

A REPORT OF THE CSIS
FREEMAN CHAIR IN
CHINA STUDIES

Implementing Health Care Reform Policies in China

CHALLENGES AND OPPORTUNITIES

Editors

Charles W. Freeman III
Xiaoqing Lu Boynton

December 2011



A REPORT OF THE CSIS
FREEMAN CHAIR IN
CHINA STUDIES

Implementing Health Care Reform Policies in China

CHALLENGES AND OPPORTUNITIES

Editors

Charles W. Freeman III

Xiaoqing Lu Boynton

December 2011

CSIS | CENTER FOR STRATEGIC &
INTERNATIONAL STUDIES

About CSIS

At a time of new global opportunities and challenges, the Center for Strategic and International Studies (CSIS) provides strategic insights and bipartisan policy solutions to decisionmakers in government, international institutions, the private sector, and civil society. A bipartisan, nonprofit organization headquartered in Washington, D.C., CSIS conducts research and analysis and develops policy initiatives that look into the future and anticipate change.

Founded by David M. Abshire and Admiral Arleigh Burke at the height of the Cold War, CSIS was dedicated to finding ways for America to sustain its prominence and prosperity as a force for good in the world.

Since 1962, CSIS has grown to become one of the world's preeminent international policy institutions, with more than 220 full-time staff and a large network of affiliated scholars focused on defense and security, regional stability, and transnational challenges ranging from energy and climate to global development and economic integration.

Former U.S. senator Sam Nunn became chairman of the CSIS Board of Trustees in 1999, and John J. Hamre has led CSIS as its president and chief executive officer since 2000.

CSIS does not take specific policy positions; accordingly, all views expressed herein should be understood to be solely those of the author(s).

Cover photo credit: Mother and child in Chinese Hospital by 我愛荳芽, 蔡, <http://www.flickr.com/photos/yuyk/4953293775/sizes/l/in/photostream/>.

© 2011 by the Center for Strategic and International Studies. All rights reserved.

ISBN 978-0-89206-679-7

Center for Strategic and International Studies
1800 K Street, N.W., Washington, D.C. 20006
Tel: (202) 887-0200
Fax: (202) 775-3199
Web: www.csis.org



CONTENTS

Acknowledgments	iv
1 China's Health Care Reform: Background and Policies	1
<i>Christina S. Ho</i>	
2 A Midterm Assessment of China's Health Care Reform	7
<i>Yan Guo</i>	
3 Increasing the Affordability of Health Care: Comparing Reforms in China and the United States	12
<i>Yuanli Liu</i>	
4 The Central-Local Relations Dimension	21
<i>Dali L. Yang</i>	
5 Public Hospital Reform in China from the Compensation Perspective	29
<i>Hufeng Wang and Wei Ouyang</i>	
6 The Development of China's Essential Medicine System	35
<i>Hufeng Wang and Ying Li</i>	
About the Contributors	40



ACKNOWLEDGMENTS

We would like to express our profound gratitude to the commissioned experts in China and the United States for their research and chapters, as well as their participation in the CSIS project “Dialogue on China’s Health Care Reform Policies” over the past year. We would also like to thank Savina Rupani, program coordinator of the CSIS Freeman Chair in China Studies, for her administrative assistance with the project and this publication. We are deeply grateful to our research interns—Nathan Harpainter, Mary Huang, James Pearse, Cecilia Sze, and Laura Yu—for their research and assistance with updating and finalizing the report, and to Jeffrey Bean, research assistant with the CSIS Freeman Chair in China Studies, for supervising final edits and shepherding the report to press. Special acknowledgment is also due to James Dunton and the CSIS publications team for the copyediting and layout of the report.

This publication was made possible by the generous support of the Pharmaceutical Research and Manufacturers of America (PhRMA). We would particularly like to thank Anthony Cino at PhRMA for his interest and guidance throughout the project. The report was produced by CSIS, but the views expressed in each chapter are solely the responsibility of the individual author and do not reflect the views of any institution.

1

CHINA'S HEALTH CARE REFORM
BACKGROUND AND POLICIES

Christina S. Ho

China's health system has spanned the antipodes of potential health system models, ranging from a pure government delivery model to one radically driven by profit incentives, and now China is seeking a hybrid to suit its hybrid economy. After an extensive and remarkably public debate that featured clashes between the "government approach faction" and the "market approach faction," China has settled on a mixed vision that guarantees a level of basic universal health security while permitting market space to meet additional demands.¹ To realize this vision, the government along with the Central Committee of the Communist Party announced a major comprehensive health reform effort in April 2010, committing RMB 850 billion over three years to the project, even amid a major economic recession.²

The fascinating story of China's health care system up to this point, which has been well documented by others, is a tale that describes an underlying dualism with which reform now attempts to cope.³ Before the market liberalization from the late 1970s to early 1980s, China's system was a classic government delivery model, featuring government hospitals and personnel funded by government or pooled community funds. But with economic reform, health care began to be treated much like any other economic sector; the guarantee of central support dried up, and local governments treated care providers like enterprises that are responsible for generating revenues to achieve solvency. 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. The resulting public outrage has not gone unnoticed; surveys show that medical care is among citizens' top concerns,⁴ and medical disputes have triggered widespread protest, community unrest, and acts of violence.

1. See Christina S. Ho, "Health Care Reform and De Facto Federalism in China," *China: An International Journal* 33, no. 8 (2010).

2. China Information Center, "Opinions of the Central Committee of the Chinese Communist Party and the State Council on Deepening the Health Care System Reform," http://www.china.org.cn/government/scio-press-conferences/2009-04/09/content_17575378.htm; China Information Center, "Implementation Plan for the Recent Priorities of the Health Care System Reform (2009–2011)," promulgated by the Central Committee of the Chinese Communist Party and the State Council of the People's Republic of China, effective on March 17, 2009, http://www.china.org.cn/government/scio-press-conferences/2009-04/09/content_17575401.htm.

3. E.g., Yanzhong Huang, "An Institutional Analysis of China's Failed Healthcare Reform," in *Socialist China, Capitalist China*, edited by Guoguang Wu and Helen Landsdowne (New York: Routledge, 2009); David Blumenthal and William Hsiao, "Privatization and Its Discontents: The Evolving Chinese Health Care System," *New England Journal of Medicine* 353, no. 11 (September 2005): 1165–1170.

4. Jonathan Watts, "China's Health Reforms Tilt Away from the Market," *Lancet* 371, no. 9609 (January 2008): 292.

The long-awaited and much-needed reform signals the next chapter of this story; but the question remains of whether public welfare in the health care system can be reconciled with a market economy and its associated imperatives. For too long, China's singular focus on economic growth has admitted few alternate priorities. But with health reform, the Chinese government seems poised to pursue both. Health reform is geared not only toward providing a public good but also, by guaranteeing universal coverage, toward stimulating domestic consumption insofar as it helps to alleviate excessive savings.

This synthesizing approach toward what had previously been viewed in diametric terms is apparent in the "Guiding Opinions" document (Article 2), where the Central Committee of the Communist Party and State Council outlined the principles of health reform. First, the document declares that health reform will adopt a "people-first" approach, based on an understanding of health care as a basic public good provided to the entire population for its common welfare. At the same time, health reform will be governed by the principle of combining the government's role with market forces to address "multiple layers of demand." The approach, according to these outlines, will be unique to China's conditions and deploy local initiatives within the framework of comprehensive planning efforts.

With reform this sweeping, execution takes time, as the United States is currently discovering in its own health care reform process. China had already undertaken years of pilot rollouts and exploratory implementation of the new coverage programs before the formalized announcement of those practices in 2009. Regarding other noncoverage areas of reform, such as public hospital reform and new methods of payment/financing, the reform announcement declared a general future intention without a detailed road map.

As part of this proverbial process of "crossing the river by the feel of the stones," China has planned for the first phase of priority tasks to be completed in 2011, and with universal coverage, the system will be fully operational by 2020. To secure early political momentum for this long process, the five priority areas for 2011 provide immediate widespread benefits to the Chinese public:

1. The achievement of coverage through the existing health coverage programs (Urban Resident Basic Medical Insurance, Urban Employee Basic Medical Insurance, New Cooperative Rural Medical Scheme, and Medical Assistance) for more than 90 percent of the population, and a promise that the value of these program benefits will reach at least RMB 120 per person per year.⁵
2. The government has also prioritized the provision of a formulary of essential drugs (which is tricky because hospitals rely on drugs for a large majority of their revenues).
3. An upgrading of primary health delivery.
4. Greater parity between rural and urban public health services.
5. Initiation of the public hospital pilots.

China seems poised to achieve sufficient progress on these fronts to be able to claim significant achievements by the end of 2011.

First, coverage has expanded significantly. The New Cooperative Rural Medical Scheme (NCRMS) has had a head start over Urban Resident Basic Medical Insurance (URBMI) and

5. To contextualize this defined contribution benchmark, the amount would be six times higher than it was in 2003, when the coverage programs were first piloted, but it still amounts to less than \$20.

achieved the 90 percent coverage rate ahead of schedule.⁶ Meanwhile, some progress has been made on urban coverage rates, but according to its 2011 work plan, the government is still striving to enroll a combined 440 million urban employees and residents in URBMI and the Urban Employee Basic Medical Insurance programs. This suggests that China is still short of its near-universal coverage goal, given that between 600 and 700 million people live in urban areas according to the latest census figures.⁷

At the same time, the promised benefit value has been substantially attained, spurring the government to aim even higher to reach not just RMB 120 but RMB 200 per person per year.⁸ Questions remain about whether these amounts will be meaningful given rapid medical inflation, and whether the coverage rate reflects real demand among the people. There have been a few reports of local governments double-enrolling, or involuntarily enrolling residents to boost their coverage rates, and later automatically deducting the premium costs from residents through various government accounts or subsidies.⁹ The Ministry of Civil Affairs and the Ministry of Health must also better coordinate the implementation of Medical Assistance. Without Medical Assistance to fill the gaps left by other types of coverage, deductibles and cost sharing will be too great for the coverage systems to be meaningful to those who may need them most.

However, China does seem to be strengthening coverage in other ways that have been historically overlooked. The State Council's 2010 and 2011 work arrangements, which are enforced through cadre performance evaluation systems and responsibility contracts, discourage the individual savings account model, instead encouraging localities to adopt some kind of outpatient pooling with specific levels of average per capita subsidies targeted (RMB 35–40 per person).¹⁰ Slowly, payment systems are being nudged from fees for services to more bundled forms of payment to help control supply-side cost growth.¹¹ Annual limits are still quite restrictive, and the government plans to ease those caps to no less than the higher of RMB 50,000, or six times per

6. According to the Ministry of Health's statistics, enrollment percentages reached 96 percent by the end of 2010; see <http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohwsbwstjxxxz/s7967/201104/51512.htm>.

7. "Guowuyuan Bangongting Guanyu Yinfa Yiyao Weisheng Tizhi Wuxiang Zhongdian Gaige 2011 Niandu Zhuyao Gongzuo Anpai de Tongzhi" (国务院办公厅关于印发医药卫生体制五项重点改革2011年度主要工作安排的通知) [Circular of the General Office of the State Council on Printing and Issuing the Major Work Arrangements for Five Key Reforms to the Pharmaceutical and Health Care System in 2011], *State Council Gazette*, February 13, 2011, http://www.gov.cn/zwggk/2011-02/17/content_1805068.htm. For census figures, see http://www.ce.cn/macro/more/201104/28/t20110428_22390326.shtml.

8. "Report on the Work of the Government," 2011, http://english.gov.cn/official/2011-03/15/content_1825268.htm.

9. "Xinxing Nongcun Hezuo Yiliao Shidian Gongzuo Pingguzu" (新型农村合作医疗试点工作评估组) [New Cooperative Medical System Pilot Site Work Evaluation Group], "Fazhanzhong de Zhongguo Xinxing Nongcun Hezuo Yiliao: Xinxing Nongcun Hezuo Yiliao Shidian Gongzuo Pinggu Baogao" (发展中的中国新型农村合作医疗: 新型农村合作医疗试点工作评估报告) [Chinese New Cooperative Medical System in Development: New Cooperative Medical System Pilot Site Work Evaluation Report], "Renmin Weisheng Chubanshe" (人民卫生出版社) [People's Health Press], 2006.

10. See "Major Work Arrangements 2011," supra note 7, and "Guowuyuan Bangongting Guanyu Yinfa Yiyao Weisheng Tizhi Wuxiang Zhongdian Gaige 2010 Niandu Zhuyao Gongzuo Anpai de Tongzhi" (国务院办公厅关于印发医药卫生体制五项重点改革2010年度主要工作安排的通知) [Circular of the General Office of the State Council on Printing and Issuing the Major Work Arrangements for Five Key Reforms to the Pharmaceutical and Health Care System in 2010], *State Council Gazette*, April 30, 2010, http://www.gov.cn/zwggk/2010-04/19/content_1586732.htm.

11. See "Major Work Arrangements 2010" and "Major Work Arrangements 2011," supra note 7.

capita income. The implementation documents also suggest a commitment to establishing mechanisms for third-party purchasing, creating a social health insurance program as an alternative to continuing to stream payments to providers directly.¹² As China undertakes this process, it should heed the Russian experience. When Russia attempted to institute a system of managed competition in its health system, direct supply-side subsidies continued to represent such a large portion of providers of overall revenue that demand-side insurance purchasing never achieved enough leverage to exert a transformative force.¹³

My preference for the social health insurance model in China stems from the potential structural advantages it can offer in allowing the integration of multiple sources of funding but under a comprehensive framework that prevents the development of separate systems for the rich and the poor. A separation of the purchaser from the provider can allow for more checks and balances and competition in the administrative governance of health care. This structure can also undergird reforms that allow for less episodic, fragmented payments, moving away from individual accounts and fees for services within URBMI and NCRMS. All these payment reforms will also be important for the achievement of the second reform priority related to the drug system.

