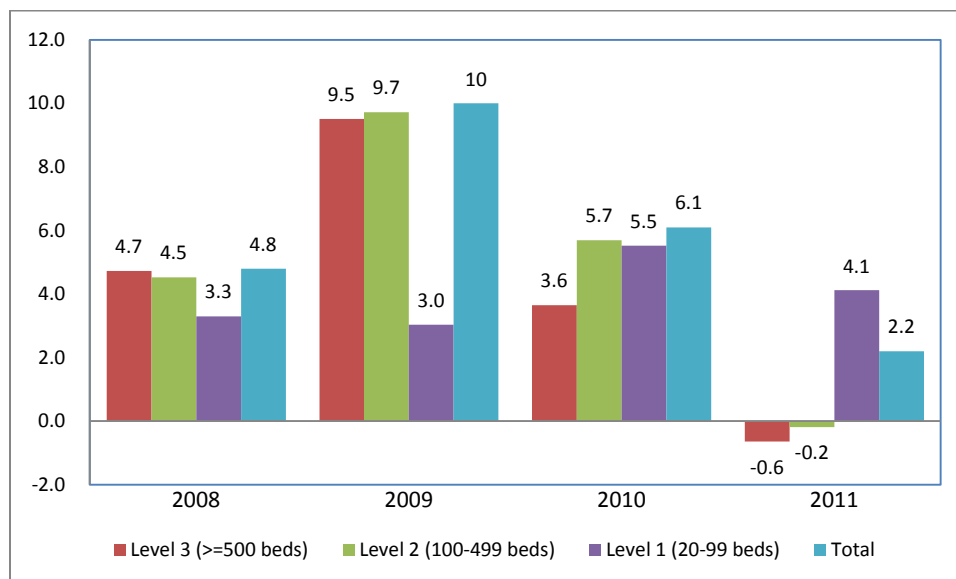


Source: Authors' calculation based on data from *China Health Statistics Yearbook 2012*.
Note: Level 1 refers to tertiary hospitals, Level 2 refers to large city/county hospitals, and Level 3 includes small city/county hospitals and large township/community health centers.

Interestingly, the annual growth rate of average inpatient fees (see figure 5) was negative in 2011 for tertiary and large county and city hospitals. This may indicate that the health reform since 2009 has had some positive impacts on cost control. However, without robust impact evaluations,

it is difficult to separate the multiple factors that might have contributed to slowing the growth of fees.

Figure 5 Growth Rates in Fees per Discharge from Public Hospitals, 2008–2011
(Adjusted by consumer price index, 2007 price = Y100)



Source: Authors' calculation based on data from *China Health Statistics Yearbook 2012*.

Financial risk protection

It is straightforward to relate a drop in the OOP-to-THE ratio (see Section 1) to a decrease in individual and household financial burden. However, this may not be sensible because THE comprises private and public spending on health. In China, the government significantly increased health expenditure (for example, to build hospitals) in recent years, which has driven THE upward disproportional to an increase in OOP.

Indeed, researchers using government data find that OOP per outpatient visit and inpatient stay has not reduced (Lei and Lin 2009; Sun et al. 2009; Wagstaff et al. 2009a). The risk of high and catastrophic spending even increased (Wagstaff and Lidelow 2008). The share of per-capita medical expenses relative to consumption expenditures did not decrease, remaining at 6.5 percent in urban areas, and even increasing for rural residents, from 5.6 percent to 7.4 percent between 2001 and 2010 (China National Health Development Research Center 2011).

Table 6 shows that as of 2008, the OOP for inpatient care amounted to 56 percent of income of an NRCMS enrollee and 38.2 percent of the annual income of a URBMI enrollee, suggesting that the financial burden of medical care is considerably greater for rural residents. Moreover, there was a rise in illness-related poverty, from 30 percent in 2003 to 34.5 percent in 2008, of which 9.2 percent was due to catastrophic health expenses (MoH 2009a). Related studies (Liu and Tsegao 2011; Meng et al. 2012; Zhang, Yi, and Rozelle 2010) report that patients who had higher medical bills received lower reimbursement rates, and that the incidence of catastrophic

medical payment⁵³ is highest in the poorest areas and among the lowest quintiles of wealth. These findings suggest that the financial risk protection remains inadequate.

Table 6 Reimbursements made by the NRCMS and URBMI, 2003 and 2008

	NRCMS		URBMI
	2003	2008	2008
% inpatients received reimbursement	8.1	80.2	79.2
% outpatients received reimbursement	n.a.	33.4	34.6
Inpatient OOP as the share of annual income per enrollee	129.1%	56.0%	38.2%

Source: MoH 2009.

Note: n.a. = not available.

The Unfinished Agenda: Implications for Policy

A key lesson that has been learned from China's HCP is that a significant expansion of insurance coverage did not transform financial inputs into cost-effective quality services (Yip et al. 2012). Some fundamental issues remain, such as the distorted fee schedule that leads to perverse financial incentives, the inequality in access to good care between rural and urban areas and across geographic regions, and institutional complexities in managing the HCP. Some of the key next steps needed for China to achieve universal health coverage include the following.

