Healthy China: Deepening Health Reform in China

Building High-Quality and Value-Based Service Delivery

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Preface

During the past three decades, China has achieved a momentous social transformation, pulling 600 million people out of poverty. At the same time, it has made impressive strides in health. Since the launch of a new round of reforms in 2009, China has invested substantially in expanding health infrastructure, achieved nearly universal health insurance coverage, promoted more equal access to public health services, and established a national essential medicine system.

These measures have significantly improved the accessibility of health services, greatly reduced child and maternal mortality, cut the incidence of infectious disease, and considerably improved the health outcomes and life expectancy of the Chinese population: average life expectancy reached 76.34 years in 2015, 1.51 years longer than in 2010. And the country's overall health level has reached the average of other middle- and high-income countries, achieving better health outcomes with less input. These achievements have been well recognized internationally.

China has now reached a turning point. It is starting to face many of the same challenges and pressures that high-income countries face. The Chinese population over the age of 65 is approximately 140 million, and that cohort is expected to grow to 230 million by 2030. High-risk behaviors like smoking, sedentary lifestyles, and alcohol consumption as well as environmental factors such as air pollution take a huge toll on health, and noncommunicable diseases account for more than 80 percent of the 10.3 million deaths every year. At the same time, with higher economic growth, increased personal incomes, and fast-changing in consumption patterns, people are demanding more and better health care. As a result of all these factors, expenditures on health care have increased continuously in recent years. For China, this rapid growth in health expenditure may be difficult to sustain amid the country's economic slowdown.

The Chinese government fully recognizes the need to make strategic shifts in the health sector to adapt to these new challenges. President Xi Jinping and Premier Li Keqiang have placed great importance on health care reform. As President Xi has pointed out, it would not be possible to build a well-off society without universal health coverage. He also indicated that China should shift its focus and resources toward the lower levels of care, aiming to provide its citizens with public health and basic health services that are safe, effective, accessible, and affordable. Premier Li has held several State Council executive meetings to set priorities in health care reform and asked for the development of a basic health care system covering all urban and rural residents. The State Council has set up a Leading Group for Deepening Health Care Reform to strengthen multisector

coordination, which provides a strong institutional guarantee for the reforms.

In July 2014 in Beijing, the Chinese government, the World Bank, and the World Health Organization committed to working together on a joint health reform study to further improve the policy formulation and to deepen the health reform. This report, *Healthy China: Deepening Health Reform in China*, is the outcome of this joint study. Following the successful model of previous flagship reports such as *China 2030* and *Urban China*, this report offers a blueprint for further reforms in China's health sector.

In July 2016, Minister of Finance Lou Jiwei, Minister of the National Health and Family Planning Commission Li Bin, and Deputy Minister of Human Resources and Social Security You Jun, joined by World Bank Group President Jim Yong Kim and Bernhard Schwartländer, the World Health Organization representative to China, jointly launched the Policy Summary of this report at the Diaoyutai Guesthouse in Beijing. The Policy Summary has received wide praise from the media and academia, has been disseminated to the health policy makers in all the provinces in China, and has served as an important instrument for policy making.

The report's main theme is the need for China to transition its health care delivery system toward people-centered, high-quality, integrated care built on the foundation of a strong primary health care system. Such a system offers both better health care for its citizens and better value for its economy.

To that end, the report offers a comprehensive set of eight interlinked recommendations that can prepare the Chinese health system for the demographic and health challenges it faces. It focuses not only on the top-level design for reform but also on the important question of how to make reform work on the ground. It builds on extensive analysis of literature and case studies from high- and middle-income countries as well as on ongoing innovations in China that offer lessons and experiences for bringing about desired change. The report draws upon cutting-edge thinking about the science of delivery that can help in the scaling up of health reforms—from prefecture to province and, ultimately, nationwide.

Our hope is that this report will provide the research, analysis, and insight to help central and local authorities plan and execute major restructuring of the health care delivery system in China during the 13th Five-Year Plan period of 2016–20. Getting this reform right is crucial to China's social and economic success in the coming decades. We believe that China's experience with health service delivery reform carries many lessons for other countries, and we hope this report can also contribute to a global knowledge base on health reform.

Acknowledgments

This study was organized jointly by China's Ministry of Finance (MoF), National Health and Family Planning Commission (NHFPC), and Ministry of Human Resources and Social Security (MoHRSS); the World Health Organization (WHO); and the World Bank. The study was proposed by Premier Li Keqiang, Vice Premier Liu Yandong, Minister Lou Jiwei of MoF, Minister Li Bin of NHFPC, Minister Yin Weimin of MoHRSS, and World Bank Group President Jim Yong Kim. WHO Director-General Margaret Chan provided valuable leadership and guidance at the initiation as well as at the critical junctions of the study. In particular, Vice Premier Liu hosted two special hearings on the progress and main findings for the study in March of 2015 and 2016.

Under the overall leadership of Minister Lou (MoF) and World Bank Managing Director and Chief Operating Officer Sri Mulyani Indrawati, the report was overseen by a joint team from the five participating organizations, led by the following: MoF vice ministers Yaobin Shi and Weiping Yu; NHFPC vice ministers Zhigang Sun and Xiaowei Ma; MoHRSS Vice Minister Jun You and former vice minister Xiaoyi Hu; WHO Regional Director for the Western Pacific Shin Young-soo; WHO representative to China Bernhard Schwartländer; Vivian Lin, director, Division of Health Sector Development, WHO Western Pacific Regional Office; Axel van Trotsenburg, World Bank vice president, East Asia and Pacific Region; Timothy Grant Evans, senior director of the World Bank's Health, Nutrition & Population (HNP) Global Practice (GP); Olusoji Adeyi, director of the Bank's HNP GP; Bert Hofman, World Bank country director for China, the Republic of Korea, and Mongolia; Mara Warwick, World Bank operations manager for China, Korea, and Mongolia; and Toomas Palu, global practice manager for the Bank's HNP GP in the East Asia and Pacific Region.

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A technical working group (TWG), consisting of technical leads from each of the government agencies as well as the World Bank and WHO, was formed at the beginning of the study. The TWG has led technical communications, provided important comments, and facilitated research data from different departments of the Ministries. Its members included Yao Licheng, Peng Xiang, Wang Lei, and Wang Min (MoF); Jiao Yahui, Zhao Shuli, Zhuang Ning, Liu Yue, Qin Kun, and Chen Kai (NHFPC); Wang Guodong, Zhao Zhihong, and Song Chengjin (MoHRSS); Gerard La Forgia, Shuo Zhang, and Rui Liu (World Bank); and Martin Taylor, Wen Chunmei, and Stephanie Dunn (WHO).

