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Reforming Health Care in China

Historical, Economic and Comparative Perspectives

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Executive Summary

Scholars and lay people alike have taken myriad approaches to analyzing China's incredible rise in recent decades. This report uses health care as a window on the phenomenon being watched from around the world. As China has developed economically and, in some ways politically, its health care system has changed dramatically. Leaders have often used health policy as a tool to showcase the economic ideology and political message of the time. Throughout the pages that follow, we present the evolution of China's health care system in the wider context of the nation's economic and political rise. A historical perspective sheds light on the Maoist era and the move toward a market-based system under Deng. Of particular note are the different approaches used to provide care for urban and rural residents throughout China's history, typical of wider societal polarization. More recent reforms demonstrate how China has used its nearly unique political system to address thoroughly modern problems that many developing and developed nations face. We consider Taiwan's approach to health reform as well, as that nation's shared history and thoroughly different approach to health reform helps to highlight the unique features of China's chosen path to reform. Finally, we present a thorough analysis of the latest reform, 2009-2012, providing detail on each goal and paths for implementation. We compare the reform with health reform in America under President Obama, demonstrating the unique features of each country's approach to increasing coverage. Each of the sections that follow help to illuminate what health reform means to China and what health care has entailed throughout the history of the People's Republic. As China has developed economically, its political leaders have used health reform to demonstrate their own approach to governing and help meet the increasing demand for health care services by average Chinese residents.

China's Health Care: A Historical Review

China has gone through several radical transformations as China's political economy has developed. This section aims to provide a historical overview of the evolution of the health care system in China.

Health Care in the Mao Era (1949-1980)

Demographic and Epidemiological Trends

The Mao Era witnessed China's great success in improving its citizens' health profile, though per capita income did not rise proportionally.ⁱ Despite the disastrous Great Famine, between the 1950s and the 1980s China experienced a dramatic decline in infant mortality. As shown in Table 1, the infant mortality rate was 145.85 per thousand for males and 130.18 for females in 1950 and the numbers declined to 36.47 and 34.54 respectively in 1982. Life expectancy also rose dramatically during this period, from approximately 44 in 1950 to approximately 68 in 1982 (Table 1).

In the global context, developed countries had enjoyed a decline in mortality rate and a rise in life expectancy for a period of several hundred years. In developing countries, however, mortality rates did not begin to drop until the 1960s, and the trend stalled by the 1970s with some cases even reversed.ⁱⁱ China was among a very few countries that had experienced a steady decline in infant mortality rate well into the 1970s. Two features of the political economy of the Mao Era might have facilitated China's success in improving health outcomes. The first is centralized planning, which provided the state with the political capacity to achieve a cost-effective measure to redistribute medical resources and organize nationwide campaigns against endemic and epidemic diseases. The second feature is the creation of a rural commune economy, which provided "collective income to fund rural community health programs, including insurance."ⁱⁱⁱ A symbol of this program was the training of "barefoot doctors" in the countryside.

As shown in Table 1, China was predominantly a rural nation in 1950, with only 11.18% urban population. By the time of Mao's victory over the Nationalist Party in 1949, the year when the People's Republic of China was founded, China had "one of the world's poorest health-care delivery systems."^{iv} Few medical personnel practiced "Western medicine" in China and the vast majority of peasants in the countryside only had access to traditional Chinese medicine.^v To meet the public's need for medical care, the government attempted to train new medical personnel. By the end of 1967, there was an estimated "172,000 assistant doctors, 186,000 nurses, 42,000 midwives, and 100,000 pharmacists."^{vi} However, the majority of the personnel were concentrated in urban areas. Thus, training indigenous personnel who "would continue to do agricultural production at the same time that they involve themselves in health work" seemed to be the only effective solution.^{vii} Since the 1950s, many physicians in the urban areas organized themselves to go to the countryside and train local peasants to become health workers. As a result, "barefoot doctors" made significant contributions to infectious disease control and the expansion of primary care for rural China.

Table 1

Table 1 Summary Demographic Indicators, China, 1950 -2000

Indicator	Year			
	1950	1982	1990	2000
Population Size (millions)	551.96	1016.54	1143.33	1265.83
Percent urban	11.18	21.13	26.41	36.22
Birth Rate (per thousand)	37	22.28	21.06	14.03
Death Rate	18	6.6	6.67	6.45
Rate of Natural Increase	19.00	15.68	14.39	7.58
TFR	---	2.9	2.3	1.6*
Mean Age at First Marriage (F)	---	22.4	22.1	24.15
Life Expectancy (M)	42.2	66.43	66.91	71.01
Life Expectancy (F)	45.6	69.35	69.99	74.77
Infant Mortality Rate (M)	145.85	36.47	32.19	20.78
Infant Mortality Rate (F)	130.18	34.54	36.83	29.15
Mean Household Size	---	4.41	3.96	3.44

Sources and notes: population size, percent urban, and crude vital rates are from various published official Chinese sources; TFR before 1995 are from China Population Yearbook, 1995 and 2000 see discussions in the text; marriage age from China Population Yearbook 2003; life expectancy under 1950 is for 1953-64 and is from Coale 1984, infant mortality rates under 1950 are for 1950-54 and from Yan and Chen 1993, other mortality numbers are from Li 2003.

Source: Wang, Feng & Mason, Andrew (2004). The Demographic Factor in China's Transition.

Health Insurance Schemes

In this period, there is a salient divide between rural and urban areas in terms of public insurance provision. However, health care services were provided predominantly by public insurance.

- *Rural Area: The Commune-based Cooperative Medical Scheme*

In the 1950s the People's Republic of China (PRC) initiated a rural health care system called the Commune-based Cooperative Medical Scheme (CMS). As the name suggests, the scheme was based on the smallest units of governance in China, at the county, commune and village or township level. The CMS provided basic care which relied heavily on traditional Chinese medicines.¹

The CMS's work was based on the planning, supervision and provision of services, conducted at different levels of the organization. For instance, barefoot doctors, who lacked extensive training, were in most cases the

¹ Traditional Chinese medicine is an ancient medical system based on treating the root cause of the illnesses and not its symptoms. Acupuncture, herbal therapy, foods for healing and Chinese psychology are the major treatment modalities.

suppliers of medicines and health care. Likewise, townships supervised barefoot doctors and provided referral services to patients through health centers. Finally, the planning of health services was left to county bureaus.^{viii}

The CMS concentrated their risk pooling in village communes that averaged a population of 10,000 to 20,000 people (approximately 5000 families).^{ix} The communal system was established to meet the industrial and agricultural development goals set by the five-year plan, the Great Leap Forward. People transferred all ownership to communes and worked for it. In return, communes provided all that was needed to families from school, nurseries, entertainment and health care. As such, risk pooling and provision of health care at the commune level seemed logical based on a socialist planned economy.