Improve pooling of funds

With insurance funds pooled in urban cities and rural counties, China is estimated to have more than 3,000 separate risk pools for its health financing schemes. Such fragmentation of risk pools has negative implications for insurers, providers, and individuals. These include inequities in utilization and outcomes, limited ability to cushion the impact of catastrophic illness expenditure, lack of insurers' leverage in purchasing services, and inadequate coverage of specific population groups such as migrant workers. To reduce fragmentation of risk pools, pooling may be needed at higher levels (known as horizontal integration), for example, the provincial level, plus a new intergovernmental fiscal transfer system across provinces. This will allow for greater financial risk protection for individuals, promote greater portability within the pooling area, and reduce the regional inequalities in the depth of the BP.

At present, more than one-third of the provinces have taken steps to pilot health insurance integration in their own jurisdiction. The most common model for (vertical) integration is to merge URBMI with rural NRCMS, which has been piloted in several provinces, including Chongqing, Guangdong, Ningxia, and Tianjin, with variations in terms of extent and scope. Drawing on early experiences of those provinces where integration has progressed well, China might first undertake vertical integration of schemes. This can be achieved by first initiating management/organizational mergers and infrastructure development, such as health management information systems. These first steps could be followed by policy reforms, such as changes to the BP. However, a fundamental question is which government agency can be entrusted to act in

⁵³ The World Health Organization defines health expenditure as being catastrophic if a household's financial contributions to the health system exceed 40 percent of income remaining after subsistence needs have been met.

the best interest of the people (Yip and Hsiao 2008) and how and which accountability mechanisms could be established.

Change provider payment incentives

The current FFS arrangements have altered doctors' behavior toward self-interest, at the expense of patients (Hsiao 2008), leading to patient dissatisfaction and sometimes violence against doctors (Wang, Wang, and Zheng 2012). Moving away from FFS will help to better contain costs, tackle physician-induced demand, improve efficiency, and promote patient welfare and, hopefully, restore trust between patients and doctors. However, it is too early to conclude which model will best suit China. This is because many provider payment pilots to date have been opportunistic, with no rigorous evaluations to provide information on which reforms or models work best.

Moreover, the Chinese system is daunting, with 20,000 hospitals and many more outpatient centers with huge discrepancies in practice style and cost structure within and across provinces. Future provider payment systems will require more standardized information systems, a careful phase-in, and monitoring during implementation to make adjustments. In addition, provider payment mechanisms should be integrated into strategic purchasing of health care, which is lacking under the current HCP. Most local authorities have not transformed into proactive purchasers that engage in resource allocation and monitoring quality and outcomes, but simply play the role of a passive payer.

Adjust the benefits package

In order to reduce the high proportion of OOP, the government will need to cap OOP and restructure the package to address the new disease profile of noncommunicable diseases through more outpatient care coverage. Other cost-effective outpatient treatment should also be included to encourage more efficient use of resources by patients. In this context, China needs a robust costing system, an actuarial model, and scientifically based protocols to better design the BP, while at the same time taking account of variations in local fiscal constraints. Cost containment efforts are also required to manage increases in service utilization resulting from an extension of the BP.

The recommendation to increase the coverage of outpatient benefits is supported by a recent study (Zhou et al. 2011) on cross-price elasticities of demand for health care in rural China. The authors found that inpatient care is a substitute for outpatient services and that the growth of inpatient services is faster than that of outpatient services in response to income growth. They warned that the government policy to increase the mandated inpatient reimbursement rate will crowd out outpatient care. Therefore, it is important to further investigate potential substitution of inpatient for outpatient care under different policy scenarios.

At the local level, it is necessary to improve the technical capacity of pooling agents by staffing health insurance specialists. Furthermore, to increase financial risk protection for the poor, the coverage of the MA program should be enhanced in terms of both breadth and scope. The first goal could be achieved by targeting the near-poor, and the second through removing deductibles,

expanding the benefits package to cover outpatient care, and paying toward the costs of special treatments that are not covered by the URBMI and NRCMS. In other words, the linkage between MA and medical insurance should be strengthened to make them fully complementary.

Strengthen quality and primary care

To address current utilization patterns, it is necessary to strengthen the quality of care—particularly at the primary care level—and better integrate service delivery between facilities of lower and higher service levels. Training more qualified physicians is essential, but this will require a longer period of time. Some researchers have demonstrated that adjustments to health professionals' compensation schemes (for example, wage rates and nonwage factors) may be effective in quality improvement (Qin et al. 2012).

In practice, Ningxia province initiated an innovative pilot project in 2009, aimed at increasing the use and quality of primary care in the medium term through changing payment incentives. Under the project, a local network comprising township health centers and village clinics has been established. They are paid collectively with capitation and a global budget, which is determined by the predicted patient volume. In addition, 70 percent of funds are allocated prospectively, and the remaining 30 percent are distributed retrospectively according to the performance of individual providers. The project appears to be effective, because providers have strong incentives to attract patients and improve quality to obtain a bigger budget. This demonstrates that “incentives” are a key leverage for directing behavior toward the policy goals. Reinforcing the primary care system should not be independent from other areas of reform. In addition, systematic learning from local experiences is essential to advancing HCP.

To conclude, Mao was famous for his “Long March” to achieve power and establish modern China. In similar fashion, there would appear to be a long march ahead for China to achieve universal health coverage in a way that improves financial protection, equity, and system performance. As China's economy continues to grow, institution building and a rules-based regulatory state will be required to support increasingly complex HCP (Bloom et al. 2009). China will need to maintain its political will and continue to implement reforms that address deficiencies in its primary care system, benefits packages, risk pooling, and provider payment incentives.