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The report was prepared and coordinated under the technical leadership of Gerard La Forgia. The chapter authors comprised Tania Dmytraczenko, Magnus Lindelow, Ye Xu, and Hui Sin Teo (chapter 1); Asaf Bitton, Madeline Pesec, Emily Benotti, Hannah Ratcliffe, Todd Lewis, Lisa Hirschhorn, and Gerard La Forgia (chapter 2); Ye Xu, Gerard La Forgia, Todd Lewis, Hannah Ratcliffe, and Asaf Bitton (chapter 3); Rabia Ali, Todd Lewis, Hannah Ratcliffe, Asaf Bitton, and Gerard La Forgia (chapter 4); Gerard La Forgia, Antonio Duran, Jin Ma, Weiping Li, and Stephen Wright (chapter 5); Mukesh Chawla and Mingshan Lu (chapter 6); Shuo Zhang and Edson Araújo (chapter 7); Karen Eggleston, Barbara O'Hanlon, and Mirja Sjoblom (chapter 8); James Cercone and Mukesh Chawla (chapter 9); and Kedar S. Mate, Derek Feeley, Donald M. Berwick, and Gerard La Forgia (chapter 10). Mukesh Chawla, Joy De Beyer, Aakanksha Pande, Rachel Weaver, and Ramesh Govindaraj did the technical and content editing of the final report.

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Abbreviations

ACC-AHA CVD	American College of Cardiology and American Heart Association cardiovascular disease
ADHC	Ageing, Disability, and Health Care
AEHG	Aier Eye Hospital Group
AHRQ	Agency for Healthcare Research and Quality (United States)
ARCH	Automated Record for Child Health (Boston, United States)
BHLC	Better Health at Lower Cost
BMIs	basic medical insurances
BoG	Board of Governors (foundation trusts, United Kingdom)
BoHRSS	Bureau of Human Resources and Social Security (China)
BRIICS	Brazil, Russian Federation, India, Indonesia, China, and South Africa
BSC	balanced scorecard
CAPEX	capital expenditure
CCGs	clinical commissioning groups (United Kingdom)
CDC	Center for Disease Control and Prevention (United States)
CDSS	computerized decision support systems
CEC	Clinical Excellence Commission (Australia)
CEO	chief executive officer
CHA	Chaoyang Hospital Alliance (Beijing, China)
CHC	community health center
China CDC	Chinese Center for Disease Control and Prevention
CHS	community health station
CHWs	community health workers
CIF	capital investment fund
CIP	capital investment planning
CME	continuing medical education
CMS	Centers for Medicare & Medicaid Services (United States)
CON	Certificate of Need

CONU	Certificate of Need Unit
COPD	chronic obstructive pulmonary disease
CPC	Communist Party of China
CQI	continuous quality improvement
CVA	cerebrovascular accident
DALY	disease-adjusted life year
DMC	district medical center
DRC	Development and Reform Commission (provincial)
DRGs	diagnosis-related groups
ECG	electrocardiogram
EDL	Essential Drug List
EHR	electronic health record
FACS	Family and Consumer Services
FCH	Foshan Chancheng Hospital
FDS	family doctor system
FHS	Family Health Strategy (Brazil)
FTs	foundation trusts (United Kingdom)
GDP	gross domestic product
GH	Great Health (Zhenjiang, Jiangsu Province)
GIS	geographic information system
GP	general practitioner
HAS	Haute Autorité de Santé (France)
HASU	hyperacute stroke unit (England, United Kingdom)
HCA	health care alliance
HFPC	Health and Family Planning Commission (provincial)
HHS	Department of Health and Human Services (United States)
HIRA	Health Insurance Review and Assessment Service (Republic of Korea)
HMC	hospital management council/center
HSR	health services research
ICT	information and communication technology
IFC	International Finance Corporation (World Bank)
IHI	Institute for Healthcare Improvement (United States)
IMAI	Integrated Management of Adolescent and Adult Illness
IOM	Institute of Medicine (United States)
IPCD	Insurance Program for Catastrophic Diseases
IQWiG	Institute for Quality and Efficiency in Health Care (Germany)
IT	information technology
JCUH	James Cook University Hospital (England, United Kingdom)
LG	leadership group
LLG	local leading group
M&E	monitoring and evaluation
MBS	Medicare Benefits Schedule (Australia)
MDT	multidisciplinary team

MFA	Medical Financial Assistance
MI	myocardial infarction
MoCA	Ministry of Civil Affairs
MoF	Ministry of Finance
MoH	Ministry of Health
MoHRSS	Ministry of Human Resources and Social Security
MoLSS	Ministry of Labor and Social Security
MQCCs	medical quality control committees
MSA	medical savings account
MSAC	Medical Services Advisory Committee (Australia)
MSMGC	Medical Service Management and Guidance Center (of NHFPC)
NCD	noncommunicable disease
NCMS	New Cooperative Medical Scheme
NCQA	National Committee for Quality Assurance
NDP	National Demonstration Project on Quality Improvement in Health Care (United States)
NDRC	National Development and Reform Commission
NGO	nongovernmental organization
NHFPC	National Health and Family Planning Commission
NHIA	National Health Insurance Administration (Taiwan, China)
NHIS	National Health Insurance Service (Republic of Korea)
NHS	National Health Service (United Kingdom)
NICE	National Institute for Health and Care Excellence (United Kingdom)
NPDT	National Primary Care Development Team (United Kingdom)
NPO	nonprofit organization
NQF	National Quality Forum (United States)
NRCMS	New Rural Cooperative Medical Scheme
NSW	New South Wales (Australia)
OECD	Organisation for Economic Co-operation and Development
OSS	social health organization (Brazil)
P4Q	pay-for-quality
PACE	Program of All-Inclusive Care for the Elderly (United States)
PACS	Community Health Agents Program (Programa de Agentes Comunitários de Saúde, Brazil)
PACS	picture archiving and communications system
PACT	Patient-Aligned Care Team (U.S. Veterans Health Administration)
PAD	peripheral artery disease
PCG	primary care group
PCIC	people-centered integrated care
PCMH	patient-centered medical home
PCT	primary care trust
PDCA	plan-do-check-act (cycle)
PDSA	plan-do-study-act
PFP	private-for-profit

PHC	primary health care
PHIFMC	Public Health Insurance Fund Management Centre (Sanming, China)
PLG	provincial leading group
PNFP	private-not-for-profit
PPP	public-private partnership
PPP	purchasing power parity
PSA	public service announcement
PSU	public service unit
QoC	quality of care
QOF	Quality and Outcomes Framework (United Kingdom)
RHS	Regional Health System (Singapore)
RMB	renminbi
SCHRO	State Council Health Reform Office
SES	Secretariat of Health, State Government of São Paulo
SHI	social health insurance
SHINe	Singapore Healthcare Improvement Network
SIKS	Integrated Effort for People Living with Chronic Diseases
SOE	state-owned enterprise
SPHCC	Strengthening Primary Health Care Capacity (Feixi County, Anhui Province)
SPSP	Scottish Patient Safety Programme
SRE	serious reportable event (NQF, United States)
SROS	Regional Strategic Health Plan (Schéma Régional d'Organisation Sanitaire, France)
SU	stroke unit (England, United Kingdom)
TCM	traditional Chinese medicine
TFY	Twelfth Five-Year Plan (Hangzhou, Zhejiang Province)
THC	township health center
THE	total health expenditure
TLC	Transformative Learning Collaborative
TQM	total quality management
UEBMI	Urban Employee Basic Medical Insurance
UHC	universal health coverage
ULS	unidades de saúde local (Portugal)
URBMI	Urban Resident Basic Medical Insurance
VAT	value added tax
VC	venture capital
VHA	Veterans Health Administration (United States)
WAHH	Wuhan Asia Heart Hospital
WHO	World Health Organization
WMS	World Management Survey
WOFI	wholly owned foreign investment

Note: All dollar amounts are U.S. dollars unless otherwise indicated.