Funding and Coverage:

The CMS was funded from commune income and covered everyone living inside the commune. Communes paid village health workers and other members of the commune as well as covered the salaries of workers from health centers.^x Patients paid for their own drugs and bared some small treatment costs. By the 1970s an estimated 90% of the rural population was covered by a CMS.^{xi} However, the CMS began to dwindle with the start of the rural economic reform during the 1970s. Due to the reform, the collective commune economy started to disappear and the CMS began to lose its main source of funding. Likewise, barefoot doctors were gradually replaced by private practitioners but due to unaffordability, most people gradually became uncovered for all practical purposes.^{xii}

- *Urban Area: The Labor Insurance Scheme and the Government Insurance Scheme*

Since the early 1950s, workers from urban areas were covered either by the Government Insurance Scheme (GIS) or by the Labor Insurance Scheme (LIS). As China made its transition to a market economy, GIS and LIS began to gradually lose weight in favor of private health insurers or in most cases resulted in a drop in health coverage.²

The GIS refers to the public health system for employees working for the Chinese Government and State institutions. Under the GIS, all medical costs incurred by public servants were covered with the use of public resources. Similarly, LIS covered all costs of medical treatment, medicine and hospitalization of workers from state-owned enterprises (SOEs).^{xiii}

Funding and Coverage:

Any government or state official and any employee from a SOE were beneficiaries of GIS and LIS respectively. This meant that workers at privately owned firms were the only ones left out of any public health scheme, both in rural and especially urban areas. Although relatively small, there were still some gaps in coverage as some urban schemes did not cover dependents.^{xiv}

GIS and LIS provided comprehensive benefits defrayed with the use of public funds. Under LIS, each SOE had to honor the health insurance costs of their employees with business revenues and only received financial aid from the government as a measure of last resort.^{xv} Because of minimal cost sharing with beneficiaries, patients

² In particular, public schemes began to lose a notable share of health coverage during the 90s as shown by Figure 2

did not have incentives to limit their consumption of medical services, leading to a moral hazard effect. As a result, healthcare costs sky rocketed.

All these public health schemes, GIS, LIS and CMS, provided health coverage to the majority of the Chinese population which in turned allowed for an improvement in health indicators, as shown in Table 1.

Health Care Changes in Reform-Era China (1980-2002)

Demographic and Epidemiological Trend

Deng Xiaoping’s pro-market reforms were initiated in 1978. The reforms began with the de-collectivization and the privatization of land-use rights in the rural areas under the “household responsibility system”^{xvi} and “achieved unprecedented success in lifting average incomes and bringing millions out of poverty.”^{xvii} During this period, patterns of China’s burden of disease changed from a profile that characterizes a low-income country to one that characterizes a high-income country, especially in urban areas.^{xviii} One in five adults is overweight in urban China. Among the top ten leading causes of disease burden, cerebrovascular disease and chronic obstructive pulmonary disease top the list (Table 2), which shows stark contrast with the low- and middle-income (China included) in general. This shift in epidemiological pattern is attributable to “rapid urbanization, income growth, more sedentary lifestyles, and large dietary shifts.”^{xix} In rural areas, particularly rural areas in inland China, malnutrition and infectious diseases such as tuberculosis and HIV/AIDS are the major health concerns. Moreover, mental disorders account for a large disease burden for urban and rural Chinese, equally for men and women (Table 3a and 3b). In sum, China now faces a “double burden” of diseases, those common in the developing countries as well as those common in industrialized economies.^{xx}

Table 2

Table 9.2 Ten Leading Causes of Diseases Burden, China, and Low- and Middle-Income Countries, 2001

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

Source: Disease Control Priorities Project 2006, www.dcp2.org.

Note: DALY = disability-adjusted life year.

Source: Eggleston, Karen (2010). Kan Bing Nan, Kan Bing Gui: Challenges for China’s Health-Care System Thirty Years into Reform

Table 3a

Table 9.3 Ten Leading Causes of Death in China's Rural and Urban Areas: Totals, and for Men and Women Separately, 2007

A. In Rural Areas

No.	Cause of death	Percentage of total deaths
		Total 93.19
1	Malignant tumor	24.8
2	Cerebrovascular disease	20.59
3	Diseases of the respiratory system	17.24
4	Heart diseases	14.8
5	Trauma and toxicosis	8.96
6	Diseases of the digestive system	2.69
7	Endocrine, nutritional, and metabolic diseases	1.52
8	Disease of the genitourinary system	1.22
9	Disease of the nervous system	0.77
10	Mental disorders	0.6
		Male total 93.66
1	Malignant tumor	28.05
2	Cerebrovascular disease	19.64
3	Diseases of the respiratory system	15.83
4	Heart diseases	13.28
5	Trauma and toxicosis	10.33
6	Diseases of the digestive system	2.96
7	Disease of the genitourinary system	1.27
8	Endocrine, nutritional, and metabolic diseases	1.16
9	Disease of the nervous system	0.67
10	Mental disorders	0.47
		Female total 92.55
1	Cerebrovascular disease	21.92
2	Malignant tumor	20.26
3	Diseases of the respiratory system	19.22
4	Heart diseases	16.92
5	Trauma and toxicosis	7.05
6	Diseases of the digestive system	2.31
7	Disease of the genitourinary system	2.02
8	Endocrine, nutritional, and metabolic diseases	1.17
9	Disease of the nervous system	0.9
10	Mental disorders	0.78

Source: China Statistical Yearbook 2008, www.chinadataonline.org.

Note: Statistics in the table cover all the counties under the jurisdiction of city governments in Beijing and Tianjin, and 80 counties (cities at county level) in 14 provinces (or province-level municipalities) such as Jiangsu.

Source: Table 9.3a in Eggleston, Karen(2010). Kan Bing Nan, Kan Bing Gui: Challenges for China's Health-Care System Thirty Years into Reform

Table 3b

B. In Urban Areas

No.	Cause of death	Percentage of total deaths
		Total 91.28
1	Malignant tumor	28.53
2	Cerebrovascular Disease	18.04
3	Heart diseases	16.29
4	Diseases of the respiratory system	13.1
5	Trauma and toxicosis	6.09
6	Endocrine, nutritional, and metabolic diseases	3.3
7	Diseases of the digestive system	2.83
8	Disease of the genitourinary system	1.28
9	Disease of the nervous system	0.95
10	Mental disorders	0.87
		Male Total 92.33
1	Malignant tumor	32.04
2	Cerebrovascular disease	16.82
3	Heart diseases	14.91
4	Diseases of the respiratory system	13.5
5	Trauma and toxicosis	6.68
6	Diseases of the digestive system	2.93
7	Endocrine, nutritional, and metabolic diseases	2.6
8	Disease of the genitourinary system	1.25
9	Disease of the nervous system	0.92
10	Mental disorders	0.68
		Female Total 91.85
1	Malignant tumor	25.04
2	Cerebrovascular disease	20.17
3	Heart diseases	19.53
4	Diseases of the respiratory system	11.37
5	Endocrine, nutritional, and metabolic diseases	4.93
6	Trauma and toxicosis	4.61
7	Diseases of the digestive system	2.83
8	Disease of the genitourinary system	1.37
9	Disease of the Nervous System	1.08
10	Mental Disorders	0.92

Source: China Statistical Yearbook 2008, www.chinadataonline.org.