The national basic formulary framework has been developed, individual provinces have published their adaptations, and a significant proportion of primary health care institutions has already implemented this basic drug system.¹⁴

A list of hospitals engaged in pilots has been developed, and a five-ministry joint policy guidance has been issued.¹⁵ The renovation and construction of primary health facilities are proceeding apace.

Certainly, questions remain concerning each of these priority items. Tiered reimbursement and cost sharing are necessary so that patients do not disinvest from the community health system by skipping over the primary care providers, and China seems to understand this logic. Whether and how China can accomplish greater urban/rural parity and sensible hospital reform remains to be seen.

The big question over the long term is whether the twin poles of “market” and “government” can be blended successfully, whether China can stretch its capacity to embrace the multiple goals with sufficient balance, and without bifurcating into separate systems for the haves and the have-nots, a type of fragmentation and stratification that has plagued the health systems of other countries, like Brazil, that are also undergoing dynamic economic transitions. Even as China’s health care system became decentralized and commercialized over the years, it did not become entirely segregated into a separate system where public facilities and risk pools were abandoned as people

12. See Article 4 of “Weishengbu Guanyu Zuohao 2011 Nian Xinxing Nongcun Hezuo Yiliao Youguan Gongzuo de Tongzhi” [Ministry of Health Circular No. 27 Regarding 2011 Work Relating to the New Rural Cooperative Medical Scheme], April 11, 2011, <http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohncwsgls/s3581/201104/51231.htm>.

13. See Xu Weiwei et al., “Prospects for Regulated Competition in the Health Care System: What Can China Learn from Russia’s Experience,” *Health Policy and Planning* 26, no. 3 (June 2010):199–209.

14. This was nearly 80 percent, according to Ministry of Health figures from February 2011; see <http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohbgt/s6717/201103/50963.htm>.

15. “Weishengbu Deng Wu Buwei Lianhe Fabu Guanyu Gongli Yiyuan Gaige Shidian de Zhidao Yijian” (卫生部等五部委联合发布关于公立医院改革试点的指导意见) [Guiding Opinions on Public Hospital’s Reform Pilot Jointly Issued by Five Ministries Including the Ministry of Health], <http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohbgt/s3582/201002/46060.htm>.

disinvested and retreated to their private separate enclaves of wealth. The best hospitals in China, the Fudans and the Xiehes, are still public.

By contrast, in countries such as Brazil and India, it has been nearly impossible to lure people to reinvest in a system they have abandoned, just as in the United States it has been difficult to gather sufficient social solidarity for rational risk pooling in its own health reform efforts. With China's lines of urban/rural stratification recapitulated in the distinctions between public health and insured health services, even along the lines of the administrative jurisdiction of the Ministry of Health and the Ministry of Human Resources and Social Security, the specter of an irrevocably divided health system is real. The health reform policy framework acknowledges that in China's dynamic economy, some headroom must be created in the system for those with resources to purchase additional health care. If properly designed, this segment of the health care arena can channel consumer demands away from pernicious "red envelopes" and "informal payments," but this emerging space must also be carefully monitored for its effects on the overall equity of the health care system.

Several additional issues will be interesting to watch as they develop:

- All along the way, China should attend to how risk pooling is affected by each policy design element. It is fortunate that China can pool risks based on geography, but is community-wide pooling enough? The most recent work plans gently suggest movement toward province-wide pooling.¹⁶ As the labor force becomes ever more mobile, and the dangers of voluntary risk selection grow, China's progress on this dimension will be important.
- China must consider the quality of the health care workforce, particularly in rural areas. Building primary care facilities is not enough; nor will tiered reimbursement suffice to attract patients to the community level. Part of improving health quality will entail improvements to the emoluments of employment for health workers. This means coverage needs to be deeper in rural areas, and grow with total health expenditures, hopefully with catch-up policies for rural areas to promote parity with urban regions. The danger of cost growth, at least in rural areas, is secondary in my view to the urgent need for increased investment and improved quality. The widespread resentment against health workers is a bit misplaced. I would much prefer that increased resources flow to physicians, not to the opportunists who are rushing to invest in the health industry right now, opening for-profit hospitals and selling medical devices. I think that the advantages of higher status and a stronger sense of self-conscious professionalism among medical professionals will have spillover benefits for the entire health system.
- Ideally, China will continue to remain vigilant in preventing disinvestment from public health. The particular divide between health services and public health is evident in the recently passed Social Insurance Law, which singles out public health as a service not subject to reimbursement. This particular manner of categorization is cause for concern because it appears throughout various policies, corresponds to an administrative turf division, and is a somewhat unstable distinction.

Finally, China is still at the outset of the ongoing project of limning the scope and contours of its health care system. As this ongoing collective project of articulation and definition continues, the institutions of China's system will need to make finer-grained decisions on a daily basis—what

16. See "Major Work Arrangements 2011," *supra* note 7.

benefits to include, what technologies to encourage, what services to count, how much to reimburse, and who is eligible and for how much—all amid a rapidly changing technological, social, and economic context. The resilience of China’s institutions, and their ability to make these decisions relatively promptly and accurately, with both consistency and flexibility, and with relative legitimacy and acceptability, will be the health care system’s focal challenge, in China as it is in other modern countries. Some sites in China have already experimented with a participatory process for citizen input as NCRMS conducts reimbursement determinations. Patient dissatisfaction and public unrest, the original reasons for health care reform in China, will be the truest measures of its success or failure.

2

A MIDTERM ASSESSMENT OF CHINA'S HEALTH CARE REFORM

Yan Guo

In the past 30 years, public health in China has significantly improved, and the nation's health indicators have ranked near the top among developing countries. Nevertheless, the current health care system in China fails to meet the population's needs and the requirement for sustainable economic growth. For example, health care development remains unbalanced between urban and rural areas, and accessibility and affordability are still big challenges for the health system. The government's financial investment in health care is insufficient, and out-of-pocket payments are excessive. To address these problems, the Central Committee of the Communist Party of China and the State Council promulgated the "Views on Furthering Health Care Reform" on April 6, 2009, which marked the starting point of China's health care reform.¹

The new health care reform structure is commonly referred to as "one goal, four beams, and eight columns." The "one goal" is to establish a basic health service system that provides universal coverage. To reach this goal, China needs to focus on four key areas, or "beams": strengthening the health service system, including its public health service system; accelerating the formation of health care insurance; and establishing a sound system for drug supply and security. The "eight columns"—the administration mechanism, operation mechanism, financing mechanism, pricing mechanism, governance mechanism, security mechanism for technology and human resources, information system, and legislation mechanism—provide essential support for the success of current health care reform policies.

In accordance with "Opinions on Deepening the Medical and Health Care System Reform," the government adopted five reform foci between 2009 and 2011: accelerating the construction of the basic health insurance system, establishing the national essential drug list, establishing the primary-level health service system, promoting the equalization of basic public health services, and facilitating pilot reform programs in public hospitals. In these three years, the central government pledged to invest \$124 billion in the health care system. From April 2009 to the end of 2010, governments at all levels in China had invested 511 billion yuan in health care, an increase of 52 percent from 2008 levels. Of this investment, a total of 182.8 billion yuan was contributed by the central government, an increase of 8 percent compared with 2008 levels.²

This paper reviews the progress of health reform in China, focusing specifically on the five reform components.

1. Central Committee of the Communist Party of China and State Council, "Opinions on Deepening the Medical and Health Care System Reform," Xinhua, April 6, 2009.

2. Chen Zhu, "China's Healthcare Reform," *China-Australia Forum on Health Development*, June 2011; "Health Statistics," Ministry of Health, www.moh.gov.cn.

Progress on Five Health Care Reform Foci

Progress has been made on the five main foci of health care reform. First, progress has been made in the establishment of the basic medical security system. The scope of the medical insurance system has been expanded to cover 1.2 billion people. Urban Resident Basic Medical Insurance has been implemented in every Chinese city, and its coverage has reached 433 million. As of the end of 2010, the New Rural Cooperative Medical System covered more than 95 percent of peasants, a total of 836 million people, representing an increase of 18 million from 2008. The average financing per capita in the New Rural Cooperative Medical System is 156 yuan, and the reimbursement rate for hospitalization of people covered by this system is higher than 80 percent.

Second, the national essential drug system has been preliminarily established at local levels. With regard to relevant policies, the government compiled the 2009 National Essential Drug List (local part), issued the Opinions on Strengthening the Governance of the Quality of Drugs, defined price guides for drugs retail, and achieved the essential clinical drug guideline. To date, 82 percent of the counties have applied the national essential drugs list to their local reimbursement lists, and 30 provinces have set up platforms for purchasing nonprofit drugs at the provincial level. All 31 provinces have confirmed specific areas whereby the nation's essential drug list is currently or will soon be implemented. These areas cover 1,020 counties (including county-level cities and municipal districts), accounting for 35.7 percent of the 2,859 counties nationwide, and involve 18,000 government-run local medical organizations, accounting for 38.7 percent of all the health organizations. Among these 18,000 health care organizations, there are 7,907 government-run urban community health service institutions, accounting for 92 percent of the 8,598 institutions of this kind. A total of 27 provinces have accomplished bids for national essential drug purchases and confirmed the types and norms of these essential drugs. In these areas, drug prices have dropped by 25 to 50 percent on average.

Third, the construction of local health service systems has been promoted. At the policy level, the Ministry of Health (MOH) and the National Development and Reform Commission (NDRC) have released construction standards for five different kinds of local health care facilities including county hospitals, and have also started research on recruitment norms for township hospitals. From 2008 to 2010, the central government appropriated 20 billion yuan per year to 2,000 county hospitals and 4,700 local health care facilities to improve their conditions. To strengthen the capacity building of local health professionals, the MOH and NDRC issued the Plan of General Physician-Oriented Local Medical Team Building. As of the end of 2010, 72,000 health workers in township hospitals, 2,080,000 health workers in village hospitals, and 420,000 health workers in community health care facilities had received training.

Fourth, public health services include basic public health services and significant public health service projects. Basic public health services subsidize each resident 15 yuan in nine categories, including planned immunization, maternal and child health care, folic acid supplements for rural women, mass screening for breast cancer and cervix cancer, physical examination for elders, and the establishment of health records. As of the end of 2010, the average subsidy for basic health service projects reached 18.5 yuan nationwide. The nine categories of national basic public health service projects have been adopted across the country. A total of 50 percent of urban and township residents and 45 percent of rural residents now have health records, exceeding the expected rate of 40 percent in urban areas and 20 percent in rural areas. Key national public health service projects include hepatitis B vaccinations for young people under the age of 15 years, mass screening for

breast cancer and cervix cancer for rural women, subsidies for deliveries in hospitals, and folic acid supplements for rural women. As of the end of 2010, 58.4 million young people under 15 had been inoculated against hepatitis B, more than the goal of 23.3 million; 14.4 million women in rural areas had received free folic acid supplements; and 17.8 million pregnant women had received subsidies for delivery in hospitals. And the rate of hospital delivery of babies increased from 94.5 percent in 2008 to 97.8 percent in 2010.

And fifth, pilot public hospital reform programs have been gradually launched. The MOH and four other ministries jointly issued the Guidelines for Pilot Public Hospital Reforms on February 11, 2010, which marked the official start of pilot public hospital reform. The central government selected 16 representative cities to implement the pilot reform, and each province was authorized to select 1 to 2 pilot cities. Pilot reforms focused on the following seven areas:

1. Improve the structure of public hospitals, with an emphasis on service delivery capacity building in underdeveloped areas like rural areas, newly urbanized areas, and suburban areas, as well as in poorly performing fields like pediatrics, obstetrics, mental health, elderly nursing, and rehabilitation; and enhance the accessibility of health services.
2. Establish a systemized, stable, and standardized cooperation mechanism between public hospitals and primary health care services, including dual referral systems between hospitals and basic health care facilities. City hospitals should provide assistance to rural hospitals and community health services centers, as should county hospitals to township hospitals.
3. Prioritize the development of the medical care system at the county level, including the construction of county hospitals.
4. Deepen the reform of payment methods to hospitals. In accordance with “One Card for All” health insurance, gradually realize direct reimbursement from different channels; and ensure an effective payment method of health insurance to hospitals in order to incentivize hospitals with lower costs.
5. Improve the quality of health services to promote patient satisfaction; ensure comprehensive implementation of appointed diagnosis and treatment, and improve standard operating procedure for patient treatments; promote electronic clinical pathway management; and control the costs of diagnosis and treatment.
6. Provide standard training for resident physicians in order to ensure the delivery of high-quality care at all levels.
7. Improve information systems in hospitals and promote the establishment of telemedicine systems; and set up hospital information networks focusing on electronic records filing and hospital management.

Additionally, the National Development and Reform Commission issued the Guideline on Further Introducing Civil Capital in the Development of Medical Institutions, and is actively exploring efficient ways to utilize civil capital to promote health care development.

Difficulties and Challenges

Financial Problems

Due to certain management procedures, it takes a long time for the funds to be transferred from the central level to the county level. For example, in 2009 funds from the central government were granted to the provincial level in June, but they did not reach the county level until the end of the year, which not only affected the completion of the task in 2009 but also increased operational difficulties in the following year. Meanwhile, local governments are also slow to provide complete and timely matching funds and to allocate funds to lower levels.