Annex 1 Overview of General Health System Delivery and Financing

The present health delivery system in China was formulated in the early 1950s (Lin et al. 2010b). Modeled after the Soviet Union system, the Chinese system comprises several vertical segments that are replicated at each level of government administration beyond the township level. According to the framework proposed by the MoH, service provision is broadly divided into three segments: (a) specialized public health services, (b) basic public health and basic health care, and (c) curative health care. The first category targets maternal and child care and disease control, which are managed and delivered through specialist public health institutions. The second category is carried out by primary care providers (PCPs) comprising rural township health centers and village clinics, as well as urban community health centers or stations. The third segment comprises secondary and tertiary care, which is undertaken by hospitals accredited as Levels 1–3 on the basis of the size, functions, technical skills, equipment, management, and quality. Table A1.1 summarizes characteristics of the hospital sector.

Table A1.1 Number of Hospitals by Ownership, Level, and Type

	2005	2010	2010	Growth Rate
Total^a	18,703	20,918	100.0%	11.8%
(a) By ownership				
Public	15,483	13,850	66.2%	-10.5%
Nonpublic	3,220	7,068	33.8%	119.5%
(b) By organizer				
Government ^b	9880	9629	46.03%	- 2.54%
- Health Ministry/Departments/Bureaus	9139	8677	41.48%	-5.06%
Society ^c	n/a	5892	28.17%	n/a
Individual	n/a	5397	25.80%	n/a
(b) By level				
Level 3	946	1,284	6.1%	35.7%
Level 2	5,156	6,472	30.9%	25.5%
Level 1	2,714	5,271	25.2%	94.2%
No accreditation	9,887	7,891	37.7%	-20.2%
(c) By type				
General hospital	12,982	13,681	65.4%	5.4%
Specialist hospital	2,682	3,956	18.9%	47.5%
Chinese medicine hospital	2,620	2,778	13.3%	6.0%
Western and Chinese medicine and integrated hospital	194	256	1.2%	32.0%
Hospital for ethnic groups	195	198	0.9%	1.5%
Nursing home	30	49	0.2%	63.3%

Source: *China Health Statistics Yearbook* 2006, 2011.

Note: a. The figures are for institutions with a practice license, which is renewed annually for those with fewer than 100 beds and every three years for those with more than 99 beds. b. Other government organizers include the Military and the Ministries of Civil Affairs, Education, Justice, and Public Security. c. Society organizers include enterprises, public service units, and social groups.

In addition to the three vertical segments, China's health care delivery system is divided horizontally by five levels of government administration (figure A1.1): central, provincial, prefectural/municipal (or collectively termed cities), county/district, and township/community. Each rural county/urban district has at least one general hospital, Chinese medicine hospital, maternal and child care center, and Center for Disease Control and Prevention. At the county level and lower, the administration is divided between rural and urban to cover the geographically widespread population. At the lowest level, the vertical segments are integrated at primary care providers (PCPs).⁵⁴

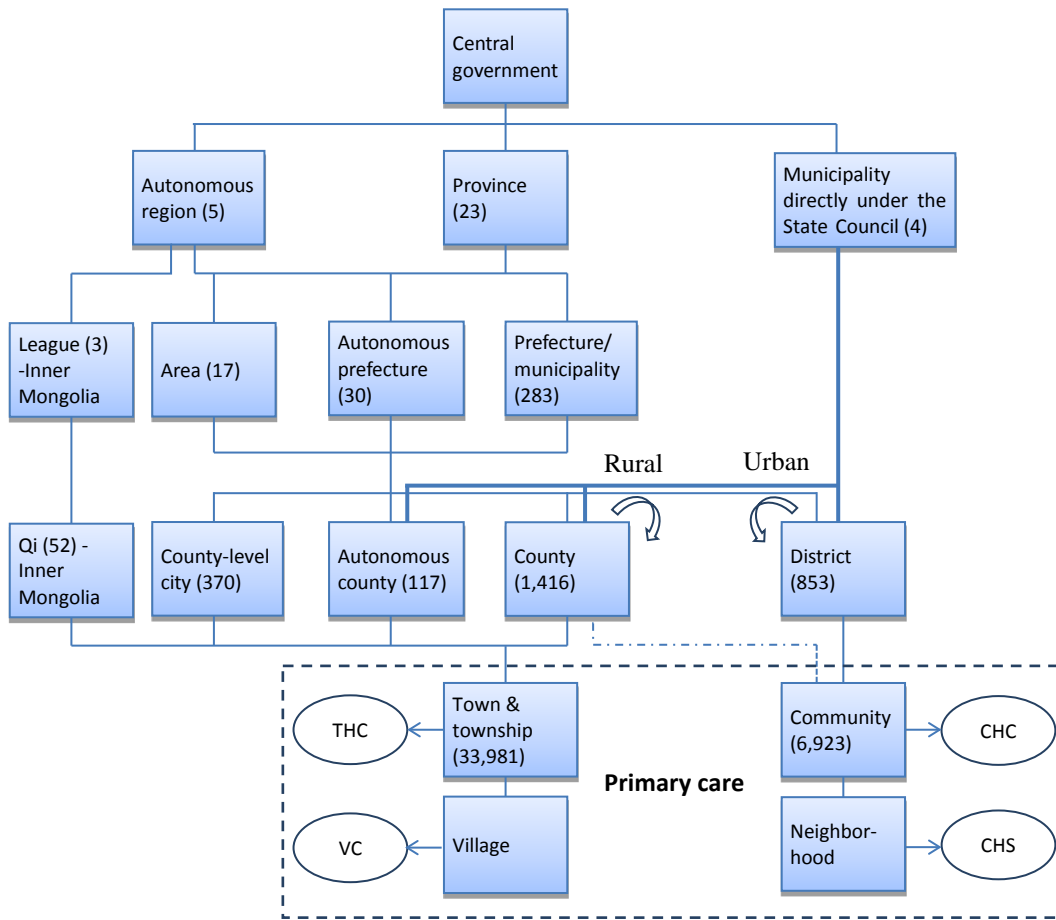
The mixture of public and private provision varies with the segments. Specialized public health services are provided by the governments. In 2010, public ownership accounted for approximately 50 percent of PCPs and two-thirds of hospitals. The government intends to improve access to care by moving away from a public-sector-dominated delivery system by increasing the number of authorized private health institutions (State Council 2009, 2012).⁵⁵ Currently, private capital is mostly seen in rich eastern China.