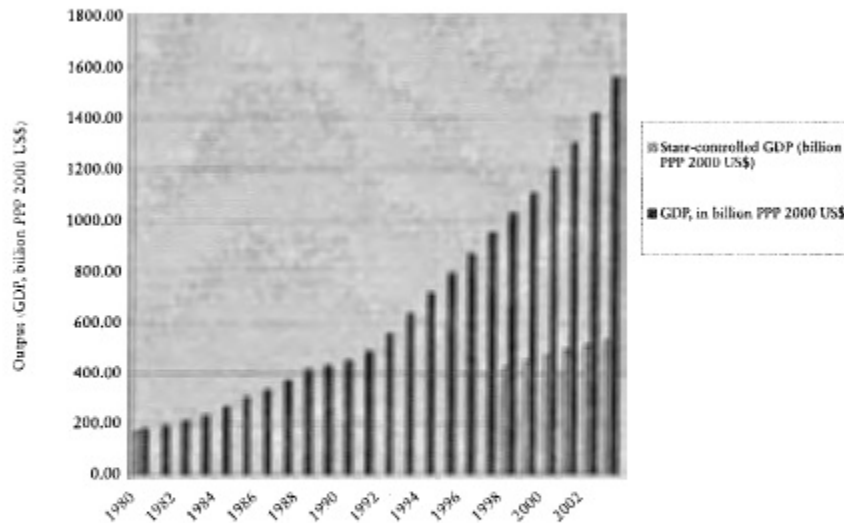
Source: Table 9.3b in Eggleston, Karen(2010). Kan Bing Nan, Kan Bing Gui: Challenges for China's Health-Care System Thirty Years into Reform

Changes in Health Care Provision

At the outset of Deng's economic reforms, China's economy was dominated by the state-owned sectors. However, as the reforms deepened, the non-state share of the economy grew larger and outpaced the growth of the state share of the economy in the most recent years (Figure 1).^{xxi} Along with other sectors in the economy, the health-care sector embraced the same logic of reforms, which is characterized by having dual tracks. The first track is a "plan track," which aimed to guarantee access to basic health care for every citizen in the country. The second track is a "market track," which provides "new, high-tech and more discretionary services" to patients who can afford them.^{xxii} In this dual-track health-care system, risk pooling was not well defined, which gave rise to a declining quality and shrinking coverage of health insurance.

Figure 1

Figure 9.1 “Growing Out of the Plan” in China: Relative Growth of the Nonstate Sector



Sources: The GDP data are in 2000 U.S. dollars at purchasing power parity (PPP), drawn from the World Development Indicator (WDI) database (World Bank, <http://www.worldbank.org/data>). The estimates of the state-controlled share of the economy (1998 to 2003) come from Garnaut et al. (2005, 10).

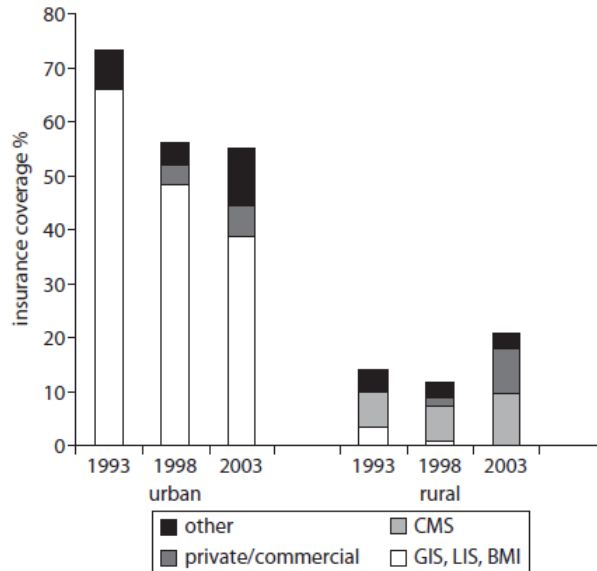
Source: Figure 9.1 in Eggleston, Karen(2010). Kan Bing Nan, Kan Bing Gui: Challenges for China’s Health-Care System Thirty Years into Reform

- Health Reforms in Rural and Urban Areas

During the planned economy, and prior to the 1980s, most citizens were covered either by the CMS, the GIS or the LIS. By 1979, an estimated 25-30 % of the population was not directly covered by these schemes and had to pay for health care out of pocket. China’s transition to a market economy brought significant reductions of health coverage. By the late 1980s, for instance, the CMS almost collapsed as a result of insufficient funds, and only around 5% of villages had access to a scheme. Under market competition, many SOEs began to struggle to meet their health insurance commitments to their employees. Likewise, the Chinese government progressively pulled out from its role as payer of last resort, increasing financial pressure on the delivery of public health schemes. ^{xxiii}

By 1993 less than 10% of the rural population was covered by CMS, GIS or LIS. ^{xxiv} Although private health companies increased their share in the market since the transition to a market economy, many still lacked coverage and wider reform became increasingly necessary (please see Figure 2). In 1998 nearly 50% of the urban population lacked coverage and by 2003 80% of China’s rural population, around 640 million people, had no access to health insurance. ^{xxv}

Figure 2: Breakdown of Insurance Coverage across Urban and Rural Areas.
Source: World Bank.^{xxvi}



Source: Data are based on the 2003 National Health Survey, as reported by MOH's Center for Health Statistics and Information.
Note: CMS refers to the Cooperative Medical Scheme; GIS refers to the Government Insurance Scheme; LIS refers to the Labor Insurance Scheme; and BMI refers to Basic Medical Insurance.

New Health Care Reforms under the Hu-Wen Regime (2002-Present)

At the beginning of the 2000s, the People's Republic of China (PRC) approved the implementation of a set of programs to curbe the lack of access to health care. These include: the New Rural Cooperative Medical Scheme (NCMS), the Medical Financial Assistance (MFA) and the Urban Residents' Basic Medical Insurance (URBMI). All of these programs occur at the county/district level, and for the most part exclude outpatient care.^{xxvii}

1. New Rural Cooperative Medical Scheme (NCMS) launched in 2003.

After several pilots conducted during the 1990s, the State Council announced in October 2002 that NCMS was going to become the main strategy for financing rural health care substituting the old CMS.

Supervised by the Ministry of Health, the main changes introduced by the NCMS relate to its service provision and the operational level of the scheme. As opposed to the CMS, the NCMS operates at the county level, rather than at the commune level and typically covers between 200,000 – 300,000 people.^{xxviii} Hence, NCMS have access to a larger and probably more diversified risk pool than what CMS had. Also, while CMS focused on basic services that included personal and communal preventive interventions, NCMS focuses on the costs of inpatient care.

Although enrollment occurs in principle on a voluntary basis, farmers are actively encouraged to enroll. By the end of 2008 the NCMS had been introduced to 2729 counties and, by 2010, covered 91.5% of the rural population.^{xxix}

Coverage and Funding: Two thirds of the NCMS funds come from subsidies from central and local (provincial, city and county) governments, while the remaining third comes from enrollee contributions. For instance, in 2003 the minimum annual contribution amounted to 30 Yuan per enrollee, evenly split between central, local governments and households. ^{xxx3}

Since 2003, the minimum contribution has surged up to 50 Yuan in 2006, 100 Yuan in 2008 and an expected 120 Yuan in 2010. ^{xxx1} ⁴ Both central and local governments have increased their share of contribution to NCMS, subsidizing up to 80% of the minimum contribution in 2008. NCMS funds are pooled at the county level and as a result, richer counties with richer city governments are able to contribute more to NCMS, thus increasing the provision of health services. For this reason, both Central and Provincial governments make contributions to the NCMS according to the income level of counties, contributing more to poorer counties, especially those located in the central and western regions of the country. ^{xxxii}

2. The Medical Financial Assistance (MFA) launched in 2002

Administered by the Ministry of Civil Affairs and jointly financed by the central and local governments, the MFA provides cash assistance for the purchase of medical services to poor households. Although its main goal is to protect rural households against poverty due to major illnesses, schemes are also designed for urban areas. Policy design and implementation of schemes are decentralized to local governments. ^{xxxiii} As such, a great variability exists between regions.