The Need for Consistency, Synchronization, and Coordination

Primary health care institutions are the core of the ongoing health care reform efforts that target institutional development. However, a lack of coordination and synchronization is still a common problem. For example, when essential medicine “zero-slip” sales are carried out in some areas, the corresponding compensation has not been generally established, and thus it reduces both the effectiveness of the policy and the enthusiasm of the primary medical staff in health care reform. In the meantime, some primary health care institutions implemented performance-based pay systems ahead of the essential medicine “zero-slip” sales, which imposed barriers to follow-up reform measures.

The Impact of Regional Discrepancies

China’s size and geographic diversity lead to uneven development between regions, which differ in their socioeconomic development, health care resources, health service capabilities, health levels, and management capabilities. As circumstances vary from place to place, implementing the five reform measures, especially the ones concerning primary health care services and primary health care capacity building, often requires significantly different approaches.³ In addition, some areas are not even ready for the implementation of these measures, which raises questions about the suitability of the reform measures.

Challenges Facing the Implementation of the Essential Medicine System

The essential medicine system is brand new in China. With its wide coverage, it involves deep-seated interest adjustment among beneficiaries in the process of settling catalogues, pricing and public bidding mechanisms, and the use of medication. Conflicts of interest and the resulting outcomes can largely influence the implementation of the policy. Currently, the essential medicine system is only implemented in primary health care institutions and has not been extended to major hospitals. Some patients have to go to major hospitals instead because they cannot get the medicine they need in primary institutions, where the turnover rate of medical professionals is another indicator. In addition, because drug sales revenues are to be replaced by the essential medicine system, the shift inevitably leads to a drop in income for hospitals. Therefore, if local govern-

3. Zhang Mao, “Approach to Health Reform, Seeking of Truth,” Ministry of Health, January 2010, <http://www.moh.gov.cn/publicfiles/business/htmlfiles/wsb/pmtxwbd/201001/45510.htm>.

ment compensation is not granted in time, primary health care institutions will be less inclined to implement the essential medicine system.

Vague Public Hospital Reform Goals

Public hospitals are a key component of China's health care system, and also the main concern of Chinese society. Reforming public hospitals involves the reform of the personnel system, governance structure, compensation mechanism, and balancing various complicated and competing interests. The reform objectives for public hospitals are not explicit. Although theoretically the degrees of benefit of different beneficiaries are clear, the plans include no concrete path. So far, there is still no evidence that illustrates the progress and achievement of public hospital reform.

The Need for Overall Consideration and Design Integration

The key issue in health care reform is to ensure primary health care services and primary level health care capacity and to establish appropriate mechanisms. At present, the provision of primary health care services and the establishment of the primary health care system have gained certain achievements, but further study is needed about how to establish a fair and effective operating mechanism.

A Basic Assessment of Progress on Health Care Reform

There is no clear answer as to whether the government's health care reform goals will be met as planned by 2011, given that the metrics for work, direct output, effects, and overall impact are distinct from each other. So far, these metrics can be easily assessed, but when it comes to evaluating their effects, it is hard to judge whether reform has been successful, partially because two years of implementation is not long enough to evaluate the overall impact. In 2009, the National Health Reform Committee set up an external review team to conduct an impact evaluation of national health care reform, although its report has not yet been released.

However, progress toward meeting several working objectives can be assessed, including the establishment of the health care insurance and public health projects, because they have two aspects in common. First, they both have very clear goals and implementation approaches, and their beneficiaries are clear and measurable. Second, government input has been timely and appropriate, and all beneficiaries have reached a consensus. The other three objectives share one key aspect—they seek to achieve public benefit. However, there is no standardized metric for measuring public benefit, which makes it difficult to analyze the success of certain programs and policies. Furthermore, there is no guarantee that increased government input will lead to expected outputs.

Moreover, efforts to measure current outcomes do not take external factors into account. For example, it would be more persuasive if the comparability of diseases and of disease severity were provided when analyzing the influence of the implementation of the Essential Medicine List on cost reductions for community health care services. If the list leads more people to seek treatment in major hospitals, and there is no related evidence from these hospitals, it is not appropriate to conclude that the issue of excessive medical costs has been settled. To conclude, given that health care reform has only been implemented for one and a half years, more evidence is needed to assess its progress, immediate effects, and overall impact.

3

INCREASING THE AFFORDABILITY OF HEALTH CARE COMPARING REFORMS IN CHINA AND THE UNITED STATES

Yuanli Liu

On March 17, 2009, China announced its ambitious plan to “deepen health system reforms.”¹ One year later, on March 23, 2010, America’s health care reform plan, known as the Patient Protection and Affordable Care Act, became law.² Why did the world’s largest developing country and largest industrialized country embark on health care reforms at the same time? Do they have similar or different sets of objectives? Are they adopting similar or different sets of strategies to achieve their objectives? And can these two great countries learn from each other’s experiences? This paper addresses some of these questions.

It should be pointed out at the outset that any country’s health care reforms are intended to achieve multiple objectives, including improving access to health care services, as well as their affordability, efficiency, and quality, with the ultimate goal of improving people’s health.³ This paper focuses on health care affordability, because it is arguably one of the most important objectives of current health care reforms both in China and in the United States.

The paper begins by discussing the conceptual and measurement aspects of health care affordability. Changes in affordability in China and the United States are measured in two dimensions: individual (the micro level), and social (the macro level). Then the paper compares and discusses the approaches adopted by the two countries to increase affordability. Finally, the paper discusses major lessons that can be drawn from this comparative analysis.

Approaches to Defining “Affordability”

Despite the growing concerns about health care affordability due to scarce resources, escalating medical costs, and people’s need for financial risk protection, the concept of “affordability” is vague. Literally, a product or service is considered to be affordable if a person is able to bear the costs. Yet how can one determine when costs are “bearable”? Arguably, health care affordability should and can be measured at both the micro level (individual affordability) and the macro level (social affordability), because both perspectives are highly policy relevant. However, although there have been numerous studies of individual affordability, there has been a relative lack of studies measuring social affordability. Therefore, in this paper, I develop a simple model for measuring health care affordability. In this model, health care affordability, A , is defined as an inverse function of A' , namely:

Able assistance in data analysis for this paper was provided by Wen Tao.

1. See http://www.gov.cn/jrzq/2009-04/06/content_1278721.htm.

2. See <http://www.healthreform.gov>.

3. J. Frenk, “The World Health Report 2000: Expanding the Horizon of Health System Performance,” *Health Policy and Planning* 25, no. 5 (September 2010): 343–345.

$$(1) A = 1/A'$$

Where A' is defined as a function of health care expenditures, H , and income, I :

$$(2) A' = (H/I) \leq T$$

And where T is a threshold value, beyond which health care would be deemed unaffordable.

Therefore, a smaller value of A' denotes higher affordability.

According to the World Health Organization,⁴ individual affordability can be measured in terms of the percentage of a family's disposable income that is spent on health care, where a family is deemed to suffer "catastrophic medical expenses" if it must spend 40 percent or more of its subsistence income on health care. Besides using the incidence of catastrophic spending as a major indicator of individual affordability, I also use other indicators, such as the percentage of total health expenditures that is financed by out-of-pocket payments.

Similarly, indicators of social affordability can include the percentage of GDP spent on health, a government's health spending as a percentage of its total budget, and so on. Chernew, Hirth, and Cutler recently argued that social affordability should be measured by examining the implications of continued health care spending growth for the consumption of nonhealth goods and services.⁵ They argued that as long as increasing health care spending does not result in a reduction of essential investment to keep an economy growing, health care should be deemed socially (or collectively) affordable. Using these types of indicators of individual (micro-level) and social (macro-level) affordability, the situations in China and the United States can now be analyzed and compared.

China and the United States: Changes of Affordability in Recent Years

Table 3.1 provides basic comparisons of health care affordability between China and the United States. It becomes immediately clear upon comparison of the indicators that while per capita GDP between the two countries differs by as much as ninefold, both countries have experienced a fast health expenditures growth rate, with China's rate being even higher than that of the United States. It is worth noting that China's insurance coverage saw remarkable improvement between 2003 and 2008. By 2008, China already did slightly better than the United States in terms of the percentage of people insured. However, because the benefit package under China's insurance coverage is very limited, 45 percent of total health expenditures in China were still borne by out-of-pocket payments in 2008, compared with only 11.8 percent in the United States. Furthermore, in 2003, where the only comparable figure is available for the United States, the incidence rate of catastrophic medical spending in China was as high as 14 percent, whereas in the United States, the rate was only 0.5 percent. Obviously, China's health care reforms need to tackle individual affordability as a major issue. By contrast, social affordability is a much smaller issue for China than for the United States.

4. K. Xu et al., "Household Catastrophic Health Expenditure: A Multicountry Analysis," *Lancet* 362 (2003): 111–117.

5. M. E. Chernew, R. A. Hirth, and D. M. Cutler, "Increased Spending on Health Care: Long-Term Implications for the Nation," *Health Affairs* 28, no. 5 (2009): 1253–1255.

Table 3.1. China–United States Comparison of Per Capita Gross Domestic Product, Health Expenditures, and Indicators of Individual Health Care Affordability

Country	2003	2007–2008
China		
Per capita GDP(dollars at purchasing power parity, PPP)	3,393.00	5,515.00
% increase in per capita GDP (PPP)	46.12	62.54
Per capita health expenditure (dollars at PPP)	163.93	266.00
% increase per capita health expenditures (PPP)	62.69	62.26
% of people having insurance	29.70	87.10
% of health expenditure from out of pocket	55.90	45.20
% of households with catastrophic medical spending	14.7	14.8
United States		
Per capita GDP(dollars at PPP)	42,746.21	47,757.40
% increase in per capita GDP (PPP)	15.14	11.72
Per capita health expenditure(dollars at PPP)	6,778.49	7,722.09
% increase per capita health expenditures (PPP)	34.24	13.92
% of people having insurance	83.40	86.60
% of health expenditures from out of pocket	12.95	11.88
% of households with catastrophic medical spending	0.5	N.A.

Note: The percentage increases listed for 2003 and 2007–2008 indicate the increases during the periods 1998–2003 and 2003–2008, respectively. N.A. = not available.

Sources: For China, see Chinese Ministry of Health, <http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohwsbwstjxxzx/s8208/200904/40250.htm>. For the United States, see K. David et al., *Starting on the Path to a High-Performance System: Analysis of the Payment and System Reform Provisions in the Patient Protection and Affordable Care Act of 2010* (New York: Commonwealth Fund, 2010).

As indicated in table 3.2, while China’s total health care spending as a proportion of GDP remained rather stable over the 10-year period 1998–2008, at below 5 percent, the percentage of the U.S. GDP devoted to health has been increasing and is the world’s highest. China’s government health spending accounted for only 4.3 percent of its total budget in 2008, whereas a much larger share of the U.S. government budget (25.2 percent) was spent on health.

Furthermore, during the period 2003–2008, only 4.8 percent of China’s increased per capita income was spent on health, compared with the percentage increase in nonhealth spending, which was as high as 62.5 percent. By contrast, the United States spent 18.8 percent of its increased per capita income on health, while the increase in nonhealth spending was as low as 11.3 percent during the same period. Therefore, one of the major underlying concerns for U.S. health care reform must be the improvement of social affordability.

Table 3.2. Indicators of the Social Affordability of Health Care in China and the United States

Country	1998	2003	2008
China			
% of GDP spent on health	4.40	4.90	4.83
% of government budget spent on health	5.46	4.53	4.36
% of increased per capita GDP spent on health		5.90	4.81
% increase in nonhealth spending		45.37	62.55
United States			
% of GDP spent on health	13.50	15.60	16.20
% of government budget spent on health	21.60	24.20	25.20
% of increased per capita GDP spent on health		30.76	18.83
% increase in nonhealth spending		12.14	11.31

Sources: For China, Chinese Ministry of Health, <http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohwsbw-stjxxzx/s8208/200904/40250.htm>. For the United States, Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services, <https://www.cms.gov/NationalHealthExpendData>.

Reforms in China and the United States: Common Features and Unique Characteristics

China's health care sector is characterized by a highly socialized delivery system and a less socialized financing system because about half of the total medical costs still need to be financed by out-of-pocket payments. Currently, about 95 percent of Chinese hospital beds are owned and operated by different levels of governments. However, the government budget allocation only accounts for less than 10 percent of hospitals' recurrent costs. Therefore, Chinese hospitals must rely on patient charges for their revenue, much like U.S. hospitals, most of which are private and nonprofit. Unlike the U.S. financing system, which is dominated by private insurance, China's organized financing system has been increasingly reliant on social insurance. Social insurance programs in China include Urban Employees Insurance, financed by 8 percent of the payroll tax (2 percent from employees, and 6 percent from employers), for the formal sector; Urban Residents Insurance for the informal sector, elderly, students, and other unemployed (voluntary enrollment with premium subsidies from the government); and Rural Cooperative Medical System for rural residents (with more than two-thirds of the premium contributions paid by a matching fund from the central and local governments).

The major social insurance program in the United States is Medicare for the elderly. China does not have a special program for this group of people. For the poor, even though both countries have developed special programs, the financing and organization of these programs are different. Whereas Medicaid in the United States increasingly relies on the federal government for funding support, China's Medical Assistance program for the poor is mainly financed by local govern-

ments. The benefits design and payment system for U.S. Medicaid are run separately. By contrast, the Chinese government basically enrolls the poor in the urban and rural basic social insurance programs by paying the premium contributions on their behalf.

