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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROGRAM APPRAISAL DOCUMENT

ON A

PROPOSED LOAN  
IN THE AMOUNT US\$600 MILLION

TO THE

PEOPLE'S REPUBLIC OF CHINA

FOR A

HEALTH REFORM PROGRAM-FOR-RESULTS

April 13, 2017

Health, Nutrition and Population Global Practice  
East Asia and Pacific Region

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**CURRENCY EQUIVALENTS**  
(Exchange rate effective January 21, 2017)

Currency Unit = Chinese Renminbi (RMB)  
US\$ 1.00 = RMB 6.88

**ABBREVIATIONS AND ACRONYMS**

ACG	Anti-Corruption Guidelines
ALOS	Average Length of Stay
APHFPC	Anhui Provincial Health and Family Planning Commission
BPHP	Basic Public Health Package
BRMI	Basic Residents Medical Insurance
CHC	Community Health Center
CHSI	Center for Health Statistics and Information
CNAO	China National Audit Office
CLHRS	County Level Hospital Reform Subsidy
CPS	Country Partnership Strategy
CPSM	Center for Project Supervision and Management
DALY	Disability Adjusted Life Year
DLI	Disbursement-Linked Indicator
DPL	Development Policy Lending
EDL	Essential Drug List
EDS	Essential Drugs Subsidy
EFA	Expenditure Framework Assessment
EMR	Electronic Medical Records
ESSA	Environmental and Social System Assessments
FFS	Fee-For-Service
FM	Financial Management
FSA	Fiduciary Systems Assessment
FPHFPC	Fujian Provincial Health and Family Planning Commission
GoC	Government of China
GP	General Practitioner
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HFPC	Health and Family Planning Commission Health
HI	Insurance
HMIS	Health Management Information System
HRH	Human Resources for Health
IA	Implementation Agency
ICT	Information and Communications Technology
IDS	Integrated Delivery System for Health Services
M&E	Monitoring and Evaluation
MIS	Management and Information Systems
MoF	Ministry of Finance
MoHRSS	Ministry of Human Resources and Social Security

NCD	Non-Communicable Disease
NCMS	New Cooperative Medical Scheme
NHFPC	National Health and Family Planning Commission
NPV	Net Present Value
PAP	Program Action Plan
PCIC	People Centered Integrated Care
PDO	Program Development Objective
PforR	Program-for-Results
PHC	Primary Health Care Quality
QA	Assurance
SCHRO	State Council Healthcare Reform Office
SORT	Systematic Operations Risk Tool
TCM	Traditional Chinese Medicine
THC TLC	Township Health Center
	Transformational Learning Collaboratives
UEBMI	Urban Employee Basic Medical Insurance
WHO	World Health Organization
ZMDS	Zero mark-up subsidy for drugs

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# CHINA HEALTH REFORM PROGRAM-FOR-RESULTS

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**PAD DATA SHEET**

***People's Republic of China  
Health Reform Program-for-  
Results***

**PROGRAM APPRAISAL DOCUMENT**

***East Asia Pacific  
Health, Nutrition and Population Global Practice***

Basic Information			
Date:	April 13, 2017	Sectors:	Health (100%)
Country Director:	Bert Hofman	Themes:	Health system performance (100%)
Practice Manager	Toomas Palu		
Global Practice Vice President:	Keith Hansen		
Program ID:	P154984		
Team Leader(s):	Ramesh Govindaraj & Shuo Zhang		
Program Implementation Period:	Start Date:	May 9, 2017	End Date: December 31, 2021
Expected Financing Effectiveness Date:	August 1, 2017		
Expected Financing Closing Date:	December 31, 2021		
Program Financing Data			
<input checked="" type="checkbox"/> Loan	<input type="checkbox"/> Grant	<input type="checkbox"/> Other	

[ ]	Credit	
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**For Loans/Credits/Others (US\$M):**

Total Program Cost: US\$4066      Total Bank Financing: US\$600

Total Co-financing:      Financing Gap:      None



Financing Source	Amount
BORROWER/RECIPIENT	US\$3466 million
IBRD/IDA	US\$600 million
Total	US\$4066 million



Borrower: People's Republic of China

Responsible Agency: National Health and Family Planning Commission

Contact:	Ms. Xue Haining	Title:	Deputy Director-General, Department of Health System Reform
Telephone No.:	86-10-62030870	Email:	tgsggzdc@126.com panwei@nhfpc.gov.cn