With regard to financing providers, in 2010, government funding accounted for approximately 40 percent of income of specialist public health institutions, 21 percent of income of PCPs, and 8 percent of income of hospitals. The other source of income is business revenue derived from selling drugs and providing services.

⁵⁴ According to the 2010 MoH document (No. 48), "The Opinions on the Management of Integration of Health Services Provided by Township Health Centers and Village Clinics," the BoH in each county is responsible for planning and implementing a system that integrates the recruitment, drug procurement, finance, operating, and assessment of township health centers and village clinics. Under this system, township health centers manage and monitor village clinics.

⁵⁵ The 2009–11 health reform actively promoted inputs of social capital and diversified modes of investment. The 12th Five-Year Plan further specifies that hospitals above the county level (mostly urban) should seek private investment to enhance the quality of care and to reduce the public financial burden. Public providers are also looking at ways to increase autonomy and flexibility to be more efficient and more responsive to patients and families seeking care. A study (Liu et al. 2009) shows that an increase in competition from for-profit hospitals will lower the average medical expenditures for both inpatient and outpatient services, especially for pharmaceuticals.

Figure A1.1 The Five Levels of Government Administration in China



Source: Authors.

Note:

a. The number of individual governments is given in parentheses. By December 2010, there were 34 administrative governments at the provincial level, 333 at the prefectural level, 2,856 at the county level, and 40,906 at the township level.

b. The figure excludes three special administrative regions (at the provincial level), Hong Kong; Taiwan, China; and Macao.

c. The four municipalities directly under the State Council are Beijing, Chongqing, Shanghai, and Tianjin. The five autonomous regions are Guangxi, Inner Mongolia, Ningxia, Tibet, and Xinjiang.

d. Leagues (at the prefecture level) and “Qi” (at the county level) are special administrative units in Inner Mongolia. “Qi” literally means flags or banners, which constitute a league.

e. The 17 areas (at the prefecture level) are spread across east north China, Hainan, and Qinghai provinces and Tibet and Xinjiang autonomous regions.

f. Prior to 2004, prefectures were commonly referred to as “municipalities directly under provinces.” Hence, the terms “prefectures,” “municipalities,” and “prefecture-level municipalities” have been used interchangeably. Of the 283 prefectures, 15 are subprovincial municipalities.

g. In addition to urban districts, some developed rural counties may set up communities (see dash line).

h. According to “The Opinions on the Management of Integration of Health Services Provided by Township Health Centers and Village Clinics” issued by the MoH in 2010, the BoH in each county is responsible for planning and implementing a system that integrates the recruitment, drug procurement, finance, operating, and assessment of township health centers and village clinics. Under this system, township health centers manage and monitor village clinics.

CHC = Community Health Center; CHS = Community Health Station; THC = Township Health Center; VC = Village Clinic.