There are basically two approaches to increase affordability: (1) enhancing third-party payments (including expanding insurance coverage and enhancing benefits); and (2) controlling costs. In the following sections, I compare the reform plans of the two countries in adopting these two approaches.

Expanding Insurance Coverage

Table 3.3 summarizes the major provisions of the Chinese and American health care reform plans, which are intended to expand insurance coverage. Whereas the Chinese strategies focus on increasing the role of social insurance and let private insurance play a supplementary role in financing health care, the U.S. strategies are aimed at increasing financial access to private insurance. Both countries are trying to increase health insurance affordability for their people. In China, this is done by directly providing premium subsidies from the government’s general revenue tax to match people’s individual contributions. In the United States, premium subsidies are provided indirectly through tax credits.

Table 3.3. U.S. and Chinese Strategies to Expand Insurance Coverage

United States	China
Providing tax credits	Increasing premium subsidies for rural insurance programs
Establishing exchanges	Creating new Urban Residents Insurance
Creating new plan choices	Expanding Medical Relief Program for the poor
Providing voluntary options for long-term care insurance	Encouraging private insurance to provide supplementary coverage
Increasing access to Medicaid	
Individual mandate	

Although interstate differences do exist in the United States, access to public and private insurance is more or less the same within the country. By contrast, given the significant interregional and intraregional differences in income and infrastructure in China, even public-sector financing varies from district to district and from county to county. For example, under social insurance programs, risks are pooled at lower levels than the city or province. In other words, China’s social insurance program is fragmented, given that local governments play the dominant role in its financing and administration.

The U.S. model emphasizes individual choice of health plans for which the mechanism under the new national law is to encourage competition through a new standardized platform of “exchanges.” The current Chinese model emphasizes providing universal access to uniform basic

insurance coverage managed by the government, and it has not yet paid much attention to granting health plan choices. But with a middle class emerging rapidly in China, diverse demands for insurance benefits will likely become an important issue in the near future.

Enhancing Benefits for the Insured

Besides covering the uninsured, both China and the United States face the challenge of enhancing benefits for the insured. Recent studies of China’s health insurance developments have indicated that despite the rapid expansion of “nominal” coverage, affordability has not improved remarkably in China due to a limited benefit package.⁶ In the United States, major problems of the insured have included issues with preexisting conditions, rapid premium increases, and coverage denials.⁷

Enhancing benefits for the insured can be done either by making benefit packages more generous and/or by making certain services more available through supply-side reforms, so that affordability can be increased indirectly because waiting time and other costs can be reduced. Table 3.4 compares the strategies adopted in China and the United States.

Table 3.4. U.S. and Chinese Strategies to Enhance Health Insurance Benefits

United States	China
Regulating insurance practices regarding preexisting conditions and minimum premium medical loss ratios	Requiring rural insurance to meet the minimum medical loss ratio
Increasing Medicare drug benefits	Enhancing the availability of primary care
Ensuring coverage for preventive services and clinical trials	Strengthening public health care
Increasing funding for the Children’s Health Insurance Program	Providing an essential package of services free of charge

It is interesting to note that both China and the United States have paid much attention to the regulation of insurers, both public and private. A major provision of the new U.S. national law is regulating insurance practices regarding minimum premium/medical loss ratios, which are intended to prevent insurers from accumulating excessive surpluses and thus to guarantee an adequate level of insurance outlays to benefit patients. The same regulation has also been adopted in China, albeit currently only targeting rural insurance programs. With increased public funding support, both countries have tried to include more services in the covered benefit package.

In the United States, drug benefits have been increased for Medicare, and insurance plans are required to cover certain preventive services and clinical trials. In China, similar strategies are

6. A. Wagstaff et al., “China’s Health System and Its Reform: A Review of Recent Studies,” *Health Economics* 18 (2009): S7–S23.

7. K. David et al., *Starting on the Path to a High-Performance System: Analysis of the Payment and System Reform Provisions in the Patient Protection and Affordable Care Act of 2010* (New York: Commonwealth Fund, 2010).

envisioned, including provision of a package of “essential services” free of charge, including vaccination against hepatitis B.

In addition to regulating the insurance sector, both countries have also tried to strengthen the provision side of the system, especially in underserved areas. For example, both countries have adopted policies aimed at promoting primary care services, either through enhanced payment incentives in the case of the United States or through direct investment in community health centers and training general practitioners in the case of China. These initiatives to strengthen the supply side would also have a positive impact, albeit an indirect one, on increasing patient affordability because the costs associated with physical access to necessary services are reduced.

Controlling Medical Costs Escalation

Like many other countries that have embarked on major health care reforms, especially the countries that belong to the Organization for Economic Cooperation and Development, both China and the United States must develop effective measures to put medical cost escalation under control. This is one of the top priorities for U.S. health care reform, because the ever-increasing medical costs are undermining the competitiveness of the U.S. economy. Even though this is a less urgent issue for China, where social affordability is still strong, given its vibrant economic growth, China as a developing country would also want to make more resources available to invest in other nonhealth sectors, including education and social security for a fast-aging society. Table 3.5 compares the strategies adopted in China and the United States to control the growth of medical costs.

Table 3.5. U.S. and Chinese Strategies to Control the Growth of Costs

United States	China
Cracking down on fraud	Essential drug system
Reviewing premium increases	Public hospital reform
Reducing paperwork	Payment reforms
Incentivizing primary care providers	Strengthening prevention and community health care
Payment reform	

Due to the different financing models used in the United States and China, major strategies to control the escalation of costs are different in the two countries. In the United States, the major focus is being placed on reducing waste in the existing system, including cracking down on fraud, reviewing premium increases, and reducing paperwork. China’s efforts to control costs are concentrated in its two interconnected “cost centers”: for drug expenditures, and for expenditures by public hospitals. More than 40 percent of China’s total health spending is for drugs, which are prescribed and dispensed mostly through the pharmacies of China’s public hospitals. Medical prices are still controlled by the government in China. Because many medical services are priced below costs, the 15 to 20 percent markup of retail over wholesale prices allowed by the government has become the major source of revenue for Chinese providers. Therefore, under the current pricing and fee-for-service system, these providers, particularly public hospitals, have strong financial

incentives to overprescribe and dispense drugs.⁸ By requiring public community health centers to only supply drugs specified by the government's "essential drug list" and to make zero profits on them, and by increasing the direct budgetary allocation to public hospitals, China hopes to control costs growth by reining in drug expenditures and by controlling public hospitals' behavior.

In addition to these different approaches and emphases, both the United States and China have paid much attention to provider payment reforms. In this area, the United States has led the way by introducing innovative methods such as diagnosis-related groups to the world and by shifting the focus to developing performance-based payment methods, especially by establishing a new research center at the Department of Health and Human Services. China is just a beginner in payment reform, after having conducted pilot programs in selected cities and rural areas.⁹

Another interesting difference in cost control strategies lies in China's emphasis on public health and community health care. About half the additional \$125 billion that the Chinese government invested in the health sector over the three-year period 2009–2011 is for strengthening public health, updating primary health care facilities in China's rural areas and urban communities, and training primary care doctors. In March 2011, the author was invited by the State Development and Reform Commission to lead an expert team to conduct an interim evaluation study of the progress of China's health care reforms in two provinces, and found that indeed new health facilities were being built everywhere with the unprecedented increase in government funding. However, because China is faced with demographic and epidemiological transitions, it realized that it should be doing a much better job in the prevention and control of noncommunicable diseases in addition to maintaining effective control of infectious diseases. Moreover, by encouraging the utilization of community health care facilities and traditional Chinese medicines through quality improvement and better regulation of the reimbursement and referral systems, it is hoped that overcrowding problems and thus the high costs of China's tertiary hospitals can be reduced.

Discussion

On the basis of the belief that the United States and China can learn from each other's experiences with health care reform, this paper has compared the major strategies articulated in the recent policies being implemented by the two countries to increase health care affordability, one of their shared reform objectives. Four interesting findings emerge from this comparison:

First, China and the United States, despite their differences in economic development levels and sociopolitical systems, share a common set of major health care reform objectives, including the improvement of affordability. To increase affordability, both countries have also adopted a similar set of strategies, including the expansion of insurance coverage, enhancing benefits, and controlling the escalation of medical costs.

Second, although health care affordability is a major issue for both countries, different aspects of the same problem have become the focus of top policy concerns in each country. At this stage of development, China is mainly concerned about individual affordability, because significant

8. W. Yip and W. C. Hsiao, "Chinese health system at a crossroads," *Health Affairs* 27, no. 2 (2008): 460–468.

9. W. Yip et al., "Realignment of Incentives for Health-Care Providers in China," *Lancet* 375 (2010): 1120–1130.

financial barriers to accessing health care and the burden of out-of-pocket costs have remained despite the rapid expansion of basic social insurance coverage in recent years. By contrast, in light of the already high and ever-increasing share of its GDP spent on health, the United States' major concern for health care reform is improving social affordability.

Third, due to the different priorities given to individual versus social affordability, one sees a different intensity of efforts devoted to different areas of strategies by the two countries. China has put in much more effort to increase both the width and depth of insurance coverage, so that individual affordability can be improved. By comparison, many U.S. health care reform policies are geared toward increasing social affordability by trying to “bend the cost curve” downward for medical expenses.

Fourth and finally, this comparative study has helped reveal certain things that the United States and China can learn from each other. For example, China stands to benefit by learning from America's extensive experiences with provider payment reforms, whereas the United States can learn from China's emphasis on public and community health as an integral part of strategies to control costs and improve the overall population's health. Because both China and the United States are now entering the phase of vigorously implementing their health care reform plans, both countries can benefit by learning from each other's empirical experiences gathered through a systematic monitoring and evaluation of what works and what does not.

4

THE CENTRAL-LOCAL RELATIONS DIMENSION

Dali L. Yang

Unlike federal systems, China has a unitary state. Article 3 of the Chinese Constitution stipulates that “the division of functions and powers between the central and local state organs is guided by the principle of giving full play to the initiative and enthusiasm of the local authorities under the unified leadership of the central authorities.”

In practical terms, the Chinese Constitution understates the influence of China’s central Communist Party / state leadership and the resources it commands. Besides control over the armed forces and security apparatus, the center also wields appointive power over top provincial leaders under the nomenklatura system. Wayward local leaders may be replaced; both Beijing and Shanghai have seen their party secretaries (Chen Xitong and Chen Liangyu) end up in jail.

Since the mid-1990s, the central government has also dramatically boosted its fiscal resources vis-à-vis local authorities. Comprehensive tax and fiscal reforms implemented in 1994, coupled with subsequent fiscal changes, have reestablished the central government’s dominance vis-à-vis the provinces over tax and fiscal resources. The central government’s share of budgetary revenue versus that of the provinces, which had been in decline for much of the 1980s and early 1990s as a result of decentralizing reforms, rose to 55.7 percent in 1994, up 33.7 percentage points from a year earlier, and has since remained at above 50 percent.¹ Equally important, much of the extra-budget revenue that was the bane of central fiscal control has been reclassified and included in the official budget and thus come under central scrutiny. In addition, the central government also owns and controls 122 large industrial enterprises—for example, China Mobile, PetroChina, Sinopec, and Air China—as well as key financial firms, including the four largest commercial banks. China Mobile and PetroChina are among the world’s most profitable enterprises, and made more profits in 2009 than the top 500 largest Chinese private firms combined.

With its political dominance and fiscal muscle, the Chinese system has undertaken projects and disaster relief efforts with a vigor rarely seen elsewhere by marshalling national resources. This has enabled China to dazzle (and awe) the rest of the world with the Beijing Olympics (2008), the World Expo in Shanghai (2010), and the Asian Games in Guangzhou (2010). It also mounted rapid and decisive responses to the Wenchuan (2008) and Yushu (2010) earthquakes, and the mudslide in Gansu (2010). One interesting aspect of these efforts was that the Chinese central government simply directed more prosperous provinces to pair up with individual counties or townships to cooperate on reconstruction with financial and human resources. Just imagine the U.S. federal government directing the state of California to help with reconstruction in New Orleans.

1. National Bureau of Statistics, *China’s Statistical Yearbook 1994* (Beijing: National Bureau of Statistics, 1994).

Increased national resources have also permitted the Chinese national government to promote a range of economic and social policy initiatives, including the Western Development Program, the abolition of the State Agricultural Tax, programs for rural education and health care, and assistance for low-income families. These initiatives have allowed the central leadership to deal with critical social and economic issues and garner popular support.

Of these new initiatives, the health care reform program, which was made public by the central government in spring 2009, may be the most ambitious yet. In a major shift from the trend toward privatization, the health care reform plan clearly stated that every Chinese citizen is entitled to access to a basic health care system as a public good and that the Chinese government has the responsibility to provide such a public good. The immediate question is: Given what we know about the massive costs of supporting such universal systems, what entity will cover the costs and how might central–local relations affect the implementation of the health care reform plan? In spite of the formidable power and resources that China’s central leadership can bring to bear on local leaders, local authorities do have considerable leeway over policy implementation in the provinces, each of which is as large as a medium-sized country. The central authorities find it impossible to rely on hierarchical control alone to govern the country without stifling local initiative and innovation, and thus they lean heavily on local authorities only on issues that they consider critical. Therefore, even on those issues that are considered critical to the central leadership, the implementation of central policy in the provinces may still vary, for a variety of reasons.

Central Policies and Local Interests

As we consider how central–local relations might affect the implementation of the health care reform plan, it is useful to keep in mind the two approaches to central–local relations. The first focuses on the demands of a top-down hierarchy and control system, which imposes performance pressures on local officials and leads them to behave in certain ways. The second takes a bottom-up approach and pays attention to the divergence of interests between central and local authorities and the possibilities for local initiatives and even subversion. The nature of relations between the center and localities varies depending on the interplay of these two forces in different issue areas.

