

The Path to Integrated Insurance Systems in China



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China Health Policy Notes

China Health Policy Notes is a series of occasional papers on lessons and experiences from China's ongoing healthcare reform. The series is published by the World Bank in collaboration with the Government of China. The papers track and analyze the reform process, and evaluate early results. Each paper focuses on a key challenge that is central to success. The papers are written from a pragmatic perspective—namely, how the reforms can be refined and improved as the process unfolds over the coming 5 to 10 years. Experience is reported in the context of international best practice.

Research was carried out under the World Bank's Analytic and Advisory Assistance program, a particularly fruitful collaboration between the Bank and the Government that has been underway since 2003. Initial technical papers prepared by teams of national and international experts. Preliminary versions were critically discussed with Chinese policymakers and technical counterparts, especially within the ministries that initially requested this assistance in mid-2008. All papers were then subject to a rigorous process of peer review.

The purpose of *China Health Policy Notes* is to share these findings with a broader audience, especially to Chinese policymakers, health specialists, and scholars. Hardcopy versions of these papers can be obtained in English and Chinese by writing to the World Bank. They can be downloaded without charge at www.worldbank.org. The papers may be freely reproduced providing that source and copyright protection are clearly acknowledged. Comments and ideas are welcome. They should be addressed to the respective authors, or to the series editor (jlangebrunner@worldbank.org).

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Acronyms, abbreviations, currency

AAA	World Bank Analytic and Advisory Assistance
CCCP	Central Committee of the Communist Party of China
CHCs	Community health centers
CHI	Citizens' Health Insurance (Japan)
CHEI	Center for Health Economics Institute
DfID	UK Department of International Development
DRGs	Diagnosis-related groups (medical insurance reimbursement system)
FFS	Fee-for-service
FONASA	National Health Fund (Chile)
GMHI	Government-managed Health Insurance (Japan)
GMI	Government medical insurance
GMP	Good Manufacturing Practice (internationally accepted manufacturing standard)
LMI	Labor Medical Insurance
MA	Medical Assistance (a social welfare program for poor families)
MHIs	Mandatory health insurance systems
MOHRSS	Ministry of Human Resources and Social Security
MOH	Ministry of Health
MOLSS	Ministry of Labor and Social Security (former name of MOHRSS)
NCMS	National (Rural) Cooperative Medical Scheme
NDRC	National Development and Reform Commission
NRCMI	New Rural Cooperative Medical Insurance Scheme
NRDC	National Reform and Development Commission
OECD	Organization for Economic Cooperation and Development
PHI	Private health insurance
PMIB	Provincial Medical Insurance Bureau
RCMI	Rural Cooperative Medical Insurance
SARS	Severe Acute Respiratory Syndrome
SFDA	State Food and Drug Administration
SHI	Social health insurance model
UEBMI	Urban Employee Basic Medical Insurance
URBMI	Urban Resident Basic Medical Insurance
USFDA	Food and Drug Administration, US regulatory body

Exchange rate

6.82 RMB = 1 USD

(May 1, 2010)

Executive Summary

Universal medical insurance

Since the 2003 SARS outbreak, health care in China has become a leading national concern. Often highlighted by the popular phrase, *kan-bing-nan*, *kan-bing-gui* (seeking care is difficult and expensive), health care costs can be devastating. Three health insurance schemes have been set up. First, the Urban Employee Basic Medical Insurance (UEBMI) was set up for the urban employed population in the early 1990s. Second, the New Rural Cooperative Medical Insurance Scheme (NCMS) was set up for rural residents in 2003. Third, the State Council initiated a pilot experiment of the Urban Resident Basic Medical Insurance (URBMI) in 79 cities in 2007, targeting urban residents without formal employment, especially the elderly and children.

These three medical insurance programs constitute the foundation for healthcare financing in China today. Together, they comprise a framework to achieve a fundamental goal of healthcare reform: a universal system of basic medical insurance that will cover and protect the entire population of China.

Comparing UEBMI and URBMI

During the 1980s, the Labor Medical Insurance (LMI) for many enterprises and the publicly funded Government Medical Insurance (GMI) for some agencies ran into serious financial trouble. They could no longer pay healthcare institutions for services rendered. Consequently, many individuals had to purchase medical services out of pocket, and they incurred substantial risk and financial hardship. With UEBMI, medical insurance agencies work directly with health providers to pay for services, thereby eliminating the risk of default. Thus, while UEBMI coverage and benefit levels may be lower than that of the previous government and labor schemes, direct group payments to providers and increased risk pooling provide greater financial security than the previous schemes, which were unable to protect employees of failing enterprises.

Compared with the old government and labor medical insurance schemes, UEBMI has improved equity and access to health resources. It covers a wider range of incomes, jobs, and health conditions. Under the old labor medical insurance schemes, each enterprise had its own insurance. Coverage and benefits depended on employees' status, with differences in employment leading to overall inequity in benefits. By contrast, under UEBMI all employment units in a region provide similar coverage.

There is significant inequity between UEBMI for the employed and URBMI for the unemployed. Many factors contribute to the disparities between the two programs. First, purchasing power is lower among URBMI enrollees, including children, students, seniors, and the unemployed. The lower level of financing translates into less coverage and benefits. Second, URBMI pilot projects adhere to the principle of modest startup to ensure stable development. It is easy to expand services with steadily increasing financing. Third, government subsidies were also low at startup to limit financial risk. However, healthy development justifies and invites increased investment. The central government announced a doubling of its subsidies in 2008, and encouraged local governments to do the same. This should reduce the inequity in coverage and benefits between UEBMI and URBMI.

UEBMI and URBMI provide insurance coverage and health benefits to all urban residents, including migrant workers. With mandatory enrollment, adverse selection is not an issue. However, enforcing mandatory enrollment can be a problem, because individuals and enterprises must identify themselves for the system to work. Individuals and enterprises experiencing financial trouble are not likely to enroll voluntarily in medical insurance schemes, and it is difficult for the government to track them and force compliance. For this reason, some urban residents do not have medical insurance, and they will not use the basic health services that insurance schemes provide. Mandatory enrollment is preferable for safety nets. On the other hand, the substantial administrative costs of enforcement (as is the case with URBMI) and the substantial additional expenditures that would be needed for services (as in the case of NCMS) work in opposite directions. Temporarily at least, voluntary (rather than enforced mandatory) enrollment serves as a compromise. A different solution may be necessary over the longer term.

As UEBMI, URBMI, and NCMS are managed by separate ministries with different levels of premium payments and financing, their insurance coverage and health benefits lack portability. Provinces, regions, municipalities, and counties also maintain medical insurance systems that are not transferable to other areas. Individuals risk losing their insurance coverage and health benefits when their employment status and residency change. Further insurance reforms include regional-level integration of UEBMI, URBMI, and NCMS in order to establish transferability across systems and ensure individuals of continuous coverage and benefits.

Comparing China's medical insurance system with OECD countries

China's medical insurance system has three components—UEBMI, URBMI, and NCMS—as well as the Medical Assistance (MA) program, which provides supplemental safety-net support to the poor. Viewed as four elements in an overall “system,” China is moving toward universal basic medical insurance in the manner of OECD countries such as Canada, Netherlands, Sweden, the Republic of Korea, Japan, and Singapore.

Among OECD countries (excluding the United States and Singapore), the general principle in financing is that people should contribute according to their means (what they can afford), but patients should receive services according to their needs (what is medically necessary). The goal is equal access to health care regardless of income, location, or age. To achieve this goal, the government pools risk and transfers wealth from rich to poor, through either tax-based financing or social health insurance (SHI).

In principle, a tax-based system should be the simplest way to reach these objectives, as the central government is responsible for the entire population. However, tax-based financing is usually associated with public ownership of hospitals and the inefficiencies of a budget-based delivery system. Tax-based financing is also less stable as it varies with changes in government policy and economic fluctuations. For middle-income countries, the mismatch between the goal of equal access for all and actual budgets typically results in scarce resources being concentrated in urban hospitals at the expense of rural areas.

The social health insurance (SHI) model originated in Germany, where it was based on the principle of solidarity and mutual assistance within each occupational group, enterprise, or geographic region. Each member contributed a set percentage of income regardless of income level or risk of illness. Dependents were covered by the plan of the head of household. Although benefits were essentially the same for all social insurance plans (referred to as sickness funds), there continue to be differences in premium levels among the plans. These differences have decreased since the government established a central pool into which a higher percentage of low-risk individuals contribute (primarily, the young), while plans enrolling a high percentage of high-risk individuals (older people) receive relatively more benefit. In Japan, these differences also decreased as the government provided subsidies from general revenues to plans that enroll low-income individuals. The hybrid system could serve as a model for middle-income countries to achieve universal coverage. Japan has established risk pooling and income transfers within each SHI plan as the first step. The second step is to gradually reduce differences in the benefit package and premium levels among SHI plans.

Private health insurance (PHI) can work in several ways. It can *substitute* (as in the United States, Germany, and The Netherlands), *complement* (as in Canada for drugs and dental care not covered), or *supplement* the public financing system (as in the UK and Australia). The conceptual merit of PHI is in the institutional structure of the private market, which should increase efficiency and relieve pressure on public budgets by focusing on the needy.

Globally, there are many approaches to pooling and integrating insurance funds. In Japan, a single pooling fund was created in 1983 to share costs equally among multiple insurers. A second model, used in Germany, adjusts payments to insurance pools retrospectively based on relative risks. A third model, used in Netherlands, adjusts premiums or payment rates. Income-related contributions are paid into a risk-equalization fund, which equals 50 percent of total insurance revenue. Premiums are based on

community averages. A fourth model is to pool either at the national level (as in Sweden and the United Kingdom) or at regional or provincial levels (as in Canada and Kazakhstan). As decentralization has a long history in China, this might be an interim model.

There is no “right” or “best” arrangement for pooling funds, and the essential starting point for decision-makers is to understand existing arrangements. Both theory and evidence suggest that reforms should reduce fragmentation in pooling.

Practical approaches to accomplish this vary considerably among countries. One approach is to create a *virtual single pool* from multiple pools by establishing a redistribution fund with risk-adjusted allocations to various insurers. The experience of the Czech system is instructive. Czech reforms have redistributed the entire insurance pool (thereby maximizing the scope for risk protection), and simultaneously lowered the benefits from risk selection for competing insurers.

Longer-run, China might consider a unified single-pool system of funding a core package of services for all citizens. This model is currently found in the United Kingdom, Sweden, Norway, Canada, and Oman. This model lowers administrative overhead and provides increased leveraging for purchasing and commissioning of services.

A uniform payment system for all patients across insurers has many advantages. First, it increases billing efficiency. This is why the United States, with multiple payers, has higher costs than Canada, with a single payer. Second, uniform payments result in equal treatment of all patients, regardless of insurance plan, because providers are paid the same amounts for the same services. Third, as healthcare expenditures are equal to price multiplied by volume, containing price also contains expenditures. Fourth, as physicians and hospitals are sensitive to changes in payment methods, their behavior can be changed by revising fee schedule regulations. In contrast, with multiple payers, providers can maximize income by focusing on patients whose insurance plans cover the most services and have the least restrictive billing conditions. The generous standards for these patients becomes the industry standard and exerts pressure on the public payment system.

Policy implications for China’s health system

China’s medical insurance system is now a mixed system for the employed and unemployed (UEBMI and URBMI) as well as for the urban and rural populations (UEBMI, URBMI, and NRCMI). Employer/employee contributions, individual contributions, and government subsidies are the major sources of financing for these medical insurance systems, as in The Netherlands and Japan. Because the level of financing varies, health benefits also vary among UEBMI, URBMI and NCMS; while in Japan, health benefits are standardized with the help of government subsidies across the two health insurance systems. Standardized health benefits help improve equity in access to and use of health services.

With the recent healthcare reform, China is moving rapidly toward a universal insurance approach. This mission is tangible, achievable, and can be built upon the foundation of

UEBMI, URBMI, NCMS, and the Medical Assistance program. Each program covers a specific group, and together they form the basis for a universal, albeit still-fragmented system. Segmenting healthcare financing by the socioeconomic and demographic characteristics of particular groups makes sense in the near term while a universal basic medical insurance system with more homogeneous coverage and benefits is developing.

Segmentation by income and social status ensures a certain degree of equity in access and use within each group (horizontal equity). The downside, however, is inequity *across* income and social groups (vertical inequity). Segmentation also weakens the risk-pooling capacity of social insurance. The State Council now provides subsidies to URBMI and NCMS to resolve vertical inequity, but these subsidies provide only limited relief. Vertical equity can only be achieved by merging the separate components of the medical insurance system.

URBMI can provide useful links with the other three programs in the merging process. URBMI is in a position to play this role for several reasons: its level of financing and health benefits is in between UEBMI and the NCMS; the sharing of its administrative structure with UEBMI; the overlap in its target population with medical assistance; and numerous institutional characteristics it shares with the other three programs.

Options and recommendations for further reform

- ***Replace medical savings accounts (MSAs) with social pooling for outpatient services.*** Medical savings accounts should be gradually abolished. Existing individual accounts could be transferred to the pension fund. In their place, establish social risk pooling for outpatient services. Social pooling will enhance coverage and benefits to low-income groups and to the unemployed urban population covered by URBMI.
- ***Create greater equity across funds.*** Costs and benefits vary greatly for different groups within UEBMI, URBMI, and NCMS. This cannot be fully rectified because incomes vary so greatly among groups. The short-term challenge is to focus on a basic package for low-income groups. It is not practical to immediately integrate UEBMI, URBMI, and NCMS (as well as MA). As a first step, differences in co-payments and benefits within UEBMI and within NCMS should be decreased. The national government could increase subsidies to NCMS so that the basic package could be available for the poorest municipalities. A second option for enhancing coverage and benefits for migrant workers is to combine the NCMS and URBMI subsidies. When migrant workers move to urban areas they could use government assistance for NCMS for premium payments that would enable them to join URBMI.
- ***Restructure the benefits package.*** A step-wise process must be taken to achieve uniform basic benefits for all individuals and families. The cash limit on coverage in NCMS should be abolished as patients face financial impoverishment when medical costs exceed the cap. Co-insurance should be abolished for basic benefit services. If co-insurance must be levied, then patient payments should be used for that purpose

only—not as an indemnity in which patients must first pay and then be reimbursed. The co-insurance rate for services and drugs outside the basic benefit package should be based on their proven efficacy. If services are provided outside the benefit package, reasons need to be provided in writing along with signed informed consent. Physicians who make misleading statements should face criminal prosecution.

- ***Restructure URBMI.*** The URBMI must be restructured. Expanding the insured population will be difficult if enrollment is kept voluntary and coverage is limited to inpatient care. All employers must contribute premiums based on the number of full-time equivalent employees.
- ***Establish the family as the basic unit for medical insurance enrollment.*** Enrollment in URBMI is now individual. This follows the principle of a low-level startup where coverage is expected to extend to all urban residents. When coverage and enrollment reach a certain level, URBMI should be merged with UEBMI, so that the family is the enrollment unit, as it now is in NCMS. The natural cross-subsidy among family members with different incomes will reduce the costs of transferring funds between the two systems.
- ***Set pharmaceutical policies for insurers.*** Insurers should work with the government to establish a national council under the National Development and Reform Commission (NDRC) or another agency to select and periodically revise the list of essential and licensed drugs, their prices, and the conditions for prescribing. The national government must enforce Good Manufacturing Practices (GMP) to ensure quality, especially for essential drugs and generics. If the current GMP is too strict to be enforceable, it must be revised.
- ***Pooling across regional medical insurance fund.*** Thousands of medical insurance funds now operate independently in China. The lack of relationships among them is a major deficiency in the system. The solution is to create a provincial (and perhaps later, a national) pooling system of medical insurance funds. A medical insurance management center should be created for these provincial funds. All insurance funds should pay a fixed proportion of their funds to this provincial or national agent as a transitional fund. This would not only help adjust for financial risk but would also facilitate the portability of health benefits from one scheme to another.

The Path to Integrated Insurance Systems in China¹

1. Introduction

Since the 2003 SARS outbreak, health care in China has become a leading national concern. Often highlighted by the popular phrase, *kan-bing-nan*, *kan-bing-gui* (seeking care is difficult and expensive), healthcare costs can be devastating. According to the Third National Health Services Survey by the Ministry of Health (2004), a single hospital admission to a tertiary facility cost RMB 12,650 in 2005, nearly 90 percent of the average annual income of RMB 13,917. Over 600 million people, half the population, did not have any insurance coverage and were exposed to serious health and financial risks.

After extensive national debate, a broad consensus was reached that government policies to provide health care had generally failed. Financial burdens on individuals were excessive, leading to increasing inequity in access to care. In response, the State Council called for a national reform in 2006. A 16-ministry joint task force led the effort, and policymakers designed and drafted a comprehensive national strategy, which was announced in 2009.

Prior to 2007, there were two formal insurance programs: the Urban Employee Basic Medical Insurance (UEBMI) for the urban employed population, and the New Rural Cooperative Medical Insurance (NRCMI) for rural residents. A third major group—urban residents without formal employment—was essentially left out of the state health security system. In July 2007, the State Council initiated a pilot experiment in 79 cities—the Urban Resident Basic Medical Insurance (URBMI). The plan targeted urban residents without formal employment, especially the elderly and children (State Council 2007). In his State Report to the 2008 People’s Congress, Premier Wen Jiabao rearticulated an ambitious goal—

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that URBMI would be implemented in over 50 percent of cities by 2008, 80 percent by 2009, and 100 percent by 2010 (Wen 2008).

UEBMI includes 200 million employees, and NRCMI covers over 750 million rural people. URBMI thus represented a third major component in the ultimate goal of universal healthcare coverage. URBMI represents a landmark accomplishment, not only by extending the range and intensity of health insurance but toward achieving China's broader goal of an equitable and harmonious society.

The present Health Policy Note provides an updated review of healthcare settings and policy reforms, focusing primarily on urban health financing. It discusses urban insurance in the context of universal coverage and how to harmonize insurance schemes across urban and rural areas. This discussion is placed in the context of global experience and emerging principles of best practices.

2. Development of the Medical Insurance System

Medical insurance during the planned economy

During the planned economy era from 1949 to 1978, the government established Government Medical Insurance (GMI) for state employees, and Labor Medical Insurance (LMI) for state owned and collectively owned enterprises. The government financed GMI, while LMI was financed from the operating profits of state and collectively owned enterprises. Rural Cooperative Medical Insurance (RCMI), which was funded by communes' profits, provided health care to the rural population.

When China began to transition from a centrally planned to a market-driven economy in the late 1970s, problems arose with the financing of public programs. Eventually, this led to a breakdown in China's healthcare system. In the early stage of transition, considerable resources were redirected to infrastructure and economic projects. Little was left over for the public healthcare providers that then dominated the market. Private healthcare providers did not replace them because of entry barriers and absence of policy support.

The growing resource shortage reduced the nation's capacity to meet a simultaneous rise in healthcare demand. This was driven by rising income, a transition from infectious to chronic diseases, and widespread demand for new (generally expensive) drugs and medical technologies. Total healthcare costs rose dramatically, with the share of out-of-pocket costs even higher as a proportion. Between 1980 and 2005, nominal GDP per capita increased a remarkable 27-fold; yet total *healthcare* cost per capita increased even more—40-fold, while out-of-pocket payments increased 102-fold (MOH 2008).