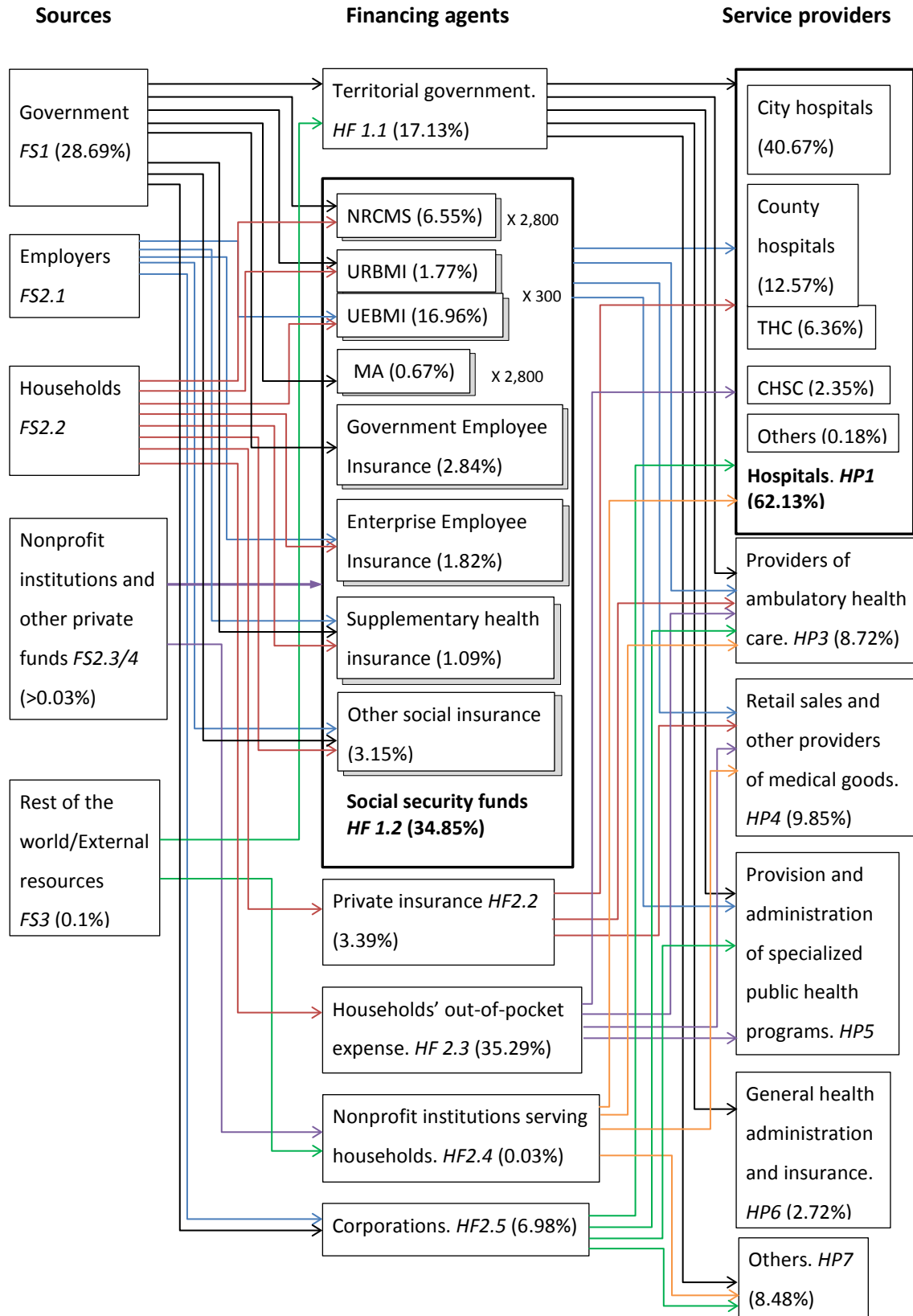
Annex 2 Financial Flows: Sources, Agents, and Providers

Figure A2.1 illustrates the financial flows of China's health system. In 2010, the government as a source of funds accounted for 29 percent of national health expenditure (NHE). Contributions made by employers and households totaled approximately 71 percent. Government includes administrative units and public services units, that is, universities, hospitals, and media. Employers refer to state-owned enterprises and those in the private sector.

The top two financing agents are social security funds (35 percent) and OOP payments (35 percent), followed by territorial government (17 percent), corporations (7 percent), and private insurance (3 percent). Among the eight categories of insurance programs, the UEBMI and NRCMS rank the top two, and Medical Assistance (MA) ranks last. Government Employee Insurance consists of (a) the Government Insurance Scheme for civil servants and public services unit workers (including employees, retirees, and dependents), (b) programs that subsidize medical expenses of Old Red Army and disabled veterans and college students, and (c) schemes that help enterprise retirees and Old Red Army and disabled veterans with catastrophic medical expenses. The predecessor of the Enterprise Employee Insurance is Labor Insurance, which has been gradually phased out since 2000. Supplementary health insurance is primarily for civil servants and workers who suffer from catastrophic medical expenses. Other social insurance refers to social security funds for pensioners, the unemployed, injured workers, and childbirth.

The major service provider is hospitals (62 percent), followed by sellers of medical goods and pharmaceuticals (10 percent), outpatient care providers (9 percent), specialized public health services institutions (8 percent), general health administration and insurance (3 percent), and others (8 percent). Providers of ambulatory health care include independent outpatient departments, village clinics, and community health service stations, which do not provide inpatient care.

Figure A2.1 China National Health System Financing Flows, 2010



Source: Authors. The percentages were calculated based on “China National Health Accounts Report” (2011). Data on the share of finance from employers and households are not available.

Note:

- a. The percentages for the NRCMS and URBMI are calculated for the total amount of funds collected. The share for the UEBMI is calculated for the total funds, excluding contributions of public services and administrative units. The percentages for other programs are calculated for real expenditures because their financing mechanisms vary across areas.
- b. The percentage of Government Employee Insurance includes UEBMI contributions from the government as an employer.
- c. The share of Enterprise Employee Insurance is calculated for (a) medical expenses paid by private and state-owned enterprises that do not participate in the UEBMI for employees and dependents, and (b) payments of medical expenses by all types of enterprises for retirees.
- d. The share of corporations (6.98 percent) is calculated for expenditures of medical institutions run by corporations, public services units, and nonhealth government departments.
- e. Approximately 2.33 percent of health expenditures are identified as extrabudgetary funds under the classification of financial agents. They are not shown in the diagram and are categorized as general government expenditure on health.
- f. The percentage of other providers is calculated for investment of medical institutions in fixed assets, costs of training and development of health workers, and costs of medical research and expenses of other departments.
- g. The figures 2,800 next to NRCMS, 300 next to URBMI and UEBMI, and 2,800 next to MA refer to the number of corresponding risk pools in 2010. The remaining social security funds are pooled at various local levels.
- h. THC = Township Health Centers. CHSC = Community Health Service Center. Other hospitals include nursing homes.