The Top-Down Pressure System

Chinese analysts refer to the Chinese system as a pressurized system (*yalixing zhengzhi*)² and have given much attention to the role of top-down performance targets on the behavior of local officials. Because local officials are evaluated by superiors rather than at the polls, they tend to give more attention to demands from above. Going back to the Mao Zedong era, pressure to meet escalating targets from above often caused basic-level officials to resort to extreme measures, including outright lying. Such distortion resulted in dire consequences and contributed to the Great Leap Forward’s famine, the worst in human history.³ In the post-Mao reform era, the compensation

2. Rong Jingben et al., *Cong yalixing tizhi xiang minzhu hezuo tizhi de zhuanbian: Xian xiang liang ji zhengzhi tizhi gaige* [Change from a pressure-based system toward a cooperative system: Political reform on the county and township levels] (Beijing: Central Compilation and Translation Press, 1998); Rong Jingben et al., *Zai lun cong yalixing tizhi xiang minzhu hezuo tizhi de zhuanbian* [More on change from a pressure-based system toward a cooperative system] (Beijing: Central Compilation and Translation Press, 2001).

3. Dali L. Yang, *Calamity and Reform in China: State Rural Society, and Institutional Change since the Great Leap Famine* (Stanford, Calif.: Stanford University Press, 1996).

of local officials and staff is often tied to economic performance indicators, such as the amount of foreign direct investment and government revenue.⁴ Meanwhile, because officials, including provincial governors and mayors, have relatively short tenures—generally, about four years—in their posts, they have strong incentives to make investments that produce results quickly (e.g., roads and other forms of infrastructure).⁵ All these factors have resulted in an official preoccupation with the growth of gross domestic product, often at the expense of long-term investments in education and health care.

In addition to meeting economic growth targets, local officials also need to fulfill a variety of other targets. Some of these, such as population control and social stability, are hard targets that must be met, known as “single vote veto” (*yipiao foujue*), whereas others are soft. Local authorities tend to spare no expense in seeking to fulfill the hard targets.⁶ Some interviewees noted that the Chinese emphasis on harmonious development has perversely served to let tensions accumulate because local officials would rather bottle up pressures than let the steam out. The drive by local authorities to keep the appearance of stability, for example, has prompted local officials to sometimes use extreme measures, such as black jails (i.e., illegal detention centers), to prevent local petitioners from petitioning in Beijing.⁷

At any time, a system may only be able to handle a relatively short list of hard targets.⁸ To secure local compliance with central government goals, agencies seek to place their targets on this list. The environmental agency, which was upgraded to become a Cabinet ministry in 2008, actually succeeded in doing so. Historically, China, like other developing countries, has struggled to balance the pursuit of growth with the need to protect the environment. But some local authorities—preoccupied with growth, revenue, and jobs—have let in heavy polluters, while others have turned a blind eye to factories that operate outside the law. The conventional wisdom is that the power of local protectionism will triumph over central policies to improve environmental protection. In 2006, as part of its Eleventh Five-Year Plan, the Chinese government announced that between 2006 and 2010, China would reduce by about 20 percent the amount of energy consumed per unit of GDP and cut the amount of key pollutants (i.e., chemical oxygen demand, a measure of water pollution; and sulfur dioxide) by 10 percent, and thus “basically arrest the trend toward environmental degradation.”⁹ In view of the conventional wisdom, this plan for energy saving and emissions reduction at first appeared quixotic. And in fact, in 2006 and 2007, for two years in a row, China fell short of planned targets.¹⁰

4. Susan Whiting, “The Cadre Evaluation System at the Grass Roots: The Paradox of Party Rule,” in *Holding China Together*, edited by Barry J. Naughton and Dali L. Yang (Cambridge: Cambridge University Press, 2004).

5. Pierre Landry, *Decentralized Authoritarianism in China: The Communist Party’s Control of Local Elites in the Post-Mao Era* (Cambridge: Cambridge University Press, 2008).

6. See, for example, Tyrene White, *China’s Longest Campaign: Birth Planning in the People’s Republic, 1949–2005* (Ithaca, N.Y.: Cornell University Press, 2006).

7. Carl F. Minzner, “Xinfang: An Alternative to the Formal Chinese Legal System,” *Stanford Journal of International Law* 42, no. 1 (2006); Human Rights Watch, “China: Secret ‘Black Jails’ Hide Severe Rights Abuses,” November 12, 2009.

8. Even then, different targets, such as development and stability, may require contradictory measures, as the discussion of GDP growth above noted.

9. “Zhonghua Renmin Gongheguo guomin jingji he shehui fazhan di shiyi ge wunian guihua gangyao” [PRC’s eleventh national five-year economic and social development plan outline], Central People’s Government of the People’s Republic of China, http://www.gov.cn/ztl/2006-03/16/content_228841.htm.

10. Wen Jiabao, *Zhengfu gongzuo baogao* [Report on the work of the government] (2008), http://www.npc.gov.cn/wxzl/wxzl/2008-03/18/content_1463758.htm.

Yet in March 2007, in his annual report to the National People's Congress, Premier Wen Jiabao vowed that the planned targets for energy efficiency and emissions are "binding targets" for local authorities that "cannot be changed, and must be unswervingly achieved."¹¹ A vigorous and multipronged approach, including the strengthening of central capacity to monitor local performance and the recalibration of incentives facing local officials, was launched to boost investment in energy efficiency and reduce emissions. Specific measures include the signing of energy efficiency responsibility contracts (*jienerg mubiao zeren shu*) with 30 provincial-level governments that made energy efficiency a compulsory component for projects requiring government approval (*hezhun*). The same was also true of environmental performance. Provincial authorities have in turn introduced similar accountability systems for subprovincial units. In what is known as "the environmental veto," those officials who fail to reach specified targets are barred from promotions and, in the case of Hebei, are to lose their posts. This system of strict responsibility has been backed up with major central government funding to invest in treatment facilities and to help shutter pollution-heavy production capacities in iron and steel, paper making, cement industries, and especially small-scale coal mines and power plants.

These efforts have worked. In early December 2010, the Chinese government announced that China had fulfilled the emissions reduction target ahead of time and was on course to meet the energy target.¹² Yet the pressure from above also produced perverse consequences. While rushing to meet central government targets on energy and emissions, some local authorities in Anhui and Hebei brutally cut power to residents and businesses in the last few months of 2010. This rush to comply points to the extraordinary power that China's central authorities can wield over local officials. Building on the achievements made in the period 2006–2010, the Chinese government's Twelfth Five-Year Plan (2011–2015) further expanded the range of environmental targets to include additional pollutants as well as non-fossil fuel use.

Local Interests, Localism, and Reform

Yet the Chinese political structure also provides for spatial variations in policy implementation. Because of the country's size and diversity, policy documents emanating from the center tend to be framed in general terms and allow for adaptation to local conditions. Even during the era of Mao, including during the Great Leap Forward and the Cultural Revolution, there were substantial variations in local implementation.¹³

The bureaucratic structure also offers opportunities for territorial administrations to gain some leeway from the clutches of ministerial hierarchy. Within the Chinese government, the ministry has the same rank as the province and, in fact, a number of provincial-level units, including centrally administered cities (i.e., Beijing, Chongqing, Shanghai, and Tianjin), are led by officials with membership on the Political Bureau and thus outrank Cabinet ministers. Some scholars regard the concurrent appointment of provincial officials to the Political Bureau as an effort by

11. Wen Jiabao, *Zhengfu gongzuo baogao* [Report on the work of the government] (2007), http://www.npc.gov.cn/wxzl/wxzl/2007-05/28/content_366984.htm.

12. "China Hits 5-Yr Plan Target for Emissions Reduction," Xinhua, December 1, 2010, http://europe.chinadaily.com.cn/business/2010-12/01/content_11638557.htm.

13. Vivienne Shue, *The Reach of the State: Sketches of the Chinese Body Politic* (Stanford, Calif.: Stanford University Press, 1990); Yang, *Calamity and Reform in China*.

the central leadership to exercise tighter control over these areas.¹⁴ Yet it is also well known that the political stature of local leaders with Political Bureau status has helped certain areas, such as Chongqing Municipality and Guangdong Province, to make greater waves in pursuing reform.

The history of policy reform in contemporary China is, to a considerable extent, a history of centrally mandated or tolerated experimentation at the subnational level. Earlier reformers who adopted the household responsibility system in agriculture in the late 1970s and early 1980s were later vindicated when the practice of household contracting became national policy. In subsequent years, from time to time, local authorities engaged in competitive liberalization in economic reforms.¹⁵ To this day, some Chinese reformers still think bold reforms require going against provisions in the law. Those who succeed in reforms become “heroes,” while those who fail are “martyrs” for the cause.

Drawing on local reform experiences, the now-defunct State Commission for Restructuring the Economic System conducted a variety of policy experiments in selected localities and policy arenas (e.g., foreign investment, state enterprise reforms, and stock markets). Such experimentation allows learning and helps mitigate the adverse effects of adopting new policies nationwide if these policies do not succeed.¹⁶ Today a variety of comprehensive reform zones are in existence across the country.

A different aspect of local behavior is driven by local interests. It is common knowledge that local authorities, in an effort to promote local development, often subvert national policies. A common practice is local project approval. For projects above a certain size, approval by the National Development and Reform Commission is required, but this can be hard to come by. To get the project going, local authorities sometimes approve many smaller projects—which fall under their own authority—rather than one large project. They often get away with this, though the national authorities crack down on such practices from time to time. In April 2004, the State Council, in an effort to tame runaway investment and rising inflation, ordered Jiangsu Province to shut down the 10 billion yuan Jiangsu Tieben Iron and Steel Company, a mammoth project that never received central approval.

More often than not, local authorities engage in behavior that is perfectly rational from the local perspective. Yet these actions may produce undesirable collective outcomes. Take the case of macroeconomic stability: Local governments have had strong incentives to engage in competitive liberalization and to encourage and compete for investment.¹⁷ Such local impulses toward growth have tended to result in a race to the bottom in terms of land use and environmental protection and have generated economic overheating.¹⁸ For local leaders, macroeconomic stability is a public good best provided by others. As the coordinator and balancer to provide the public good of macroeconomic stability, the central government, in times of macroeconomic imbalance, exerts

14. Yumin Sheng, *Economic Openness and Territorial Politics in China* (Cambridge: Cambridge University Press, 2010).

15. Dali Yang, “The Dynamics and Progress of Competitive Liberalization in China,” *Issues & Studies* 32, no. 8 (August 1996): 1–27.

16. Sebastian Heilmann, “Policy Experimentation in China’s Economic Rise,” *Studies in Comparative International Development* 43 (2008): 1–26.

17. Dali L. Yang, *Beyond Beijing: Liberalization and the Regions in China* (London: Routledge, 1997).

18. *Ibid.*

control not simply by tightening the money supply but also by leveraging its control over the nomenklatura system and browbeating local interests.¹⁹

The divergence of interests among central, provincial, and subprovincial authorities has also hampered the growth of regulatory enforcement capacity in multiple areas, including antismuggling efforts, environmental protection, food safety, product quality, and workplace safety. Generally speaking, local regulators tend to levy fines on smugglers, polluters, and other violators rather than launching formal legal prosecutions and shutting down lawbreakers. Regulators of quality and marketing, including the Industry and Commerce Administration and the Quality Supervision Administration, were institutionally located within local governments eager to generate employment and revenue and had only a “guidance” relationship with national administrations. They are more likely to tolerate local manufacturers of counterfeit products, especially because these products tend to be sold in other places.

This central/local divergence in regulatory implementation is exacerbated by a bottom-heavy bureaucratic structure. For comparison, in the United States, the Environmental Protection Agency alone has more than 17,000 dedicated staff in 14 headquarters offices in Washington, 10 regional offices, and more than a dozen laboratories. In China, in contrast, the State Environmental Protection Agency (before its upgrade to ministerial status) had only 2,266 total employees in 2007. The absolute majority of the 177,000 employees in China’s environmental bureaucracy are in local environmental bureaus at the municipal and county levels. In the face of this bottom-heavy structure, the central leadership needs to adopt strong political incentives to mitigate localist behavior.

The Center, Localities, and Health Care Reform Implementation

Given the demonstrated capabilities of the Chinese political system, policy implementation very much depends on the commitment of the national leadership, including the organizational and financial resources that China’s leadership is willing to devote to it, and the structure of incentives facing local authorities. This was clearly the case with the energy saving and emissions reduction program, in spite of contrary predictions. Would the Chinese leadership wish to do the same for health care reform?

On the surface, the release of the health care reform plan itself is an indication of a substantial commitment. Executive Vice Premier Li Keqiang oversees the health care reform program and has provided the necessary high-level political backing. The State Council quickly set up an office (based in the Ministry of Health) dedicated to the promotion of health care reform. It has also asked the provinces to do the same and to ensure adequate labor power, financial, and material support.²⁰ Even while the reform was being debated, the government’s spending as a proportion of

19. Yasheng Huang, *Inflation and Investment Controls in China: The Political Economy of Central-Local Relations during the Reform Era* (Cambridge: Cambridge University Press, 1996); Fubing Su and Dali Yang, “Political Institutions, Provincial Interests, and Resource Allocation in Reformist China,” *Journal of Contemporary China* 9, no. 24 (2000): 215–230; Naughton and Yang, *Holding China Together*.