As pressure increased, neither GMI nor LMI were able to meet the goals of equitable access, and they could not efficiently manage the vast acceleration in costs. LMI was managed at an individual unit level, but it lacked risk pooling among employers. The economic transition widened the profitability gap between successful and failing enterprises, which in turn affected the enterprises' ability to finance LMI. When failing enterprises encountered financial crises or bankruptcy, their employees became not only unemployed, but uninsured as well. Some studies indicated that healthcare inequity was increasing even more rapidly than general income inequity (Liu et al. 2002; Wei and Gustafsson 2005).

GMI and LMI had few demand-side mechanisms to control costs. They were not premium-based insurance programs, but welfare-based programs in which individual were not responsible for contributions. Little use was made of deductibles, co-payments, or

formulary policies. Altogether, beneficiaries had few incentives for cost consciousness under GMI and LMI, leading to particularly poor results in efforts to control costs.

Exploration of the new health security system

Discussions on reforming medical insurance began in the mid-1980s. These focused on five areas: (1) linking drug expenditures to health benefits, so that insured individuals would pay small fees for the health services covered by labor medical insurance and publicly funded programs; (2) constructing drug formularies to limit the drugs covered by medical insurance, thereby controlling excessive costs; (3) adjusting the ratio of medical insurance premiums to insured individuals' compensation; (4) selective contracting with designated hospitals to specify services and payments within predetermined budgets; and (5) establishing social pooling accounts in addition to individual medical savings accounts (MSAs). The latter provided coverage for major illnesses of employees and retirees, somewhat alleviating the burden of health care on smaller and medium-sized enterprises.

These initiatives laid the foundation for the transition from a publicly funded insurance system to the current social insurance program. "Highlights of the Restructuring of the Nation's Economic System" proposed Dandong, Siping, Huangshi, and Zhuzhou as pilot sites for testing reform of the medical insurance system. Shenzhen and Hainan were proposed as pilot sites for integrated reform of social security (National Reform Commission, 1989). This launched the effort to create a single medical insurance system in China. The Ministry of Human Resources and Social Security was made responsible for urban medical insurance programs, while the Ministry of Health (MOH) was placed in charge of rural medical insurance. This structure allows the ministries to establish health-related policies tailored to the needs of their respective target populations. At the same time, it creates a barrier to universal basic insurance, because each ministry seeks to protect its particular political and institutional interest.

An underlying premise to reform is that the barriers that now separate and place these institutions at odds with each other need to be broken down. Separation among the ministries and departments needs to be eliminated, so that a single ministry with a clear internal division of labor can manage and coordinate the nation's social security affairs. This will require: (1) a universal management structure; (2) improved services; (3) strengthening the management of insurance funds; and (4) strengthening the principles of socialist management.

Enrollment in urban areas

The formally employed

In April 1994, the State Council issued its Directives on the Pilot Reforms of Urban Employee Medical Insurance System. Zhenjiang (Jiangsu Province) and Jiujiang (Jiangxi Province) were designated as pilot sites to implement medical insurance system reform, marking the launch of the well-known Dual-Jiang Pilot Reforms. The foci of this reform

were as follows: (1) UEBMI would expand to cover all employees and retirees of all types of organizations, government agencies, and enterprises in corresponding administrative regions; (2) medical insurance agencies would contract with designated healthcare institutions for health services delivery and payment methods; (3) employers and employees would share responsibilities in financing UEBMI; (4) the medical insurance funds would combine social pooling and individual accounts as the payment mechanism for health services; and (5) the proportion of individual self-payment (premiums) would increase relative to out-of-pocket payments for health services.

The State Council then issued The State Council's Decision on the Establishment of Urban Employee Basic Medical Insurance System to extend the framework established in the Dual-Jiang Pilot Reforms throughout the country. This marked the national launch of UEBMI (Policy Document No. 44, 1998).

The informally employed

Since the late 1990s, advances in economic reform and changes in enterprises' capital structures have significantly changed the employment environment. Alternative employment arrangements are common, with a steady increase in the number of individuals employed in part-time or flexible jobs. However, medical insurance coverage for the informally employed became increasingly problematic. In 2003, the Ministry of Human Resource and Social Security (formerly the Ministry of Labor and Social Security) issued new Guidelines on the Enrollment of Urban Workers in Flexible Employment in Basic Medical Insurance, which stipulated that UEBMI coverage be expanded to include workers in flexible employment (State Council, Policy Document No. 3, 2003).

Migrant workers

Rural–urban migration increased rapidly at the turn of the 21st century. While migrant workers may live and work in urban centers, they are not entitled to social security or the benefits provided to urban residents. To expand and improve medical insurance coverage for migrant workers, the Ministry of Human Resource and Social Security began enrolling migrant workers in UEBMI in 2006.

The unemployed

Some cities began to enroll the unemployed² in their UEBMI after 2000, but this was limited because unemployed workers could rarely afford the premiums. In light of the

²According to the National Bureau of Statistics, “unemployed” refers to individuals 16 years or above who are actively seeking jobs. For the Ministry of Human Resource and Social Security, “unemployed” refers to individuals with non-agriculture residence, aged 16 to 50 for male and 16 to 45 for female, able to work, seeking employment, and have applied for jobs and registered with employment units in the region.

overarching goal of a harmonious society, the State Council established a medical insurance system for the urban unemployed in early 2007; and despite significant differences in coverage and benefits under the medical insurance schemes, it is expected that this foundation will eventually lead to universal basic medical insurance.

In July 2007, the State Council issued Pilot Reforms on Developing Urban Resident Basic Medical Insurance, launching the pilot experiment of URBMI programs in 79 cities (Policy Document No. 20, 2007). This monumental policy effort greatly accelerated China's progress toward its goal of basic medical insurance coverage. The URBMI's unique characteristics are, first, that government subsidies are provided to every enrolled resident and, second, that central government subsidies are concentrated in the central and western regions. According to the government plan, more than half of China's cities were to have pilot tested URBMI in 2008; and URBMI is projected for nationwide implementation by the end of 2010. Whether or not this ambitious target is met within that time frame, a foundation is nevertheless in place for building toward and achieving the broader goal.

New Rural Cooperative Medical Insurance

With the collapse of the commune system and the old Rural Cooperative Medical Scheme in early 1980s, most rural residents were left with neither medical insurance nor access to health services. In 2003 the Ministry of Health, Ministry of Finance, and Ministry of Agriculture jointly issued Directives on the Establishment of New Rural Cooperative Medical System, establishing a new medical insurance system for the rural population (State Council, Policy Document No. 3, 2003). That report highlights a New Rural Cooperative Medical Insurance (NCMS) system to be organized, directed, and supported by the government. The ensuing NCMS is based on voluntary enrollment and is jointly financed by individuals, collective groups, and governments. Its primary focus is protection against major illnesses.

The main features of NCMS are: (1) greater stability in risk pooling by raising the administrative level of medical insurance coverage from villages and townships to counties; (2) improved financial position of medical insurance funds with subsidies from all levels of government; and (3) increased role of government in financing, especially with respect to the concentration of subsidies in the central-western regions. By the end of 2009, coverage was estimated at 95 percent, with expectations for complete rural coverage by the end 2010.

3. Universal Medical Insurance

Under the recent policy directive of the State Council, the urban population is covered by UEBMI and URBMI, and the rural population is covered by NRCMI. These three medical insurance programs are the foundation of healthcare financing in China. Together, they constitute the essential framework upon which universal basic medical insurance will be built.

Healthcare costs have risen dramatically over the past three decades. To be sustainable, the fully integrated system of the future must be adequately financed. Insurance premiums³ must cover provider services that are certain to keep rising with the rapidly aging population. Financing for the system must be clearly linked to specific sources of funds, appropriate levels of financing from respective sources, and fair cost-sharing by the government, insurers, and the insured. Basically, four financing sources are available: general taxation, social insurance, private insurance, and out-of-pocket payments. The relative balance in how premiums are paid among the four sources has, and will continue to have, vast implications for the equity, efficiency, and financial sustainability of the evolving system.

Payment methods must preserve competition among service providers. Common payment methods include line-item budgets, fee-for-service (FFS), admission-based payments for diagnosis related groups (DRGs), capitation, global budget, as well as salaries for health professionals. The choice of a payment method affects not just the quality and quantity of services, but the effectiveness and efficiency of providers as well. The following discussion takes a closer look at financing mechanisms and payment methods. Other aspects are then taken up, including enrollment, levels of insurance coverage and health benefits, level of administration and social pooling, and the management of insurance funds.

Urban Employee Basic Medical Insurance (UEBMI)

As noted, Zhenjiang and Jiujiang were selected as pilot sites for urban healthcare reform in 1994, leading to the formation of the Urban Employee Basic Medical Insurance (UEBMI). UEBMI employs three primary forms of insurance payment: (1) integrated social pooling and individual medical savings accounts; (2) solitary social pooling accounts; and (3) lower-level social pooling accounts. These three forms provide health coverage for the formally employed, the informally employed, and migrant workers respectively. Table 1 summarizes key differences that distinguish the two urban insurance subsystems.

³ The term “insurance premiums” is used here in a broad sense to cover the full range of contribution-based payments that create a pooled source of revenues for financing individual healthcare costs.

Table 1. Subsystems of the Urban Medical Insurance System

System	Subsystem	Target population	Premium level	Enrollment
Urban Employee Basic Medical Insurance (UEBMI)	Integrated social pooling and individual medical savings accounts	Employees and retirees with regular employment in all institutions	Individual salary, 8% (employee, 2%; employer, 6%)	Mandatory
	Solitary social pooling account	Employees and retirees of enterprises with financial difficulties, and workers with flexible employment	Regional average salary, 4%	Mandatory, but enforcement is difficult due to lack of control on self-identification
	Low-level social pooling account	Migrant workers	Regional average salary, 2 to 4%	Mandatory, but enforcement difficult due to self identification
Urban Residence Basic Medical Insurance (URBMI)	Social pooling account	Unemployed, elderly, students, and children	National avg. income per capita, RMB 236	Voluntary

Source: Authors.

The integrated social pooling and individual medical savings accounts provide insurance coverage and health benefits for retirees and workers with full-time formal employment. As shown in the table, employees contributes 8 percent of their salaries to the scheme—employers, 6 percent; and employees, 2 percent. Enrollment is mandatory.

Medical insurance for retirees and employees of “ailing” enterprises, as well as for workers with partial or flexible employment, consists of solitary social pooling accounts. Individual medical savings accounts are not included. Insured individuals only pay premiums for the social pooling accounts. Contributions are pegged to the average salary in the region. Enforcing mandatory enrollment has proved difficult because enterprises and employees must identify themselves, something that local governments have little capacity to keep track of in practice. Thus, employees of ailing enterprises and small/medium firms are often not enrolled in medical insurance programs. Further, workers with partial or flexible employment may not be able to afford the premiums. The frequent mobility of these workers compounds the difficulties of enrollment enforcement.

State Council Policy Document No. 44 (1998) states that policies on employer and employee contributions to UEBMI apply wherever an employment relationship exists, including migrant workers. However, as a result of migrant workers’ lower incomes and

frequent inability to pay, separate medical insurance schemes have been established. These require lower employer and employee contributions, which are based on average salary levels in that region; and they do away with individual medical savings accounts. As a result of the lower level of financing, migrant workers receive less insurance coverage and fewer health benefits. Average claims for eligible health care expenditures are relatively low as well. While enrollment is nominally mandatory, enforcement is difficult because of the lack of control and resources and the difficulty of tracking migrant workers.

Apart from UEBMI, some cities and urban centers have implemented supplementary insurance schemes, which are permitted under State Council Policy No. 44 (1998). This directive ensures that insurance coverage and health benefits be provided for specific groups of employees at levels not lower than prevailing levels. Enterprises in these areas set up supplementary medical insurance schemes on a voluntary basis. Local governments also provide medical subsidies for government employees, using public funds are used to pay for health services. The health insurance bureaus of most cities and urban centers manage these supplementary insurance schemes as well as medical subsidies for government employees. A few supplementary programs are managed by labor unions and commercial insurance agencies.

Enrollment

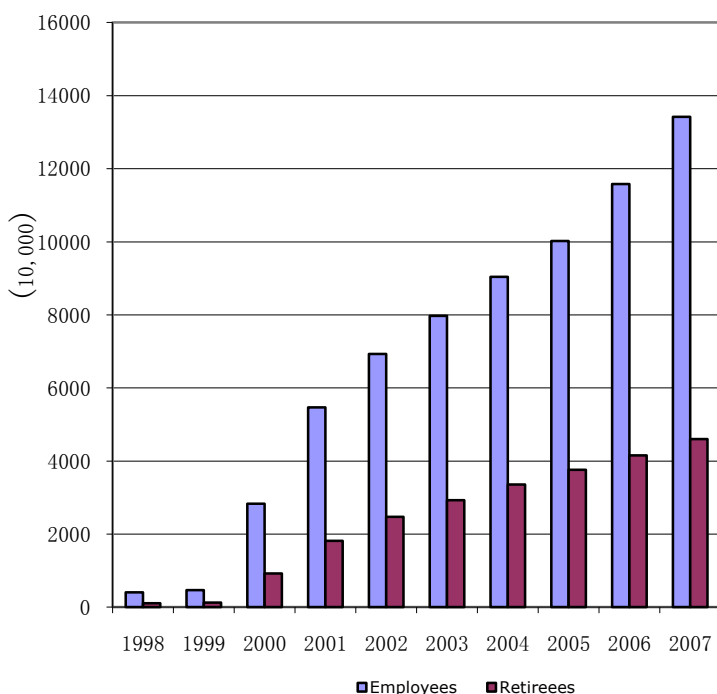
According to State Council Policy Document No. 44 (1998), UEBMI covers “all employment units, including enterprises, organizations, government agencies, social groups, private non-business enterprises, and their employees.” Enrollment was set to be mandatory, targeting about 340 million eligible individuals. In 2003 and 2005, the mandate of UEBMI coverage expanded to workers with partial or flexible employment and to migrant workers.

Four groups of official enrollees are not registered in UEBMI—employees and retirees of: (1) state-owned and collectively-owned enterprises that have experienced financial difficulties, declared bankruptcy, or have been closed; (2) certain small private enterprises with low enrollment rates; (3) some financially successful industrial sectors that manage their own labor medical insurance; and (4) the central government and a few municipal government agencies using public funds to pay for health care. A few small private enterprises with low enrollment rates and a few industrial enterprises manage their own labor medical insurance. About 20 million individuals and 6 million government staff are not registered in UEBMI.

As shown in Figure 1, coverage and enrollment in UEBMI has expanded rapidly since 1998. By the end of 2006, a total of 178.7 million individuals were enrolled—139.6 million in UEBMI with both social pooling accounts and individual medical savings accounts; 15.5 million with only social pooling accounts; and 23.6 million migrant workers with low-level social pooling accounts. By the end of 2007, there were over 180 million enrollees, or 53.3 percent of the target population of 340 million. Moreover, with the expansion of coverage to include workers with partial or flexible employment and migrant workers, the ratio of employees to retirees in UEBMI decreased from 3.73 in 1998 to 2.92 in 2007. That means

fewer employees to support a rising number of retirees. UEBMI will have to take this into account to ensure financial sustainability over the long run.

Figure 1. Coverage of Urban Employee Medical Insurance Schemes



Source: MOHRSS 2009.

Level of financing

Employers and employees share responsibility for financing UEBMI. State Council Policy Document No. 44 (1998) recommends a “6 + 2” financing formula for employer and employee shares. Of the 6 percent from employers, 4 percent goes to the social pooling account and 2 percent goes to individual medical savings accounts (MSAs). The employee’s contribution of 2 percent of salary goes to MSA as well. The ratio of funds in the social pooling account and individual medical savings account is thus 1:1 (both have funds equivalent to 4 percent of the employee’s salary base). Premium payments are not based on actuarial analysis; rather, they are derived from past experience. This ensures that UEBMI insurance coverage and health benefits are similar to those of the government and labor medical insurance schemes. State Council Policy Document No. 44 states that retirees are not required to pay medical insurance premiums, but are eligible for the same insurance coverage and

health benefits as regular employees. Thus, retirees' insurance coverage and health benefits are subsidized by employee contributions.

In practice, some cities and urban centers deviate from the 6 + 2 benchmark, because of differences in regional economic development. Although employee contributions are held at about 2 percent of compensation, employer contributions typically exceed the recommended 6 percent. In Shanghai, UEBMI employer contributions are 10 percent; in Beijing and Zhenjiang, 9 percent; in Hangzhou, Nanjing, Qingdao, and Wuhan, 8 percent; in Chengdu, 7.5 percent; and in Xian, 7 percent (Liu, Nolan, and Chen, 2004). In the poorer northwest and southwest regions, employer contributions are as low as 4 percent (Meng 2006). In cities with large retiree populations, retirees may be required to pay insurance premiums reflecting their greater health needs. In other areas, the government makes a single payment for UEBMI insurance premiums that covers retirees of bankrupted enterprises for 10 to 15 years.

State-owned enterprises in financial difficulty may not be able to comply with 6 + 2 financing, so local health insurance bureaus have adopted alternative mechanisms to accommodate their typically unhealthy financial situations. The UEBMI of ailing state-owned enterprises do not offer individual medical savings accounts, thereby reducing employer contributions to 4 percent of employees' compensation. Such UEBMI are also suitable for workers with partial or flexible employment. As this latter group does not work steadily, their employers are difficult to identify. They are less likely to be interested in individual medical savings accounts. Consequently, workers with partial or flexible employment pay higher premiums—8 percent of their salary when enrolling in UEBMIs with only solitary social pooling accounts. As it is difficult to determine total compensation for workers with partial or flexible employment, premiums are based on their region's average salary.

Workers who migrate from rural to urban areas are considered urban employees. However, because of their low income and unstable employment, many urban areas have had to set up special policies and medical insurance schemes. This alleviates the financial burden by reducing the worker's contribution. However, as insurance premiums for migrant workers in UEBMI are based on 60 to 80 percent of the region's average salary, they are entitled in turn to receive only 60 to 80 percent of UEBMI's insurance coverage and health benefits.

Both total and insurance-paid health expenditures per capita have risen since the inception of UEBMI. Table 2 shows that total expenditures for the urban population increased by 80 percent between 1998 and 2005. However, the insurance-paid share increased by over 200 percent, and the proportion of total health expenditure paid by insurance increased from 32.8 percent to 53.5 percent. UEBMI has thus played a significant role in reducing individual out-of-pocket health expenditure.

Table 2. Health Expenditure and Medical Insurance Expenditure per Capita

	National Average	Health expenditure per capita (RMB)		Medical insurance expenditure per capita (RMB)	
		Urban	Rural	Urban	Rural
1998	294.9	625.9	194.6	205.2	68.1
1999	321.8	702.0	203.2	245.6	70.0
2000	361.9	812.9	214.9	318.1	87.6
2001	393.8	841.2	244.8	-	-
2002	450.7	987.1	259.3	430.1	103.9
2003	509.5	1,108.9	274.7	476.0	115.7
2004	583.9	1,261.9	301.6	528.2	130.6
2005	662.3	1,122.8	318.5	600.9	168.1
2006	828.0	1,145.1	442.4	620.5	191.5

Source: Ministry of Health, China Health Statistics Yearbook 2007.

Insurance coverage and health benefits

Payment approaches for services rendered mostly follow two models: the pathway model and the compartment model. The pathway model first pays for services out of an individual's medical savings account, followed by payment from the social pooling account. The compartment model uses the individual's medical savings account primarily for outpatient services and the social pooling account for inpatient care (Liu, Nolan, and Chen 2004). Patients are more likely to exhaust individual account funds with the pathway model than with the compartment model.