Executive Summary

China's Health System

Following decades of double-digit growth that lifted more than 600 million people out of poverty, China's economy has slowed in recent years. The moderating growth adds a new sense of urgency to strengthening human capital and ensuring that the population remains healthy and productive, especially as the economy gradually rebalances toward services and the society experiences shifting demographics and disease burdens. An area that demands particular attention in this context is health care, which is critical not only to improving equity but also to ensuring that people live healthier as they live longer.

Furthermore, slower economic growth opens the door for much-needed reforms in the health sector, because continuing on the present path would be both costly and unaffordable: government expenditures on health (including health insurance) would increase threefold, to about 10 percent of China's gross domestic product (GDP) by 2060, in the absence of cost containment measures, but these expenditures would be kept to under 6 percent of GDP if adequate reforms are undertaken. China now faces an opportunity to rebalance its health care system by embarking on a high-value path to better health at an affordable cost.

Reform Initiatives and Benefits

China has already launched major reform initiatives to improve health sector performance and meet the expectations of its citizenry. In 2009, the government unveiled an ambitious national health care reform program, committing to significantly raise health spending to provide affordable, equitable, and effective health care for all by 2020. Building on an earlier wave of reforms that established a national health insurance system, the 2009 reforms, supported by an initial commitment of RMB 850 billion, reaffirmed the government's role in the financing of health care and provision of public goods.

After nearly six years of implementation, the 2009 reforms have made a number of noteworthy gains: they have achieved near-universal health insurance coverage at a speed with few precedents. Benefits have been gradually expanded, use of health services has increased, and out-of-pocket spending on health—a major cause of impoverishment for low-income populations—has fallen. Indeed, since 2009, the average life expectancy at

birth today has increased by more than 30 years; it took rich countries twice that long to achieve the same gains.

Health Service Delivery Challenges

China now faces emerging challenges in meeting its citizens' health care needs associated with a rapidly aging society and the increasing burden of noncommunicable diseases (NCDs). The trends of reduced mortality and fertility have led to a rapidly aging society, while social and economic transformation have brought urbanization and lifestyle changes, in turn leading to emerging risk factors of obesity, sedentary lifestyles, stress, smoking, abuse of alcohol and other substances, and exposure to pollution.

NCDs are already China's number one health threat, accounting for more than 80 percent of the 10.3 million premature deaths annually and 77 percent of disability-adjusted life years (DALYs) lost in 2010, not far off the share in Organisation for Economic Co-operation and Development (OECD) countries of 83 percent. Importantly, 39.7 percent (males) and 31.9 percent (females) of all NCD deaths in China are "premature"—that is, under the age of 70—compared with 27.2 percent (males) and 14.7 percent (females) in Japan and 37.2 percent (males) and 25.1 percent (females) in the United States. For populations aged 30–70 years, the probability of dying from cardiovascular disease, cancer, diabetes, or chronic respiratory disease is 19.5 percent in China, compared with 9.3 percent in Japan and 14.3 percent in the United States.

These trends add to the complexity China is facing and to which the health system must respond by reducing the major risk factors for chronic disease; addressing those influences that drive exposure to these risk factors, including the environment; and ensuring the provision of services that meet the requirements of those with chronic health problems.

The 2009 reforms produced substantial positive results in expanded insurance coverage and better health infrastructure, but much still needs to be done to reform health care delivery in China. Since 2005, health care spending in China has been growing at a rate of about 5–10 percentage points higher than GDP growth. Affordability of health services remains a concern to both citizens and government. Although out-of-pocket expenditures have declined significantly in recent years, they remain high, at 29.9 percent of total spending, compared with an average of 21 percent in high-income countries. Social insurance funds are already under increasing pressure to not run into debt.

Although spending growth started from a comparatively low level, the trend is not likely to reverse in the near future because expenditure pressures will continue to grow. For example, addressing the health needs of millions of people with diabetes, hypertension, and other chronic diseases who are currently undiagnosed and not receiving any care will be costly.

However, China also needs to address the low-value and cost-escalating aspects of its delivery system. China faces major challenges in transforming its hospital-centric and volume-driven delivery system into one that delivers high-quality care at affordable costs at all levels and that meets peoples' demands and expectations. Motivated by profits and poorly governed, too many public hospitals are embodiments of both government and market failures. Health financing is fragmented, and insurance agencies have remained largely passive purchasers of health services.

As for the quality of care, information is limited, but available evidence suggests that there is significant room to improve. A shortage of qualified medical and health workers at the primary care level compromises the health system's ability to carry out the core functions of prevention, case detection, early treatment of common illnesses, referral, care integration, and gatekeeping.

China is transforming its capital investment planning from input-based parameters (which tend to focus on bed numbers and facility size) to parameters that are based on population served. The government has also opened the hospital sector to private investment, but the private sector's ability to

improve access and quality care is constrained by China's weak regulatory and public purchasing environment.

The Health Expenditure Outlook

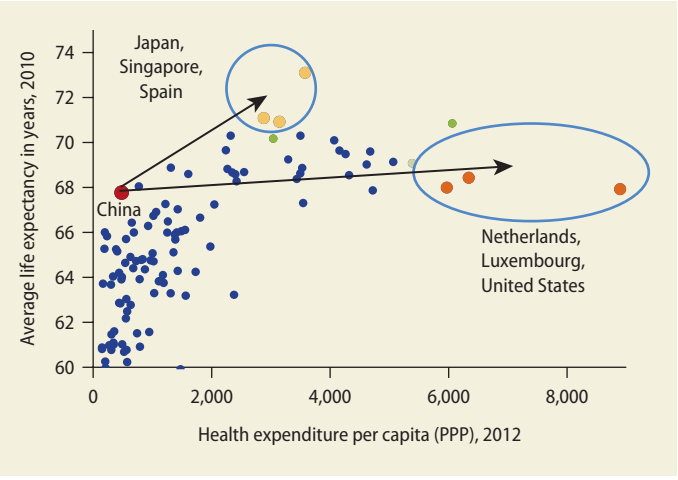
Although China is still a comparatively low spender on health care, it needs to avoid the trap observed in several OECD countries of rapidly increasing health spending combined with only marginal gains in health outcomes. A high-cost path will result in two or three times the per capita spending of the low-cost path and will not necessarily lead to significantly better outcomes.

Although factors other than health care and health spending contribute to health outcomes, it is instructive that the United States has a *poor-value* health care system, spending nearly $9,000 per capita (at purchasing power parity [PPP]). Singapore has a relatively *high-value* system, spending under $4,000 per capita and achieving better health outcomes and higher life expectancy than the United States (figure ES.1).

This does not mean that China should emulate one system over the other. The starting points and contexts are substantially different. As China continues to grow, an inconvenient truth is that health spending will increase. However, the rate of increase can be controlled by prudent choices as to the organization and production of health services and the efficient use of financial and human resources.