Responsible Agency: Anhui Provincial Health and Family Planning Commission

Contact: Mr. Xie Ruijin      Title: Director  
Telephone No.: 86-551-2998060      Email: ahwstygb@163.com

Responsible Agency: Fujian Provincial Health and Family Planning Commission

Contact: Mr. Chen Songtao      Title: Acting Director  
Telephone No.: 86-591-87801778      Email: cstdn@126.com

**Expected Disbursements (in USD Million)**

Fiscal Year	2018	2019	2020	2021	2022
Annual	223.4	115.2	122.65	138.75	0
Cumulative	223.4	338.6	461.25	600	600

**Program Development Objective(s)**

The Program Development Objective (PDO) is to improve the quality of healthcare services and the efficiency of the healthcare delivery systems in Anhui and Fujian provinces.

**Compliance****Policy**

Does the program depart from the CPS in content or in other significant respects?

Yes [ ] No [X]

Does the program require any waivers of Bank policies applicable to Program-for-Results operations?

Yes [ ] No [X]

Have these been approved by Bank management?

Yes [ ] No [ ]

Is approval for any policy waiver sought from the Board?

Yes [ ] No [X]

**Overall Risk Rating: High**

**Legal Covenants**

Name	Recurrent	Due Date	Frequency
Program Institutions	X		

**Description of Covenant:** PA, Schedule, Section I.C.1: Anhui and Fujian shall maintain, and cause to be maintained, the respective provincial Healthcare Reform Leading Group to provide leadership, policy guidance and coordination in

the preparation and implementation of the Program; and Anhui Provincial Healthcare Reform Leading Group Office and Fujian Provincial Health and Family Planning Commission to be responsible for the overall coordination, management and supervision of the Program.

LA, Schedule 2, and Section I.C.3: The Borrower shall maintain, and cause to be maintained, at the central government level, the SCHRO to provide leadership, policy guidance and coordination in the preparation and implementation of the Program; and the CPSM to be responsible for supporting SCHRO for overall coordination and supervision of the Program.

Name	Recurrent	Due Date	Frequency
Program Action Plan	X		

**Description of Covenant:** LA, Schedule 2. Section I.C.4. and PA, Schedule, Section I.C.2: Anhui and Fujian shall undertake the actions set forth in the Program Action Plan.; not amend, revise or waive, the provisions of the Program Action Plan, or any provision thereof, without the prior written agreement of the Bank; and maintain policies and procedures adequate to enable it to monitor and evaluate, in accordance with guidelines acceptable to the Bank, the implementation of the Program Action Plan.

Name	Recurrent	Due Date	Frequency
Annual Work Plans, Targets and Fund Utilization Plans	X		Annual

**Description of Covenant:** PA, Schedule, Section I.C.3: Anhui and Fujian shall: (i) carry out activities under the PforR during each fiscal year in accordance with Annual Work Plans, Targets and Fund Utilization Plans; (ii) prepare and furnish to the Bank in each year beginning in 2017, by December 31 the Annual Work Plan of the following year, summarizing the PforR activities to be undertaken and projected targets, including the proposed overall annual fund utilization plan for the PforR; and (iii) thereafter, ensure the implementation of the PforR during the following calendar year in accordance with the Annual Work Plan, Targets and Fund Utilization Plan, in a manner satisfactory to the World Bank.

Team Composition			
Bank Staff			
Name	Title	Specialization	Unit
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		Management	
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Zhefu Liu	Senior Social Development Specialist	Social Safeguards	GSU02
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Sabrina Terry	Program Assistant	Team Member	GHN02
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# CHINA HEALTH REFORM PROGRAM-FOR-RESULTS

## I. STRATEGIC CONTEXT

### A. Country/Province, Sectoral and Institutional Context

#### **China has achieved impressive results in the health sector**

1. *China has made impressive gains in improving overall health outcomes in past decades, along with its rapid economic development.* After three decades of double-digit economic growth, China has successfully lifted over 700 million<sup>1</sup> people out of poverty, and has significantly improved the health status of its citizens. Higher incomes, lower poverty and better living standards, combined with China's early promotion of primary care and public health, introduction of barefoot doctors for rural villages, community based health insurance, and ambitious public health campaigns, resulted in significant declines in mortality and an unprecedented increase in life expectancy (Yang et al. 2008, Caldwell 1986). The infant mortality rate dropped from 52.9 per thousand births to 8.1, and the maternal mortality rate decreased from 97 per 100,000 births to 21 between 1990 and 2015. A child born in China today can expect to live more than 30 years longer than his forebears half a century ago; it took rich countries twice that span of time to achieve the same gains (Deaton 2013).