The MFA works as a complement to NCMS for poor households. Eligibility of households is subject to meeting certain requirements (e.g. being below an income threshold). Before 2007, MFA schemes were mainly financed by local governments but since then the Central government has played a more important role, jointly financing the schemes. The provision of MFA funds is done on a reimbursement basis and therefore creates financial constraints for certain households.

3. The Urban Resident's Basic Medical Insurance (URBMI)

Initially launched in 2007 in 79 Chinese cities, URBMI beneficiaries are primary and secondary school students with no access to the Urban Employee Basic Medical Insurance (UEBMI), young children and other unemployed urban residents. ⁵ It is mainly targeted to traditionally uninsured urban people and focuses in covering inpatient and outpatient medical services. Enrollment happens on a voluntary basis and thus results in adverse selection. Enrollees must pay a premium which in general should be higher than the corresponding NCMS scheme for that region, but lower than the UEBMI fee. The Central government provides annual subsidies to local governments which in turn have autonomy to develop and implement URBMI according to their needs, as well as to determine financing requirements. According to a survey, in 2007 an estimated 36% of the costs were covered by central and local governments, leaving the remaining to be paid as a premium. ^{xxxiv}

Issues and Challenges at the Local Level:

The implementation and funding of the NCMS, MFA and URBMI programs raise issues and challenges between local and central governments that impact health inequalities across China.

³ The exchange at that time was approximately 1 US dollar = 8.4 Yuan.

⁴ The USD/CNY official exchange rate has fluctuated from 8.4 Yuan per 1 dollar in 2003 to the recent 6.3 Yuan per dollar.

⁵ The UEBMI was initially launched in 1994 as a pilot in Zhenjiang and Jiujiang. UEBMI provides a mandatory healthcare scheme to employees and retirees from any institution, public or private.

These include:

1. *Better alignment of incentives between local and central governments:* because design and implementation of these programs occur at the local level, oftentimes misalignments occur between the Central government goals and the local ones. Although tailoring schemes to local needs is beneficial, it also provides more opportunities for corruption at the local level. In fact there have been cases where prefecture and municipal governments withheld public resources originally targeted to counties and townships.^{xxxv}
2. *Create an incentive structure and accountability system:* Local governments were not truly accountable for local performance in the provision of health care.^{xxxvi} However, most of the responsibility for financing and implementation of social programs was transferred to local governments, particularly counties and communities (the two lower tiers of government).^{xxxvii} Because of the inexistence of strong regulatory and law enforcement, there are no strong mechanisms in place to curve unequal implementation and delivery of services across regions.^{xxxviii}
3. *Regional fiscal inequalities across China:* because rural counties/urban districts and town/urban communities are responsible for financing the essential health care provision, inequalities arise across regions based on differing fiscal capacities. Despite the fact that the Central Government adjusts transfers based on the needs and financial situation of the region, fiscal capacity remains unequal across local governments, translating into inequality in government spending and, thus, unequal provision of health services.

Use of International Expertise: A Contrast with Taiwan

As previous sections have made clear, China has gone through several iterations of health reform, swinging from a centralized approach to a purely market-driven system over the course of its recent history. Leaders from Mao Zedong to Deng Xiaoping to Hun Jintao have used health policy to make clear current political and ideological priorities. China's most recent health reform continues this tradition. Analysis of development and the announcement of the current reform will help to clarify how China sees itself and how it chooses to address one of the biggest policy concerns it and other developing nations face. China's policy development process is clearly unique, as a comparison with the Taiwanese health reform of 1995 will make clear. Taiwan's chosen path demonstrates how two nations with a shared history have taken entirely different approaches to health care amidst steadily increasing economic development.

Origins of China's Most Resent Health Care Reforms

Policy development differs starkly in China from many other countries. In its current form, power rests with the nine members of the Politburo Standing Committee. While Hu Jintao stands out as the "Paramount Leader" and is the face of the government, decision-making power rests with the other eight members of the standing committee as well. In considering health reform, it is important to remember who has the authority to develop new programs and make policy changes. Unlike many other countries, there is no public record available to determine how policy makers settled on the current reform. There is no legislative debate or voting record available to examine. Instead, we must look to published communiqués from CPC Central Committee meetings. These and other official documents make clear the party's priorities going forward and lay out a vision for the nation.

As previous sections have made clear, the current reform has roots dating as far back as 2000. In 2006, the Party articulated an overarching vision for another dramatic reform of China's health system. The Communiqué of the Sixth Plenum of the 16th CPC Central Committee puts the current health reform into a broader context in China. Published at the Sixth Plenum, October 8-11, 2006, the communiqué places new importance on the idea of

social harmony. Throughout the document, party leaders refer to social harmony and its importance to China's continuing economic development. Health is seen as part of a wider effort to increase cohesion:

*"The plenum made the deployment for building a harmonious socialist society for present time and future: Construction of social cause should be strengthened through adhering to coordinated development; new socialist countryside construction should be earnestly pushed forward; the general strategy of regional development should be implemented; active employment policies should be carried out; education should be topped the agenda of development; **health care services should be enhanced**; development of cultural cause and cultural industries should be speed up; environmental protection and pollution control should be strengthened; institutional construction should be enhanced and social equality and justice should be safeguarded."^{xxxix}*

This one small reference to health care set the stage for a much wider reform effort (emphasis added), in addition to the ongoing reforms to insurance programs that began at the turn of the century. In 2006, President Hu Jintao made clear that he saw an expanded role for the government in improving health, saying, "The goal is for everyone to enjoy a basic healthcare service" and advocating a "bigger government role in public health."^{xl, xli} He prioritized disease prevention and control, public health monitoring, and management of public health emergencies, according to media accounts.^{xlii}

Despite the seeming vagueness of such statements, they have catapulted the Chinese state forward with another round of comprehensive health reform. Though starkly different from the 906-page law that enabled the most recent health reform in the United States, China undoubtedly debated the policy specifics internally, presented an overarching goal through official statements by the party and President Hu, and then empowered government bureaucracy to implement programs to meet the stated goals.

In subsequent years, the government moved to further the goals set by the party in 2006. The Ministry of Health solicited comments from the public on broad implementation guidelines, and ultimately received some 30,000 responses between October 14 and November 14, 2008.^{xliii} This process informed the development of "five major targets" included in the health reform action plan. Each of the targets is summarized below:

1. *Expanded medical insurance to cover 90% of the population*
2. *National essential drug system*
3. *"Grassroots level" improvements in medical care and public health service*
4. *Public health promotion, through vaccination and health education*
5. *Pilot reform of public hospitals to reengineer financial incentives*

While the exact extent of public input in the development of these "major targets" is nearly impossible to discern, it remains that the government actively sought public comment and touted the process as a relatively open one. This can be seen as an extension of the "front line" concept, whereby government and party officials were actively encouraged to seek the input of local residents to maintain a feedback loop in China's relatively undemocratic system of government.