20. “Guowuyuan yigai ban yaoqiu gedi renzhen guanche luoshi yigai gongzuo hui jingshen” [State council urges all localities to earnestly implement the spirit of health care reform conference], Central People’s Government of the People’s Republic of China, July 22, 2010, http://www.gov.cn/ztl/ygzt/content_1661173.htm.

total health spending rose from 17 to 27 percent from 2005 to 2009. At the same time, individuals' share decreased from 52 to 38 percent.²¹

About 95 percent of the rural population is now under the umbrella of the new rural cooperative health insurance program, and the Ministry of Health has indicated that it would endeavor to bring the portion of health care expenses paid by patients to less than 30 percent of the total by 2015. In the case of boosting hepatitis vaccines and related services, there can be little doubt that the Chinese government, with its capacity to reach into communities, can do an excellent job, especially as a lower-middle-income country, now that the Chinese leadership has made such public service a top priority.

Yet it appears that implementation in the localities has thus far fallen short of expectations. The "essential" drugs list includes 307 medicines whose prices are regulated by the National Development and Reform Commission. Through a pooled procurement system, the central government mandates that most community and townships clinics/hospitals rely on such drugs. These clinics/hospitals will not make a profit from selling these drugs but will instead be subsidized from the government budget. The Ministry of Health indicates that some areas and programs have lagged in implementing this reform because some county-level authorities have had difficulty providing the needed funds for subsidies.²² Even if the subsidies are disbursed in time, it is unclear whether they will be adequate and also whether the essential drugs after the mandated price drops/controls are introduced can continue to be available. Meanwhile, field visits by this author suggest that the government's efforts to bar these community clinics from earning a profit from disbursing the essential drugs have undermined morale in these clinics. Could this reform, which was intended to improve health care access in the communities, thus drive patients to more expensive hospitals in central cities?

To enhance the local implementation of health care reform, Health Minister Chen Zhu signed responsibility contracts for fulfilling the 2010 health care reform targets (*2010 niandu shenhua yiyao weisheng tizhi gaige renwu zeren zhuang*) with the health bureau director-generals in the provincial units as well as director-generals in the Ministry of Health. These contracts break down the specific targets for each provincial bureau and bureaus in the ministry. The provincial-level bureaus are in turn required to sign contracts with responsible parties in the provinces. Minister Chen likens the health care reform to a "major battle," and he promises to give praise to those who do well to promote reforms and to publicize those who fail to fulfill the targets.²³

Part of the central government's leverage over local authorities comes from the disbursement of funds to subsidize the implementation of the essential drugs system. The State Council Office for Health Care Reform has gotten the Ministry of Finance to link the funds for the essential drugs

21. "Weishengbu: Jiceng yiliao hounian quanbu tuixing jiben yaowu zhidu" [Ministry of Health: Primary health care for all to come a year after the implementation of the essential drugs system], CCTV News Channel, November 30, 2010, <http://news.sina.com.cn/c/sd/2010-11-30/230421560551.shtml>.

22. "Weisheng Bu chengnuo 5 nian nei geren chengdan kanbing feiyong bili jian zhi 30% yixia" [Ministry of Health committed to reducing the proportion of the cost of medical care born by individuals to below 30% in under five years], *Beijing Times*, November 30, 2011, http://news.xinhuanet.com/fortune/2010-11/30/c_12829546.htm.

23. "Weisheng Bu yu gedi qianxia yigai 'junlingzhuang' wancheng buhao wenze" [Ministry of Health and localities sign health reform "Military Orders" and those who fail to fulfill the orders will be held accountable], Central People's Government of the People's Republic of China, May 24, 2010, http://www.gov.cn/gzdt/2010-05/24/content_1612527.htm.

system with local performance in fulfilling the health care reform targets.²⁴ All these measures suggest an approach that is very much like what has occurred in the energy saving and emissions reduction program, but it remains to be seen whether the public shaming will be effective.

It is with respect to the reform's "access" aspect where the challenges are likely to be especially acute, for the current reforms require contributions from the central government, local government, and individuals. In prosperous areas, this is not a problem, and the reimbursement rate can be quite high. But where the reimbursement rate is low, as occurs even in poorer localities along the coast, the insurance function of the health care reform remains weak, which means that even with health insurance reform, many families will continue to fall into poverty because of the financial costs of medical care. This might be where the government's commitment to universal health care insurance is tested.

Interestingly, some localities, such as Shenmu County in Shaanxi Province (Shanxi sheng Shenmuxian), have attracted much attention for their generous provisions of health care. In Shenmu, a patient is only liable for the first 400 yuan of inpatient costs and is reimbursed for the rest of the expenses up to 300,000 yuan. Yet Shenmu, where the local government is flush with funds from its rich coal deposits, has turned out to be the exception that proves the rule. Local authorities in other areas are generally in no position to emulate the Shenmu model.²⁵

Conclusion

The implementation of health care reform policies in China cannot be fully understood without an appreciation of the dynamics of central–local relations. Whereas China's central leaders can attempt to lean on the bureaucratic hierarchy to get policies implemented, this hierarchy is overloaded with policy targets and must contend with the challenges of shirking, opportunism, and other symptoms that commonly affect bureaucratic systems. In response, central leaders have learned to use a variety of strategies to better implement priority policies and to overcome the divergence of interests between central and local authorities.

It appears that the current Chinese leadership has given top priority to the implementation of the health care reforms across the country and thus has significantly ramped up spending on health care. Yet some features of this reform program also appear to have resulted in perverse incentives and may undermine the very reform objectives that they are supposed to promote.

24. "Guowuyuan yigai ban yaoqiu gedi renzhen guanche luoshi yigai gongzuo hui jingshen" [State Council urges all localities to earnestly implement the spirit of the health care reform conference], Central People's Government of the People's Republic of China, July 22, 2010, http://www.gov.cn/ztl/ygzt/content_1661173.htm.

25. Zhu Hengpeng, Gu Xin, and Yu Hui, "Shenmu moshi chengbuliao shenzhou moshi" [The Shenmu model cannot become the national model], *Economic Observer*, March 3, 2011, <http://finance.sina.com.cn/review/sbzt/20110311/22449516409.shtml>.

5

PUBLIC HOSPITAL REFORM IN CHINA FROM THE COMPENSATION PERSPECTIVE

Hufeng Wang and Wei Ouyang

As the main provider of medical services in China, public hospitals play a vital role in supporting the development of the health care system. As of the end of 2009, there were more than 14,000 public hospitals in China, accounting for more than 70 percent of all hospitals throughout the country. The number of beds, health technicians, staffs, and licensed physicians all account for more than 90 percent of the national total, while their outpatients and inpatients are more than 92 percent. In China's health service system, public hospitals are required to provide medical services that ensure public benefit. Their services are delivered through three channels: service charges, drug markup income, and government subsidy. However, as China's economy was transformed from a planned economy to a market economy in the 1980s, national budget allocations for public hospitals dropped significantly. Public hospital funding was put at the mercy of market forces. Meanwhile, because medical services were undervalued, public hospitals began to rely more and more on markup income to maintain daily operations. Such a "drugs serving to nourish doctors" mechanism contributes to the for-profit tendency of public hospitals, leading to the overuse of prescriptions and expensive drugs.¹

In March 2009, the Opinions of the Communist Party of China Central Committee and the State Council on Deepening the Health Care System Reform, which is also called the New Health Care Reform Plan, was promulgated. Soon after, the Opinions on Public Hospital Reform Guidance was issued in February 2010, in which public hospitals were one of five key areas of reform. The new health care reform plan and the public hospital reform plan stipulated many guiding policies for public hospitals, concerning the operation mechanism, governance mechanism, compensation mechanism, and other aspects. This paper adopts the compensation perspective to examine public hospital reform.

Policy Highlights

The new health care reform plan and the public hospital reform plan both require public hospitals to follow the principles of providing public benefits and social benefits while adhering to these patient-centric values:

- Promote the separation of medical services and pharmaceutical sales. Launch pilot projects in hospitals where conditions permit, such as "expenditure and revenue verification, compensating expenditure with revenue, turning in the surplus, subsidy for the gap, clear-cut reward and penalty systems," and other management methods."

1. Ronggui Cao, "Progress and Challenges of Public Hospital Reform," *Chinese Hospital*, no. 6 (2010): 1-5.

- Explore diversified effective ways to gradually reform the mechanism of compensating medical costs through drug sales; gradually reform or rescind the drug margin policy through implementing differentiated price markups between drug purchase and sale and through setting up prescription service fees and bringing those into the basic medical insurance reimbursement directory; set the price of medical technology service based on cost accounting; reduce the price of drugs, and of examination and treatment expenses.
- Increase the proportion of government health investment in public hospitals to support efforts including capital construction, purchasing large equipment, developing main academic disciplines, allocating allowances to retirees who meet criteria, covering losses associated with certain policies, and providing grants to fund additional public health services.
- Improve the effective utilization of medical insurance funds and risk prevention; improve the payment system, actively explore payment methods such as capitation, diagnosis-related groups, and prepayment; encourage hospitals and medical insurance agencies to negotiate on the scope of services, payment methods, payment standards, and other service quality requirements.
- Establish an efficient and regulated operation system for public hospitals; establish a scientific medicine pricing mechanism; reform the personnel system; improve the distribution and motivation mechanism; clarify the duties of various positions, exercise rigorous staff enrollment criteria, strengthen performance assessment, establish the staff placement system on the basis of competitive selection, and improve work efficiency and service quality.

A Review of Policy Implementation

According to the “Reform of Public Hospitals Guidance” and recent work arrangements based on the “pilot projects first, then more cities” principle, the central government selected 16 cities as the pilot cities, hoping to steadily push forward public hospital reform.

First, attempts to separate medical services from pharmaceutical sales have been implemented for a while. The main attempts include the delegation of pharmacies and establishment of independent drug distribution organizations.² For example, in Nanjing, the delegation of public hospitals’ pharmacies has been carried out since 2006. The supply of medicines, along with pharmacy management and pharmacy services, which used to be provided by public hospitals, were entrusted to companies through competition. Similarly, the Xuanwei Bureau of Health in Yunnan Province has established a pharmaceutical distribution center that provides drugs to more than 30 public medical institutions. Wuhu city in Anhui Province has established an independent pharmaceutical administration center that manages pharmacies, staff, and drug income for all eight local hospitals.³

Second, the utilization of essential medicines, abolishment of drug markups, and establishment of prescription service fees have been initiated in many cities. For example, Anshan city in Liaoning Province initiated a zero drug markup policy, and asked its 19 public hospitals to sell

2. Zhengqian Niu, “Appraisal of Four Measures to Separate Medical Services and Drug Sale,” *Medicine Economic News*, February 2, 2009.

3. Limin Zhou and Ruipin Xiong, “Push Forward the Separation of Medical Services and Drug Sale in Wuhu,” *Lookout Weekly*, May 31, 2010.

drugs at the purchase price.⁴ Zhejiang Province has explored ways to separate medical services and drug sales, prioritize the use of national essential drugs, adjust hospital income structures, lower drug/income ratios, adjust medical service prices, implement subsidy policies, and improve basic medical security payment mechanisms.⁵ Jiangsu Province has also promoted the separation of medical services and pharmaceutical sales and decreased drug markups. The pharmaceutical service fee was designed and medical service prices were increased to compensate for the income loss, and it is included in the medical insurance policy and priced based on costs and local social tolerance. In Guangdong Province, the essential drug system is set to cover 100 percent of all government-run primary health care institutions by the end of September 2011.⁶

Third, some places are exploring ways to separate revenue and expenditures in order to reverse public hospitals' profit-oriented behavior. There are two primary approaches: One is "the complete separation of revenue and expenditures," in which the government collects all public hospital revenue and allocates all expenditures; another is "the limited separation of revenue and expenditures," which includes policies such as "expenditures and revenue verification, compensating for expenditures with revenue, turning in the surplus, subsidy for the gap," and so on. Some advocate that the complete separation model should be implemented in community-level health care systems in urban and rural areas, while the limited separation model should be adopted by public medical institutions. For example, Songjiang District and Changning District of Shanghai, adhering to a "two-level finance, hierarchical management" principle, have adopted different revenue and expenditure management modes for community health centers and district-level medical institutions.

Fourth, some local governments increase subsidies to promote the public-interest-oriented value of public hospitals. There are three main strategies. The first is to increase financial investment. For example, the Anshan city government is expected to invest RMB 3 billion in health reform within three years starting in 2010, RMB 1.2 billion of which will be for capital construction. Wuhu increases its investment in hospitals by no less than RMB 50 million for capital construction each year. The second strategy is to build long-term mechanisms for government investment and to establish performance evaluation systems. For example, Wuhu city introduced a pilot reform package of 27 documents, creating a long-term government investment mechanism, a performance evaluation system for public hospitals, medical service price regulation, and so on. And the third strategy is to explore diversified financing channels. For example, Shenzhen is actively promoting "fixed, lump sum, prepaid" health insurance payments, testing capitation, diagnosis-related groups, and the like, and expanding health insurance coverage. Ezhou in Hubei Province has established a negotiation mechanism between health insurance institutions and medical service providers, and has explored payment methods such as "total cost control, quota management, and payment limitation for single diseases," and so on. Its central hospital has carried out payment reform for single diseases based on clinical path management to promote cost management, standardize treatment behavior, and inhibit the unreasonable growth of medical expenses.

4. Xiaofeng Liu, "Public Hospitals Have Begun to Adopt Drug Zero Markup in Anshan," *Qianshan News*, April 3, 2010.

5. Xudong Zhu, "Zhenjiang: Public Hospitals Now Enter a Substantive Phase of the Medical Reform," *Xinhua*, <http://news.xinhua.com>.