2. *These gains were buttressed by major reforms in the health sector.* In 2009, China unveiled an ambitious national health care reform program with the goal of providing affordable, equitable and effective health care for all by 2020. The government defined comprehensive reforms in five priority areas: basic health insurance, health service delivery at grassroots level, essential public health service, an essential drugs program, and public hospital reform. After seven years of implementation, China has achieved near universal health insurance (HI) coverage at a speed that has few precedents globally or historically. As a result of significant investments in health infrastructure, the hospital bed capacity increased rapidly from 2.27 million to 5.33 million between 2003 and 2015, service capacity has been strengthened, utilization of health services has risen and out-of-pocket (OOP) spending as share of total health expenditures has started to fall, leading to a more equitable access to care and greater affordability. The essential drugs program is improving access to effective drugs. Finally, the reform also spearheaded innovative pilots in health financing and service delivery at the local level in many locations.

3. *Despite the impressive progress of these reforms, new challenges are emerging.* The population of China is aging rapidly given the improvements in life expectancy. According to the World Population Prospects, by 2030, the proportion of senior citizens above 65 will increase by about one fourth, and by 2050, the aged will account for about a quarter of the overall population. At the same time, non-communicable diseases (NCDs), especially hypertension and diabetes, have become a heavy burden to the Chinese health system. NCDs are already China's number one health threat, accounting for over 80 percent of the 10.3 million premature deaths annually, and 77 percent of Disability Adjusted Life Years (DALYs) lost<sup>2</sup> in 2010. Moreover, more than 50 percent of NCD burden falls on the economically active population (ages 15-64), which may adversely affect the labor supply and compromise the quality of human capital. Risky behaviors, such as smoking, poor diets, sedentary lifestyles, and alcohol

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<sup>1</sup> [http://www.stats.gov.cn/tjsj/sjjd/201510/t20151016\\_1257098.html](http://www.stats.gov.cn/tjsj/sjjd/201510/t20151016_1257098.html) <sup>2</sup> IHME 2010, WHO 2014.

consumption, as well as environmental factors such as air pollution, are powerful forces behind the emergence of these chronic illnesses in China.

### **China's health system is not well positioned to respond to these challenges**

4. ***China's current health system is hospital-centric, fragmented and volume-driven.*** Service delivery has a strong treatment bias, with an inadequate emphasis on population health outcomes. Service at primary care level is perceived by citizens as low quality, and people bypass the lower level facilities to seek treatment in hospitals late and at a high cost. As a consequence, utilization of hospital services has expanded rapidly from 4.7 percent of population in 2003 to 14.1 percent in 2013. Between 2002 and 2013, the number of tertiary and secondary hospitals increased by 82 and 29 percent, respectively, while there was a slight decline in the number of primary care providers (Xu and Meng 2015)<sup>2</sup>.

5. ***Perverse incentives have played a role in the rapid expansion of hospitals.*** Health insurance historically mainly covered inpatient services, and hospitals were paid by insurance through a fee-for-service system. Service providers therefore were incentivized to produce more, often unnecessary services, driving up investment and recurrent cost, and sometimes endangering human life. China now has more hospital beds per capita than the USA, Canada or the UK, and hospital services account for 54 percent of China's total health expenditure compared to less than 10 percent for primary care. Average lengths of hospital stays, a key driver of costs, is high in China relative to OECD countries (9.8 days compared to 7.3 days). As a result, total spending on health increased fourteen-fold in the last two decades from about 220 billion yuan to 3,170 billion yuan in real terms, raising affordability and sustainability concerns. The trend is not likely to reverse in the near future, given the pent-up demand for health services (particularly with rising disposable incomes) and the changing epidemiological and demographic profiles in China, and the constantly evolving health technologies globally. The 2016 Joint Flagship Health Sector Study, entitled "*Deepening Health Reform in China; Building High-Quality and Value-Based Service Delivery*" (hereafter referred to as the "*Joint Health Study*") concluded that business as usual, without reform, would result in growth of total health expenditure from 5.6 percent of GDP in 2015 to 9.1 percent in 2035, an average increase of 8.4 percent per year in real terms.