In March 2011, the 12th Five Year Guideline (formerly called Five-Year Plans), further enumerated goals relating to health reform. According to private sector analysis of the guidelines, the 12th Five-Year Guidelines includes the following health reform goals^{xliv}:

- *Improved social safety net for all groups, including universal health care coverage for rural residents*
- *Selection of biotechnology as a strategic emerging industry*
- *Encouragement of foreign investment in the health care sector*

Use of Expertise in China's Reform Process

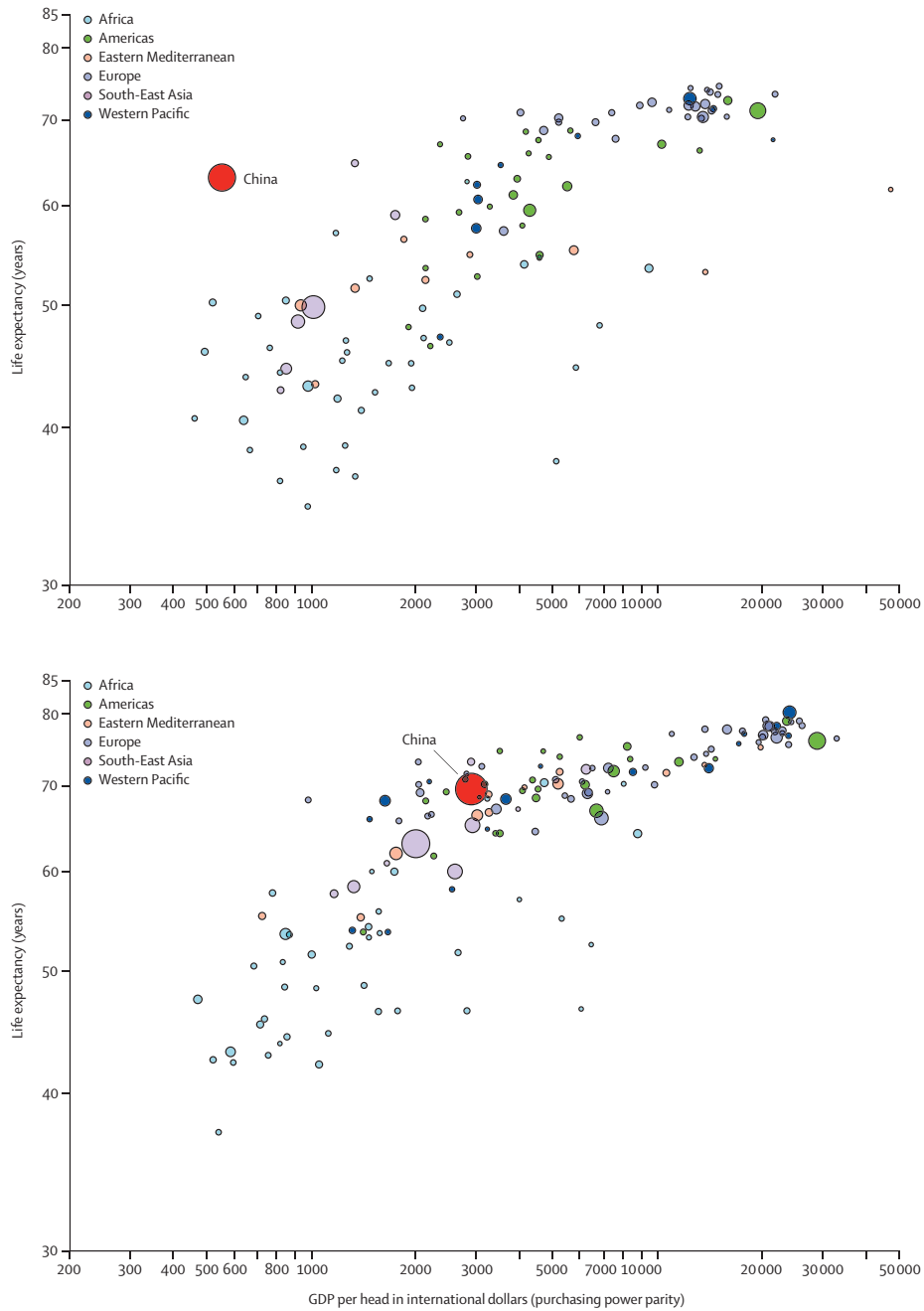
The government made use of a Health Reform Advisory Commission to provide expertise throughout the reform process. This body advised the State Council, though little has been written about the specific scope of work or products developed by the Commission.

One commissioner has emerged in popular press accounts of the reform process: health economist Gordon Liu. Liu is a Chinese national who has held positions at both the Guanghua School of Management at Peking University and the University of North Carolina at Chapel Hill. He received his master's degree from Southwestern University and his Ph.D. from the City University of New York. In recent years, he has taught and resided in China. Other members of the Health Reform Advisory Commission are not as visible as Liu, so a thorough analysis of the group is not possible here. However, Liu's American education and professional career are striking.

While Chinese leaders undoubtedly sought a version of health reform "with Chinese characteristics," they did not exclusively consult Chinese-educated experts. While this may seem less significant in view of the wider implications of the reform, it is indicative of how Chinese leaders make important decisions and the extent to which "foreign" opinions may or may not be politically acceptable. Liu met with the press about his efforts in the reform process and highlights the experience on his curriculum vitae. This level of involvement makes clear that Chinese leaders did not entirely discount his perspective even though he was educated and lived in the United States for many years.

On a similar note, the Chinese Minister of Health Zhu Chen highlighted external contributions to the reform process in the British journal *The Lancet*. He wrote, "By absorbing input from ten think-tanks and integrating experiences from both at home and abroad, the new guidelines consider reasonable distribution of health-care resources and core issues of equity and accessibility."^{xlv} This quotation makes clear that the government found utility in publicizing its consultation with international experts.

Figure 3



Source: Tang, Shenglan, Qingyue Meng, Lincoln Chen, Henk Bekedam, Tim Evans, and Margaret Whitehead. "Tackling the Challenges to Health Equity in China." *The Lancet* 372, no. 9648 (2008): 1493-501.

China's System in the International Context

As China has developed economically, it has made remarkable strides in expanding life expectancy (as depicted in Figure 3). While the health care delivery system and reforms to it are not entirely responsible for the increase

depicted graphically in Figure 3, health care has become an increasingly important policy area in China. China faces unique problems with its health care system. Few countries have vacillated between the extremes of public and market-driven systems as China has. Chinese health care providers' current dependence on high-cost prescriptions and high-tech procedures is not unlike other countries' reliance on technology, but the extent to which these services and products prop up the entire system's financial stability is unusual. The urban/rural divide in the Chinese health system also stands out in the international context. While many other countries must also provide care for geographically diverse constituencies, China has treated urban and rural residents in a wholly different fashion since the founding of the People's Republic. Though China committed to significant infrastructure improvements in rural areas in its 2009 health reform announcement to try to alleviate the urban/rural disparity, the current health insurance schemes perpetuate a programmatic separation. Such geographically-based policy differentiation would be subject to heightened public scrutiny in a country lacking China's unique historical development.