Doing nothing is not an option. A study commissioned by the World Bank and carried out with researchers from China concluded that business as usual will result in real health expenditure growth of 9.4 percent a year from 2015 to 2020, during which GDP was projected to grow by 6.5 percent a year.[1] In the period 2030–35, during which GDP is projected to slow down (this study uses 4.6 percent per year as the basis for projection), health expenditure will grow by 7.5 percent per year. In other words, without deepening the health reform, health expenditure in China will increase in real terms (2014 prices) from RMB 3,531 billion in 2015 to RMB 15,805 billion in 2035—an average increase of 8.4 percent per year. This will increase health expenditure from 5.3 percent of GDP in 2015 to 9.1 percent of GDP in 2035.

FIGURE ES.1 Life expectancy relative to per capita health expenditure, selected countries, early 2010s

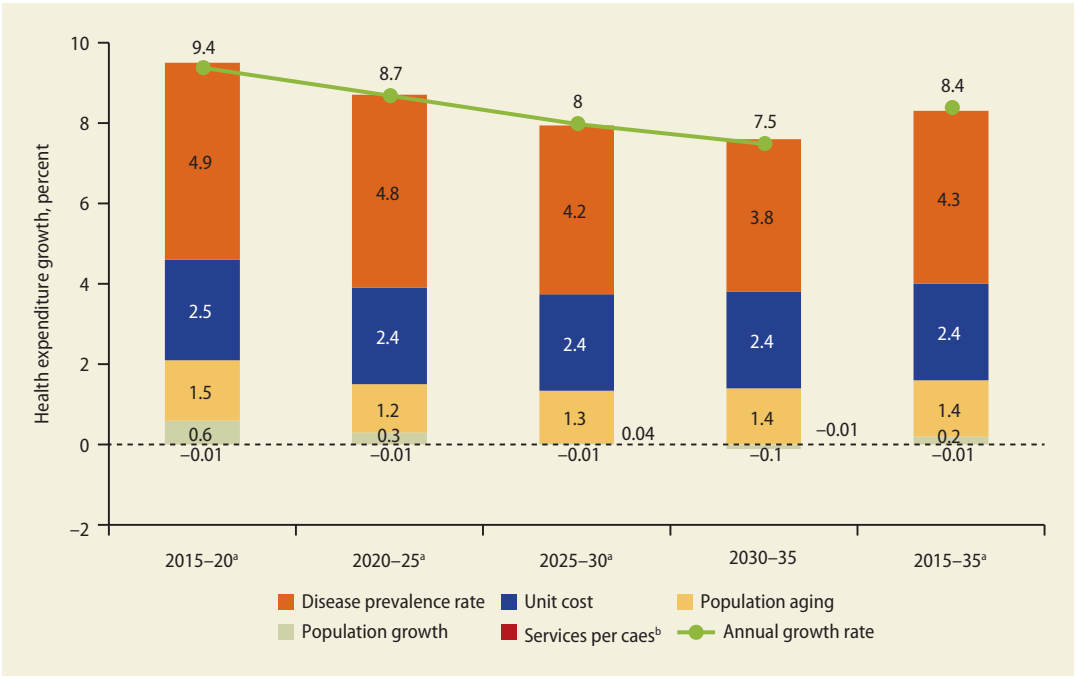


Source: Economist Intelligence Unit 2014; WHO (various years).
Note: PPP = purchasing power parity.

Under the business-as-usual scenario, more than 60 percent of the growth in health expenditure is expected to be in inpatient services. Inpatient expenditure will grow by RMB 7,915 billion, compared with outpatient expenditure growth of RMB 3,328 billion, pharmaceutical expenditure growth of RMB 1,256 billion, and growth of other health expenditure of RMB 155 billion.

China could, however, achieve significant savings—equivalent to 3 percent of GDP—if it could slow down the main cost drivers (figure ES.2). To realize these savings, the growth in hospitalization needs to come down and use of outpatient care needs to go up. This implies strengthening the primary care system, raising people's confidence in the health system outside of the hospital setting, providing high quality people-centered care that is integrated across all levels, and enriching people's experience with the health care system. The potential for savings also allows for affordable fiscal space for needed investments into people-centered integrated care that would be well below the potential savings to be achieved.

FIGURE ES.2 Main drivers of projected health expenditure in China, 2015–35



Source: World Bank estimations.
a. Growth rates of −0.01 percent pertain to population growth, which has been negative.
b. "Services per case" refers to the number of outpatient visits per disease episode—or hospital discharges, in the case of inpatient services—across 19 disease categories.

The Health System Reform Outlook

Recognizing these challenges, China's leaders have adopted far-reaching policies to put in place a reformed delivery system. On October 29, 2015, the 18th Session of the Central Committee of the Fifth Plenary Session of the Communist Party of China (CPC) endorsed a national strategy known as "Healthy China," which places population health improvement as the primary strategic goal of the health system. This strategy has guided the planning and implementation of health reforms under the 13th Five-Year Development Plan, 2016–20.

The government has also initiated enabling legislative actions. The Basic Health Care Law—which will define the essential elements of the health care sector, including financing, service delivery, pharmaceuticals, and private investment—has been included in the legislative plan of the National People's Congress of China and is being formulated by the congress.

These policy directives contain the fundamental components of service delivery reform and emphasize strengthening the three-tiered system (including primary care and community-based services), instituting human resources reform, optimizing use of social insurance, and encouraging private investment in health care. The policies also support "people first" principles such as

- Building harmonious relationships with patients;
- Promoting greater care integration between hospitals and primary care facilities through tiered service delivery and use of multidisciplinary teams and facility networks;
- Shifting resources toward the primary level;
- Linking curative and preventive care;
- Reforming public hospital governance; and
- Strengthening regional service planning.

However, although important progress has been observed, it is mostly limited to pilot projects, which suggests the need to strengthen implementation and emphasize scaling-up.

China already has a mixed health delivery system comprising both public and private providers, and this system requires strong government steering to deliver on government objectives. In this context, the role of the government at both the central and provincial levels needs to shift from top-down administrative management of services and functions through mandates and circulars (a remnant of the "legacy system") to indirect governance, whereby the government guides public and private providers to deliver health services and results aligned with government objectives.

Currently—and despite policy directives mandating separation of functions in the health sector—the government is still involved in multiple functions, including oversight, financing, regulation, management, and service provision. In contrast, many OECD countries are converging on a health delivery model in which the government plays a larger role in financing, oversight, and regulation and a relatively limited role in direct management and service provision.

What matters, however, are the policy instruments and accountability mechanisms used to align organizational objectives with public objectives. Tools include grants, contracts, regulations, public information and disclosure rules, independent audits, and tax policies, among others. Some are already in use in China. Other core government functions in a mixed delivery system include establishing public purchasing arrangements, guiding health service and capital investment planning, setting and enforcing quality standards and monitoring, regulating public and private hospitals, accrediting medical professionals and facilities, and creating a system of medical dispute resolution.

By using these tools, the government defines public and private roles, creates a level playing field for public and private providers, and develops a path for more formalized and transparent public and private engagements that are aligned with public priorities. However, international experience suggests that these tools should be sufficiently strong and transparent—and that government should possess adequate enforcement and data monitoring capacity—to defend the public interest and avoid policy and regulatory capture by powerful private (and public) actors.