Annex 3 Key Supply-side Efforts to Promote Public Health

China has made considerable strides in promoting public health. Its key health indicators have improved. Between 1991 and 2010, the under-five and infant mortality rates outperformed Millennium Development Goal (MDG) targets, decreasing from 61 percent to 16.4 percent and from 50.2 percent to 13.1 percent, respectively. During the same period, the maternal mortality ratio declined from 80 per 100,000 live births to 30, although it is slightly shy of the MDG target of 20 by 2015 (Feng et al. 2010). This section describes two major initiatives, one targeting public health in general and the other focusing on maternal health.

Equalizing Public Health Services

In 2009, the MoH (Ministry of Health 2009) initiated a project called Equalizing Public Health Services (EPHS), through which a predefined package of free basic public health services is delivered by all public PCPs and supervised by specialist public health institutions to ensure accessibility and equality. The project aims to reinforce the chronic and infectious disease surveillance system and to narrow the gap of public health services between urban and rural areas.

Initially, the package contained nine categories (21 items) of interventions, including immunization and vaccination, health education and promotion, establishment of local residents' health profiles, infectious disease control (for example, tuberculosis and HIV), and management of maternal care, child health, geriatric care, and mental health and chronic disease (for example, diabetes and hypertension). In 2011, a 10th category, health inspection and monitoring, was added. Aside from the standardized service package, the EPHS project prioritizes eight areas of public health for the vulnerable rural population (see table A3.1), which is organized and implemented by the specialist public health institutions.

Table A3.1 Eight Priority Public Health Programs

Priority public health services
1. Catch-up Hepatitis-B vaccination for age = <15
2. Cervical cancer screening for women in rural areas
3. Breast cancer screening for women in rural areas
4. Subsidized pregnant women in rural areas for birth delivery in facilities
5. Free cataract surgery for low-income patients
6. Free folic-acid supplements for rural women in pre- and early pregnancy
7. Improved cookstoves and fuel in areas affected by fluorosis due to indoor coal burning
8. Construction of ecofriendly toilets

The basic public health service packages are fully subsidized by the government, with per-capita subsidies increased from Y15 in 2009 to Y25 in 2011, and expected to exceed Y40 by 2015. While the central government has subsidized poor western provinces through either general purpose or earmarked transfers, the responsibility of financing rests on local governments. In

general, public health services are considered underfunded in remote areas where village doctors have to travel many miles to vaccinate a child.

The per-capita public health expenditure is a lump-sum payment with no adjustment for population risk and medical input prices. Consequently, it is difficult to estimate costs of specific public health services and to distribute resources rationally at the operational level. Furthermore, all funding for care packages is allocated to PCPs, which has jeopardized the partnership between PCPs and Centers for Disease Control.

There are overlaps between specialized and basic public health services, which sometimes result in difficulties in quantifying dimensions of accountability. In addition, concerns have been raised about the universal package not reflecting local needs.

Efforts to Improve Maternal Health

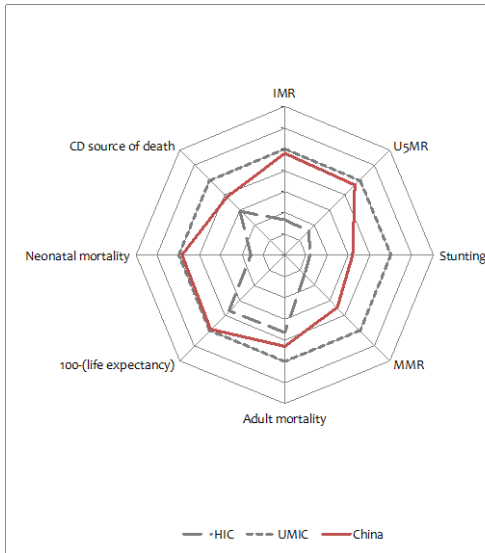
The right of women in China to deliver their babies in institutions is protected by the 1995 Law of Maternal and Infant Health Care, under which targets for the share of hospital deliveries have been set among urban districts. To narrow the gap of maternal mortality rates between urban and rural areas, during the 10th Five-year Plan (2001–2005), a nationwide project called “The Reduction of Infant and Maternal Mortality Rates and Elimination of Tetanus among Newborns” was inaugurated in poor rural regions. This project adopted a comprehensive approach, including improving infrastructure, strengthening training and development of health workers, and enhancing supervision in township health centers and village clinics (Feng et al. 2011). The Plan established a mechanism of referrals to tertiary hospitals, which increased access to emergency obstetric care for women. Moreover, it provided subsidies to women and/or hospitals to encourage hospital delivery. By 2008, more than half of the targeted counties were covered by the project, with local variations existing in the amount of subsidies for medical fees.

In addition, the World Bank’s Health VIII project also targeted maternal child care and enhanced the physical infrastructure of rural health care. In 1998, the THC obstetric care facilities met only 10 percent of the required minimum standards. After implementation of the program, in 2005, these facilities were upgraded and fully qualified. Furthermore, under the project, by 2005, 62,800 pregnant women received free prenatal check-ups, health education, home visits, and institutional care. The rate of rural institutional birth deliveries increased from 19.6 percent in 1997 to 80.2 percent in 2006. In comparison, the national rural average rate was 54.8 percent in 1997 and 84.6 percent in 2006, indicating that the urban-rural gap in facility-based birth delivery narrowed (Huntingdon et al. 2008). This program contributed to a reduced maternal mortality rate by approximately 50 percent—from 131.5 deaths per 10,000 in 1998 to 69.6 deaths per 10,000 in 2005.