Despite this, China faces many problems that other countries, both developing and developed, face in providing adequate health care. As China has developed economically, demand for health care services has increased. Chinese citizens are increasingly aware of discrepancies between urban and rural health systems and have demanded more care as overall wellbeing has risen. Health care in China, as in the rest of the world, can be seen as being positively correlated with per capita GDP. As income rises, individuals are increasingly likely to want to spend their resources on improving the physical quality and duration of life.

Comparison with the Taiwanese Case

One potentially useful comparative case for examining the process of developing China's health reforms lies 112 miles off the coast of the Chinese mainland. Referred to by hardline nationalists as the Republic of China and increasingly as Taiwan, this ostensibly autonomous country has taken a decidedly different approach to its health care system than the People's Republic of China. While the mainland and Taiwan are vastly different, their approaches to health reform help to clarify how each one's political and economic systems have responded to the challenge of providing health care in recent decades.

Taiwan lifted its long-standing martial law as aggregate standard of living increased in the 1980's. This opened a floodgate of political opposition to one-party rule by the Nationalist party, originally founded by Generalissimo Chiang Kai-shek. The "liberal, green, pro-labor" Democratic Progressive party emerged as the political opposition, and soon took up the banner of health reform in Taiwan.^{xlvi} As American health journalist T.R. Reid characterizes it, the Taiwanese health system was beginning to stand out among other structural improvements:

"By the early 1990's, Taiwan had the money to build divided highways, bullet trains, state-of-the-art engineering schools and other accouterments of an advanced nation. But it still had a poor country's health care system—which is to say, an out-of-pocket system for most of the people. There were insurance plans for government employees, farmers, soldiers and employees of some big companies, but 60 percent of the population had no coverage at all."^{xlvii}

Thus, health care was ripe for political gamesmanship. As elections drew near, the Nationalist Party adopted health reform as its own, attempting to minimize the issue's political potency. Within two years of introducing a bill to provide universal coverage, Taiwan had a system in place. Moving quickly to implement the reform, government officials sought out homeless Taiwanese under bridges and soon reached 99% coverage.^{xlviii}

Today, Taiwan spends only 6% of its GDP on health care, one of the lowest rates in the developed world. Coverage is universal and providers compete for patients in terms of quality of care, not price, under a single payer system.^{xlix} Taiwan's Bureau of National Health Insurance sets prices for the entire island nation, and all residents receive a card that providers can scan to access a standardized electronic medical record.

Taiwan's system is the product of careful study of many other nations' health systems. An American-raised and educated health economist, William Hsiao, chaired the government's health reform commission. He solicited academics' input from around the world, asking for the best and worst features of developed nations' health systems. The reflections he gathered formed the basis of the Taiwanese system. For instance, payment is handled centrally through a global budget, as in Japan, to keep costs low. Taiwan largely adopted the Canadian payer model, using social insurance and a single-payer system to provide nationwide health insurance. One Taiwanese expert estimated the number of foreign systems considered in the reform process at 10-15, characterizing the result by saying, "[I]n the end, the program that they finally set up in 1995 really is like a car that was made of different parts imported from overseas, but it was basically designed and manufactured domestically."¹ Taiwan's use of international experience is entirely explicit. They had an American economist chair their effort and adopted what they saw as the best of the world's systems.

This kind of openness to international expertise stands in sharp contrast to the Chinese case, where international input is sought, but to a much lesser—and more private—degree. China's long history of government intervention in the health care sphere and sharp changes to the system make its system very different from Taiwan's. Taiwan experienced a rush of prosperity and built a new system from close to scratch. China faces similar economic progress but is working through incremental reform and with the system as it exists to reach the basic goals shared by Taiwan and other nations around the world.

Below we examine the reforms that China announced in 2009 based on the 2006 goals, and subsequently implemented over 2009-2012. We contrast these goals and the implementation experience with another country executing comprehensive health reforms nearly simultaneously: the United States.

Challenges & Goals for Reform: A Contrast with the United States

Driven by different motivations, governance systems and historical precedents, China and the United States—the world's largest developing and developed countries, respectively—embarked on successful national health reform initiatives almost simultaneously in 2008-2009. Each country reformed its health care system by employing some of the same mechanisms: extending health insurance to lower out-of-pocket (OOP) health care costs, emphasizing primary care and prevention, and reforming payment and delivery systems. However, while the health reform process in the US was ultimately driven by concerns about the high cost of health care for the government, China embarked on health reform by infusing government spending and control into the health care system. While both countries' reforms sought to protect individuals from high out-of-pocket spending on health care, the US endeavored to lower rates of medical bankruptcy while China intended to alleviate excess savings and therefore encourage domestic spending. China's approach to health reform reflects its economic development path that intertwines strong governmental control with select private sector capital and innovation, and a strong reliance on human capital to propel its economy. In contrast, the US passed health reform in a recessionary era with significant concerns about the national deficit as our economy stagnated, and structured reform squarely within our framework of constitutional federalism, with a healthy dose of skepticism toward governmental intrusion.

Below we describe China's health reform goals, structure, challenges, and successes. We contrast each briefly with the parallel health reform in the US and establish how each country's approach reflects its economic and political traditions.

As outlined earlier, China's health care system was once a successful model for improving health outcomes and ensuring access to a basic level of medical care. As disease trends changed, parts of the delivery system became more profit-oriented, and China's economy grew rapidly, the health care system no longer served the needs of the populace. The CCP recognized these problems and pursued three major goals through health reform: return to the strengths of "barefoot doctors" and modernize to current health needs; reform the pharmaceutical system;

and expand access to insurance coverage. Underlying these goals was an intent to provide more certainty about health care spending for individuals, and therefore alleviate excess savings, and increase social harmony, as outlined in the 2006 CPC communique.

Goals of China’s Most Resent Health Care Reforms

As outlined in 2009, China’s first goal encompassed delivery system reform, and was characterized as returning to the strengths of the “barefoot doctor” system under Mao, including a focus on prevention, primary care and evidence-based pharmaceutical use.^{li} China sought to improve upon this system by including private sector management and efficiency, for example, focusing on the supply chain.

Secondly, China sought to address a growing problem of national pharmaceutical spending. For most services, hospitals are required to use a government-mandated price. In order to ensure affordability for individuals with no insurance or very limited insurance, these prices are often set below the hospitals’ costs for basic care. However, hospitals are allowed a 15% profit margin on drugs, and often markup drug costs 15-20% over wholesale drug prices.^{lii} This profit is a major revenue source for Chinese providers, especially the public hospitals, and is used to cross-subsidize the services subject to government price controls.^{liii} The result, however, is a dramatic growth in spending on pharmaceuticals: by 2003, national pharmaceutical spending accounted for almost half of total health care expenditures, three times the average in OECD countries.^{liv} On an individual level, this perverse incentive led to the delivery of medically unnecessary care and a larger share of health spending financed out-of-pocket.^{lv}

Finally, China sought to achieve universal coverage for basic health care by 2020, and reach 90% coverage by 2011. Health insurance coverage was primarily intended to increase affordability and limit individual OOP spending. In 2007-2008, 45% of health spending was OOP and 15% of households had catastrophic-level medical spending (defined as greater than 40% of a subsistence income spent on health care).^{lvi}

Comparison with United States

Writing about the challenges in China’s health care system that galvanized reform, one scholar described “the overutilization of higher-priced drugs and tests, the denial of care to those without means, and the other cost, quality, efficiency, and equity problems that emerged stemmed from these “profit”-driven incentives.”^{lvii} Though the politics of health reform in the US don’t often permit quite the same candor, the problems that health reform sought to address were remarkably similar. Reduced access to health care services, increased OOP costs, widening disparities, a reduced pace of health improvement, and increased medical cost inflation are perceived as predictable impacts of economic liberalization^{lviii} and market-based health care systems. As economic policies in China edge toward those in the US, it is unsurprising that both countries faced similar problems.