Report Background and Structure

This report was proposed by Chinese Premier Li Keqiang at a July 2014 meeting with the World Bank Group President Jim Yong Kim and World Health Organization (WHO) Director-General Margaret Chan. It is a product of joint initiatives of five institutions: China's Ministry of Finance, Health and Family Planning Commission, and Ministry of Human Resources and Social Security; the World Bank; and WHO. It has two objectives: (a) provide advice on core actions and implementation strategies in support of China's vision and policies on health reform, and (b) contribute technical inputs into the implementation of the 13th Five-Year Development Plan.

The report is based on 20 commissioned background studies; more than 30 case studies from China, middle-income countries, and OECD countries on various themes; visits to 21 provinces in China; six technical workshops; and inputs from a diversified team of policy makers, practitioners, academicians, researchers, and interested stakeholders who came together to dissect, analyze, and discuss the main sectoral reform areas in this intensive two-year effort.

The report consists of 10 chapters, the first summarizing the major health and health system challenges facing China and providing a rationale for the recommendations detailed in this report. The next eight chapters constitute the main body of the report as follows:

- "Lever 1: Shaping Tiered Health Care Delivery with People-Centered Integrated Care"

- "Lever 2: Improving Quality of Care"
- "Lever 3: Engaging Citizens in Support of the PCIC Model"
- "Lever 4: Reforming Public Hospital Governance and Management"
- "Lever 5: Realigning Purchasing and Provider Incentives"
- "Lever 6: Strengthening the Health Workforce"
- "Lever 7: Strengthening Private Sector Engagement in Health Service Delivery"
- "Lever 8: Modernizing Health Service Planning to Guide Investment"

The final chapter, "Strengthening Implementation of Health Service Delivery Reform," focuses on implementation and scaling-up. Based on the broader implementation literature, it describes an actionable implementation "system" framework and corresponding strategies relevant to the Chinese context to promote effective and scalable implementation.

The Recommendations

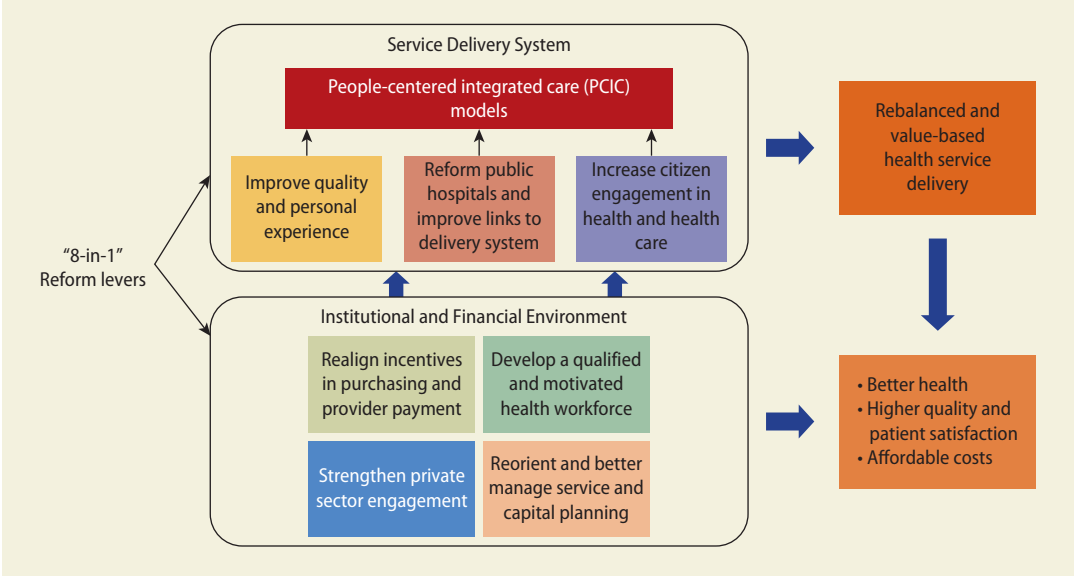
The report proposes eight sets of strategic reform directions, referred to as "levers," representing a comprehensive package of interventions to deepen health reform. Each lever contains a set of recommended core action areas and corresponding implementation strategies to guide the "what" and "how" of deepening service delivery reform; the action areas and strategies are meant to provide policy guidance at all governmental levels.

The levers are conceptualized to be interlinked and are not designed to be implemented as independent actions (figure ES.3). For example, actions taken by frontline health care providers will require strong institutional support combined with financial and human resource reforms to achieve the reform goals.

Service Delivery Levers

First, and at the core of the recommendations, is the full adoption of a reformed service delivery model—referred to as people-centered integrated care (PCIC)—to accelerate progress toward China's vision of health service delivery reform and improve value for money. PCIC refers to a care delivery model organized around the health needs

FIGURE ES.3 Eight interlinked levers to deepen health care reform in China



of individuals and families. The bedrock of a high-performing PCIC model is a strong primary care system that is integrated with secondary and tertiary care through formal links, good data, information sharing among providers and between providers and patients, and the active engagement of patients in their care. It uses multidisciplinary teams of providers who track patients with e-health tools, measures outcomes over the continuum of care, and relentlessly focuses on continually improving quality. Curative and preventive services are integrated to provide a comprehensive experience for patients and measurable targets for facilities. Large secondary and tertiary hospitals have new roles as providers of complex care and leaders in workforce development. Measurement, monitoring, and feedback are based on up-to-date, easily available, validated data on the care, outcomes, and behaviors of providers and patients.

Primary care is a central organizing paradigm for the production of key health system functions. International experience suggests that no country can provide high-quality, person-centered care at lower costs without a robust primary care system. In China, frontline village, township, and district health facilities need to continue to be strengthened and better staffed to provide an attractive PCIC model. Improved frontline facilities can provide a gatekeeping role for hospital and specialized services while providing better follow-up care for recently discharged patients. Empanelment can be used to identify reference populations (for example, diabetics) who will receive care by a team of providers who create registries of such patients to facilitate proactive management and a population-based approach to care.[2] In some areas, primary care providers are sufficiently strong to perform these functions. In others, some functions will need the support of county and district hospitals and can be gradually transferred to primary care once capacity is strengthened.

The "family doctor" system in Shanghai and other Chinese cities is already piloting empanelment, registries of patients with chronic diseases, and initial forms of gatekeeping. Families who contract with the system are assigned to a general practitioner who works with a team to manage care for 800–1,000 families. Empanelment is also an integral underlying feature of small-scale but successful delivery models in Germany (the Gesundes Kinzigtal integrated care system); Canterbury, New Zealand (the Health Services Plan); and the United States (Patient-Centered Medical Homes). As in Shanghai, empanelment is voluntary, and patients can opt out at any time.

In the PCIC approach, health services are integrated across provider levels and across space, time, and information through alliances or networks. The networks responsible for implementing PCIC function on a "3-in-1" principle: one system, one population, one pool of resources. In rural areas, the 3-in-1 principle can be applied to the tiered network consisting of village clinics, township health centers (THCs), and county hospitals, while in the cities the networks will consist of community health stations, community health centers (CHCs), and district hospitals. There can be multiple networks in cities and counties, which would allow for patient choice. In geographically dispersed areas, networks can be established virtually or through contracting arrangements.