A series of vertical programs have demonstrated the government’s dedication to maternal and child health. However, challenges remain with regard to tackling maternal mortality. The primary care facilities lack the capacity to deliver safe and effective services to vulnerable groups due to a shortage of qualified health workers and the absence of mechanisms for sustaining the government’s financial input.

Annex 4 Spider Web

I. Outcomes comparisons: China and Upper Middle Income Countries



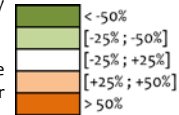
Note on interpretation:

In this plot 'higher' is 'worse' – since these indicators are positive measures of mortality / morbidity. Life expectancy is converted to be an inverse measure.

The values on the radar plot have been standardized with respect to the average upper middle income country value.

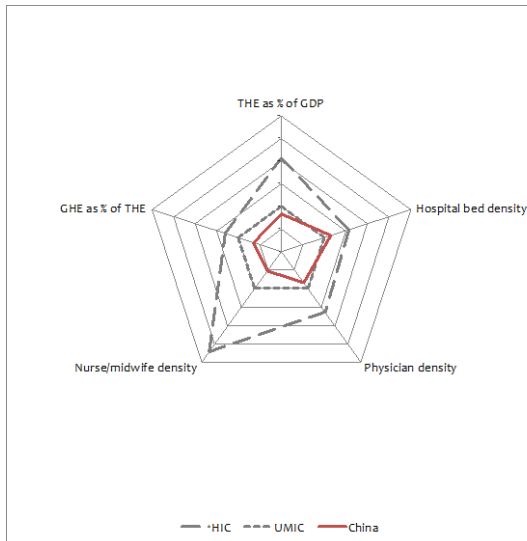
The table below summarizes outcome comparisons with the average upper middle income country (UMIC).

Country Data	China	UMIC	% Diff.
GNI pc (2000 USD)	937.6	1899.0	-50.6%
IMR	15.8	16.5	-4.3%
U5MR	18.4	19.6	-6.3%
Stunting	9.4	14.8	-36.3%
MMR	37.0	53.2	-30.5%
Adult Mortality	137.8	160.6	-14.2%
100-Life Expectancy	26.7	27.2	-1.6%
Neonatal Mortality	11.0	11.4	-3.5%
CD mortality	17.0	22.0	-22.7%



IMR: Infant mortality rate (2010). U5MR: Under-5 mortality rate (2010). Stunting: prevalence of low height-for-age among children under 5 (2010). MMR: Maternal mortality rate (2010) per 100 000 live births. Adult mortality: Adult mortality rate per 1000 male adults (2010). [100-(life expectancy)]: Life expectancy at birth (2010) subtracted from maximum of 100. Neonatal mortality: Neonatal mortality per 1000 living births. CD as cause of death: Communicable diseases as cause of death (% total). All data from World Bank's World Development Indicators. Income averages for stunting calculated by Bank staff and are unweighted.

II. Inputs comparisons China and Upper Middle Income Countries



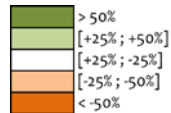
Note on interpretation:

This plot shows indicators which measure spending on health or the number of health workers per population.

The values on the radar plot have been standardized with respect to the average upper middle income country value.

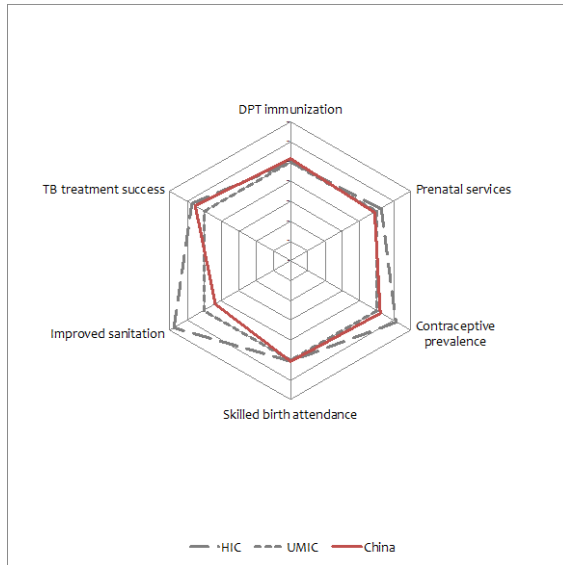
The table below summarizes inputs comparisons with the average upper middle income country (UMIC).

Country Data	China	UMIC	% Diff.
GNI pc (2000 USD)	937.6	1899.0	-50.6%
THE %GDP	5.1	6.1	-17.0%
Hosp. bed density	4.2	3.7	14.5%
Phys. density	1.4	1.7	-16.2%
Nur./midwife dens.	1.4	2.6	-47.2%
GHE %THE	35.3	54.3	-35.0%



THE as % of GDP: Health expenditure, total (% of GDP) (2010). Hospital bed density: Hospital beds per 1,000 people (latest available year). Physician density: Physicians per 1,000 people (latest available year). Nurse/midwife density: Nurses and midwives per 1,000 people (latest available year). GHE as % of THE/10: Public health expenditure (% of total expenditure on health) (2010). All data from World Bank's World Development Indicators.