6. All government-run primary health care institutions will use essential drugs by the end of September 2011. *Guangdong TV News*, June 4, 2011.

Fifth, some cities have explored a cost accounting model of public hospitals in order to clarify the portion and direction of government compensation. For example, after conducting cost accounting in eight comprehensive public hospitals in Beijing, it was found that underpriced items accounted for nearly 60 percent of major services, including nursing care, treatments, outpatient registration fees, and inpatient charges. The future compensation for hospitals will consist of three parts: regular compensation, incentive compensation, and special compensation. Previous staff-based financial compensation will shift to compensation based on comprehensive and item-specific cost accounting.⁷ The “Beijing Model” has been promoted in many other cities, such as Weifang, Zhenjiang, Fuzhou, Zhuzhou, and Maanshan, to conduct and implement cost accounting attempts.

Sixth, many cities have explored pay-for-performance strategies in order to establish a methodical medical service compensation mechanism and mobilize the enthusiasm of the medical staff. For example, Zhenjiang and Chengdu have taken on administrative reform efforts in hospitals by abolishing administrative levels and adopting job-based and performance-based payment mechanisms. Public hospitals in Datong city have adopted the following reform measures: Classify job duties, set up performance-based wage accounting for doctors, and set up hours-based wage accounting for nurses. Shenzhen has established a performance appraisal system based on the quality of services, quantity, efficiency, and job responsibilities, and it has implemented a performance-based payment system as well. Public satisfaction has been used as one performance criterion.

Overall, the public hospitals reform pilots are a strong first step. The central, provincial, and municipal governments, relevant departments, and hospitals are all working hard and putting in substantial effort, creating a solid foundation for the next step. And though they have gained valuable experience, they also face some continuing issues and challenges.

Major Issues and Challenges

Although some breakthroughs have been achieved in China’s health care system reform, daunting challenges and issues remain due to the restrictions of economic development and management constraints.

Financial Challenges Faced by Central and Local Governments

Because the prices of medical services are still very low, brutally separating medical care from pharmaceutical sale and abolishing the drug price markup will exert a great financial burden on hospitals and hamper their development. If the government takes the entire responsibility to fill the income gap, the government will bear a heavy burden in financing. According to a conservative estimate, the policy-related losses of nationwide public medical institutions reached RMB 60 billion in 2008. Abolishing the drug price markup without adequate government compensation will be met with boycotts from public hospitals. Due to economic realities, some reforms are unlikely to be promoted or risk running into a deadlock.

7. Qiumeng Li, “The Compensation Plan for Beijing’s Public Hospitals Was Settled, and Social Interests Will Be the Focus,” *Beijing Times*, January 17, 2010.

Possible Efficiency Issues as a Result of Reimbursement Mechanism Reform

Without a sophisticated and precise accounting system, compensations from the government are always too extensive and inefficient without further supervision. Separation between revenue and expenditures may lead to a situation whereby the personnel and property rights of public health institutions are taken over by the government. Even though this measure has no effect on the demand side for health care, both doctors and hospitals may lose the motivation to improve services and skills, or to focus on creativity and innovation. Inefficiency like that found under the traditional system may reappear.

Contradictions between Essential Drug Utilization and the Development of the Primary Health Care System

Although the national essential drug list includes a wide variety of drugs, many drugs have not actually been prescribed in primary care centers. At the same time, some drugs that used to be prescribed in primary care centers but are not included on the list can no longer be purchased. Because of the lack of necessary medicines after the implementation of the essential drug system, many pilot primary care centers have lost their patients. “Minor illness in community health centers, serious illness in the hospital” is an important health reform strategy to solve the problem of access to medical services. If the current essential drug system continues to cause an outflow of patients from primary care centers, the development of primary health care services will be hampered.

Challenges Caused by the Lagging Inner Motivation Mechanism

The current compensation system lacks requirements and examinations concerning service quality and social benefits. The effort to construct a motivation mechanism is confronted with a series of problems, such as putting undue emphasis on economic benefits by simply focusing on workload and revenue. In hospitals where doctors are paid evenly, the system ignores effectiveness and individual efforts, resulting in overstaffing and inefficiency. External compensation alone will make compensation a mere formality that overlooks the regulation of practice behaviors.

Policy Recommendations

Combining Multiple Compensation Mechanisms

It is a difficult task for governments to fill loopholes in public hospitals' revenue after separating medical services from pharmaceutical sales. Government-supervised multiple compensation mechanisms must work together to broaden the channels of compensation. The first step is to give full play to medical insurance. Various medical insurance payments, such as capitation and diagnosis-related groups, should be carried out to effectively utilize medical resources and control medical expenditures. Second, the prices of medical services should be raised appropriately, while revenue from large kinds of equipment, medical consumables, and medicines should be reduced. The coverage, charges, and reimbursement of medical services should be negotiated by medical insurance institutions, public hospitals, pharmaceutical companies, and the insured. In addition, nongovernmental investments should be utilized.

Improving Financing Systems and Increasing Compensation Efficiency

Methodical standardized cost accounting measures should be established, and overall hospital costs should be clarified. Different compensation mechanisms should be adopted based on the location, hospital type, and income structure. Governments should also take more responsibility for losses due to their responsibility to provide public services. Hospitals ought to provide performance feedback on the allocation of money and make the information public. Also, hospitals need to increase management efficiency to reduce costs. Compensation reform should be integrated with broader operational reform, such as clinical pathway management and service flow, resulting in the containment of excessive prescription and medical services.

Establishing Scientific Supervision and Regulation Systems, Ensuring Policy Fulfillment and Sustainability

Centering on medicine administrative departments, a supervision and regulation system should be set up that includes professional self-supervision and information disclosure in order to guarantee internal legal operation. An effective supervision system for doctor behaviors could help to avoid the decomposition of prescriptions and ensure the reasonable utilization of the capital funds. Such a system would prevent policy failures, which may be caused by the involvement of interest groups or by competing interests among departments.

Integrating Internal and External Compensation Mechanisms, Setting Up a Social-Interest-Oriented Motivation Mechanism

External compensation reform lays the foundation for the implementation of a performance-based payment system. Reform of the personnel system and payment system would push forward the establishment of positive motivation mechanisms. Personnel system reform could adopt full employment, which means that everyone can come and leave. As for income distribution, the criteria must be transformed from income or profit to workload, effectiveness, and patient satisfaction, highlighting the efficiency, quality, and social interests.⁸ A performance-based payment system should take into account hospital development and reform strategies, focusing on the establishment of the cultural value of hospitals.

8. Hufeng Wang, "Performance-Based Payment Reform Calls for Policy Innovations," *China Hospital CEO*, 2010, 14.

6

THE DEVELOPMENT OF CHINA'S ESSENTIAL MEDICINE SYSTEM

Hufeng Wang and Ying Li

The latest reform plan for health care in China was first introduced to the public in April 2009. This reform plan set up a “four-in-one” guideline that covers public health, medical services, medical security, and pharmaceutical security. Later, the government enacted the Health Care Reform Implementation Act starting from 2009 to 2011, which further clarified the focus on short-term reform. The essential medicine system was highlighted along with four other components: basic medical security, the basic health care delivery system, the basic public health system, and pilot public hospital reform. Among these five components, the essential medicine system is the only reform measure that is related to “pharmaceutical security,” according to the reform guideline. The essential medicine system is critical given the importance of the pharmaceutical sector in China. The other components of reform, especially medical institutional reform and medical security reform, could hardly be accomplished if pharmaceutical sector reform is unsuccessful.

Why Is the Essential Medicine System Key to Health Care Reform?

The attempt to formulate a list of essential medicine has been on the Chinese government's agenda since the 1980s. The principles for appraising the Essential Medicine List were followed by guidelines proposed by the National Essential Medicine Appraisal Committee in April 1979, which took “clinical necessity, clinical efficacy, clear side effects, and economic affordability” into account. In 1982, the Ministry of Health drew up the first edition of the Essential Medicine List, which included 28 categories and 278 items altogether (Western medicines only). The State Food and Drug Administration (SFDA) updated the list in 1998; subsequently, the list was revised in 2000, 2002, and 2004. Although the Essential Medicine List has long existed in China, it has not drawn significant public attention and has never realized its full potential until the most recent health care reform effort. This lack of public traction until recently was largely due to two factors: China's nascent institutional basis in, and the government's failure to clearly explain, detailed implementation measures for production, distribution, and reimbursement.

Along with the unsuccessful attempts to establish the essential medicine system, problems in the pharmaceutical sector, particularly vis-à-vis the informal integration of the pharmaceutical sector and public medical institutions, along with soaring pharmaceutical expenditures, have become major sources of public criticism. Ever since market-oriented economic reforms began in China, pharmaceutical revenue has become an overwhelming finance source for most public medical institutions, especially at the grassroots level (ranging from 50 to 90 percent of total revenue). This heavy dependence on drug revenues has led to overutilization and producer-induced consumption. The economic impact of the pharmaceutical industry is substantial and cannot be ignored. Pharmaceutical expenditures represented 52 percent of total public and private health

spending in 2007, more than five times higher than in most developed countries. This disparity is partly due to the drug markup policy, which resulted in immense supplier-induced drug expenditures (accounting for 12 to 37 percent of total medical expenditures), the abuse of antibiotics (nearly 80 percent of randomly selected prescriptions were for unnecessary antibiotics¹), and relatively lower service fees. At the household level, the expense of serious family illness, including medicines, is a major financial burden. Despite the potential health impact of and substantial spending on essential medicines, a lack of access to essential medicines, irrational usage, and poor medicine quality remain serious public health problems in China. These all urge the government to take action.

Policy Objectives

The objectives of the essential medicine system, as stated by government, are as follows: All essential medicines are reimbursable, with a much lower copayment than nonessential medicines; and the distribution of essential medicines should reach 30 percent of urban community health institutions and county health institution by 2009, and 60 percent by 2010. Other related policies, all of which should be fully enforced, include provincial-level public bidding, an exclusive distributor for each province (only as authorized by the government), and zero percent markup. A preliminary nationwide essential medicine system will be established by 2011, with the goal of implementing a comprehensive essential medicine system covering both urban and rural areas by 2020.

Policy Formulation: Relevant Authorities, Delphi Voting, and List Formulation

Much like the process of producing an overall health care reform plan, developing the essential medicine system also required cooperation from multiple authorities. Although the Ministry of Health, as the dominant authority, established a particular Department of the Essential Drug System, the Ministry of Human Resources and Social Security, Ministry of Finance, National Development and Reform Commission (NDRC), and SFDA also play a role. The Ministry of Health is in charge of formulary fabrication and implementation; the Ministry of Human Resources and Social Security makes reimbursement decisions; the Ministry of Finance, obviously, is responsible for China's public finances; the NDRC is in charge of drug pricing; and SFDA regulates drug safety and efficacy. Outside actors like pharmaceutical manufacturers and hospitals also have a say.

The appraisal benchmarks are similar to the previous ones: clinical necessity, safety and efficacy, economical affordability, and the inclusion of both Chinese traditional medicine and Western medicine. The government organized a leadership group with governmental officials, and an experts group composed of thousands of medical professionals. Based on drug information from the SFDA database, Delphi (expert voting) and group discussion methods were applied. The experts were sampled within the expert tank by stratified sampling (including regions, level of medical institutions, departments, at least one-third of the provinces, and more than 30 percent from community and rural areas). Then a blind review by a small team consisting of key medical

1. "How Are Antibiotics Abused?" [抗生素是怎么被滥用的?], Zhejiang Academy of Social Sciences, <http://www.zjss.com.cn/infDetail.asp?id=3642&tn=inf>.

experts was applied to formulate the final version that would be submitted to the government. Finally, the list came to the National Essential Medicine Committee, and was enacted by the Ministry of Health. The final version of the Essential Medicine List (grassroots part) in China consisted of 205 individual Western medicines and 102 Chinese traditional medicines.

Policy Highlights

The current essential medicine system in China consists of three components: formulary appraisals, medicine delivery and distribution system, and rational usage:

- **Delivery and distribution:** The suggested retail prices for all essential medicines are developed by the government. This policy aims to promote the merging and reorganization of pharmaceutical production and distribution companies, and to develop a centralized system of distribution for essential medicines.
- **Priority and rational use of the essential medicines:** All retail pharmacies and hospitals should be provided with essential medicines. Since 2009, all government-owned community health centers have been required to provide essential medicines. Other medical institutions are also required to use essential medicines in certain proportions.
- **Reimbursement:** All essential medicines are included in the reimbursable medicine list, and have copayment rates lower than those of other medicines.
- **Government subsidy:** Local governments are required to help finance essential medicines in accordance with the central government's mandate.

A Review of Policy Implementation

A review of policy implementation points to six main topics:

- **Government guidance:** In 2009, right after the announcement of the new national health care reform plan, the government issued the "Implementation Plan of Essential Medicine System in China," "Management of Essential Medicine Formulary (Temporary)," and "Essential Medicine Formulary for Grassroots Health Care Institutions" successively to guide the implementation of the essential medicine system.
- **Coverage:** Since initiation of the system in 2009, all 307 essential medicines have been covered by basic medical insurance, and have been distributed through newly established grassroots-level channels and dispensed at a zero percent markup rate. By 2010, 28 provinces accomplished the objective of having 30 percent of their local public health care institutions fully enforce the essential medicine policy.
- **Pricing:** The price of the essential drugs has been further reduced, which has benefited most residents. Beijing and 27 provinces have initiated centralized essential drugs bidding and have defined pharmaceutical varieties and specifications. Prices on average have fallen by 25 to 50 percent in these areas.
- **Distribution and usage:** Government-owned community health centers have been equipped with essential drugs, and have sold the drugs at a zero percent markup. The zero percent

markup policy can reduce health care service institutions' dependence on drug sales as the main source of revenue. Recently, governments of nearly all the provinces have supported and implemented the zero percent markup policy to accelerate the building of the essential medicine system. Through this new system, government financial support becomes an important way to run primary health care institutions. However, primary health care institutions in some districts have also introduced a multiple compensation system for essential drugs. For example, Yunnan Province compensates its primary health care institutions according to the populations to which they provide health care services.