In China, the current tiered delivery system was designed to operate as an integrated network. However, separate organization and management, loose definition of provider functions across tiers, constrained financial flows, and fragmented governance arrangements have limited the ability to integrate service provision and provide more continuous care. Nevertheless, well-organized, integrated networks of tiered service delivery—such as those emerging in Zhenjiang, Feixi (Anhui Province), and Huangzhong (Qinghai Province)—should be mainstreamed.

Within each network, the functions and responsibilities of each provider level need to be clearly defined. This will necessarily involve shifting low-complexity care out of hospitals. Initially, at least, networks need to avoid incorporating or being operated by

tertiary hospitals, only because the tertiary hospitals might use the network to capture additional patients rather than to shift low-complexity care to lower levels. Avoiding "hospital capture" is also important to promote the strengthening of primary care and service integration.

However, secondary hospitals will be important network members in terms of providing technical support and training for the network. Initially, county and district hospitals will play a strong technical role in network operations and implementing PCIC, in part because these facilities already have good working relationships with primary care providers in many areas in China. A networkwide managerial unit will be responsible for selecting, deploying, and supervising resources in the most efficient way possible to achieve network objectives. Ideally, this management unit should be the executive arm of a governance structure and be separate from the government administrative apparatus.

Second, to improve the quality of care, the report recommends that a regulatory authority be established that provides a high level of technical oversight. PCIC requires strong government leadership and stewardship for building capacity to improve the quality of health care. A regulatory entity would promote scientific, evidence-based medicine by developing standardized clinical pathways and overseeing their implementation in clinical practice. It would also be a key resource for clinical practitioners to access a range of clinical, public health, and social care information, including safe practice guidelines, technology appraisals and guidance, quality standards, and implementation tools. Quality improvement is recognized as a continuous effort, which will require continuous monitoring and benchmarking of health care service delivery and building up the performance information infrastructure to monitor progress.

A coordinated institutional architecture committed to helping the nation improve health care quality and to overseeing related efforts is increasingly the path followed by many countries (such as the National Institute for Health and Care Excellence in the United Kingdom and the National Quality Forum in the United States). China could consider establishing a similar agency that, reporting to the central government, would be responsible for coordinating all efforts geared toward quality assurance and improvement and would actively engage all stakeholders in implementing quality assurance and improvement strategies. It would develop standardized clinical pathways and oversee their implementation in clinical practice, set quality standards, accredit and certify both public and private providers, measure and track performance, conduct research, and otherwise build capacity in advancing health care quality. The agency would ideally be co-led by representatives of relevant ministries and key professional and scientific bodies and would include other stakeholders such as community representatives.

Third, recognizing the key role of patient trust for the success of the PCIC model, the report recommends that patients be actively engaged and empowered in the process of seeking care through measures that increase their knowledge and understanding of the health system. Optimal use of scarce resources requires that patient preferences shape decisions about investment and disinvestment in services, which in turn requires a two-way communication between multidisciplinary clinical teams and their patients. Without this exchange, decisions are made with avoidable ignorance at the front lines of care delivery, services fall short of meeting needs while exceeding wants, and efficiency declines over time.

The report recommends strong patient engagement and self-management practices to help patients manage their conditions. Patient self-management refers to patients' active participation in their treatment and providers' consideration of patient treatment preferences. It offers a more collaborative approach in which providers and patients work together to identify problems, set priorities, establish goals, create treatment plans, and solve issues. Patient self-management involves

systematically educating patients and their families about their conditions, how to monitor them, and how to incorporate healthy behaviors into their lifestyles. It also involves training of clinicians to communicate better with patients. By promoting systems for patient self-management, health systems can empower individuals to reduce their utilization of and make more informed decisions relating to office visits, medication, and procedures.

Several of the case studies commissioned for this report exemplify such patient engagement and self-management approaches, including the following:

- *In Shanghai,* the "family doctor" system encourages patients and families to jointly set treatment goals with their providers, and monthly patient satisfaction scores track progress.
- *In Germany,* Gesundes Kinzigtal (a health care management company whose name translates as "healthy Kinzig valley") emphasizes joint treatment goal setting and attainment. Shared decision-making tools augment this process along with case managers who support the patient through their conditions and behavior changes.
- *In the United States,* the Veterans Health Administration encourages self-management through disease-specific action planning and intensive education, especially around medication management.
- *In Denmark,* the SIKS (Integrated Effort for People Living with Chronic Diseases) project prioritizes patient involvement in developing their own treatment plans, setting goals through shared care plans, and providing feedback about whether these goals were met in partnership with the care team.

Fourth, the report suggests deep reforms in the governance and management of public hospitals to improve their performance in cost control, quality of care, and patient satisfaction. Reforming hospitals is part and parcel of reforming service delivery and adapting PCIC-like models. Hospitals will continue to play an important role, but one that becomes less financially dominant and more focused on providing only the specialized services that are most needed. As the capacity of primary care is strengthened and the PCIC model is put in place, a wide range of care processes will be shifted out of hospitals to ambulatory units (such as surgical and chemotherapy units) and primary care facilities. Hospitals will become centers of excellence but with adequate volume to deliver high-quality care. They can perform important training and workforce development functions. They can also focus more on biomedical research and providing clinical support to lower-level providers.

Some of these functions are slowly rolling out in China. Existing "alliances" in China already show the potential benefits of these organizational forms; their use and further development should be considered. In Feixi, county hospitals and THCs share medical resources and personnel as well as coordinate services between local THCs and their associated village clinics. Similarly, Huangzhong built local alliances to use county hospital resources to strengthen and integrate THCs. Zhenjiang leveraged key county and academic hospital resources to set up more integrated rehabilitation care. Importantly, payment schemes need to be adjusted to support these functions.

The report suggests comprehensive governance arrangements to improve performance of public hospitals and promote their integration into the service delivery system. A number of countries where public hospitals historically were directly administered (including Brazil, the Netherlands, Norway, Spain, the United Kingdom, and others) have taken steps to grant them greater independence. These steps include the following:

- Granting hospitals full autonomy to manage all assets and personnel, including civil service or "quota" staff (for example, to hire, dismiss, and determine compensation)
- Developing independent hospital governance boards with government and

nongovernment participation to oversee hospital management and performance
- Appointing professional managers through a merit-based selection process (although sometimes subject to a consultative process with government)
- Enacting laws defining the nature of autonomy and specifying board selection, membership, and functions; definition of social function and obligations; separation of functions between board and management; financial arrangements; and reporting and other accountability requirements (such as an annual independent audit).

China may want to consider regulating public hospitals under a broader legal framework setting the attributes, accountabilities (discussed below), and requirements of nonprofit (and for-profit) health care organizations. Such legislation could also address the issue of hospital-based "quota" employees and criteria to access social insurance. Evaluations have shown that public hospitals operating with this full range of decision rights frequently perform better than public hospitals that are managed hierarchically by government administration. International and Chinese experience provide good examples of road maps for improving autonomy. For example, China's Dongyang Hospital manifests many of these features. Other emerging but less autonomous hospital governance models are also evident in Zhenjiang, Shanghai, and other cities.

Institutional and Financial Environment Levers

Fifth, the report makes a strong case for realigning purchasing and provider incentives in the health system to motivate the establishment of PCIC, strengthen primary health care delivery, and integrate services across the entire spectrum of health care. Effectively leveraging the power of strategic purchasing, contracting, and paying providers could improve the value of the government's large investment in the health sector in China and achieve greater value for money.