6. ***At the same time, human resource shortages and poor capacity at the grassroots have weakened the delivery of primary healthcare services.*** China faces a massive shortage of general practitioners (GPs) and nurses, and the primary health care (PHC) workforce declined from 40 percent of total workforce in 2009 to 36 percent in 2013. Integration of health services across provider tiers (e.g., tertiary, secondary and primary) and between preventive and curative services is weak. Providers at different levels have an incentive to compete with each other in order to maximize their revenues, rather than managing population health in a coordinated and cost-effective manner. Weak primary care systems, poor provider integration and a lack of gate keeping and screening systems have contributed to premature mortality due to NCDs in China being almost double that of Japan.

7. ***As a result, the quality of care needs to be improved.*** Available evidence shows that some health professionals at the grassroots level lack the knowledge and skills needed to effectively diagnose and treat common conditions (Sylvia, et al., 2014; Wu, Luo et al, 2009). Although quality of care is considered better at secondary and tertiary hospitals, systemic evidence on whether care is provided according to best evidence or guidelines (process of care) and data on effects on the health of patients

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<sup>2</sup> Xu, Jin, and Qingyue Meng. 2015. People Centered Health Care: Towards a New Structure of Health Service Delivery in China. The World Bank. Washington, DC USA

as a result of receiving care (outcome of care) is scarce. A recent study found significant variations in outcomes across tertiary hospitals (Xu et al., 2015). Over-prescription of drugs and treatment, especially antibiotics and intravenous treatments, is a problem in all facilities. The perverse incentives that encourage profit-making and increasing volume of care, instead of rewarding high quality care, affect behaviors of management and frontline service delivery staff at all facilities. Hospital managers lack sufficient motivation, and the government and social insurers impose few requirements on public hospitals, to demonstrate improved quality. The paucity of normative quality guidelines/standards to guide health service delivery in China (e.g., the use of clinical pathways<sup>3</sup> and public sharing of relevant healthcare information), and the sub-optimal implementation of what exists, has further exacerbated the situation.

**8. *Finally, insufficient coordination among institutional actors is a major impediment to innovation and sustained reform implementation in the health sector.*** There are over ten government agencies involved in the decision-making and administration of the health sector, all the way down to the provincial and local levels, which constrains coordinated and coherent policy formulation and implementation.

**While the above challenges are mirrored in the provinces, Anhui and Fujian have been trailblazers in tackling them**

**9. *Anhui and Fujian Provinces.*** Anhui province is located in the central-eastern region in China and has 16 prefectures, 105 counties/districts and a population of 69 million. Its per capita GDP in 2015 was 35,997 RMB, which ranked 25th among 31 mainland provinces of China. Fujian, located on the southeast coast of mainland China, has 9 prefectures and 1 Comprehensive Economic Experimentation Zone, 85 counties/districts and a population of 38.74 million. Its per capita GDP in 2015 was 67,966 RMB, which places it seventh nationally.

**10. *Mirroring the national context, the provinces of Anhui and Fujian have made significant progress on health outcomes but face the same sectoral challenges.*** For instance, life expectancy at birth was more than 76 years in Anhui and 77 years in Fujian in 2015, compared to 72 in Anhui and 72.55 in Fujian province in 2000. The Infant Mortality Rate (IMR) had also dropped to 4.54 and 4.64 per thousand live births, respectively in Anhui and Fujian in 2015, from 26.1 and 23, respectively, in 1990. However, a rapidly aging society, an increasing burden of NCDs, fast-rising health expenditures, and a sub-optimal healthcare delivery system are major challenges for the two provinces, much like in the country as a whole.