Consistent with State Council Policy Document No. 44, deductibles and eligible healthcare expenditures were set at 10 percent and 40 percent of the average annual salary for local regions. Individual medical savings accounts or self-payment can be used for expenditures below the deductible. Funds from social pooling accounts are used for expenditures above the deductible but below the reimbursement cap, and individuals are responsible for a portion of expenditures above the deductible. In practice, deductibles in some cities' UEBMIs are lower than the standard, and deductibles for retirees are lower than for regular full-time employees. Deductibles are also lower for primary care facilities to encourage their use.

The State Council Policy Document does not specify the co-payment proportion, only that this co-payment must balance the uses and sources of medical insurance funds. In general, payments from social pooling accounts are 80 to 95 percent of the fee schedule of drugs and health services. Within the range of co-payment, the higher the health care expenditure

eligible for insurance claims, the greater the amount of payments from social pooling accounts. The proportion of co-payment is lower for primary and lower-level healthcare institutions in order to promote their use. Finally, retiree co-payments are about half that of regular full-time employees, lessening the financial burden on retirees. Overall, UEBMI pays about 70 percent of total insured healthcare expenditure.

As with employer and employee contributions in financing, insurance coverage and benefit policies have been strongly shaped by past experience with the government and labor medical insurance schemes. The primary focus is financial sustainability of the funds.

Level of social pooling and administration

The Ministry of Human Resources and Social Security (after 2008) is responsible for formulating policies on the social insurance system, including the UEBMI program. Following the national policy guidelines, the Provincial Medical Insurance Bureau (PMIB) is in charge of Government Medical Insurance for employees and retirees of all government agencies. In some regions, the Provincial Medical Insurance Bureau is also responsible for state-owned enterprises at the provincial level as well as those directly under the central government. Local municipal and county medical insurance bureaus are responsible for managing UEBMI in their locations.

Local governments finance municipal and county medical insurance bureaus. Funds are allocated to medical insurance bureaus based on number of staff and types of projects undertaken. The administrative budgets and costs of operating medical insurance bureaus depend on the local government's financial health, assignment of staff, and types of projects. Administrative costs can vary substantially from one medical insurance bureau to another.

Managing health services

The goals of medical insurance agencies in managing health services are to control costs and to assure quality of services. Managing health services consists of contracting designated institutions for health services using specific formularies. This means that insurance claims are eligible for payment *only* for services at the designated institutions. Contractual agreements between medical insurance agencies and the designated institutions specify the delivery of health services and the right of the medical insurance agencies to inspect and supervise the activities of the institutions. The facilities include general hospitals, specialized hospitals, health service centers for the community, and pharmacies.

With increasing enrollment in UEBMI, the number of designated healthcare institutions increased. State-owned and private healthcare institutions are designated for each of UEBMI's administrative regions. State-owned hospitals are preferred as designated institutions, because they are likely to be more established and financially healthier than private hospitals. Moreover, for-profit private hospitals are usually smaller and less established than state-owned hospitals. They are unlikely to be selected as designated healthcare institutions, especially if

their price structure is higher than that of counterparts. The preference for state-owned facilities is also consistent with the government objective of a health system with public health service providers at its core. Private service providers are considered to be complementary.

The three eligible formularies include: catalogs for drugs, health services, and medical technology and equipment. Prices set in the three formularies are based on the principles of clinical necessity, safety, and effectiveness, as well as on pricing fairness. The formularies are also used to control healthcare costs more broadly, especially for drugs. The Ministry of Human Resource and Social Security determines the national drug formulary, while provincial departments of human resource and social security set the formularies for health services and medical technology/equipment.

There are two classes of drug formularies: Class A and Class B. The Class A drug formulary is established by the central government and allows no adjustments at the provincial, municipal, or county levels. The Class B drug formulary is established by the central government, but provincial governments can make adjustments to the list not to exceed 15 percent of the central government's Class B drug formulary. Municipal and county departments of human resource and social security cannot adjust the drug formularies. They can, however, modify the proportion of drug expenditure eligible for insurance claims. There are now 503 drugs (349 western drugs and 154 traditional Chinese herbs) and 1,164 drugs (791 western drugs and 833 traditional Chinese herbs) included in the Class A and Class B drug formularies respectively. Class B drugs carry a 20 percent deductible.

Drug formularies are updated regularly to control costs, especially for expensive new drugs. Accessibility, popular use, and price are the major drivers of the drug formulary. Overall cost-effectiveness and full economic cost are not considered. Both doctors and patients tend to demand new drugs and medical devices as they are developed; and as this happens, they are included in the formularies. For example, the accumulated surplus of the medical insurance funds in Hangzhou is about 20 percent, which is lower than the national average, but the government has raised the insurance coverage and health benefits provided under UEBMI by eliminating the reimbursement limit and raising the proportion of health care expenditure eligible for insurance claims.

Provider payment methods

Measuring the quality of services by designated providers poses a complex challenge for local medical insurance bureaus. Standards have been established for cost control with provider payment methods. Instruments to assess costs include average inpatient costs, ratios of inpatient admissions to outpatient visits, and readmission rates. The use of expensive drugs and facilities, such as magnetic resonance imagery (MRIs), requires approval from medical insurance bureaus. However, payments are not withheld unless evidence is provided showing that a designated institution violated standards or failed annual inspection requirements.

Medical insurance agencies use fee-for-service (FFS) to pay healthcare institutions. The central government sets the fee structures and drug formularies, health services offered, and medical technology and equipment. The government also provides some funding through line-item budgets for facility capital investment, infrastructure, and base salaries.

As long as insured individuals receive health services at designated institutions, they can pay for the services themselves or from their individual medical savings accounts. Medical insurance covers their normal outpatient fees, other services, and drugs as specified in the formularies. When funds in individual medical savings accounts are depleted, funds from social pooling accounts are applied to their eligible expenditures.

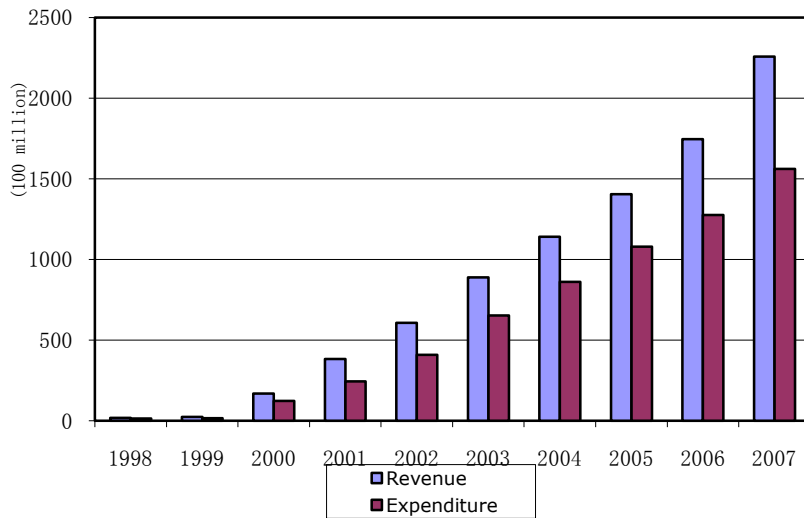
With the fee-for-service payment structure, medical insurance agencies are faced with virtually unlimited utilization. To control costs, they have implemented various mechanisms: (1) setting limits on the rate of increase of the institution's revenue, as stipulated in agreements between medical insurance agencies and designated healthcare institutions (Shanghai); (2) limiting the average cost per patient-day to amounts stipulated in agreements between medical insurance agencies and designated health care institutions (Nanjing, Zhenjiang, Guangzhou, and Shenzhen); (3) setting prices for diagnostic categories for specific diseases (Beijing sets one price per case payment for appendicitis, lymphoma, cataracts, ovarian cyst, ovarian cancer, and gall bladder stone; while Mudanjiang in Heilongjiang Province applies a set price for 329 diseases); (4) setting annual payments per patient (capitation payments) for chronic diseases at designated institutions with co-payments from patients (Beijing for patients with diabetes, and Nanjing for patients with psychiatric conditions).

Although medical insurance bureaus limit payments, such as average cost per patient-day, there is some flexibility. In Zhenjiang, subsidies are provided for reasonable increases beyond the estimated budget (Zhenjiang Medical Reform Office, 2004); and in Nanjing, adjustments are made on 10 percent of payments withheld based on inspection standards. Subsidies are provided if designated institutions' expenditures exceed the estimated budget (Nanjing Bureau of Labor and Social Security 2000). These "soft" budgets are used in estimating payments to designated institutions. Medical insurance bureaus have set one price per disease payment levels for hundreds of diseases, reportedly affecting payments to 4,198 hospitals (China News 2007), about 20 percent of the hospitals, in at least seven provinces.

Sources and uses of insurance funds

The rapid expansion in UEBMI enrollment and coverage has been accompanied by an enormous increase in insurance funds since 1998. Fund revenues rose from RMB 1.95 billion in 1998 to RMB 225.7 billion in 2007 (Figure 2).

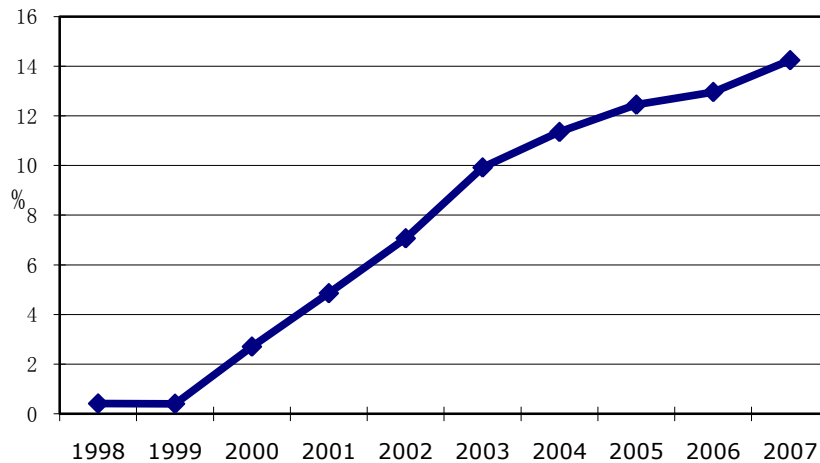
Figure 2. Trend of Revenues and Expenditures of UEBMI



Source: MOHRSS, 2009.

Expenditure increased from RMB 1.56 billion to RMB 156.2 billion over the same period. Payment from insurance funds rose from 0.4 percent of the nation’s total health care expenditure in 1998 to 13 percent in 2006 (Figure 3).

Figure 3. Proportion of UEBMI to Total Health Expenditure (%)



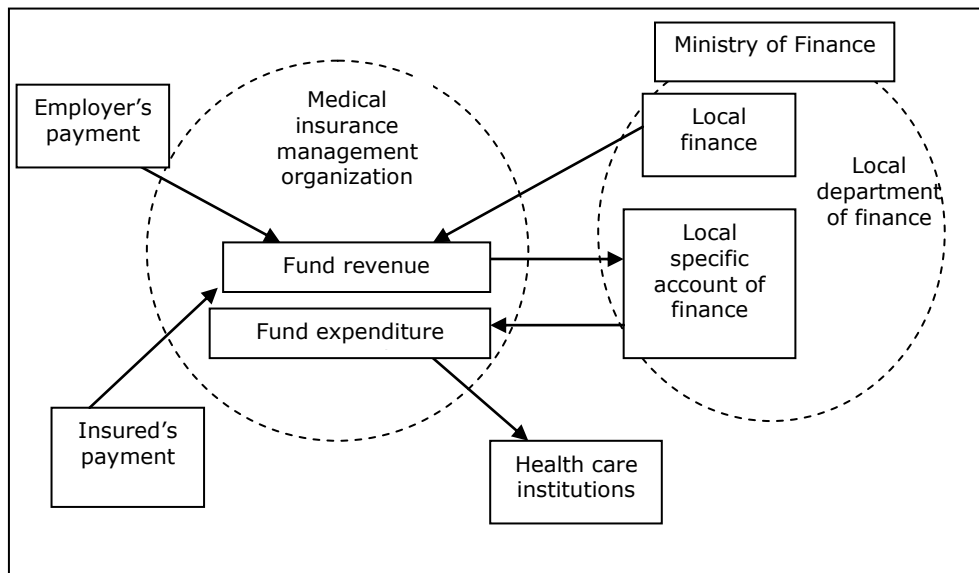
Source: MOHRSS, 2009.

Management of insurance funds

Local medical insurance agencies (including medical insurance bureaus and centers) administer and finance various medical insurance schemes. Employer and employee contributions provide financing for UEBMI. These funds are deposited directly into the insurance fund revenue accounts of the medical insurance agencies, which transfer the funds to local departments of finance for unified management. Depending on the actual healthcare expenditure, the local department then transfers funds to the medical insurance agency's insurance fund expenditure account. Finally, the insurance fund expenditure account pays the healthcare institutions.

Instead of using a single account to track fund revenues and expenditures, two separate accounts are used—one account for revenue (sources) and the other for expenditure (uses) (see Figure 4). This provides, first, a transparent view of revenues and expenditures of insurance funds and, second, it enhances the bilateral control of the local departments of finance and medical insurance agencies over the use of the insurance funds, thereby preventing misappropriation and embezzlement. Under this model, medical insurance agencies have no responsibility to manage the assets or investments of the insurance funds.

Figure 4. Flow of Medical Insurance Funds



Source: Authors.

Municipal and county medical insurance bureaus are now responsible for managing medical insurance funds at the local level. There are no medical insurance funds at the national and provincial levels for risk pooling and adjustment across localities; however, efforts have been made to establish medical insurance funds at the national and provincial levels for risk pooling in the 12th five year plan from 2011–15. This increases the ability of regions to provide financial protection against the health risks.

Urban Resident Basic Medical Insurance (URBMI)

Although the State Council officially launched the pilot of URBMI in July 2007 in a limited number of cities (State Council, 2007), as many as 70 municipalities had already established medical insurance schemes to cover those cities ineligible for their region's UEBMI pilot. This included Jilin, Jiangsu, Jiangxi, Chongqing, and Guangdong, which are launching province-wide resident medical insurance schemes. The Ministry of Human Resources and Social Security, not the Ministry of Health, has taken the lead in establishing URBMI as a part of China's social security network. Moreover, the URBMI is built upon the region's UEBMI, and some regions' URBMI use the existing administrative structure of the UEBMI. UEBMI and URBMI have identical structures for with respect to the level of administration and social pooling; management of health services; provider payment methods; sources and uses of insurance funds; and management of insurance funds. However, URBMI requires substantial micro-management because it provides insurance coverage and health benefits on an individual basis. Moreover, unlike UEBMI, URBMI has no individual medical savings accounts but consists solely of social pooling accounts.

The URBMI in Hainan, Chongqing, and Qinghai were developed through a merger of the existing UEBMI and NCMS, while Zhenjian,⁴ Yiwu, Yidu, Dongguan, and Zhongshan launched comprehensive medical insurance systems for both urban and rural residents. The main characteristics of these pilot programs are: (1) voluntary participation; (2) government subsidies; (3) low coverage; and (4) focus on major illnesses. Some features are temporary, and adjustments must be made to reflect changes in the programs' operating scope. However, the management of insurance funds will remain unchanged at least in the near future.

Enrollment

Following State Council Policy Document No. 20 (2007), URBMI coverage is provided for "primary and secondary school students who are not covered by the urban employee basic medical insurance system (including students in professional senior high schools, vocational middle schools, and technical schools), young children, and other unemployed urban residents." Enrollment in URBMI is voluntary, the result of a compromise that trades the high administrative cost of mandatory enrollment for the problems of adverse selection in voluntary enrollment. Total target enrollment for URBMI is about 240 million.

⁴In Zhejiang province, the pooled insurance management scheme is under the local department of health rather than the local HRSS office.

Level of financing

According to the State Council policy, the level of financing and premium payment for URBMI should start low, and be set higher than the NRCMI system but lower than the UEBMI. Local health insurance bureaus are responsible for setting the level of financing.

As in State Council Policy Document No. 20 (2007), the financing of URBMI includes insured individuals' premium payments and fiscal subsidies from all levels of government. That amounted to RMB 237 for adults and RMB 100 for minors in the 2007 pilot sites. Fiscal subsidies from central and local government provide roughly a third of URBMI premiums for adults and about one half for minors at the pilot sites. The central government fiscal subsidy is primarily for the central-western regions, with an average of RMB 20 per capita. This rises to RMB 40 for residents with financial difficulties. The central government subsidy to economically developed regions (e.g., Zhejiang) is only RMB 2 per capita. Fiscal subsidies finance about 15 percent of the URBMI pilot sites, with another 25 percent from enrollee premiums. Insured individuals still must pay about 60 percent out of pocket.

Insurance coverage and health benefits

Insurance coverage and benefits are directly proportional to the level of financing. As enrollees' contributions to URBMI financing are between the levels of NCMS and UEBMI, coverage and benefits are between the two as well. As URBMI does not include individual medical savings accounts, normal outpatient service fees are not eligible for insurance claims, and funds from social pooling accounts are used for inpatient care and expensive outpatient services. The payment method is the same as that of UEBMI. URBMI does not specify deductibles, co-payments, or reimbursement limits for insurance claims. Standards for deductibles and reimbursements are similar to the UEBMI. Co-payments and healthcare expenditures eligible for insurance claims are lower than under UEBMI, ranging from 55 to 70 percent of the fee schedules for drugs and health services. Overall, URBMI pays 45 percent of insured healthcare expenditures, and the average reimbursement for an inpatient stay is RMB 1,436. For most individuals insured under URBMI, the average reimbursement for claims is about 70 percent of those under UEBMI.

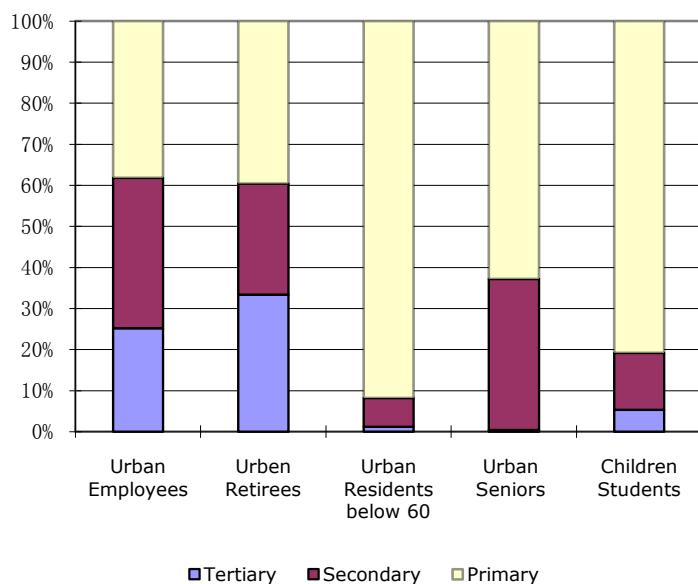
Social pooling and administration

Although the urban resident and employee basic medical insurance schemes use the same administrative structure, provincial medical insurance bureaus are not responsible for URBMI. On the other hand, municipal and county/district medical insurance bureaus are in charge of URBMI in their regions.