China has taken many important steps in recent years to build the role of health purchasing agencies, develop their institutional capacities, and test innovative contracting and provider payment approaches. Hence it is well positioned to build on the experiences of the many successful pilots and experiments—both within and outside the country—to further leverage the power of strategic purchasing and put in place a set of incentives that motivates providers at all levels. Suggested core actions include adopting volume-controlled, value-driven approaches to effectively manage the growth of expenditures; making incentive mechanisms coherent and consistent across the system; rationalizing the distribution of services by facility level; and strengthening the capacity of purchasing agencies.

The report proposes a realignment of incentives within a single, uniform, network-wide design in support of population health, quality of care, and cost containment. Prospective payment is more effective than fee-for-service for improving efficiency and quality and incentivizing PCIC-based delivery. For these mechanisms to work, they must (a) be defined and applied consistently across the full continuum of health care production and delivery, from primary care to tertiary interventions; and (b) be aligned so that all providers, including hospitals, physicians, and health centers, fall within their purview.

Some of the different options for reorienting incentives are being tested in China. To move public hospitals away from being profit centers to being public-interest entities, the report suggests changing how physicians are paid in hospitals and linking their remuneration to a metric of public interest built around measures of quality, patient satisfaction, and serving vulnerable populations. These measures are consistent with the government's May 2015 policy directive requiring that public hospitals operate for the public good instead of seeking lucrative gains and that health services be accessible, equal, and efficient for the people.

Sixth, the report recommends strengthening the health workforce in China to enable

the implementation of a PCIC service delivery model. Covering the domains of production, recruitment, compensation, management, regulation, and performance evaluation, the suggested core actions include raising the status of primary health care workers, paying them well, strengthening their composition and competencies, and building an effective framework for governance and regulation of the health workforce.

Building a strong enabling environment for the development of the primary health care (PHC) workforce is key to implementing the PCIC model. To raise the status of primary care, general practice must be established as a specialty with equivalent status to other medical specialties and with the same attributes of well-regulated standards of practice. This will require building a consensus and shared understanding among government, health providers, and the public of the centrally important role of primary care together with hospitals in providing the full continuum of care to the citizens.

China may like to consider introducing primary-care-specific career development prospects to develop and incentivize the primary care workforce. This strategy includes separate career pathways for general practitioners, nurses, mid-level workers, and community health workers that enable career progression within PHC practice. Current pilots of a separate accreditation for rural assistant physicians as well as a separate professional title promotion system for PHC workers are good examples of this approach.

The report also proposes reforming the compensation system to provide strong incentives for good performance. The compensation system needs to be revised to reduce reliance on service revenue-based bonuses and to increase base salaries and hardship allowances. Although a combination of fixed payment with variable performance-based payments is desirable, the latter should focus on quality improvements (for example, pay-for-quality schemes).

In addition, nonfinancial incentives should be introduced to attract and retain health workers in rural and remote areas. International experiences suggest that financial incentives alone cannot always provide sufficient motivation, and nonfinancial incentives have an important role in meeting special needs. Commonly used options including rotating housing, job opportunities for spouses, and opportunities for further training (scholarships for college-level studies, in-service training, and so on). Professional isolation can be avoided by using communication technologies that facilitate knowledge sharing with other providers.

Seventh, the report recognizes that although China has formulated several policies to encourage private sector engagement in the health system, much remains to be done to integrate the private entities into the national health system and motivate them to deliver good-quality health services that improve the lives and health of China's population. Measures suggested include (a) the enunciation and adoption of a shared vision of the private sector's potential contribution to national health system goals; (b) regulations that better align private sector health services with social goals; and (c) the establishment of a level playing field for the public and private sectors to better promote active private sector engagement. Through this approach, the incentives and conditions under which the whole health sector operates would move China toward a well-integrated world-class health system that yields better health outcomes and financial protection for the nation's investments in health.

The private sector can play many important roles in the production and delivery of health services, and it is important that China articulate a clear vision to steer the course of private engagement. If properly harnessed, the private sector can deliver value through business model innovation and a commitment to quality and transparency. The private sector can contribute most effectively in areas where the public sector is currently weakest and where market forces can play an important role—that is, where patients can make informed choices, as in the case of long-term care, home care, and so on.

In areas where patients are typically not able to make choices, the expansion of the private sector should be gradual and cautious as well as predicated upon the establishment of a strong purchasing function. In other words, China should leverage the potential gains that involvement of the private sector in health would bring but be careful not to get into a situation that would make it difficult to reverse course.

China should also adopt policies and regulatory measures to guide private sector engagement and minimize the risks associated with growth of poor-quality private providers. The private sector in China and abroad contains examples of business models that deliver high quality at low cost, as well as poor models that rely on overprescribing services, false advertising, and cherry-picking patients and thus fail to serve social interests. As China moves from a wholly public system to one of mixed delivery, it needs to have in place the right regulation and payment incentives to motivate all health providers to operate in the best medical and social interest, irrespective of whether they are publicly or privately owned. Indeed, China is at a critical point in private sector development and must avoid many of the pitfalls encountered in other countries as they opened up their health sectors. China will need to consider the full range of regulatory instruments—including legal prohibition, disclosure rules, industry self-regulation, and audits—to foster private engagement in the health sector in areas where it can best serve the social interest and to deter companies with vested interests from influencing hospital (and physician) behaviors, whether for-profit, nonprofit, or public. Through appropriate regulation and oversight, China can accelerate the shift in the private sector from low-quality to high-quality private providers.

Private and public providers of health services should be subject to the same set of rules and regulations. Licensing a private facility remains cumbersome, unpredictable, and costly compared with public facilities and to a large extent depends on the whims and will of local government officials. Provincial governments should receive clearer guidance on private sector planning, entry requirements, surplus use, and other community service requirements, and enforcement should be strictly monitored. Likewise, the private sector should be assured that it will enjoy treatment similar to public institutions in such aspects as access to health professionals, land use, equipment purchasing, designated medical insurance, and professional title appraisal. A critical factor to leveling the playing field is ensuring that social insurance payments follow the patients to their chosen providers. As social insurers continue to strengthen their purchasing functions, the government could consider introducing equal contracting standards and payment principles ("pay for quality, not quantity") for both public and private providers for health services. This will encourage a virtuous circle, where both public and private providers spur each other toward achieving better value.

Eighth, the report recommends a fundamental change in how capital investment decisions are made in China's health sector by modernizing health service planning. More specifically, the report suggests moving away from traditional input-based planning toward capital investments based upon region-specific epidemiological and demographic profiles. Shifting from a strategy that is driven by macro standards to one that is determined by service planning based on real population needs will help China better align its huge capital investments—projected to reach $50 billion annually by 2020—with the demands of an affordable, equitable health care system and achieve value for money for its massive investments in the health sector.

Moving from capital investment planning to a people-centered service planning model will require prioritization of public investments according to burden of disease, where people live, and the kind of care people need on a daily basis. Service planning offers the opportunity to remake the health provider network—its design, culture, and practices—to better meet the needs of patients and families and the aspirations of those who

provide their care. Within this service planning approach, capital investment planning (which is necessary to optimally use funding opportunities such as insurance and public reimbursements) can guide the development of facilities of the future, change the status quo of today, and ensure that excess capacity is not created to further exacerbate inefficiency and capital misallocation Allowing population needs to drive service and capital investment planning will make an important correction in the current system and will direct delivery of health services toward a people-centered model.