China and the US diverge, however, in each country’s assessment of the economic impact of health reform. China was primarily concerned with limiting individual out-of-pocket expenses in order to encourage domestic spending.^{lix} The US also wanted to protect individuals from high and unpredictable OOP spending on health care, but began from a much lower baseline percentage of OOP spending than China (see Table 4). Instead, however, the US health reform process quickly evolved into a much larger debate over social affordability, or how much the country spends on health care overall, often measured as a percentage of GDP.^{lx} In large part, this divergence is due to the different economic context each country was experiencing. In 2008, China spent just under 5% of its GDP on health care while the US spent over 16%; the disparity was even wider for health spending as a percentage of each country’s government budget (see Table 4). Broader and concurrent economic trends also influenced the focus of health reform: China’s economy grew on average 9.4% from 2008-2010,^{lxi} while the US economy grew a mere 1.3% over the same period.^{lxii} Historically, as the US (and the rest of the world) spent an ever-greater share of its GDP on health care, China simply kept pace with GDP—even as it experienced dramatic growth.^{lxiii}

Table 4. Indicators of Individual and Social Health Care Affordability, 2008^{lxiv}

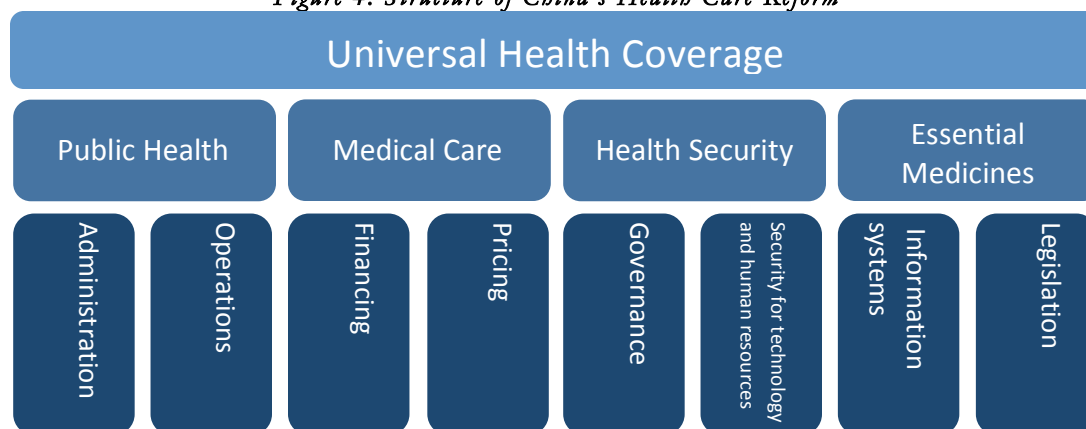
	China	US
Percent of Population with Health Insurance	87%	87%
Health Expenditures as Percent of GDP (per capita)	4.8%	16.2%
Health Expenditures as Percent of Government Budget	4.36%	25.2%
Percent of Health Expenditures that Are Out-of-Pocket	45.2%	11.88%

China's Health Care Reform

Given the systemic health care problems China aimed to address, strong economic growth, and its willingness to invest government funds in health reform, China's central government announced a major health reform initiative in April 2009, based on the 2006 goals to enhance health care services. The first three years of reform, 2009-2012 would see an investment of 850 billion RMB in new funding, or \$125 billion. Approximately 40% of this financing would come from the central government. Experts and officials also acknowledge that an additional 150-200 billion RMB will be needed annually in future years, or about 1-1.5% of GDP.^{lxv}

China's health reform structure is commonly described as "one goal, four beams, and eight columns" (see Figure 4).^{lxvi} The principal goal is to establish a basic health service system that provides universal coverage. Beams supporting this goal include strengthening the delivery of medical care and the public health infrastructure, providing accessible health insurance, and ensuring a sound system for drug supply and security. Mechanisms to support the accomplishment of the primary goal and implementation of the four beams include: administration, operations, financing, pricing, governance, security for technology and human resources, information systems and legislation.

Figure 4. Structure of China's Health Care Reform



To operationalize this structure, China focused on five priority areas during the initial years, as referenced earlier.

1. *Expansion of health insurance coverage to over 90% of the population.* China will accomplish this through expansion of, and enrollment into existing health coverage programs including the New Rural

Cooperative Medical Scheme (NRCMS), Urban Resident Basic Medical Insurance (URBMI), and Urban Employee Basic Medical Insurance (UEBMI). Additionally, central and local funding will expand the Medical Assistance program which provides special financial help for those in poverty, the elderly, disabled, children and the unemployed to enroll in the NCMS or either BMI.^{lxvii} As described earlier, these insurance schemes were introduced through a series of reform measures between 2003 and 2008,^{lxviii} and will further reform and expand the breadth and depth of access. For instance, the URBMI will be expanded to cover retirees, employees at state-owned enterprises, University students and rural migrants. Permitting the latter group to enroll in URBMI represents an important loosening of the tie between an individual's *hukou* and receipt of state benefits.^{lxix}

2. ***Formulary of essential medicines promulgated to Chinese hospitals.*** To address rampant overprescribing of pharmaceuticals and certain medical tests that aren't subject to strict price controls, the central government developed a National Essential Drug List to define prices for retail drugs. The Drug List was developed according to need; disease burden; safety and clinical efficacy; affordability; past use patterns; and supply. These guidelines are disseminated to provinces and counties to be implemented. Provincial governments set competitive bidding systems with price ceilings imposed by the central government, and public primary care institutions must sell the drugs at cost.^{lxx} Areas that have already implemented the Drug List and established a bidding system for drug purchases—which include 27 provinces—report a drop in drug prices of 25-50% on average.^{lxxi}
3. ***Upgrading of public health infrastructure and primary health delivery.*** Of the total funds invested in health reform over 2009-2012, approximately half are designated for strengthening public health, upgrading primary health care facilities and training primary care physicians.^{lxxii} The central government directs disproportionate subsidies to poorer western and central regions, and has identified priority public health interventions in rural areas that receive specially allocated funding transfers. Long-term, China's reforms aim to build a strong delivery system based on community health centers and managed by primary care providers who will serve as gatekeepers to the rest of the system.^{lxxiii}
4. ***Increased parity between rural and urban residents.*** Currently, accessibility and affordability of health care is hugely disparate between urban and rural residents. China's health reforms commit to building 2,000 county hospitals and 5,000 township clinics in rural areas over 2009-2011.^{lxxiv} Additionally, the central government will provide school fee subsidies for medical college graduates who serve in rural clinics for a minimum of three years post-medical school.^{lxxv}
5. ***Pilot projects implemented in public hospitals.*** Public hospitals deliver 90% of both inpatient and outpatient care in China and garner more trust among Chinese than other provider types, so they carry the potential to affect major health system change. However, hospital policies are controlled by varying and often conflicting CCP ministries other than the Ministry of Health. This contributes to perverse incentives, a lack of accountability, and confusion about purpose and mission.^{lxxvi} In early 2010, the central government released "Guidelines for Pilot Public Hospital Reforms" that outlined seven pilot projects for public hospital reform.^{lxxvii} Generally, these pilot projects aim to improve the delivery capacity of public hospitals, cooperation between public hospitals and primary care facilities, county-level hospital availability, effective payment systems that align incentives to lower costs and increase quality, resident physician training, and electronic records and telemedicine systems.^{lxxviii}