Some forms of micromanagement are necessary for URBMI because insurance and health benefits are provided individually. URBMI's administrative workload will double if universal coverage is achieved in 2010. If so, the government will have to allocate additional resources

for administration to ensure proper implementation of insurance policies and to encourage expansion of coverage and benefits.

Management of health services



URBMI has implemented measures similar to UEBMI for managing health services—basically, the use of designated institutions for health services and three formularies. However, most individuals insured under URBMI chose primary care facilities for outpatient services (see Figure 5). Thus, the administrative focus of URBMI may switch from tertiary to primary care facilities, smoothing the development progress of primary care facilities in urban areas.

Figure 5. Comparison of Healthcare Facilities for Outpatient Visits

Source: MOHRSS, 2009.

Sources and uses of insurance funds

Government subsidies and individual out-of-pocket payment provide most financing for URBMI. After launching in mid-2007, URBMI revenue increased to RMB 6.5 billion by the end of 2007, and it was estimated that revenue tripled by the end of 2008. With the doubling of government subsidies, total revenue will continue to grow

Management of insurance funds

Apart from financing, the management of insurance funds under URBMI is similar to that of UEBMI. Employer and employee contributions are the major sources of financing for UEBMI, and individual contributions and government subsidies are the major sources for URBMI. Medical insurance funds for UEBMI and URBMI are managed independently by the same medical insurance agent in each administrative region under the Ministry of Human Resources and Social Security. All contributions are deposited in the pooled insurance fund account, which is charged for covered services. This allows for variations in coverage and benefits depending on local conditions.

New Rural Cooperative Medical Insurance System (NCMS⁵)

When economic reform began in 1978, the commune-based planned economy transitioned to an individual-based market model. The transition led to a near-complete collapse of Rural Cooperative Medical Insurance Scheme, which otherwise provided medical coverage to virtually the entire rural population. By 2000, only about 10 percent of the rural population still had some coverage under the old rural cooperative medical insurance.

In 1993 the Research Office of the State Council and the Ministry of Health launched the first reform initiatives. The New Rural Cooperative Medical Insurance Scheme (NCMS) was piloted in seven provinces and 14 counties. On January 1, 1997, Decisions of the State Council on Healthcare Reform and Development stated that the government will “actively develop and improve rural cooperative medical insurance to ensure that the rural population will receive basic health services, emphasizing preventive care while preventing poverty caused by extensive health care costs (State Council, Policy Document No. 3, 1997).” Despite progress towards developing an improved rural cooperative medical system, diverging practices and policies caused delay and created barriers in constructing and developing NCMS.

Increasing rural demand—in particular, for treatment of expensive, medically complex chronic diseases—added urgency to reform; and unprecedented economic growth, averaging nearly 10 percent a year, helped support a financing mechanism. “Decisions of the State Council on Strengthening Rural Health Care” provided guidelines and standards for the design and implementation of NCMS (Policy Document No. 13, 2002). The guidelines stated that “NCMS should focus on pooling and financing for major illnesses; use voluntary enrollment; and implement joint funding from individual payments, collective assistance, and multi-level government subsidies as its financing mechanism.” The goal for NCMS was to provide health coverage for the entire rural population by end of 2010.

In 2003 the Ministry of Health, the Ministry of Finance, and the Ministry of Agriculture jointly issued “Opinions on the Establishment of New Rural Cooperative Medical Insurance”

⁵ This note uses the acronym NCMS for National Cooperative Medical Scheme. Strictly speaking, NCMS is not an insurance scheme. Individuals must pay for all services as services are rendered. They are reimbursed up to eligible limits upon termination of illness episodes.

(State Council, Policy Document No. 3, 2003). Pilot testing was launched. Although State Council policy documents (2002, 2003) emphasize that NRCMI would be paid for by government subsidies and individual premium payments, no change was made to the government's policy emphasis on preventive care.

Lack of professionalism—both in management of medical insurance funds and in the delivery of health services—were major concerns in implementing reforms. The NCMS pilot set up a structure with clear responsibilities and division of labor for managing insurance funds. Other characteristics included:

- (1) A greater role for government and additional financing sources. These included central government subsidies, local government subsidies, individual and family payments in order to enroll, and the society's charitable donation.
- (2) Increased focus on insurance coverage and health benefits for major illnesses. The purpose was to prevent impoverishment resulting from unmanageable healthcare costs.
- (3) Voluntary, family-based enrollment of rural residents. The emphasis was on democratic procedure, openness, and transparency.
- (4) Increase the administrative level of risk pooling and financing from townships and villages to counties. This was important for building medical funds able to finance major illnesses.

In addition, the government invested significant funds in infrastructure and training for rural health professionals (Wen 2008).

Enrollment

Based on Ministry of Health statistics (2009), nearly 3,000 counties—representing about 94 percent of the national population—registered for NCMS by the end of 2009. This represents coverage for more than 800 million rural residents. In 20 provinces, NCMS covers the entire rural population.

Level of financing

Individual payments, collective assistance, and government subsidies are the major sources of NCMS finance. During the NCMS startup, the central government set up transfer payments to provide subsidies to rural residents at a rate of RMB 10 per enrollee. Both the local government and rural peasants had to contribute at least RMB 10 per enrollee as well. In 2006, the central government increased its rural subsidy, especially in the midwestern regions. Transfer payments have expanded to cover municipalities with more than 70 percent rural population, as well as the six provinces where pilot sites are located—Liaolin, Jiansu, Jiujiang, Fujian, Shandong, and Guangdong. Payments by local governments and families (the enrollment units) are at least RMB 20 and RMB 10 per enrollee, respectively. As of 2008–2010, the government increased its average subsidy from RMB 40 to RMB 120 per enrollee. Average financing rose from RMB 50 to RMB 130 per enrollee.

As happened with urban programs, per capita expenditure for rural programs has increased—by 15.9 percent for health and 45.3 percent for medical insurance between 2003 (the launch of the NCMS) and 2005. (See Table 2 above, which shows rural and urban per capita expenditure.) Insurance expenditure per capita represented 52.8 percent of health expenditure in 2005 but only 42.1 percent in 2003. NCMS is responsible for strong improvement in health expenditure in rural areas, where medical insurance expenditures per capita (RMB 289) were only 5.7 percent of average rural income (RMB 5,025) in 2006 (Ministry of Health 2008). This suggests that medical insurance, specifically NCMS, is starting to make headway in rectifying the longstanding imbalance in rural and urban health care.

Insurance coverage and benefits

Debate on the extent of NCMS coverage and how benefits should be prioritized has been ongoing since the early 2000s. Li (2004) argues that NCMS should focus on major illnesses, the principal cause of rural poverty. Siu et al. (2006) disagree, arguing for broader basic and recurring health coverage based on the low level of financing actually available in the NCMS pilots. Yip et al. (2005) advocate a compromise—coverage for both expensive health care for major illnesses and inexpensive routine basic health services.

The pilot programs have implemented four different schemes. In the first, coverage is provided for inpatient care and outpatient services. Family medical savings accounts or social pooling accounts are used for outpatient services at designated healthcare institutions. Reimbursements are provided for 20 to 40 percent of eligible healthcare expenditures. Reimbursement caps are between RMB 100 and RMB 200. In the second scheme, coverage is provided for inpatient care and for expensive outpatient services. Deductibles and reimbursement caps are in place, with higher eligible expenditures for inpatient care than for outpatient services. In the third, coverage is provided for inpatient care, expensive outpatient services, and certain other outpatient services. A family medical savings account pays for common diseases and minor illnesses. In the fourth scheme, only inpatient care is paid for the services at designated healthcare institutions. Some pilot schemes also provide coverage for annual physical examinations and fixed assistance for labor and delivery.

Most pilot schemes base deductibles and reimbursement caps on category of healthcare facility and its use of technology and equipment. Deductibles range from RMB 100 to RMB 900, and reimbursement caps vary from RMB 1,000 to RMB 50,000. Some pilot schemes set fixed reimbursement rates; others apply variable rates depending on level of expenditure.

Social pooling and administration

Broad pooling of funds remains an issue under NCMS. County governments are responsible for administering NCMS financing and enrollment. This improves the financial position of the funds and reduces the risk of illnesses across a larger population, a weakness in the commune-based financing of the former Rural Cooperative Medical Insurance.

Unlike URBMI, NCMS enrollment is family based. The family as enrollment unit is administratively simpler than URBMI's individually based enrollment, and it provides better risk pooling. On the other hand, enrollment is voluntary. This encourages the elderly to enroll their larger multigenerational families, while younger persons (with smaller families) may choose to opt out. Empirical evidence is not yet available on the implications of adverse selection in multigenerational families.

Risk pooling at the county level is at best an intermediate step to optimal pooling at the provincial level. This is important for improving equity across counties and for realizing efficiencies of scale (lower administrative costs). It also means increased purchasing power when contracting with providers. In 2009, the health reform plan called for provincial-level pooling by year 2020.

Managing services

In 2004–2007, the central government invested RMB 9.4 billion to construct and renovate 20,000 rural health service centers. This was essential to the recovery of the rural healthcare infrastructure that had been neglected since the collapse of NRCMI during the economic reforms. An additional RMB 1.2 billion was invested to train more than 2 million rural health workers. The government has continued its program of providing physician's assistance to rural health workers. The municipalities and autonomous regions of the 21 provinces in the central western regions have implemented projects where primary and secondary medical assistance is provided to county, village, and township health-service centers. The training and medical assistance programs should enhance the professionalism of the management teams and health workers in these areas, in turn raising the level, standard, and quality of rural health services. Although precise statistical evidence is not available, it is clear that investment in human resources is critical to repair the breakdown of the rural health care network.

MOH research on NCMS reiterates the need to strengthen the management of rural healthcare institutions and control rising healthcare costs. The State Council is committed to increased professional training, capacity building of rural health workers, and stricter monitoring of health service behavior.

Sources and uses of insurance funds

As discussed above, the primary sources of NCMS funding are subsidies from various levels of government, social/collective assistance, and co-payments from the insured. In addition to government subsidies per enrollee, the central government has committed RMB 2.7 billion to construct basic infrastructure. The total NRCMI medical fund rose to RMB 43 billion in 2007, including RMB 11 billion from the central government, RMB 21 billion from local governments, RMB 9.6 billion from the rural population, and RMB 0.6 billion from communities. NCMS insurance and benefit payments were made for 920 million individual cases during 2003–2007, at a cost of RMB 59 billion. In 2007 alone, insurance coverage and health benefits were provided to 450 million individual cases, at a cost of RMB 35 billion

(Ministry of Health, 2008). The number of cases and amount of expenditure continued to rise 2008 and 2009, with a corresponding increase in levels of service use. Overall, rural access to and use of health services has improved markedly since the launch of the NCMS in 2003. (See also *China Health Policy Note No. 2, Fixing the Public Hospital System in China*, 2010).

Managing insurance funds

NCMS has three management structures. About 94 percent of the pilot schemes established cooperative medical management centers under the Ministry of Health, 2 percent established social insurance accounting and auditing centers under the Ministry of Human Resource and Social Security, and 4 percent established commercial insurance agencies. Under the MOH structure, county-level departments of finance and cooperative medical management centers are responsible for managing medical insurance funds. Similar to the management of insurance funds under UEBMI and URBMI, revenue accounting is separated from expenditure accounting; and special-purpose accounts are used to manage NCMS funds. All government subsidies and revenues received from rural residents are transferred to the special accounts. County departments of health monitor all payments to designated healthcare institutions. These transactions must be approved by the county cooperative medical management centers. Separation of revenue and expenditure accounting, close monitoring, and transparency are all fundamental to managing the funds.

4. UEBMI and URBMI: A Comparative Assessment

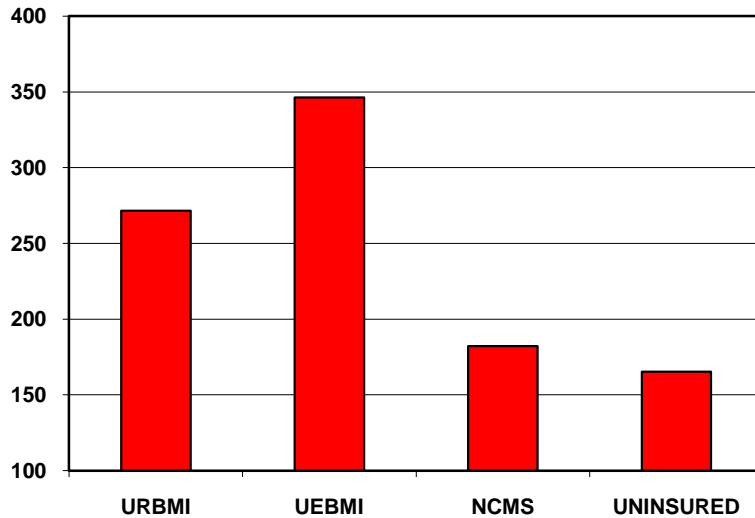
Individual financial burdens

During the 1980s, labor medical insurance for many enterprises and publicly funded government medical insurance for some agencies ran into serious financial trouble. They could no longer pay healthcare institutions for services rendered; consequently, many individuals had to purchase medical services out of pocket, and incurred substantial financial risk. With UEBMI, medical insurance agencies work directly with health providers to pay for services, thereby eliminating the risk of default. Thus, while UEBMI coverage and benefit levels may be lower than that of the previous government and labor schemes, direct group payments to providers and increased risk pooling provide greater financial security than the previous schemes that could not protect employees of ailing enterprises.

To reduce financial burdens on individuals, most regions have established supplementary voluntary medical insurance schemes. These cover healthcare expenditures above the UEBMI reimbursement cap. The government has also implemented medical subsidies for government employees (civil servants). These ensure that the health benefits received will not be less than benefits from publicly funded government medical insurance. For inpatient care, coverage and benefits for individuals with supplementary insurance are about the same as for civil servants. In Zhenjiang, Liu and Zhao (2006) found increased out-of-pocket payments for people insured through UEBMI. Nevertheless, redistributions in out-of-pocket payments appear to favor disadvantaged groups, suggesting, first, more equitable cost-sharing within UEBMI and, second, cost containment and increased coverage for urban residents overall. Medical insurance may have generated some supply-side (provider-induced) demand for nonessential services, thereby contributing to an increase in total healthcare costs. Nevertheless, reimbursements to insured individuals cover about 70 percent of their (eligible) costs. Even though total healthcare costs may be rising (and passed on) from induced demand, out-of-pocket payments for individuals with UEBMI are considerably less than the out-of-pocket payments without UEBMI (Liu et al. 2008).

A national assessment (Liu et al. 2008) commissioned by the State Council Expert Panel on the Urban Resident Medical Insurance Pilot found a higher proportion of chronic patients under URBMI than NCMS or among the uninsured, though a lower proportion than under UEBMI (Figure 6).

Figure 6. Number of People with Chronic Conditions (per 10,000)

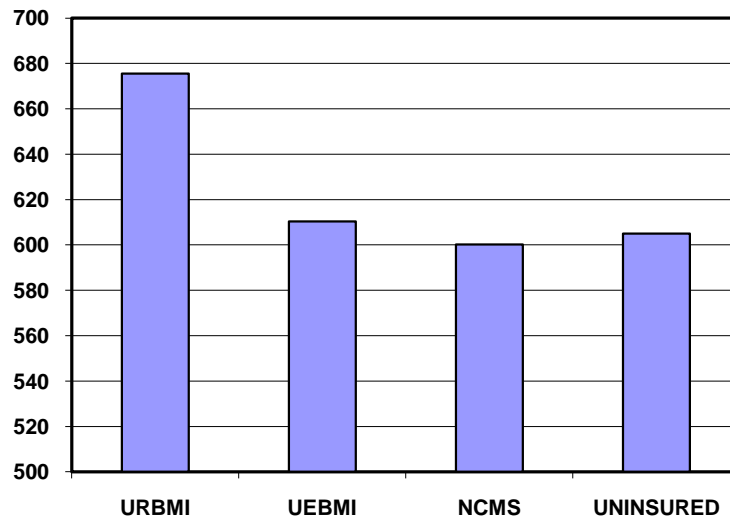


Source: Liu et al. 2008.

URBMI enrollees were more likely to seek care compared with other groups, including those with UEBMI (Figure 7). Similar results were found in a follow-on study that controlled for regional and individual conditions (Lin et al. 2009). Although data are limited because of the short study period, preliminary analysis supports the conclusion that URBMI increases access among those who need care.

Figure 7. Number of People Seeking Care When Ill (per 10,000)

Source: Lin et al., 2009



As URBMI does not have individual medical savings accounts, its social pooling is for catastrophic conditions, mostly for inpatient settings. About 20 percent of the urban unemployed (especially the elderly and infirm) suffer from chronic diseases, well above the 14.6 percent national rate. Neither individual medical savings accounts nor social pooling accounts cover outpatient health service fees. Consequently, patients suffering from chronic diseases may therefore seek (reimbursable) inpatient services, leading to inefficiency and higher costs in the long run. A refinement in policy may be needed.

Equity in access to and utilization of health services

Compared with the old government and labor medical insurance schemes, UEBMI has improved equity and access to health resources covering a wider range of incomes, jobs, and health conditions (Liu et al. 2002). Under the old labor medical insurance schemes, each enterprise had its own insurance. Coverage and benefits depended on employees' status in the enterprises, with differences in employment leading to overall inequity in benefits. By contrast, under UEBMI all employment units in a region provide similar coverage. A survey of 1,200 individuals found that inpatient care for low-income groups increased under UEBMI, as well as overall equity among employees across institutions, income levels, and job positions (Li et al. 2001).

In some regions, governments have set up supplementary medical insurance plans. These provide subsidies so that coverage and benefits for government employees under UEBMI are about the same as provided under the old government medical insurance schemes (Liu et al. 2006). Inequity in benefits nevertheless persists under UEBMI. Benefits vary across organizations, and different income groups receive different services. Li and colleagues (2001) reported higher-income groups as more likely to use services at tertiary (Class III) hospitals, and lower-income groups more likely to seek less costly services at community and primary care facilities. A later study shows that integrating social pooling accounts with individual medical savings accounts reduces outpatient services among low-income groups and seniors, because of the greater likelihood of depleting funds in their individual medical savings accounts (Liu et al. 2006).

Viewed historically, UEBMI has improved health equity compared with the old publicly funded labor insurance schemes. Liu et al. for Zhenjiang (2002) and Li et al. for Zibo (2001) report improved equity among insured individuals with different incomes, employment positions, and health status.

Because of the short period of pilot testing, evidence on equity is limited for URBMI. Nonetheless, unequal access and use is apparent for different income groups. Li (2008) reports that higher-income groups use more outpatient services and lower-income groups use less inpatient care.

There is significant inequity between UEBMI for the employed and URBMI for the unemployed. There is almost a five-fold difference between finance for urban employees (RMB 1,100 per enrollee) and the basic medical insurance schemes (RMB 236 per enrollee). Claims and reimbursements for inpatient care covered 67 percent of eligible expenditures for UEBMI enrollees, but much less for URBMI beneficiaries. Average cost per patient-day for inpatient care is significantly higher under UEBMI than under URBMI.

Many factors contribute to these disparities. First, purchasing power is lower among URBMI enrollees, including children, students, seniors, and the unemployed. The lower level of financing translates into less coverage and benefits. Second, URBMI pilot projects adhere to the principle of modest startup to ensure stable development. It is easy to expand services with steadily increasing financing. Third, government subsidies were also low at startup in order to limit financial risk. However, healthy development justifies and invites increased investment. The central government announced a doubling of health investment in 2008, and encouraged local governments to do the same with matching investments. This should reduce the inequity in coverage and benefits between UEBMI and URBMI.