- Reimbursement: The medical insurance program for urban employees and urban residents covers all essential medicines with the predetermined insurance policy. Through the New Rural Cooperative Medical Scheme, different provinces vary in terms of reimbursement rate, averaging 10 percent or more.
- Government subsidy: Outside the universal subsidizing mandate by the central government, the subsidy level of local governments varies. Basically, financially well-off eastern China enjoys better subsidies than comparatively poorer western areas.

Policy Evaluation

Public Feedback

The new essential medicine system has been welcomed by the general public. A survey showed that 80 percent of the population favors the zero percent markup policy for essential medicines.² A research project conducted by Renmin University's Health Reform and Development Center that focused on people's responses to essential medicine in Shijiazhuang and Beijing revealed that the majority found it to be "basically appropriate" (74.5 percent in Beijing, and 52.6 percent in Shijiazhuang), while a minority thought it was "a little inappropriate" (19.1 percent in Beijing, and 38 percent in Shijiazhuang). In terms of other responses, 5 percent in Beijing and 2.5 percent in Shijiazhuang chose "very appropriate," and 1.4 and 6.9 percent in Beijing and Shijiazhuang, respectively, disliked the system.³

Room for Further Improvement

Three areas of the new essential medicine systems have been found in particular to need further improvement: public bidding, formulary extension and updating, and the local government subsidy.

With respect to public bidding, the essential medicine system created a niche market with a desirable market share for which manufacturers would compete. Given the anticipated intensive competition, a well-regulated bidding system is required. It was reported that the bidding price in Hunan Province was once higher than the actual market price, and similar stories have reflected the management problems of the bidding system. Recognizing this, government should take further action to regulate the bidding process and control prices.

2. "The Impact of Essential Medicine Policy on Behavior of Drug Utilization," Capital Medical University, August 2010.

3. "Health Care Institutions of Grassroots Level in Beijing and Shijiazhuang," Health Reform and Development Center, Renmin University, November 2010.

With respect to the formulary extension and updating, the list formulated by the central government includes only 307 individual medicines, and has since been recognized as insufficient. Provincial governments could add to the list. The central government has also promised to replace medicines of little clinical value.

And with respect to the local government subsidy, local governments in Western and central China are experiencing difficulties with the financial aid system. An investigation undertaken by the Health Reform and Development Center of Renmin University also showed that 36.3 percent of respondents are not satisfied with public financial aid in Beijing, while that percentage is as high as 58.4 percent in Hebei.⁴ The National State Council held a specific meeting on financing health institutes at the grassroots level in December 2010, which indicated that more financial aid would be provided. The central government announced that from 2009 to 2011, governments at all levels invested an additional RMB 850 billion in the health care system, of which RMB 331.8 billion came directly from the central government.⁵

Next Steps

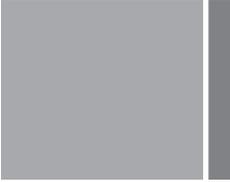
The essential medicine system is an institutional innovation in China. It is anticipated to take three to five years to be completed and establish a solid institutional basis. It is supposed to have a great influence on the market share of the pharmaceutical industry and on the financing of medical institutions; however, the system's strength and influence will depend on how policies are enforced and on support from the pharmaceutical industry as well as government subsidies.

Conclusion

The essential medicine system in China has just been launched. At this starting point, institutional innovation and more complete implementation of policies are still needed. In the meantime, the essential medicine system is just one of the many reform measures related to the transformation of the pharmaceutical sector; more comprehensive reform and governance are still necessary. Furthermore, to tackle the problems of affordability and inaccessibility, cooperation between the four-in-one sectors needs to go hand-in-hand.

4. Ibid.

5. "Qualified Doctors Will Be Staffed in All Basic-Level Medical Institutions within the Next Two Years" [两年在所有基层医疗机构配上合格医生], *Sina.com*, March 9, 2011, http://news.sina.com.cn/c/2011-03-09/164622082549_2.shtml.



ABOUT THE CONTRIBUTORS

Xiaoqing Lu Boynton is a fellow with the Freeman Chair in China Studies at CSIS, where she works on projects related to China's domestic socioeconomic transformation. Her research interests include China's public health challenges, health diplomacy, environment and climate change, civil society development, and current trends in United States–China relations. She is the coauthor of several CSIS reports, including *China's Health amidst the Global Economic Crisis: Potential Effects and Challenges* (2009); *Assessing Chinese Government Response to the Challenge of Environment and Health* (2008); and *China's Civil Society Organizations: What Future in the Health Sector* (2007); as well as editor of *China's Capacity to Manage Infectious Diseases* (2009). She has also written articles on nontraditional security threats in China's environment and health sectors for the *South China Morning Post*, *China Environment Series*, and Global AIDSLink. Before joining CSIS, she worked at the Woodrow Wilson International Center for Scholars in Washington. She received an MA in sustainable international development from Brandeis University and a BA in international economics and trade from Beijing Second Foreign Language University. Before attending graduate school, she worked as a program assistant for the American Bar Association's Asia Law Initiative in Beijing. She is fluent in English and Chinese.

Charles Freeman III is a nonresident senior adviser for economic and trade affairs at CSIS. Previously, he held the CSIS Freeman Chair in China Studies. A second-generation “China hand,” he has lived and worked between Asia and the United States for his entire life. During his government career, he served as assistant U.S. trade representative (USTR) for China affairs. In this capacity, he was the United States' chief China trade negotiator and played a primary role in shaping overall trade policy with respect to China, Taiwan, Hong Kong, Macao, and Mongolia. During his tenure as assistant USTR, he oversaw U.S. efforts to integrate China into the global trading architecture of the World Trade Organization. Earlier in his government career, he served as legislative counsel for international affairs in the Senate. Outside government, as a lawyer and business adviser, he has counseled corporations and financial institutions on strategic planning, government relations, market access, mergers and acquisitions, corporate communication, and political and economic risk management in China. He is currently a senior adviser to McLarty Associates, the global strategic advisory firm based in Washington, and serves on the boards of directors of the National Committee on U.S.-China Relations and the Harding-Loevner emerging market fund group. He received his JD from the Boston University School of Law, where he was an editor of the *Law Review* and graduated with honors. He received a BA from Tufts University in Asian studies, concentrating in economics, also with honors. He also studied Chinese economic policymaking at Fudan University in Shanghai and Mandarin Chinese at the Taipei Language Institute.

Christina S. Ho is an assistant professor of law at the Rutgers School of Law. She joined the Rutgers faculty in 2010 from the O'Neill Institute for National and Global Health Law at Georgetown University Law Center, where she was a senior fellow and project director of the China Health Law Initiative. She was previously country director and senior policy adviser for the Clinton Foundation's China program; led Senator Hillary Rodham Clinton's health legislative staff; and, during the Bill Clinton administration, worked on the Domestic Policy Council at the White House. She received her AB magna cum laude from Harvard College, her MPP from Harvard University's John F. Kennedy School of Government, and her JD cum laude from Harvard Law School, where she was articles editor of the *Harvard Civil Rights–Civil Liberties Law Review*. Her core teaching and scholarly interest is health law and policy. She also writes in the areas of race relations and Chinese law and governance. Her article "Health Reform and De Facto Federalism in China" was published in *China: An International Journal* (March 2010).

Ying Li is assistant professor in the School of Health Management and Education at Capital Medical University of China. She received her doctoral degree from the School of Public Administration and Policy at Renmin University. In 2008 and 2009, as a visiting scholar, she conducted research in the Health Care Policy Department of the Mailman School of Public Health at Columbia University. She has focused her research on health policy, particularly on pharmaceutical issues. Many of her studies have appeared in newspapers and journals. She has also been involved in programs founded by the government and conducted field research on health policy issues in China. Lately, she has been doing research sponsored by the Capital Medical University of China Foundation on the regulation and supervision of the essential medicine system at the community health care center of Beijing.

Yuanli Liu is senior lecturer on international health in the Department of Population and International Health of the Harvard University School of Public Health. He conducts empirical research on health care system performance and reform. He is the author of more than 70 articles and book chapters on such topics as the structural analysis of health care systems, the measurement of medical impoverishment, socioeconomic inequalities in access to essential medicines and health care finance, and smoking and poverty. His recent projects include an international study of the roles of private health care providers, a comprehensive assessment of China's health care system performance, an intervention study on the impact of rural community medical cooperatives (a consumer-driven health care model), major problems of China's medical pricing and payment systems, and an investigation of the impact and feasibility of increasing the cigarette tax in China. His evidence-based policy recommendations helped inform China's health system reform policy development process, particularly in developing the New Rural Cooperative Medical System, the Medical Assistance Program for the urban poor, the portability of social health insurance programs, and the vertical integration of health care organizations. He is the founding director of a major effort at the Harvard University School of Public Health to help advance health and social development in China through a series of applied research studies, annual senior health executive educational programs, and conferences on social development. He is an adjunct professor at the Health and Development Institute of the Tsinghua University School of Public Policy and Management, and he also serves on the Expert Committee on Health Policy and Management of the Chinese Ministry of Health.

Wei Ouyang is an assistant professor in the School of Public Administration and Policy at Renmin University, where he currently teaches health economics and has also taught administration methodology and health policy research. His research interests are health reform, hospital administration, and cost-effectiveness analysis. He received a DDS and a PhD in health policy and administration from the University of Minnesota at Twin Cities. He has been actively engaged in research projects such as the National TMJ Implant Registry and Repository and Beijing's Twelfth Five-Year Plan of Development and Reform of the Health Care System. He has also led and conducted such research projects as the Cost-Effectiveness Analysis of Dental Sealant Using Econometric Modeling and the Study on Administration Reform of Tier-Two Urban Public Hospitals."

Hufeng Wang is founding director of the Health Reform and Development Center at Renmin University. He is also professor in the Department of Health Policy and Management of the School of Public Administration and Policy at Renmin University. He is an editorial board member of several Chinese health journals. His research focuses on public health policy, health care reform, medical security, and health management. He has been highly involved in the latest health care reform effort in China through policy-related research and publications. He was the first expert to propose the Chinese health care reform framework, within which the four main sectors to be reformed—public health, medical services, pharmaceuticals, and medical security—have different properties, to which policies need to be variably adapted. In accord with this framework, he provides policy recommendations on such issues as cross-region medical insurance management and chronic disease control strategy. The framework and some of his subsequent recommendations have already been incorporated into the New Health Care Reform Plan. Recently, he was invited by the Beijing Health Bureau to serve as host expert for regional health planning in Beijing from 2011 to 2016. Also, he is conducting research sponsored by the National Social Science Foundation in China on the key topic of public hospital reform.

Yan Guo is professor at the School of Public Health of Peking University's Health Science Center. She is also deputy director of the Institute of Global Health of Peking University, the deputy director of the China Academy of Health Policy, vice chair of the Chinese Rural Health Association, and vice chair of the Chinese Health Education Association. She is an advocate for health policy, primary health care, and rural health in China. Over the years, she has led a number of large-scale research projects on public health in China of both national and international significance, on topics including health education, health service research, maternal and child health care, health policy and health systems, and health inequity. She is a member of the World Health Organization's Commission on Social Determinates of Health. Her research interests include health equity, the management of poverty alleviation, and the reproductive needs of adolescents in China. From 1992 to 1997, she served as associate professor at the Training Center for Health Management at the School of Public Health of Beijing Medical University. She has worked as a consultant for numerous international projects, including the Women and Reproductive Health and Micro Nutrition Project, supported by the World Food Program; the Qinba Poverty Alleviation Project, sponsored by the World Bank; and UNICEF's Middle-Term Review of the Health and Nutrition Project. Between 1992 and 1997, she managed a variety of projects to evaluate primary health care in China's rural areas. She received an MD from Beijing Medical University and an MPH from Tulane University.

Dali L. Yang is a professor in the Department of Political Science at the University of Chicago. He is the founding faculty director of the University of Chicago Center in Beijing, which promotes collaboration between Chicago scholars and students and their Chinese counterparts. He also directs the University of Chicago's Confucius Institute, which supports Chinese language instruction on the university's Hyde Park campus. He previously was chairman of the university's Political Science Department, director of its Center for East Asian Studies, and director of its Committee on International Relations. He also previously served as director of the East Asian Institute at the National University of Singapore. He received his PhD in political science from Princeton University and joined the University of Chicago faculty in 1992. His research interests include political institutions, political economy, and political behavior, with special reference to China. He is the author of many books and scholarly articles on China's political economy and governance. He has been a consultant to industry, government agencies, and the World Bank. He is currently a member of the Committee of 100, the National Committee on U.S.-China Relations, and the China Committee of the Chicago Sister Cities International Program.

CSIS | CENTER FOR STRATEGIC &
INTERNATIONAL STUDIES

1800 K Street, NW | Washington, DC 20006
Tel: (202) 887-0200 | Fax: (202) 775-3199
E-mail: books@csis.org | Web: www.csis.org