Countries that have strong planning traditions, such as France and the United Kingdom, follow a needs-based planning approach linked to specific health challenges. These countries incorporate demographic and epidemiological considerations in developing their service plans, and they factor in private sector capacity in planning for a balance between market demand and supply. This approach allows them to focus on integrated networks delivering services for defined catchment populations, allocate capital funds to provinces to acquire and upgrade physical assets such as property and equipment, and correct for equity and the level of population vulnerability.

Ensuring that available assets deliver the most cost-effective delivery solution requires the development of a regulatory framework that directs capital investment away from expansion and toward deepening of the existing infrastructure's capacity to better meet the population's health needs. This regulatory framework should encourage integrated capital planning and allocation across sectors of care to capture the potential cost and quality advantages of integration. In addition, capital planning needs to be integrated into a medium-term expenditure framework to bring together planning and budgeting, strengthen capital spending by facilitating multiyear funding programs, and incorporate the operation and maintenance costs of investments into expenditure projections. At the same time, planning standards should be tightened to close loopholes in the existing guidelines and reduce excess capacity and duplication in the network.

Another practice to consider is periodic issuance of specific guidance on implementing standards and investment appraisals—a drill that OECD countries with advanced capital planning processes (such as Australia and the United Kingdom) routinely carry out by issuing "green papers" on various policies to support local authorities in interpreting those policies.

Finally, China should consider setting provincial caps on capital spending or "earmarked" allocations by level of care to promote new development of ambulatory solutions for surgery, chemotherapy, dialysis, imaging, and so on that would reduce the need for hospital beds and expensive infrastructure and bring services closer to the people.

Implementation of Health Care Reforms

The report's final chapter addresses the central challenge of how to implement the important changes suggested in the eight levers and recommends tools to operationalize and sustain the core actions and implementation strategies suggested. It presents an operational framework that focuses on four "implementation" systems: macro implementation and influence, coordination and support, service delivery and learning, and monitoring and evaluation. Recognizing the strong association between high-quality implementation and the probability of obtaining better program performance, it recommends establishing an enabling organizational environment as a precondition for effective implementation. Without it, progress may be elusive.

Transforming the commitment of central-level leadership to deepening health care reforms by operationalizing a value-based delivery system will require (a) defining central and local governmental roles within a policy implementation framework and (b) putting in place the right governance,

organizational, and shared learning platforms. Despite a consensus that China's reform policies are sufficiently robust, most observers acknowledge that the country has had difficulty translating these policies into scalable and sustained actions. Current institutional fragmentation and vested interests make it difficult to maintain or scale up even effective pilots. Appropriate governance, organizational, and shared learning platforms are key preconditions to effective implementation and represent the critical first steps in the prioritization and sequencing of interventions necessary to build a modern 21st-century health system. These platforms will need strong and persistent central government support to make them work.

The central government must take the lead in guiding and overseeing implementation of the reforms, including the eight levers. China may like to consider assigning this mandate to the State Council, which would prepare a uniform policy implementation framework to orient reform planning and execution by local governments.

This framework would not be a one-size-fits-all blueprint but would need to be operational in nature, specifying categorically *what* to do as well as what *not* to do. In turn, local governments would need to have full authority to decide on *how* to do what needs to be done, including developing, executing, and sequencing implementation plans based on local conditions but according to the policy implementation framework specified by the State Council.

Strengthening accountability arrangements, particularly at the provincial and local levels, is another essential ingredient to facilitate effective implementation. Any governance arrangement should be sufficiently powerful to align institutional standpoints and to leverage government interests when dealing with providers and vested interests. One solution is to form empowered leadership groups or councils at the provincial or prefecture levels led by government leaders (governors and mayors). A few such councils already exist in China. At any level, the councils will require strong leadership and political support and be fully empowered (and accountable) to support reform implementation within their jurisdictions.

The proposed councils should consist of representatives from the various government agencies involved in the health sector as well as representatives from providers, the private sector, and community leaders. The councils should be held accountable to the central government through central-local intergovernmental performance or "task" agreements that specify implementation benchmarks, anticipated results of the reforms, and, ultimately, population health indicators. These implementation performance measures should also be incorporated into the career promotion system for provincial and local leaders. Importantly, the councils will direct government agencies involved in human resource management, planning, and financing to enact the changes required to create an enabling environment for the reforms.

China may also wish to create Transformation Learning Collaboratives (TLCs) at the network and facility levels as the fundamental building blocks to implement, sustain, and scale up reforms on the front line. The shift in organizational goals from a treatment orientation to an outcome orientation will require fundamental changes in organizational culture. Health care organizations—whether networks, hospitals, CHCs, or THCs—must adopt continuous learning and problem-solving approaches to encourage innovation and a new culture of care. At the same time, policy guidance from national and provincial officials will need to be customized and adapted at the front lines of service delivery. The service delivery model envisioned for China includes several important changes at care sites, as specified under Lever 1 (shaping service delivery with PCIC). Although these changes can and should be driven by national, provincial, and local leadership, implementing them at local sites will require assistance for local learning, problem solving, and adaptation.

The driving vision behind the TLC concept is to assist and guide local care sites

(such as village clinics, THCs, CHCs, and county and district hospitals) to implement and scale up the reformed service delivery model and close the gap between *knowing* and *doing*. A TLC is a structure for rapidly disseminating better practices for change to all facilities in a network, whether in a county or city. Each TLC can be organized as a short-term (12–15-month) learning system, which brings together teams from each participating facility, ideally within a specific network.

Before launching a TLC, for example, county network officials agree to the slate of interventions that will be implemented as well as a set of measures to track the implementation progress of all participating facilities (and institutions). The facility-level teams meet face-to-face in "learning sessions" every four to six months to discuss implementation successes, barriers, and challenges; share better practices; and describe lessons learned. In between these face-to-face meetings are "action periods" when facility teams test and implement interventions in their local settings—and collect and report data to measure the impact of these reforms. Teams submit regular progress reports for the entire TLC to review and are supported by site visits, conference calls, and other web-based discussions facilitated by implementation experts. The most successful clinics and centers would become mentors and coaches to those that are struggling. Using both meetings and ongoing virtual exchanges, participating sites will help each other to overcome barriers and accelerate their progress. Such learning alliances have been successfully applied to support service delivery reform in England, Scotland, Singapore, Sweden, and the United States.

Implementing suitable reform pathways in an ordered manner has the potential to begin rebalancing China's health system toward people-centered integrated care. Done rigorously and with effective learning, measurement, and feedback loops, these reform pathways have the potential to improve the quality and efficiency of key services delivered across the entire system.

Notes

1. According to the latest World Bank growth estimates (issued June 2018), China grew by 6.9 percent in 2017 and is projected to grow by 6.5 percent in 2018, 6.3 percent in 2019, and 6.2 percent in 2020.
2. Empanelment is the process by which all patients in a given facility or geographic area are assigned to a primary care provider or care team.