The medical insurance situation for migrant workers is worrisome. Average income for migrant workers is RMB 966, slightly more than half of the national average of RMB 1,750 (National Bureau of Statistics, 2007). Although migrant workers' payment for URBMI is pegged to 60 percent of a region's average salary, this still poses a significant hurdle for migrant workers, who are entitled to only 60 percent of the coverage and benefits that full-time employees received under UEBMI. Finally, migrant workers are eligible for government subsidies under NCMS, but not under URBMI. In 2010, the government outlined a strategy to increase the portability and equity of benefits for migrant workers. Shanghai and Gaungzhou announced options whereby migrant workers can obtain local *hukous* (certificate of residency status) in their cities based on labor-market demand and years of service in local markets that would entitle them to improved benefits.

Cost containment

During the UEBMI pilot, demand-side control was the primary approach to cost containment. These controls included individual medical savings accounts, higher deductibles (about 10 percent of regional average salary), and lower reimbursement caps (about four times the regional average salary). Unfortunately, evidence from China and Singapore suggests that demand-side controls are not particularly effective (see Yip and Hsiao 1997).

Table 3, based on data from the Third National Health Services Survey, illustrates the rising costs of health care since 1993. From 1998 (when UEBMI was established) to 2003, the cost of an outpatient visit for an insured person nearly doubled from RMB 80 to RMB 155 (proportionately less than the increase for an uninsured person, which was from RMB 44 to RMB 94). The pattern is similar for inpatient admission costs, which rose from RMB

2,770 to RMB 4,623 for an insured person and from RMB 1,477 to RMB 3,214 for an uninsured person.

Table 3. Changes in Outpatient and Inpatient Costs, 1993–2003 (RMB, Adjusted for Inflation)

	Per outpatient visit (RMB)		Per inpatient admission (RMB)	
	Insured	Uninsured	Insured	Uninsured
2003	155.0	94.0	4,623.0	3,214.0
1998	80.0	44.0	2,770.0	1,477.0
1993	62.0	41.0	1,930.0	1,139.0
Rate of increase (%)				
1998–2003	93.8	113.6	66.9	117.6
1993–1998	29.0	7.3	43.5	29.7

Source: Ministry of Health, The Third National Health Services Survey, 2004.

To some extent, rising costs can be attributed to induced demand related to insurance. With a payment system based on fees for services, providers tend to order nonessential (and essential) services. Whether or not insured individuals are healthier physically, they are healthier financially. They expect and receive more services from higher-cost tertiary facilities (Class III). By contrast, uninsured individuals are mostly unemployed, elderly, students, and children, whose expectations as well as expenditures are lower.

For the five years prior to the launch of UEBMI (1993–98), average payments for outpatient visits under publicly funded government and labor medical insurance increased by 29.0 percent for the insured and 7.3 percent for the uninsured. For the five years after the launch of UEBMI (1998–2003), outpatient visits increased by 93.8 percent for the insured and 113.6 percent for the uninsured (there was a similar pattern for the cost of inpatient admissions). The fact that cost increases were higher for the uninsured than for the insured *before* UEBMI but the other way around *after* UEBMI suggests that UEBMI may have played a role in helping contain health cost inflation. This deserves further investigation.

Other studies suggest similar results. In Zhenjiang, healthcare inflation decreased from 33 percent *before* the reform (1995–98) to 12 percent *after* the reform (1998–2001) (Zheng 2004; Lin 2004). For Zhenjiang's First People Hospital, Zheng (1997) reports a 31.2 percent rate of revenue increase *before* reform (1990–94) compared with a 5.2 percent rate *after* reform (1994–95). Similarly, in Nantong, Chen (2001) concluded that the costs of inpatient care for people covered by labor medical insurance schemes (but not insured under UEBMI) were

twice that of those insured under UEBMI; and special examinations in Shenzhen decreased to a ninth of the previous year (Shen, 1996). More research is needed to explain these relationships and trends.

Implementation of UEBMI was extended throughout the country in 1998. Since then, the scale of UEBMI and the power of insurance agencies have expanded rapidly. Supply-side control has been the primary approach to cost containment. One method is to create formularies for drugs, health services, and medical technology and equipment. Other supply-side methods focus on provider payment mechanisms. These include global budgets, average payments per patient-day, case payments, and capitation payments. Fee-for-service payments are predominant, as other payment methods cover only 20 percent of hospitals. Ma et al. (2008) and Wu et al. (2008) nevertheless concluded that the case payment method improves the quality of health services, reduces health care expenditures, decreases inpatient length of stay, and controls unreasonable increases in health care expenditures.⁶

Enrollee satisfaction and utilization of services

Comparing UEBMI to the government and labor medical insurance schemes, satisfaction rose among insured individuals. Under the old schemes, insured individuals paid for services at time of delivery and submitted claims for reimbursement. Under UEBMI, the medical insurance bureaus pay healthcare institutions directly, thereby reducing the administrative burden and financial risks for insurees.

Guan et al. (2004) and Dong et al. (2008) studied health benefits at Chengdu, Hu-Lu Island, Hangzhou, and Suzhou. In general, they found health benefits to be lower under UEBMI than the previous schemes. For inpatient services, insured individuals perceived little difference between the two. For outpatient services, differences were perceived to be greater. Under the “compartment” payment model used by UEBMI, outpatient treatments of chronic diseases are paid from individual medical savings accounts, which are generally insufficient to cover the costs of continuous care. In developed regions such as Hangzhou and Suzhou, UEBMI uses the “pathway” payment model, relying on supplementary insurance to offset the greater financial burden, and user satisfaction is higher.

UEBMI has implemented integrated pooling accounts. This may have decreased demand, because of the low level of benefits for outpatient services. Empirical evidence is not conclusive one way or another. Studies of UEBMI utilization in Zhenjiang and Nantong indicate that cost-sharing of premiums did not affect demand for basic services. The number of patient visits increased significantly after the establishment of UEBMI. Similarly, the proportion of insured who needed care but were not admitted decreased from 1.9 percent in 1994 (before UEBMI) to 0.4 percent in 2001 (after UEBMI) (Zou 2002). Comparing UEBMI with the previous schemes, Chen (2004) reported no difference in

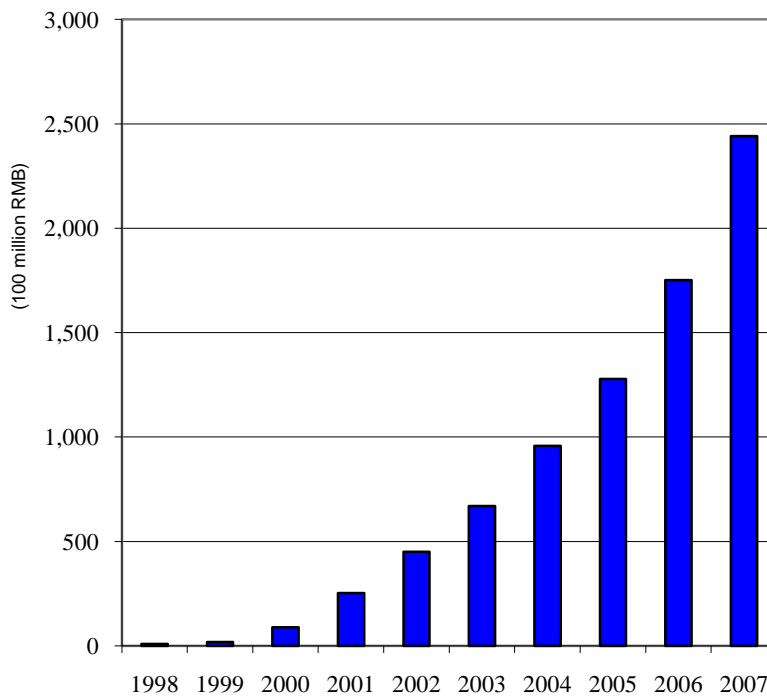
⁶ The World Bank Policy Note on Provider Payment (Meng et al. 2010) provides more detail on design and impact of these new approaches.

outpatient visits or inpatient care in Nantong. Other studies have found tighter control of service utilization under UEMBI. Two hospitals in Shanghai, for example, reported that monthly average outpatient visits decreased by 60 percent under UEMBI, while demand for emergency care increased by 20 percent (Dong et al. 2004). In Daqing and Mudangjiang, Deng (2004) found decreased demand for health services by the elderly under the new medical insurance schemes.

Use of medical insurance funds

Medical insurance funds face a new challenge: as medical insurance funds have grown, their surpluses may be excessive. As shown in Figure 8, accumulated surpluses rose from RMB 0.98 billion in 1998 (equal to 7.5 months of payments for services) to RMB 241.1 billion in 2007 (20 months of payments).

Figure 8. Accumulated Surplus of Medical Insurance Funds



Source: Authors' calculations, based on MOH and MOHRSS annual reports, 2009.

Individual medical savings accounts are not the primary reason for these surpluses. The increase in surplus from 2003 to 2006 was far greater than would be accounted for by individual medical savings accounts. The ratio of social pooling accounts to medical insurance funds increased from 56.6 percent to 61.5 percent during the same period.

What explains the accumulation of excessive surpluses? First, the initial estimates that set insurance premiums were conservative, so that coverage and benefits actually cost *less* than the revenues from premiums. Second, the level of social pooling was low, which reduced the insurance funds' ability to bear and manage risk with precision. Moreover, management of medical insurance funds is conservative, which limits increases in insurance coverage and health benefits.

Insurance eligibility for retirees of closed or bankrupt enterprises was a problem until recently. This was resolved through 10-to-15 year lump-sum premium payments made in their behalf. The funds are provided from government grants, remaining enterprise assets, and workers' individual medical savings account. Moreover, insurance coverage and health benefits are further financed by those workers currently enrolled in the schemes.

Assessing the systems in comparative perspective

UEBMI and URBMI provide insurance coverage and health benefits to all urban residents, including migrant workers. With mandatory enrollment, adverse selection is not an issue. However, *enforcing* mandatory enrollment can be a problem, because individuals and enterprises must identify themselves for the system to work. Individuals and enterprises experiencing financial trouble are not likely to voluntarily enroll in medical insurance schemes, and it is difficult for the government to track them and force compliance. For this reason, some urban residents do not have medical insurance, and they will not use the basic health services that insurance schemes provide. Mandatory enrollment is preferable for safety nets. On the other hand, the substantial administrative costs of enforcement (as is the case with URBMI) and the substantial additional expenditures that would be needed for services (as in the case of NCMS work in the opposite direction. Temporarily at least, voluntary (rather than enforced mandatory) enrollment serves as a compromise. A different solution may be necessary over the longer term.

Adverse selection from voluntary enrollment improves the “bottom line” of the insurance funds, but at a significant social cost. Induced demand is a different problem—additional supply-side demand that is generated by the prescription of nonessential services or overly expensive drugs. Induced demand is related to a provider payment system that rewards providers for the number and cost of medical services that they provide and the volume of pharmaceutical sales on which they earn profits. Insured individuals also induce demand—when, for example, they transport themselves to expensive tertiary-care hospitals (Class III) based on their reputation rather than cost-effectiveness or clinical efficacy. Whether provider- or patient-induced, these moral hazards result in higher healthcare costs.

Individual medical savings accounts (MSAs) address one aspect of this problem, because they limit individual health spending and make patients more aware and accountable for their behavior. On the other hand, individual MSAs are inherently inequitable. The poor and sick deplete their accounts quickly, while the well-off and healthy can maintain balances. Looking at experiences globally, several issues need to be considered.

- Attempting to contain healthcare costs by increasing the threshold for individual responsibility can be limited as well as pointless. Healthcare costs can be substantial, unpredictable, and unmanageable—out of reach for even the most prudent savers.
- Healthcare costs are unrelated to individual income. Where individual contributions to MSAs are set as a fixed percentage of income, high-income individuals quickly accumulate sufficient savings to cover most healthcare expenses; however, low-income individuals accumulate funds slowly, and their MSAs are quickly depleted by even routine healthcare demands.
- For high-income individuals, MSAs can serve as tax shelters to be converted to consumer purchases under the guise of “health” (spas, holidays, and post-retirement activities). As a means to extend health care within a large population, a strategy relying on MSA is regressive.
- Individuals suffering from chronic conditions quickly deplete their MSAs and are further penalized by having to pay up to the full deductible year after year.
- Low-income individuals may be forced to forgo routine health care, leading to higher treatment expenditures for all in the long run, including the health plan.
- The administrative cost of maintaining individual medical savings accounts is considerable where they are offered as standalone products.

In addition to individual MSAs, social pooling accounts (SPAs) are another feature of UEBMI. The use of two kinds of accounts to process insurance claims is complex and administratively expensive. On the other hand, the accounts serve somewhat different functions. Individual MSAs help individuals to save for health care, and they hold individuals accountable for their behavior and their use of health resources. Social pooling accounts reduce financial risk for individuals who require extensive and expensive services.

Although there is a surplus in UEBMI medical insurance funds (see Figure 8), the question is what level is reasonable. There are different reasons for surpluses—exceptional efficiency and effectiveness, premiums that are high relative to payouts, or (as in the case of UEBMI) relatively low levels of coverage and benefits. Concluding that a particular level of surplus is “reasonable” must be based on a wide range of factors. A premium payment equivalent to 2 percent of compensation represents a more significant expenditure for low-income earners than for high-income earners, so low-income groups may perceive premiums at that level of financing as “too high” while their higher-income counterparts come to the opposite conclusion. The level of finance for URBMI is lower than for UEBMI, and the insurance coverage and health benefits provided under URBMI are lower as well.

What determines the content of a health benefits package? At present, it is determined neither by actuarial analysis, nor clinical evaluation of efficacy, effectiveness, and cost-effectiveness of health services. Financial sustainability is a major consideration, as is comparability with former government and labor medical insurance schemes. The government goal is to provide coverage for basic healthcare services for the entire nation. Future revision of health benefits must incorporate other considerations as well, especially preventive health care that includes maternal care, vaccinations, and physical examinations. A proactive preventive approach needs to include “lifestyle-related” diseases that are now the leading causes of death for both urban and rural populations, especially cancer, stroke, heart disease, diabetes, chronic lung diseases, and certain kinds of injuries and poisoning (Ministry of Health 2008).

As UEBMI, URBMI, and NCMS are managed by separate ministries with different levels of premium payments and financing, their insurance coverage and health benefits lack portability. Provinces, regions, municipalities, and counties also maintain medical insurance systems that are not transferable to other areas. Individuals risk loss of insurance coverage and health benefits when their employment status and residency change. Further insurance reforms include regional-level integration of UEBMI, URBMI, and NCMS to establish transferability across systems and ensure individuals of continuous coverage and benefits.

5. Comparison of China's Medical Insurance System with OECD Countries

China's medical insurance system has three components—UEBMI, URBMI, and NCMS, along with the Medical Assistance (MA) program providing supplemental support to the poor. Viewed as four elements in an overall “system,” China is moving toward universal basic medical insurance in the manner of countries OECD⁷ countries such as Canada, Netherlands, Sweden, the Republic of Korea, Japan, and Singapore.

OECD country models

Table 4 shows selected countries' populations, gross domestic products, and health care expenditures. Health systems in Japan, Sweden, and Canada are publicly funded, while finance in Singapore is predominantly out-of-pocket payments from individual medical savings accounts (similar to UEBMI). The Netherlands has adopted a competitive model with several medical insurance systems. The Republic of Korea implemented a universal system that moved from 383 health insurers to a single insurer in just 12 years. These experiences provide useful perspectives as China considers future reforms.

Table 4. Population, Gross National Product, and Expenditure on Health

	Population, 2006 (millions)	Expenditure on health per capita, 2005(Int'l \$)*	Per capita GDP, 2005, 2006 (Int'l \$)	Expenditure on health as % of GDP,2005 (%)	General govt. expenditure on health as % of total health expenditure, 2005 (%)
China	1,328.5	315	7,740	4.7	38.8
Canada	32.6	3,419	34,610	9.7	70.3
The Netherlands	16.4	3,187	37,580	9.2	64.9
Sweden	9.1	3,012	35,070	9.2	81.7
Rep. Korea	48.1	1,263	23,800	5.9	53.0
Japan	128.0	2,498	33,150	8.2	82.2
Singapore	4.4	1,140	31,710	3.5	31.9

Source: WHO, <http://www.who.int/countries/en/> and *World Health Statistics 2008*

* *International \$* as used in the table refers to dollar amounts adjusted for purchasing power parity (PPP). The Geary-Khamis dollar, also known as the international dollar, is a hypothetical unit of [currency](#) that has the same [purchasing power](#) that the [U.S. dollar](#) had in the [United States](#) at a given point in time.

⁷ OECD is the voluntary Organization of Economic Cooperation and Development, an international organization of trade and information-sharing across mostly higher-income countries, including many in Western Europe, and North America. East Asian countries include Japan, Singapore, Korea, and Taiwan (China). China is discussing future membership in OECD.

Table 5 summarizes key features of these health systems (based on Marchildon 2004).

Table 5. A Summary View of National Health Insurance Systems

Medical insurance systems	Financing	Health benefits	Health service Providers	Hospital payment	Physician payment
China UEBMI, URBMI, NRCMI, NCMS, MA	Employer/ employee contributions; individual contributions; government subsidies	Formularies for drugs, health services and medical technology /equipment at designated healthcare institutions	Public, state- owned and private (for- profit and not-for- profit) healthcare institutions	Line item budgets, fee for service; global budget; case payment; capitation payment	Salary
Canada Provincial/ territorial health insurance; private insurance from employment	Taxation; individual premium payments; employer/ employee contributions	Hospital, physician, and diagnostic services; prescribed drugs during hospitalization	Private (for- profit and not-for- profit) healthcare institutions; general practitioners	Global budget	Fee-for- service; a mixed system of salary, capitation and fee-for- service
Netherlands National health insurance; compulsory sickness fund; voluntary supplementary health insurance	Individual contributions; government funds	Primary, secondary and tertiary care; approved drugs	Private not- for-profit healthcare institutions with few public university hospitals; general practitioners	DRG-type; diagnosis treatment combination system	Per-capita; fee-for- service; salary
Sweden National social insurance; national health insurance; limited private healthcare insurance	Taxation; employer contributions	Principles of health dignity, need and solidarity; principle of cost effectiveness; drug benefit scheme	Public healthcare institutions; private health centers general practitioners	Global budget; per- case payment with ceiling; capitation models for primary care	Salary; a combination of salaries, capitation and fee-for- service

Table 5, continued.

Medical insurance systems	Financing	Health benefits	Health service Providers	Hospital payment	Physician payment
Korea					
MediAid, Medical Insurance (national health insurance)	Employer/employee contributions; individual contributions; government subsidies	Medical services; diagnosis, pharmaceutical or medical treatment materials; inpatient and outpatient care; dental services; health examination	Private healthcare institutions; general practitioners	DGR payment for inpatient care; a resource-based relative value system for ambulatory care	Fee-for-service
Japan					
Social insurance, health insurance; long-term care insurance	Employer/employee contributions; government subsidies	Physician, hospital, and diagnostic services; drugs	Private not-for-profit healthcare institutions with few public university hospitals general practitioners	Mix of DRG-based payment and fee-for-service	Fee-for-service; salary
Singapore					
Medisave, Medishield, Medifund, Eldershield	Employer/employee contributions; government subsidies	Physician, hospital and diagnostic services plus others	Public and private hospitals; private clinics; general practitioners	Fee-for-service	Fee-for-service

Source: Based on Marchildon 2004.