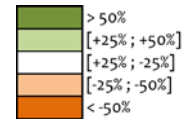
III. Coverage comparisons China and Upper Middle Income Countries



Note on interpretation:
In this plot 'higher' is 'better' – since these indicators are positive measures. In this case, all are percent of the population receiving or having access to a certain health related service.

The values on the radar plot have been standardized with respect to the average upper income country value.

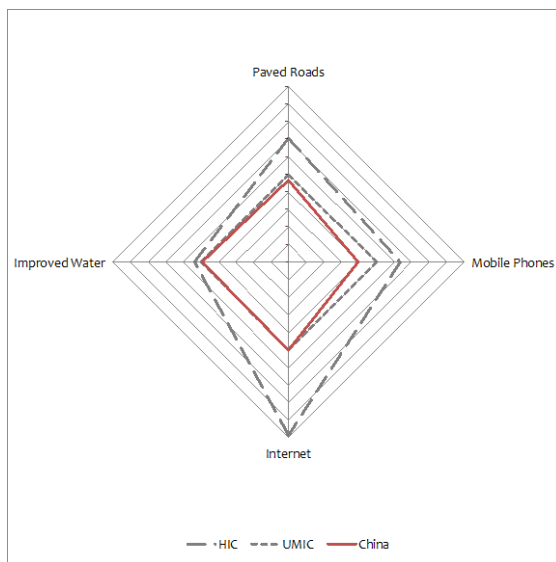
The table below summarizes coverage comparisons with the average upper middle income country (UMIC).



Country Data	China	UMIC	% Diff.
GNI pc (2000 USD)	937.6	1899.0	-50.6%
DPT	99.0	95.8	3.4%
Prenatal	92.2	93.8	-1.7%
Contraceptive	84.6	80.5	5.0%
Skilled birth	99.3	98.0	1.3%
Sanitation	64.0	73.0	-12.3%
TB success	95.0	86.0	10.5%

DPT immunization: % of children aged 12-23 months with DPT immunization (2010). Prenatal services: % of pregnant women receiving prenatal care (latest available year). Contraceptive prevalence: % of women ages 15-49 using contraception (latest available year). Skilled birth attendance: % of all births attended by skilled health staff (latest available year). Improved sanitation: % of population with access to improved sanitation facilities (2010). TB treatment success: Tuberculosis treatment success rate (% of registered cases). All data from World Bank's World Development Indicators.

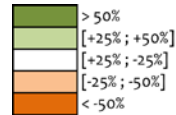
IV. Infrastructure comparisons China and Upper Middle Income Countries



Note on interpretation:
In this plot 'higher' is 'better' – since these indicators are positive measures of provision of certain good / service, and a measure of urban development.

The values on the radar plot have been standardized with respect to the average upper middle income country value.

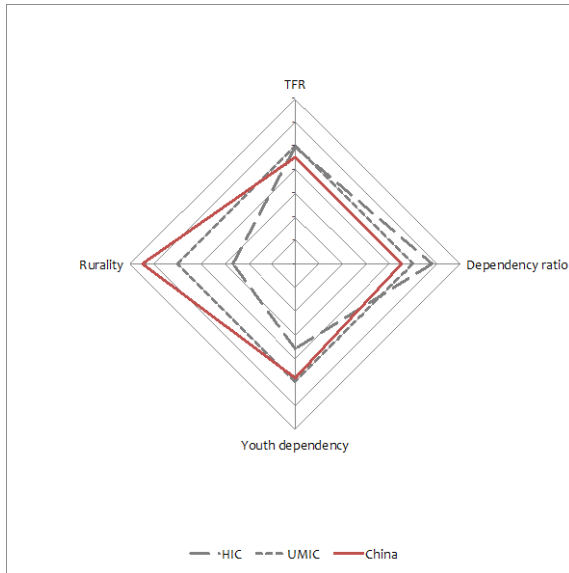
The table below summarizes infrastructure comparisons with the average upper middle income country (UMIC).



Country Data	China	UMIC	% Diff.
GNI pc (2000 USD)	937.6	1899.0	-50.6%
Paved roads	53.5	57.6	-7.1%
Mobile phones	73.2	92.3	-20.7%
Internet	38.4	38.3	0.2%
Water	91.0	92.6	-1.7%

Paved roads: % of total roads paved (most recent). Internet users: users per 100 people (2010, with some estimates from prior years). Mobile phone users: mobile cellular subscriptions per 100 people (2010). Access to improved water: % of population with access to improved water source (2010). All data from World Bank's World Development Indicators.

V. Demography comparisons China and Upper Middle Income Countries

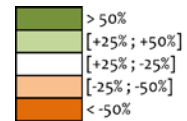


Note on interpretation:

Indicators here measure births per woman, the extent of rurality, and the number of dependents.

The values on the radar plot have been standardized with respect to the average upper middle income country value.

The table below summarizes demographic indicators comparisons with the average upper middle income country (UMIC).



Country Data	China	UMIC	% Diff.
GNI pc (2000 USD)	937.6	1899.0	-50.6%
TFR	1.6	1.8	-9.6%
Dependency (Total)	38.2	42.2	-9.6%
Youth share	70.4	73.0	-3.5%
Rural pop.	55.1	42.6	29.5%

TFR: total fertility rate (births per woman), 2009. Dependency ratio: % of working-age population (2010) aged less than 15 or more than 64. Youth dependency: % of working-age population (2010) aged less than 15. Rurality: % of total population in rural areas (2010). All data from World Bank's World Development Indicators.

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