Health reform in China is being implemented first through these five priority areas, and further changes will continue, in accordance with the goals, beams and pillars. Underlying the reforms is a shift away from public-private hybridization that occurred simultaneous with economic liberalization in China's health care system. Generally, reforms seek to eliminate or control the market-based incentives—such as profit-seeking on pharmaceuticals—that led to rampant medical inflation and poorer quality of care. While certain reform policies include competitive purchasing (e.g. drugs on the Essential Drug List), this is constrained by a government-imposed price ceiling. The enormous and growing infusion of governmental spending, and the rapid expansion of government-run health insurance also reflect this trend. However, the strong government hand is not clutched entirely by the central government. Ho argues that China's health reform approach exhibits *de facto* federalism. While the central government published goals and priorities for national health reform, much of the funding and reform implementation is decentralized to provincial and local government, with fairly wide latitude.^{lxxix}

Comparison with United States

Like China, America's primary goal in embarking on a health reform process was to expand health insurance coverage. Due to political controversy and perceived economic threats, plans to do so through expanding government coverage were quickly scrapped and instead health reform was transformed into an institutionalization and expansion of the (regulated) private health insurance market. The US and China each dramatically expanded insurance coverage, but will succeed in doing so through entirely different mechanisms. The two countries also diverge significantly in the role they see for government funding of health care. American health reform discussions were dominated by concerns about the high aggregate cost of health care, and commentators praised legislation for reducing the national deficit—irrespective of the merits of the health policies that achieved deficit reduction. China, with much lower per capita spending on health care, significantly less health care spending as a percentage of GDP, and a rapidly growing economy, instead used health reform to infuse substantial government funding (and control) into the health care system. The divergent approaches the US and China took to accomplishing the same goal of insurance coverage, and the contrasting perspectives on government funding of health care reflect the political systems and economic development of each country.

Accomplishments and Challenges

Health reforms in China and the US are in nascent stages and are therefore difficult to accurately or comprehensively evaluate. Early accomplishments, however, are telling. China has succeeded in extending basic medical insurance coverage to more than 95% of rural Chinese, from 18 million with coverage in 2008 to 836 million today.^{lxxx} Overall, more than 92% of the population is covered by one of the three insurance programs. Additionally, insurance benefits have been enhanced from covering only inpatient services to now paying for outpatient care as well, though still at relatively low levels.^{lxxxi} The Essential Drug List has succeeded in dramatically lowering the cost of pharmaceuticals, as described above, and seen widespread adoption in nearly all provinces and counties.^{lxxxii}

In contrast, the US, despite enacting health reform barely a year after China began implementing its reforms, has very little to show for insurance expansion or slowdown in health care spending. In part, this reflects different strategies for expanding coverage: while China prioritized breadth over depth of coverage initially, the US process will deliberately develop infrastructure and regulations for insurance coverage before enrollment begins. Though Chinese could enroll nearly immediately in health insurance programs, enrollees are more likely to face high OOP costs or other barriers to access than enrollees in new health insurance plans will in the US, though the latter are delayed from enrolling until 2014.

The success of China's Essential Drug List at lowering prices of pharmaceuticals may come at the expense of quality or costs in other areas or financial losses at the institutions, as county-level authorities have been lagging in providing the needed subsidies to hospitals to accommodate lost drug sales revenue.^{lxxxiii,lxxxiv} Questions have also been raised about whether this program successfully reduces inappropriate drug use.^{lxxxv} China continues to struggle with new demand for health care services created by a combination of increased insurance coverage, changing disease trends, and rising per capita income. The US faces similar demand growth for health care services, but lacks the political and governmental structures to impose price ceilings (with the exception of government-run programs like Medicare). Instead, the US approach to lowering cost growth trends is to implement delivery system reforms that seek to align incentives for quality care with lower costs. To date, these have seen little success at "bending the cost curve" on a significant scale, but many are still in nascent implementation phases. Without explicit rationing of care, both countries will face challenges—both financially and in supply—as demand for health care rises.

Conclusion

From Mao to the present, China's health outcomes and health care systems have reflected rapid economic development and changing political systems. Under Mao, Chinese suffered from communicable diseases, reflecting rural conditions and extremely low per capita GDP. These conditions were treated successfully by "barefoot doctors" who operated through the commune-based rural health care system (CMS). Barefoot doctors received minimal medical training but their skills matched the health issues facing Chinese, and they were able to keep mortality rates

comparatively low. Mao promoted barefoot doctors as part of his political emphasis on the rural population, which was vital to China's economy under Mao, as it relied primarily on agricultural production.

As China's economy grew rapidly and transitioned to a more market-based system in the 1980s, common illnesses shifted from infectious to chronic, similar to developed countries' transitions more than fifty years earlier. Barefoot doctors no longer sufficed, and were largely replaced by private practitioners dispensing more Westernized medicine. Concurrently with this transition, disparities in health outcomes between urban and rural areas grew. This generally reflected the growing wealth inequality in China, due in part to rapid economic liberalizations. Economic transition also resulted in the dwindling of the collective commune economy, which in turn undermined the effectiveness of Mao's rural health care system. The CCP's development of alternative insurance schemes from the 1980s through the beginning of the 21st century reflected efforts to ensure coverage for Chinese, and as the population migrated into urban areas and non-agricultural employment, disease prevalence changed, and health care providers modernized amidst economic growth.

Unlike many other countries' paths to reforming a national health care system, China's process was relatively insular. Taiwan's reform process several years earlier is instructive in how different political and economic conditions enable a more open process that explicitly relies on international health care systems' experience. However, China's use of outside experts (even American-trained), a publicly-disclosed government Commission, and solicitation of public comment reflects a willingness to incorporate some measures of transparency and international expertise into its health reform process. Reflecting on the final health reform outcome, the divergent approaches that the US and China chose to accomplish similar goals of comprehensive insurance coverage, and the contrasting perspectives on government funding of health care, reflect the political systems and economic development of each country. China is implementing health reform during a period of great economic growth, and is willing to commit significant government funding to reforms. The US, on the other hand, passed health reform legislation during a recessionary period, and the focus on deficit reduction reflects concerns about social affordability.

Since Mao, health outcomes and health care systems in China have reflected economic conditions and development. China's most recent need for the health reforms, beginning in 2009, reflect its rapid economic development path that allowed for economic liberalization and the introduction of market-based incentives into the health care system. As the consequences of these changes became evident, namely barriers to health care like unavailability of services and high out-of-pocket costs, China embarked on health reform to ensure that its greatest economic resource—human capital—was not constrained by excessive savings or poor health.

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