Canada

Canada has a predominantly publicly financed health system with services provided through both private (for-profit and not-for-profit) and public health service providers. Coverage is granted with citizenship. There are 13 (provincial and territorial) single-payer, universal health systems for *medically necessary* or *medically required* services, including hospital, physician, and diagnostic services (defined in the federal Canada Health Act). There are considerable differences among the 13 health systems in financing, administration, delivery modes, and range of public healthcare services. Taxation—which includes income taxes, consumption taxes, and corporate taxes—is the primary source of healthcare financing at the

federal, provincial, and territorial levels. In some provinces, health insurance premiums provide additional financing. There is a 70-30 split between public and private financing, the latter coming from out-of-pocket payments and private insurance through employers. Federal transfer payments for health care flows to the provinces and territories on a per capita basis, and the allocation of provincial and territorial resources was transferred from ministries to regional health authorities using population-based or global budget funding methods. Regional health authorities adopt their own methods of allocation and payment to healthcare institutions, with the global budget being the most commonly used funding method. Fee-for-service is the most common payment method for physicians, although some provinces use a mix of salary, capitation, and fee-for-service. To ensure quality, healthcare institutions are accredited through the Canadian Council on Health Services Accreditation (nongovernmental body) on a voluntary basis. Medical professionals, including physicians, are regulated within their profession.

The Netherlands

The Netherlands' health insurance system has three components: (1) national health insurance for exceptional medical expenses; (2) a compulsory sickness fund for low-income people, and private, mostly voluntary health insurance; and (3) voluntary supplementary health insurance (Exeter et al. 2004). Medical care is largely funded through public and private insurance schemes. National health insurance provides coverage for all citizens. The cost is covered by individual contributions through employment or taxes/social security payments. Revenue for the sickness fund comes from employer and employee contributions, government grants, and private sector contributions, while premium payments are the major source of financing for voluntary insurance. Private not-for-profit health care facilities constitute more than 90 percent of principle health service providers, with public university hospitals making up the balance. Primary care, hospital care, and specialized health services are covered, while reimbursement for drugs is based on the average price of pharmaceuticals with a comparable effect. A "double-budgeting system" is used to allocate funds through risk-related capitation payments to the three compartments, which negotiate budgets with providers as well as the quality, quantity, and prices of services. Payments to providers are performance-related, and were changed to a DRG-type combinations system in 2005. Various payment methods including salary, capitation payment, and fee-for-services are used to compensate physicians, depending on their practice and specialties. Accredited healthcare institutions are contracted to provide services, and all health professionals are regulated by licensing bodies. There are ongoing debates on the integration of the different insurance systems and gradual shifts to private medical insurance.

Sweden

Sweden's health system is primarily funded through taxation and health/social insurance financed by employer contributions. Coverage is granted with citizenship. Health services

are mainly provided by public bodies with private practitioners (Glennard 2005). County councils are responsible for the healthcare delivery. Although there is no definition of basic or essential health services, priorities are based on cultural principles of human dignity, need and solidarity, and cost effectiveness. However, patients must pay all drug costs. Among county councils, there are many variations in payments to providers. Most use global budgets in payments to hospitals and primary care facilities, and a few use per-case payments with expenditure ceilings for some services and capitation models for primary care. Medical professionals are compensated with a fixed salary, while private providers use a mix of salaries, capitation, and fee-for-service payments for professional staff.

Republic of Korea

Establishing the National Health Insurance Program was critical to Korea's transition from a fragmented health care sector with multiple providers and insurers to universal coverage under a fully integrated system through a single payer for the entire nation (Lee 2003). Korea's national health insurance system is based on three fundamental principles: compulsory coverage, contributions based on individual income, and level of benefits independent of individual contributions (Shin 1998). It is divided into Medical Aid for the indigent and Medical Insurance for the working population. In turn, Medical Insurance is divided into schemes for the employed and the self-employed. Insurance societies were set up to manage health insurance (initially there were more than 380). Financing is through employee contributions, as well as employer contributions and government subsidies. The national government plans to adopt prospective payment methods, including DRG payments for inpatient care and a resource-based relative value system for ambulatory care, to replace the fee-for-service method for health service providers. As the healthcare delivery system is dominated by private providers, expenditures are increasing, resulting in accumulated deficits in the national health insurance system. Until recently, the government had done little to monitor or regulate health service providers, but this hands-off attitude is changing as the government confronts rising healthcare costs.

Japan

In contrast to Korea's national health insurance program, Japan has two general schemes: (1) social insurance for the employed; and (2) national health insurance system for all others. The programs are financed by employers' and employees' premium payments. The government also provides subsidies for the national system to ensure that coverage and benefits are standardized across the two programs. In addition, long-term care insurance was implemented in 2000 to help the aging population. This insurance is half-funded by the government and half by individuals over 40 years of age. Healthservice providers in Japan are predominantly private not-for-profit hospitals and general practitioners, complemented by public and university hospitals that receive direct government subsidies. Fee-for-service payment is used for outpatient services, and a mix of per diem and fee-for-service is used for

inpatient care. Physicians are paid on a fee-for-service basis in private practice and on salary for work in hospitals. As with the Korean system, quality assurance of health service providers, including hospitals and general practitioners, was lacking in the past (Arai and Ikegami 1998). Third-party assessments of hospitals have recently been undertaken to ascertain the quality of health services provided (Imai 2002).

Singapore

The city state of Singapore has 4.3 million people, of whom 0.7 million are foreigners. Health care accounts for 3.7 percent of GDP, of which 34.0 percent is publicly financed (2004). Both proportions are less than half the level of the major developed countries. The government does not follow OECD standards in measuring health expenditures and has not disclosed the details of calculations, so statistics may not be comparable. The basic policy relies on individual responsibility and community support, and the government's role to "help keep basic healthcare affordable."⁸ Healthcare benefits are part of the Central Provident Fund (CPF), a compulsory savings fund for purchasing housing, pensions, life insurance, and education. It covers all citizens and permanent residents. This is a tax-exempt, interest-yielding savings scheme that is the country's social security net. CPF includes two government-managed health-financing programs: Medisave and MediShield. Funds are set aside to finance the future hospital expenses of individuals and their families, and both employees and employers contribute to Medisave. The government waives income tax on the savings and guarantees minimum interest rates above commercial rates. Payments from Medisave are limited to inpatient care and exclude outpatient care, dental care, normal delivery, and cosmetic surgery. MediShield provides catastrophic coverage when costs exceed deductible amounts. MediShield's premiums vary by age, and people 81 and older are not allowed to enroll.⁹ For high-income individuals, a variation of MediShield (Incomeshield Plus) has higher deductibles with flexible benefits such as private rooms in public hospitals and inpatient care in private hospitals. Prices and rules of reimbursement are set by the government. Only about half the population is covered by Medisave (45 percent) and MediShield (54 percent); and even for them, outpatient care, with the exception of cancer treatment, is excluded. However, the government subsidizes up to 80 percent of the costs of inpatient care in public hospitals,¹⁰ and operates public clinics that provide low-cost services

⁸ For the government policy refer to www.moh.gov.sg/mohcorp/fcfinancing.aspx?id=104; the difficulty in comparison has been stated in Michael Barr: Singapore. In *Comparative Health Policy the Asia-Pacific* (Robin Gauld Edited). Maidenhead: Open University Press, 2005, pp. 146-173.

⁹ In 2007, the annual premium for people 30 or under was Singapore \$33, and for people 70-80 it was \$615. Elders over 81 are only covered for long-term care by ElderShield / EldersShield Supplements, to which those over 40 contribute premiums (deducted from Medisave). Yasuo Nakada: Singapore. In Masako Ii Edited: *Health Care Systems in Asia*, Tokyo University Press, 2009, pp. 35-66, in Japanese.

¹⁰ Subsidies depend on the class of bed. Patients are subsidized for 80 percent of the amount if they choose open wards with more than six beds and no air-conditioning. For a private room, there is no subsidy.

mostly provided by junior staff. The government also provides a safety net through Medifund, though not as an entitlement. It is funded by a noncontributable charity foundation that accepts individual applications. Both the quantity and quality of care depends on ability and willingness to pay. Fee-for-service is the common payment method for health service providers. As in Korea and Japan, medical audit and quality assurance are undergoing development.

Patterns of financing, pooling, coverage, and design

Among OECD countries (excluding the United States and Singapore), the general principle in financing is that people should contribute according to their means (what they can afford), but patients should receive services according to their needs (what is medically necessary). The goal is equal access to health care regardless of income, location, or age. To achieve this goal, the government pools risk and transfers wealth from rich to poor, through either tax-based financing or social health insurance.

In principle, a tax-based system should be the simplest way to reach these goals, as the central government is responsible for the entire population. However, tax-based financing is usually associated with public ownership of hospitals and the inefficiencies of a budget-based delivery system. Although the UK and the Nordic countries have separated finance from delivery, they have not been entirely successful in moving from budget-based to performance-based delivery systems. Tax-based financing is also less stable as it varies with changes in government policy and economic fluctuations. Healthcare expenditures were severely limited in the UK in the 1980s by Margaret Thatcher's conservative fiscal policies; and in Canada in the late 1990s by the economic downturn. For middle-income countries, the mismatch between the goal of equal access for all and actual budgets typically results in scarce resources being concentrated in large urban hospitals at the expense of rural areas.

The social health insurance model (SHI) originated in Germany, where it was based on the principle of solidarity and mutual assistance within each occupational group, enterprise, or geographic region. Each member contributed a set percentage of income regardless of income level or risk of illness. Dependents were covered by the plan of the head of household. Although benefits were essentially the same for all social insurance plans (referred to as sickness funds), there continue to be differences in premium levels among the plans. These differences have decreased since the government established a central pool into which plans enrolling a higher percentage of low-risk (the young) contribute, while plans enrolling a high percentage of high-risk (the old) receive funds. In Japan these differences also decreased as the government provided subsidies from general revenues to plans that enroll low-income individuals. The hybrid system could serve as a model for middle-income countries to achieve universal coverage. Japan has established risk pooling and income transfers within each SHI plan as the first step. The second step is to gradually reduce differences in the benefit package and premium levels among SHI plans.

The SHI has some serious disadvantages. First, premiums are more regressive than taxes because the same percentage of income is levied as premiums, even for people with low incomes. This is more regressive where there is a ceiling on incomes from which premiums are deducted—and more so if the ceiling is low, as in Germany (US\$35,000) compared to Japan (US\$100,000). Some countries, such as France and Belgium, have no ceiling. Second, the administrative cost of levying premiums is higher than that of taxes when they are not deducted from payroll. Third, and most serious for middle-income countries, marginally employed and self-employed workers may choose not to enroll in SHI, or to not accurately declare their income when they enroll. In Thailand, the government enrolls only regularly employed workers in the SHI and uses general revenues to finance health care for the rest of the population. This is close to the Chinese model with its three insurance schemes. Although Japan has achieved risk pooling and redistributed wealth in its SHI system, it now faces structural problems.

Subsidies and cross-subsidization in Japan's Social Health Insurance

The present social insurance system started in Japan 1922 with the Health Insurance Act, which initially covered only blue-collar workers, or 3 percent of the population. The motive for this system was the same as in Germany in the late 19th century: pre-empt labor unrest and improve industrial productivity. Employees of large corporations were insured by the enterprise-based Society-Managed Health Insurance (SMHI), and employees of small enterprises were insured by the Government-Managed Health Insurance (GMHI). The GMHI subsequently became the largest insurance plan in Japan, and the government has the leading role among insurers.¹¹

Development of social insurance can be divided into two periods: expanding coverage and equalizing benefits. In the first period, the military was the driving force. As the invasion of China expanded in the 1930s, the military was concerned about the physical condition of draftees, and by extension, the fitness of women to deliver babies. In particular, the military wanted to improve the health status of the rural population, where most people lived. Coverage was extended through Citizens' Health Insurance (CHI) in each municipality and by opening healthcare facilities. These efforts were successful. At its peak in 1943, 70 percent of the Japanese population was covered. After the post World War II chaos subsided, the major political parties vied to establish a welfare state. The health ministry increased subsidies to CHI. More was given to municipalities with low average incomes and to the GMHI, which was set at 13 percent of benefit expenditures. The gradual process of achieving universal coverage was completed in 1961, when the last municipalities established their CHI program.¹²

¹¹ Public sector employees are insured by Mutual Aid Association (MAA), which are similar to the SMHI.

¹² The national government provided subsidies on a sliding scale according to the average income level of those enrolled in the CHI. This rule has continued to be applied so that while the subsidy rate is 50 percent on

The second period covers 1961 to the present, when differences in benefits among plans were gradually reduced. Although universal coverage had been achieved, there were still major differences in benefits: no co-insurance for employees, but 50 percent co-insurance for the self-employed and dependents of employees. In 1973 co-insurance was waived for all elders 70 years and over, lowered to 30 percent for the CHI and dependents of the employment-based plans, and a \$300 cap on monthly co-insurance was introduced for all plans. The national government gave additional subsidies to the CHI for waiving co-insurance for elders.

However, 1973 was the year of the “oil shock” and a gradual decrease in economic growth. To contain costs, co-insurance was introduced for employees and elders in 1984. Since then, co-insurance has been increased to 30 percent for everyone except elders 70 and over and children 3 or younger. For elders, the rate is 10 percent, except for those who have above average incomes: about 10 percent of elders do, and their rate is 30 percent. For young children, it is 20 percent, although some municipalities have waived all co-insurance and raised the age to 15. The cap on monthly co-insurance remains; however, 1 percent co-insurance is levied on amounts above the cap, which varies according to income, from US\$354 to US\$1,500. Additional reductions in the cap are made for those having high expenditures for consecutive months, having more than one household member incurring high expenditures, and those requiring chronic, expensive treatment such as renal dialysis.

There are some threats to SHI in Japan. There is growth in the number of irregularly employed workers. Although they should enroll in the CHI plans managed by their local municipalities, some do not because they think the premiums are too high or they cannot afford them. Others may enroll but not pay premiums: about 10 percent of those who are enrolled in CHI plans (which cover 30 percent of the population) are not paying premiums.

Other forms of health financing

Private health insurance (PHI) can work in several ways. It can *substitute* (as in the United States, Germany, and The Netherlands), complement (as in Canada for drugs and dental care not covered), or supplement the public financing system (as in the UK and Australia). The conceptual merit of PHI is in the institutional structure of the private market, which should increase efficiency and relieve pressure on public budgets by focusing on the needy. However, PHI has the following problems in OECD countries:

- It is difficult to provide coverage for those who are already ill or are at particular risk of incurring high costs (such as those who have diabetes, or have had cancer).

average, rich municipalities receive only 40 percent, but poor municipalities receive up to 80 percent of their expenditures.

- As a substitute (and in the absence of regulations that Germany or The Netherlands use to put the PHI on equal footing with the public system¹³), PHI enrolls those who are healthy or wealthy, that is, those who could otherwise obtain financial protection at low premium rates. This is the major impediment to universal coverage in the United States: expanding coverage to those who are chronically ill or have low income would lead to higher premiums (taxes) and lower benefits for the healthy and wealthy.
- As a supplement, PHI creates a two-tiered system for covered services. As discrimination in accessing life-threatening care would bring public outcry, and providing benefits in emergency care or cancer would be expensive, benefits are usually limited to routine surgery.
- PHI in Japan and Korea takes the form of cash payment when insured individuals are hospitalized or first diagnosed with cancer. It does not supplement the public system because cash benefits are not linked to services, nor has it led to the establishment of medical facilities that cater exclusively to those insured by PHI. Such facilities may not have developed because of the custom of giving gifts to physicians, who may prefer such arrangements to formal payment from PHI. PHI developed in Japan because of pressure from the United States to open the market: as the life insurance market was saturated with domestic companies, Japan reserved PHI for foreign companies for ten years. When this period was over, domestic companies entered and the market became competitive. One third of adults have bought PHI as a standalone product, and many have opted for a cash benefit by paying additional premiums.

Medical savings accounts (discussed above) are widely used in China, Singapore, South Africa, and the United States.

Pooling and integrating insurance funds

Globally, there are many approaches to pooling. In Japan, a single pooling fund was created in 1983 to share costs equally among multiple insurers. This single pool pays 70 percent of all costs (Ikegami 2006). A second model, used in Germany, adjusts payments to insurance pools retrospectively based on relative risks. A third model, used in The Netherlands, adjusts premiums or payment rates. Income-related contributions are paid into a risk-equalization fund, which equals 50 percent of total insurance revenue. Premiums are based on community averages. A fourth model is to pool either at the national level (as in Sweden and the United Kingdom) or at regional or provincial levels (as in Canada and Kazakhstan). As decentralization has a long history in China, this might be an interim model.

¹³ In Germany, once PHI is chosen, the choice is irreversible after age 55 (legislated in 2000). This prevents young people from choosing PHI when risks are low, and switching to the public system as they age. In addition, German PHI must have the same premium rate regardless of age or preexisting condition.

Box 1. Czech Republic Risk-Adjustment Reforms

A 2003 law introduced complete pooling of state payments. All premiums are redistributed among insurers on a capitation basis adjusted for 36 age and sex categories. Insurers report the premiums they collect each month, as well as the number and age structure of insured individuals. State payments for economically nonactive citizens go directly to an account operated under the oversight of insurers and the ministries of health and finance. The account manager calculates the total income (premiums + state payments) per “standardized” insured for the system and the income of each insurer based on its actual number of insured and their age/sex structure. Differences between collected premiums and incomes of insurers after redistribution are cleared within days by one-off payments between insurers and the special account. Insurers’ data are checked by a task force of insurer representatives or by the ministries. Data on redistribution results enable insurers to track their competitors reports.

As prospective risk adjustment systems cannot predict all variations in expenditures, the system includes ex-post partial compensation of expensive cases (a standardized methodology for attributing costs to insured individuals was issued with the 2003 law). If a client’s annual costs reach the limit of 25 times the average per client in the system, the insurer is compensated with 80 percent of the over-the-limit costs. Advances to cover expensive cases are divided between insurers based on historical numbers. Differences pegged to actual costs are adjusted annually when the prior year’s financial results are published. In 2005 the compensation of expensive cases included 0.2 percent of the total population and redistributed 5 percent of total funds among insurers.

Source: World Bank 2010.

There is no “right” or “best” arrangement for pooling funds, and the essential starting point for decision-makers is to understand existing arrangements. Both theory and evidence suggest that reforms should reduce fragmentation in pooling. Practical options for this vary considerably across countries. Pooling can take two tracks depending on the time available. In the short run, the health sector should compare risk pools and develop a risk-adjustment mechanism across payers. A regulatory framework and stewardship capacity is needed. This would increase equity and better spread risks, and encourage purchasers to improve purchasing arrangements. It would create a virtual single pool for all. These mechanisms are technically achievable and are currently found in multi-insurer group systems in OECD countries as outlined above (Japan, The Netherlands, and Germany, for example) as well as in middle-income countries such as the Czech Republic (see Box 1) and Morocco.

Box 2. Public Financing Reform in Chile

In 1985 Chile implemented radical health system reform together with structural reforms in old-age pensions. It separated insurance and financial administration from public provision of health care services and created the National Health Fund (FONASA). FONASA was financed by a combination of general taxation (to subsidize contributions for the poor) and a 7 percent payroll tax on public and private formal sector workers. The reform aimed to consolidate all public health financing in a single fund, reducing duplication and establishing strategic purchasing in the public sector. FONASA consolidated the Ministry of Health financing (from general taxation) and the public Social Insurance Scheme for formal workers (abolished in 1985). Through subsequent reforms in the mid-1990s and legal reforms in 2004, FONASA became the most important insurer in the country, covering almost 80 percent of the population. FONASA collects and pools all public revenue for health and use it to purchase services from public and private providers. The FONASA reform has taken more than 10 years, as consolidating all resources was a complex technical and political process.

Source: Baeza and Packard 2006.

Countries could create a *virtual single pool* from multiple pools by establishing a redistribution fund with risk-adjusted allocations to various insurers. The experience of the Czech system is instructive. Czech reforms have redistributed the entire insurance pool (thereby maximizing the scope for risk protection), and simultaneously lowered the benefits from risk selection for competing insurers.

Retrospective risk adjusters, discussed in Box 2, can dilute insurer incentives to manage care and costs. Therefore, relative retrospective adjustments should be implemented prudently, allowing opportunities for purchasers to contain costs. The Czech Republic example is one of a minimal retrospective risk adjuster.

Other countries maintain multiple public funds, but are introducing unified regulatory frameworks to harmonize the rules that govern these funds. Morocco recently established a unified health insurance regulatory body, and Lebanon is proposing to harmonize payment systems across public funds.

Other middle-income countries with multiple public funds are consolidating them to reduce administrative complexities and costs, including Poland (14 funds to 1), Estonia (22 to 7), Kyrgyz Republic (7 to 1), and Tunisia (3 to 1) (Langenbrunner 2005; World Bank 2008).

Bureaucratically, there are also hurdles as different government ministries manage different funds. A decision is normally made in each country about whether the Ministry of Social Security or Ministry of Health (or some other ministry) would bring various funds under one umbrella.

Longer-run, China might consider a unified single-pool system of funding a core package of services for all citizens. This model is currently found in the United Kingdom, Sweden, Norway, Canada, and Oman. This model lowers administrative overhead and provides increased leveraging for purchasing and commissioning of services.

Full single pooling has both technical and political obstacles, and thus needs to be done slowly. Chile success in implementing reforms, including pooling over a 15-year timeframe (Box 2), is not unusual. The Kyrgyz Republic pooled social health insurance and general revenue funds over a 12-year timeframe, but only after longstanding pressure from donors including the World Bank.

Governance plays an important role in pooling across funds. The World Bank study, “Governing Mandatory Health Insurance” (2008b), provides guidance from case studies from Chile, Columbia, Estonia, and The Netherlands. It illustrates the types of governance needed to effectively manage mandatory health insurance systems. “Good Practices in Health Financing” analyzes enabling factors that led to successful health insurance expansions in nine countries—Chile, Columbia, Costa Rica, Estonia, the Kyrgyz Republic, Sri Lanka, Thailand, Tunisia, and Vietnam (World Bank 2008a). “Health Financing Revisited” discusses enabling conditions for successful NHS, SHI, CBHI, and PVHI reforms (World Bank, 2006).national health system, social health insurance, community based health insurance

“Governing Mandatory Health Insurance” (World Bank 2008b) responds to the lack of information concerning key governance factors that affect the impact of health insurance funds. Considerable discussion is provided on setting premiums, benefits, and coverage rules, though relatively less on important factors that shape performance and allow for self-correction, such as supervisory boards, regulations, supervision, auditing, and accountability. Table 6, taken from this study, summarizes major factors underlying governance and accountability in insurance funds.

Table 6. Key Governance Factors in Health Insurance

Dimension	Features
Coherent decision-making structures	<ol style="list-style-type: none"> 1. Responsibility of health insurance objectives must correspond with decision-making power and capacity in each institution involved in the management of the system 2. All health insurance entities have routine risk assessment and management strategies in place 3. Costs of regulating and administrating MHI institutions are reasonable and appropriate
Stakeholder participation	<ol style="list-style-type: none"> 4. Stakeholders have effective representation in the governing bodies of health insurance entities
Transparency and information	<ol style="list-style-type: none"> 5. The objectives of health insurance are formally and clearly defined 6. Health insurance relies on an explicit and appropriately designed institutional and legal framework 7. Clear information, disclosure, and transparency rules are in place 8. health insurance entities have minimum requirements in regard to protecting the insured
Supervision and regulation	<ol style="list-style-type: none"> 9. Rules on compliance, enforcement, and sanctions for MHI supervision are clearly defined 10. Financial management rules for health insurance entities are clearly defined and enforced 11. The health insurance system has structures for ongoing supervision and monitoring in place
Consistency and stability	<ol style="list-style-type: none"> 12. The main qualities of the health insurance system are stable

Source: World Bank 2008b

The study highlights good practices for implementing these governance and accountability principles based on case studies and other global experience. It provides useful observations on the foci of governance arrangements based on whether health insurance funds are unitary or have multiple competing funds and on appropriate roles of medical care providers. The number of insurers is particularly important. With multiple competing insurers, external oversight can pay less attention to efficiency and management, and focus on consumer protection, inclusiveness, and preserving competition through antitrust action. In contrast, countries with a single insurer need external oversight to ensure integrity, quality, and productivity. Another factor is provider-payer relationships. The effect of including providers' representatives in decision-making bodies depends on whether relationships are antagonistic or collaborative. When providers are directly employed by insurers, oversight must address civil service and labor regulation issues, whereas countries with independent providers need governance mechanisms to ensure transparency in prices and payment mechanisms.

OECD patterns in provider payment systems

In OECD countries, governments regulate payments to providers for services to patients who are financed by public programs. To do so, they institutionalize negotiations with providers, buttressed by data to evaluate revisions. Development of payment systems has been more advanced in SHI-based countries, which divide financing and delivery. Tax-based countries have a tradition of internal global budgets. Payment systems determine not only prices, but also conditions for payments, such as limiting treatment to patients who meet defined criteria. As a result, payment systems determine patients' benefit packages. To monitor compliance with regulations (and penalize if necessary), a structured mechanism must review claims or audit performance, as regulations are effective only when they are enforceable.

Monitoring adherence to regulations is especially important when payments are made on a per-case basis—for example, with diagnostic related groups (DRGs). This is because claims itemize services that were provided, as with fee-for-service, and this could lead to fraud. Providers may bill patients for the highest-paying DRG, and not for the group that matches the diagnosis and treatment. This could also lead to undertreatment. To maximize profits, providers would admit, diagnose, provide only nursing care, and discharge. Providers could also maximize revenue by discharging and readmitting the same patients, because payment is made for each admission. Thus, the insurer must compare the composition of DRG groups in each hospital, audit medical records, and check for readmissions. Ensuring quality of both data and care are prerequisites for introducing payment systems such as DRGs.

A uniform payment system for all patients across insurers has many advantages. First, it increases billing efficiency. This is why the United States, with multiple payers, has higher costs than Canada, with a single payer. Second, uniform payments result in equal treatment of all patients, regardless of insurance plan, because providers are paid the same amounts for the same services. Third, as healthcare expenditures are equal to price multiplied by volume, containing price also contains expenditures. Fourth, as physicians and hospitals are sensitive to changes in payment methods, their behavior can be changed by revising fee schedule regulations. In contrast, with multiple payers, providers can maximize income by focusing on patients whose insurance plans cover the most services and have the least restrictive billing conditions. The generous standards for these patients becomes the industry standard and exerts pressure on the public payment system.

Capital investments in OECD countries are either indirectly paid for by the insurer through recurrent costs, or are separately funded. Japan, the United States, and Korea have taken the former approach, allowing providers to invest surpluses in capital resources. In Germany and France, capital investments are financed separately by local government

grants. This has allowed a more planned and efficient allocation of resources such as MRI machines, but it may lead to insufficient capital equipment investment and long waiting lists.

Payment systems play a key role in linking delivery and financing systems by controlling the money flowing from insurance plans to providers, including physician and hospital services, drugs, and devices. Thus, although Japan has *multiple payers*, it has a *single payment system* that is applied across the board. Equity is maintained because benefits are the same for all plans, and administrative costs have been reduced because insurance plans and providers need not negotiate with each other on an individual basis.

Reimbursements are on a fee-for-service basis, with the exception of inpatient care in about half of the general hospital beds that are paid on a case-mix-based per diem rate. Fees and prices are uniform throughout Japan. They are the same for university hospitals and clinics, and are not adjusted for regional differences in cost of living or wages. Although this may seem unfair, it contributes to an even distribution of healthcare workers, as the higher wages that hospital staff are paid in large, urban medical centers is compensated by physician willingness to accept lower remuneration for the professional satisfaction of practicing in these settings. On the other hand, staff in small rural hospitals can be hired at lower wages, but physicians are attracted only if offered higher remuneration. This contrasts with the United States, where specialists in urban medical centers generally earn higher incomes.

Balance billing (charging more than listed fees) and extra billing (providing services or drugs not listed together with those listed during a single treatment) are prohibited in Japan. If they are provided, then *all costs*, not only the balanced billed amount and the uncovered services, must be paid out-of-pocket. The only exceptions are services on the positive list, which consists of extra charges for hospital rooms with more amenities and new technology still under development. This prohibition prevents providers from overcharging. Being listed is the prerequisite for the diffusion of a new technology, as shown with coronary stenting. Other sources of provider revenue are restricted to subsidies to public-sector hospitals and services that are not part of statutory benefits, such as cosmetic surgery. These subsidies allow them to provide high-tech care that is priced below cost.

Costs under the Japanese system have been contained by macro-level and micro-level

Box 3. China Could Develop a National Fee Schedule Similar to Japan's

1. Develop a national fee schedule that lists each procedure with a relative value (price), as the first step toward standardizing benefits and medical practice.
2. Select core services that are affordable for the NCMS of the poorest community.
3. The conversion factor that translates relative values into RMB should reflect the cost of living and wages, but weighted so that its RMB value is an incentive for physicians and other health care workers to choose rural areas.
4. Each UEBMI should be allowed to expand from core services, but they will not be permitted to establish alternate fee schedules or change relative values.
5. No national government subsidies should be given to any UEBMI that has expanded its core medical services (as has been done in Hangzhou).
6. The national government must create a high-level Council, preferably within the NDRC, that sets and periodically revises the national fee schedule, relative values, and the conversion factor. This Council will develop a DRG-type payment system and defining conditions for implementation.
7. Provincial governments must create their own high-level Council that determines and revises the core services to be covered in the region.
8. Decisions made by national and provincial level Councils should be publicized and made available in languages that are understood by the general public.
9. The national government must develop guidelines on conditions for reimbursing services in the fee schedule. Provincial governments must develop organizations to monitor adherence to guidelines that have the power to penalize offending providers.

Source: Authors.

management of reimbursements—a model that China might consider adapting (see Box 3).

There are several steps to developing such a system.

First, at the macro level, every two years, the government decides on the global rate of revision. All services and drug prices are included. The Ministry of Finance usually demands a decrease, the Japan Medical Association (JMA) lobbies for an increase, and the Ministry of Health, Labor, and Welfare (MHLW) provides data and technical expertise. Setting the global rate determines the next fiscal year's total health expenditures because the volume of services and drugs remains essentially the same. As one quarter of total health expenditures is financed from general revenues, the global revision rate must be set in order to calculate the upcoming year's budget.

Second, the price of drugs set by the payment system is revised based on the results of a market price survey. The government researches current prices of drugs through onsite inspections of wholesale distributors' books. It normally finds that prices are lower than

those set by the insurance company because of competition among distributors. Drug prices are then revised to reflect volume-weighted average market prices. In Japan, drugs are covered by insurance, and about half of all prescriptions are dispensed by hospital pharmacies or clinics. Independent of this survey, prices of new drugs with sales greater than manufacturers' estimates, and of brands with generics introduced since the previous revision, are unilaterally decreased. These factors have contributed to declining prices, and savings have been allocated as additional funds for revising service fees. As a result, the percentage of total medical expenditures spent on drugs declined from 39 percent in 1981 to 21 percent in 2005. The share of total medical service expenditures for drugs in China is currently 42 percent.

Drug expenditures have been contained less than expected because of the introduction of new drugs. Prices of new drugs are set by evaluating the degree of innovativeness and effectiveness with comparators, and prices in the United States, Germany, France, and the United Kingdom. Prices of devices are set and revised in a similar way.

Third, service fees are individually revised, within budgetary limits set by the first two steps, not by applying a global revision rate across-the-board as a conversion factor. Fees for services that have shown large increases in volume may be cut dramatically. For example, in the 2002 fee schedule revision, the fee for a head MRI was reduced from US\$160 to US\$110. Containing costs through micromanagement of the payment system in biennial revisions have blunted increases in costs from the expanded use of high-tech equipment. Although cuts in fees for MRIs had been made in the past, this has not inhibited their dissemination because these cuts spurred the development of low-priced MRIs. Thus, with appropriate price control, advances in technology may actually lead to decreases in cost.

The second and third steps are carried out by the Central Social Insurance Medical Care Council of the Ministry of Health, Labor, and Welfare that is composed of representatives of providers, payers, and academics. Individual fee revisions are based on the survey of the financial condition of hospitals and clinics made by the ministry in the year prior to the revision: if a particular type of facility (acute or long-term hospitals, clinics) is making more profit than others, fees for services provided by that type of facility are likely to be reduced. The ministry also surveys data on claims to estimate the volume of each item, so that the impact of any revision on total expenditure can be calculated, and the net effect will be equal to the agreed global revision.

Delivery systems

In tax-based countries such as the UK, there has been a tendency to make public hospitals more independent, with revenues depending on performance. Performance is measured by the number of admissions weighted by a DRG-like grouping system and by how well they meet quality standards, rather than on the previous year's budget. Top management teams have been dismissed for poor performance, but hospitals have continued to operate. Hospital assets are still owned by the state.

In SHI-based countries, the share of public hospitals may be high—as in Germany and France, where most hospitals are public. Or it could be low, as in Korea and Japan. Pressure on hospitals to be more efficient and accountable has increased in virtually every country, but less pressure has been exerted on primary health care clinics. Even in tax-based countries, clinics tend to be owned by physicians who contract with the government or with the insurance plan. There is a general trend toward physicians practicing in groups; however, in Japan and Korea almost all physicians run solo practices

6. Policy Implications for China's Health System

Owing to its sizeable population, geographical dispersion, and regional economic development gaps, a single medical insurance system is unlikely to achieve equity in access in China, at least not in the short run. The current central government takes a pragmatic approach—stipulating policies, principles, and guidelines for medical insurance and decentralizing implementation to local governments. Critical elements of the medical insurance system are identified through pilot-testing and experimentation, as well as assessing international experience.

China's medical insurance system is now a mixed system for the employed and unemployed (UEBMI and URBMI) as well as for the urban and rural population (UEBMI, URBMI, and NRCMI). Employer/employee contributions, individual contributions, and government subsidies are the major sources of financing for these medical insurance systems, as in The Netherlands and Japan. Because the level of financing varies, health benefits also vary among UEBMI, URBMI and NCMS; while in Japan, health benefits are standardized using government subsidies across the two health insurance systems. Standardized health benefits help improve equity in access to and use of health services.

The State Council's goal is to construct a universal basic medical insurance system. Although there is a mix of public and private health service providers, public institutions form the core of China's health service delivery system. This is in contrast to Canada, Korea, Japan, and Singapore. Fee-for-service is the common provider payment method in China, whereas other countries have adopted prospective payment methods, which are more effective in supply-side cost control.

The State Council's decision to insure urban residents with URBMI delivers a verdict on the debate over supply-side versus demand-side subsidization, institutionalizing the government's spending on medical insurance. This transition will give rise to further reforms of the healthcare delivery system and monitoring mechanisms. Although the debate is still ongoing, this breakthrough in financing will have a profound impact on the development of China's health system, especially with regard to establishing a universal basic medical insurance system.

Integration of distinct medical insurance programs

With the recent health care reform, China is moving rapidly toward a universal insurance approach. This mission is tangible, achievable, and can be built upon the foundation of UEBMI, URBMI, NCMS, and the Medical Assistance program. Each program covers a specific group, and together they form the basis for a universal, albeit still-fragmented system. Segmenting healthcare financing by the socioeconomic and demographic characteristics of particular groups makes sense in the near term while a universal basic medical insurance system with more homogeneous coverage and benefits is developing.

Segmentation by income and social status ensures a certain degree of equity in access and use within each group (horizontal equity). The downside, however, is inequity *across* income and social groups (vertical inequity). Segmentation also weakens the risk-pooling capacity of social insurance. The State Council now provides subsidies to the URBMI and NCMS systems as a way to resolve issues of vertical inequity, but government subsidies provide only limited relief. Vertical equity can only be achieved by merging the separate components of the medical insurance system.

URBMI can provide useful links with the other three programs in the merging process. URBMI is in a position to play this role for several reasons: its level of financing and health benefits is in between UEBMI and the NCMS; the sharing of its administrative structure with UEBMI; the overlap in its target population with medical assistance; and numerous institutional characteristics it shares with the other three programs.

Integration of UEBMI and URBMI

Both UEBMI and URBMI already use the same or similar administrative structures for social pooling; management of health services; designating healthcare institutions and formularies for drugs, health services and medical technology/equipment, and provider payment methods; and administrative structure and management approach for insurance funds. Their major differences are the sources and level of their financing and the level of coverage and benefits that they provide. Short-term strategies that may help merge the two systems include: (1) additional government fiscal subsidies for URBMI to partially replace employer contributions to UEBMI, and (2) greater use of health services at community and primary care facilities for those insured under URBMI. This would help to control healthcare costs.

It is critical to remove the divide that separates the employed from the unemployed under the two schemes. This can be achieved by setting premiums for the unemployed at a percentage of the employed. As financing under URBMI is low without government fiscal subsidies, a feasible long-term strategy would be to develop a benefits package that provides standard coverage of basic services. Supplementary insurance plans from private agencies could be promoted for those who can afford additional insurance. This will involve improved clarity in publicly funded benefit packages and a robust regulatory mechanism to monitor private insurance carriers.

Integration of URBMI and NCMS

Both URBMI and NCMS receive government subsidies from general revenues. In addition to the fundamental difference in their target populations—urban versus rural residents—the systems differ in levels of subsidies, insurance premiums, coverage, and health benefits. Moreover, the Ministry of Human Resource and Social Security is in charge of the URBMI, while NCMS is supervised by the Ministry of Health.

Because of the difference in insurance coverage and health benefits, rural migrants in urban centers prefer coverage under URBMI. However, the rural-urban residential registration system,

regional boundaries, lack of coordination between ministries, and higher premiums of URBMI limit the transfer of beneficiaries (especially rural migrants) from one system to another. Removing the residence barrier and increasing subsidies to NCMS are short-term strategies that could help merge the systems. Longer-term, strategies should focus on: first, strengthening coordination among regions and government agencies; second, bringing the two systems under one ministry with standardized benefits; and third, providing equal access to health services with integrated health care institutions. Examples of regional medical insurance systems can be found in Chengdu and Chongqing, which have integrated UEBMI, URBMI, and NCMS, and Taaizhou, which has merged URBMI, NCMS, and medical insurance for students and children (China Social Security Net 2008).

With urbanization and reform in residential registration, classification boundaries between small urban centers and rural villages tend to blur. A total of 12 provincial autonomous regions and cities, including Jiajiang, Fujiang, Chongqing, and Sichuan, have eliminated the dual residency classification between agricultural and non-agricultural populations. Thus, it may be that the NCMS target rural population will be transferred to URBMI. Moreover, in Sichuan, Jiajiang, Jiangsu, Guangdong, Chongqing, and Tianjin, NCMS administration has been transferred to the Departments of Human Resource and Social Security. The transfer facilitates sharing a single administrative structure.

Apart from transferring the health portfolio to the Ministry of Health, other long-term strategies should eliminate differences in levels of financing, individual contributions, and health benefits provided under UEBMI, URBMI, and NCMS, bringing them more closely in line with the goal of a single universal basic medical insurance system. Following the Seventeenth Report by President Hu Jintao and the People's Congress Report by Premier Wen Jiabao, another important policy recommendation is to separate state health regulatory and administrative functions. This will help the Ministry of Health focus on health-related policies and regulations, leaving health service delivery to other public and private bodies.

Integrating URBMI and Medical Assistance Programs

Medical assistance is a welfare-type government programs that subsidizes the very poor—not health exclusively, but as an important part of a larger social assistance program. URBMI, on the other hand, is a voluntary health insurance scheme that is financed by individuals' premiums and government subsidies to expand urban residents' access to health.

There is some overlap in the target populations of Medical Assistance and URBMI, including children of poor families, elderly people with no family relations, and the unemployed. However, the two programs differ in important respects. First, the Ministry of Human Resource and Social Security is responsible for URBMI, while the Ministry of Civil Affairs is responsible for the medical assistance program. Second, the purpose of social insurance is continuous protection, whereas medical assistance is a temporary measure to relieve financial hardships. Third, government subsidies, insurance coverage, and health benefits are higher for URBMI than for medical assistance programs.

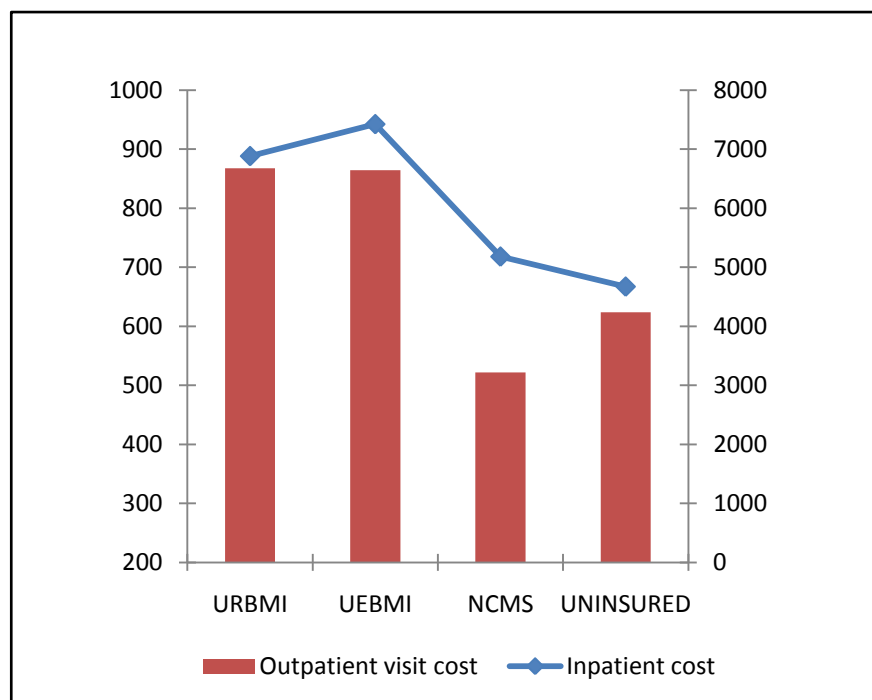
Short-term strategies that may be used to merge the programs include using some subsidies to beneficiaries of medical assistance programs to pay for deductibles under URBMI; reducing or waiving premiums for the poor under URBMI; and setting lower deductibles and co-payments for the poor under URBMI. In the long-term, strategies may transfer administration of medical assistance programs from the Ministry of Civil Affairs to the Ministry of Human Resource and Social Security.

Implications for developing the health services market

The main financing mechanisms for health care are out-of-pocket payments, insurance reimbursements, and government spending. The financing mode has a significant impact on health care system performance. Public financing—social insurance and government spending—can substantially increase equity in the financing of, access to, and use of health services, whereas private financing that emphasizes out-of-pocket payments causes inequity. Reliance on public financing, especially supply-side subsidies, reduces competition in health service markets, and has an adverse effect on provider responsiveness to patients' health needs. Increasing the role of commercial or social insurance in financing health care from the demand side increases competition in health service markets, and improves provider responsiveness to patients' health needs. The URBMI initiative signifies China's transition from inequitable financing to a social insurance model for all.

Implications for the demand for health services

Reports on the pilot test of URBMI show that, excluding out-of-pocket payments, average reimbursement rates cover 45 percent of expenditure for catastrophic outpatient services and 30 percent of expenditure for inpatient care. Although reimbursement rates are below the expected 50 percent, insurance coverage and health benefits provided thus far have reduced out-of-pocket payments, which may lead to increased demand for health services. Based on the report to the Expert Panel on the Urban Resident Medical Insurance Pilot of the State Council, Liu and colleagues (2008) found the past two-week rates of outpatient visits of 17 percent for the insured and 12 percent for the uninsured. As shown in Figure 9, there are significant differences in expenditures for both outpatient and inpatient care with URBMI as compared to the uninsured and NCMS groups.

Figure 9. Expenditures for Outpatient Visits and Inpatient Admissions

Source: Liu et al. 2008.

The differences in outpatient–inpatient expenditures between URBMI and the other groups are attributable to variations in prices of health services and drugs between urban and rural areas, and to the self-selection of less healthy individuals in URBMI. Moreover, the level of coverage and benefits provided may induce changes in demand for health services, with a larger percentage of URBMI enrollees choosing primary care providers for outpatient or emergency services. Further development of URBMI should focus on developing community health facilities for urban residents.

Implications for insurers' bargaining power

URBMI funds are relatively small, at about 4 percent of UEBMI funds. However, the funds are expected to increase rapidly with government subsidies and enrollment extended to more than half of all cities, the target set by the State Council (Wen 2008). As insurance funds and enrollment increase, insurers will have greater bargaining power with health service providers. As discussed earlier, the government controls the prices of drugs, health services, and medical technology and equipment with formularies. Although insurers do not set prices, reimbursement formularies and provider payment methods provide them with considerable influence over how health services are utilized and their costs. For example, the drug and health service formularies drawn up by the Ministry of Human Resource and Social Security and the cap on average hospitalization expenditures limit the amounts of health care expenditure eligible for insurance claims. Other

payment methods, such as case payment for selected conditions and capitation payments for chronic illnesses, have also been adopted. These measures affect physicians' behavior in terms of prescribing drugs and using health services, thereby influencing health care costs.

As URBMI develops, insurer influence on healthcare expenditures will increase. For example, use of primary care facilities and capitation payments for patients with chronic diseases (in Beijing) have increased under URBMI (Liu et al. 2008). Consequently, increasing the market status and bargaining power of insurers improves control of healthcare costs. On the other hand, if insurers dominate health service providers, monopsony in health services may result. This is not desirable, because a single-customer market would give insurers too much power. The quality of services may decline as service providers struggle to deliver services at the lowest cost. An alternative may be to introduce private medical insurance as a supplement (but not a substitute) to social medical insurance (as outlined in Section 5). In many countries, this has improved patient choice and responsiveness as well as quality and efficiency (OECD 2004). China's first step would be to restrict private health insurance to cash benefits. Substitute varieties of private insurance work against the goal of universal coverage.

Implications for restructuring the health service market

Like other programs, URBMI encourages cost-effective service delivery. This implies greater utilization of community-based primary services, which are now inoperative in many places (Liu et al. 2008). If medical insurance agencies aggressively promoted community health care, communities' ability obtain financing and improve the quality of services would improve. Supervision and inspection standards would be set by medical insurance agencies. The Expert Panel on Urban Resident Medical Insurance (State Council) has affirmed that health services should be sought first at the community level, and that community facilities should serve as gatekeepers to secondary and tertiary care. The implementation of per capita payments for insured individuals (versus reimbursing fees for services) will support this transformation. Community health facilities should shift from their current approach—which is focused, but without the resources to focus effectively—to a health management approach that emphasizes prevention.

Healthcare deliverers have long complained that inadequate subsidies lead to operating losses and constant deficits. While a robust medical insurance system would increase the demand for services, it would also allow providers to charge more for the (necessary) services that they render. This in turn would reduce the continuous pressure for government subsidies as well as improve the quality of services, a win-win situation all around.

Developing the medical insurance system is in line with the government vision of using its resources to invest in people. Government support would shift more power to the demand side of the health services market, helping to level the playing field among organizations with unequal capital structures (public and private organizations) as well as profit versus nonprofit objectives.

Implications for health service providers

Reform in the medical insurance market has thus far affirmed the government position on financing the demand side of the health market. In addition, the government has encouraged public and state-owned hospitals to experiment with alternative ownership and capital structures. (By itself, the government does not possess the resources needed to operate a health system based on state-owned hospitals.) However, in addition to encouraging the injection of private capital into the hospital sector, the government is keen to transform *large* hospitals into public institutions, so that the public can access and afford specialized health services in addition to basic services.

Hospitals are the key health service providers, so shaping of their role is crucial to the success of healthcare reform. A major challenge will be to realign hospitals' fundamental objectives (which have focused on profits in the market economy since the 1980s) in line with government objectives in healthcare reform (social welfare). Moreover, effective hospital reform requires separating policy from administration, separating governance from management, and separating management from operations (Wen 2008). The government's role must change too—from managing hospitals directly to setting policies and regulations that direct operations in the public interest. Several municipalities and cities have already transformed their hospital mechanisms of control and governance structures (Ying et al. 2006; Zhao and Ma 2007; Shi 2007).

With changes in ownership structure and separation of governance from management, hospitals should appoint professional managers as hospital CEOs. Zhuang and colleagues (2007a, 2007b) argue that hospital CEOs should be accountable for performance, with their appointments and compensation linked directly to performance assessment. The reverse side of this coin is that government agencies and officials must relinquish considerable control over hospital management, which could be politically difficult as well as undesirable.

As modern organizations, hospitals need management systems that are effective and congruent with their goals. Along with private capital, hospital administrators need to equip their professional managers with up-to-date technological tools and strategic management systems for efficient hospital operations (Xue et al. 2006).

Implications for government spending on health

In 2006 government spending accounted for about 18.1 percent of China's total health expenditure. The lion's share of this expenditure was allocated to medical insurance schemes, medical education, medical research, and development activities. Relatively little was spent on direct provision of health services. Government spending on URBMI accounts for about a third of all revenues for premiums, amounting to about 15 percent of total spending on health. With increased public financing, central government spending on health care will go up to about 50 percent of the total subsidy for URBMI in the central-western regions.

Implications for administrative and monitoring systems

Separation of policy regulation and service delivery

As discussed, many government agencies are involved in the administration of China's health system. The Ministry of Health is responsible for quality control of services and licensing of

professionals. The Ministry of Human Resource and Social Security is in charge of medical insurance. The Ministry of Finance allocates government subsidies. The Development and Reform Committee sets official prices for drugs and fee schedules for services. The Ministry of Civil Affairs distributes medical assistance. The Food and Drug Administration monitors the production and circulation of drugs and medical equipment. The Bureau of Traditional Chinese Medicine deals with traditional medicine. The Ministry of Education oversees health insurance for students. And beyond this administrative apparatus, each economic sector—for example, the railway system and civil aviation—operates its own healthcare delivery system.

This vast interministerial structure is based on division of labor and requires constant internal negotiation over balance of power. It suffers from the usual weaknesses of a large administrative system: rampant rent-seeking, shirking of responsibilities, self-interested bureaucratic behavior, failures in communications, and high transaction costs when it is necessary to move something from one part of the system to another. However, it is critical that regulatory and monitoring authority in the future be vested in the Ministry of Health. This fundamental requirement and policy change has been recommended by many health system experts, and it was called for by President Hu Jintao in his Report to the Seventeenth Communist Party Congress (Hu 2007). The call has been reinforced by Premier Wen (People's Congress Report, 2008).

Public provision and disclosure of health information

In addition to providing universal basic medical insurance coverage, the government function needs to institutionalize public disclosure of health-related information. Currently, the health service market is characterized by uncertainty and asymmetric information access among providers, patients, and insurers. The government must correct this market failure, restoring its capacity for efficient resource allocation.

As a next step, the government should invest in collecting, organizing, and publicizing all information related to the performance of health service providers. Data should be freely available on outcomes, patient satisfaction, quality measurement, pricing, recovery rates, and epidemiological threats. Disclosure of information improves public health. A recent study from the United States found that mortality from heart bypass surgeries in New York dropped by nearly 41 percent in the four years following the disclosure of performance information on the procedure (Porter and Teisberg 2007).

7. Options and Recommendations for Further Reform

Based on the foregoing analysis, the following next steps are recommended:

- ***Replace medical savings accounts (MSAs) with social pooling for outpatient services***

Medical savings accounts should be gradually abolished. MSAs are regressive, expensive to administer, and do not contain costs. Existing individual accounts could be transferred to the pension fund. In their place, establish social risk pooling for outpatient services. This is urgent, especially for urban residents insured under URBMI. According to the Third National Survey of Health Services, 60 percent of low-income urban residents who were sick did not seek health care services (2003); the percentage of salary expenditure on health was higher than for the nonpoor; and the urban unemployed had higher rates of chronic disease than the national average.¹⁴ Effective coverage for outpatient services is necessary. Social pooling accounts will enhance coverage and benefits to low-income group and the unemployed urban population covered by URBMI.

- ***Create greater equity across funds***

Costs and benefits vary greatly for different groups within UEBMI, URBMI, and NCMS. This cannot be fully rectified because incomes vary so greatly among groups. The important task now is to focus on a basic package for the low-income group.

It is not practical to immediately integrate UEBMI, URBMI, and NCMS (as well as MA). However, as a first step, differences in copayments and benefits within UEBMI and within NCMS should be decreased. The national government could increase subsidies to NCMS so that the basic package could be available for the poorest municipalities.

¹⁴ The 60 percent share (not seeking services) among *low-income* residents was significantly greater than that of urban residents overall (49 percent). Average outpatient service expenditures for the low-income group was 6.4 percent of their average salary, significantly higher than the 3.7 percent level for urban residents overall. Among the urban unemployed, the proportion with chronic diseases reached 20 percent, which was greater than the national average (15 percent).

Insurance coverage and health benefits for migrant workers and those insured under URBMI are relatively low, and self-payments are over 50 percent of the insured's health care expenditures. Increased government subsidies can improve insurance coverage and health benefits for migrant workers. The government has promised to increase the subsidy to urban residents with URBMI, but it has not yet set clear policy on how migrant workers would be subsidized when joining the program. The government does provide fiscal subsidies to rural residents enrolled in NCMS.

A second option for enhancing coverage and benefits for migrant workers is to combine the funds used to subsidize NCMS with the subsidies provided to URBMI. When migrant workers move to urban areas they could use government assistance for NCMS for premium payment that would enable them to join URBMI.

- ***Restructure the benefits package***

A step-wise process must be taken to achieve uniform basic benefits for all individuals and families. The cash limit on coverage in NCMS should be abolished as patients face financial impoverishment when medical costs exceed the cap. Co-insurance should be abolished for basic benefit services. If co-insurance must be levied, then patient payments should be only for that purpose, not as an indemnity where patients must pay and then be reimbursed. The co-insurance rate for services and drugs outside the basic benefit package should be based on their proven efficacy. If services are provided outside the benefit package, reasons need to be provided in writing along with signed informed consent. Physicians who make misleading statements should face criminal prosecution.

- ***Restructure URBMI***

The URBMI must be restructured. Expanding the insured population will be difficult if enrollment is kept voluntary and coverage is limited to inpatient care. All employers must contribute premiums based on the number of full-time equivalent employees.

- ***Establish the family as the basic unit for medical insurance enrollment***

Enrollment in URBMI is now individual. This follows the principle of a low-level startup where coverage is expected to extend to all urban residents. When coverage and enrollment reach a certain level, URBMI should be merged with UEBMI, so that the family becomes the enrollment unit, as now is in NCMS. The natural cross-subsidy among family members with different incomes will help to reduce the costs of transferring funds between the two systems.

Using the family unit as basis for enrollment not only facilitates the merging of URBMI, UEBMI, and NCMS, but also offers other benefits toward the goal of universal basic medical insurance coverage. First, the family unit as the enrollment basis helps control the problem of adverse selection. (A family is usually made up of seniors, adults, and children, each age with

differing health risks. If enrollment is individual, seniors are more likely and children are less likely to be enrolled, giving rise to adverse selection for medical insurance funds.) Second, with the family as the enrollment basis, it is easier to assess and manage the insured's economic ability, thereby ensuring more equitable premiums. Third, it is easier to implement community-level programs on prevention and management where enrollment is family based. Fourth, most families have at least one employed member, but one employed members covers everyone in the family. The government can subsidize families where no one is employed, and overall effective coverage will increase greatly.

- ***Set pharmaceutical policies for insurers***

Insurers should work with the government to establish a national council under the National Development and Reform Commission (NDRC) or another agency to select and periodically revise the list of essential and licensed drugs, their prices, and the conditions for prescribing. The national government must enforce Good Manufacturing Practice (GMP) to ensure quality, especially for essential drugs and generics. If the current GMP is too strict to be enforceable, it must be revised.

Manufacturers of prescription drugs must periodically send samples of their products to State Food and Drug Administration (SFDA) to be tested for efficacy. If a drug is found to not be efficacious, the manufacturer should be shut down and all its drugs removed from the market. In addition, SFDA should conduct regular unannounced inspections. All company executives should face criminal prosecution if a drug manufacturer is grossly negligent or fraudulent.

Drug wholesalers must submit quarterly reports the national Council on the purchase and sales prices for all drugs. The Council (or other delegated organization) should also conduct unannounced inspections. As is the case for manufacturers, executives should face criminal prosecution if the company is found to be grossly negligent or fraudulent.

Hospitals should publicize essential drugs and help educate the public on generics. The government can provide incentives for prescribing these lower-cost drugs through bonus payments that exceed the margins to be earned from prescribing nonessential drugs.

Insurers should help disseminate the message that essential (generic) drugs are effective and can meet more than 90 percent of medical needs. When premiums are raised, new drugs should be added to the essential drug list. Co-insurance should be waived or reduced when essential drugs or generics are prescribed.

- ***Pooling across regional medical insurance funds***

Thousands of medical insurance funds now operate independently in China. The lack of relationships among them is a major deficiency in the system. First, individual funds have little ability to manage financial risk in the absence of coordination. Second, when insured

individuals move from region to region, they lose coverage because the funds are not portable. Third, because of imbalances in regional development and demographics in China (particularly for the senior population), some insurance funds are financially healthy while others are ailing. The solution is to create a provincial (and perhaps later, a national) pooling system of medical insurance funds. A medical insurance management center should be created for these provincial funds. All insurance funds should pay a fixed proportion of their funds to this provincial or national agent as a transitional fund. This would not only help adjust for financial risk but would facilitate portability of health benefits from one scheme to another.

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