**11. *Both provinces have displayed solid political commitment and a willingness to pioneer innovative reforms*** tackling underlying systemic issues in health service delivery. Anhui has always been at the forefront of the 2009 health reforms, being the first province to implement the “zero markup” policy<sup>4</sup> for drugs and PHC reform at the grass-roots level. Anhui has also launched an integrated delivery system (IDS), which amalgamates services at county, township and village level, and has introduced an innovative capitation payment system throughout this network. Sanming, an inland prefecture in

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<sup>3</sup> Clinical pathways, also known as care pathways, critical pathways, integrated care pathways, or care maps, are one of the main tools used to manage healthcare quality through the standardization of care processes based on evidence. Their implementation reduces the variability in clinical practice and improves patient outcomes.

<sup>4</sup> The “zero mark-up” policy for drugs entails the removal of price mark-ups (involving adding a certain percentage of the purchase price to the sale price) in the sale of medicines, in order to reduce the incentive for providers to prescribe unnecessary drugs, and to reduce the price of medicines for patients.

Fujian province with a population of 2.3 million, started a public hospital reform in 2012 that has become a successful and highly regarded model. Within this pilot, the prefecture pioneered multidimensional innovations in governance, price scheme reform, drug procurement, human resource management, remuneration, and integration of health insurances. These provincial innovations have been identified by the national government as successful reform models to be expanded, deepened and scaled up in these two provinces through this health PforR and to the whole nation later on.

## B. Relationship to the Country Partnership Strategy (CPS) and Rationale for Use of Instrument

12. *The proposed Program-for-Results (PforR) supports the China CPS goals.* The proposed operation is fully aligned with one of the three main areas of engagement of the Country Partnership Strategy (FY 2013-2016, Report No.67566-CN) for China, namely to increase “access to quality health services and social protection.” The design of this operation reflects the World Bank Group’s value added in China, by bringing and applying ideas, innovation and knowledge to the provincial and national healthcare reforms, building on the Joint Health Study whose recommendations have been endorsed by the GoC.

13. *Use of the PforR Instrument.* The proposed operation intends to support the central and provincial health reform programs through the PforR financing instrument. The PforR is appropriate because: (i) it is anchored firmly in the government’s own health reform agenda and support government’s own implementation program directly; (ii) it focuses on results, rather than on inputs, which allows the flexibility to the local reform implementers to explore the reform pathways needed for achieving the desired results; (iii) it enhances government’s existing program management and implementation systems and capacity by reinforcing and strengthening these systems; and (iv) it facilitates the scaling up of successful local reforms pilots by incentivizing their geographical expansion in a systematic and step-wise manner.

## II. PROGRAM DESCRIPTION

### A. Government program

14. *Recognizing the health sector challenges noted above, China embarked on a so called ‘deep water’ phase of its national health reform in 2014.* On October 29, 2015, the 18th Session of the Central Committee of the Fifth Plenary Session of the Chinese Communist Party (CPC) endorsed a national strategy known as “Healthy China.” Guided by this strategy, the GoC has articulated a comprehensive national health reform agenda, including a Healthy China 2030 Plan, a Health Sector Development Plan and the 13th Five Year Health Reform Plan, which lay out sectoral reform agendas for the period 2016-2020. To operationalize the reform plans, the central government has issued various policy directives to define the national priorities and directions for health sector reform,<sup>5</sup> with an extensive package of measures covering all relevant facets of the health sector. The purpose of this deep water phase is to address the systemic issues in China’s health financing and health service delivery system and to put in place a reformed delivery system.

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<sup>5</sup> State Council Notification on 13<sup>th</sup> Five-Year Plan for Deepening Health System Reform (2016) No.78



15. ***Overall, the national reform initiatives are organized into 10 areas***, namely<sup>6</sup>: (i) building an effective tiered service delivery system; (ii) deepening public hospital reform based on the successful pilot in Sanming prefecture and select other reform pilots; (iii) enhancing universal health insurance; (iv) strengthening drug procurement and supply systems; (v) enhancing the regulatory framework for the sector; (vi) building an effective health information system; (vii) strengthening human resources for health (HRH); (viii) enhancing the “essential public health equalization” program, which subsidizes public health services; (ix) promoting the health care industry (private sector); and lastly, and perhaps most importantly (x) strengthening the leadership and stewardship for the implementation of the comprehensive reforms.

16. ***The responsibility for translating the national/provincial vision into action plans rests with the provinces***. The GoC’s 13th Five Year Health Reform Plan provides an overall vision for the sector, but does not prescribe the specific details of the provincial health reform plans, nor does it specify a budgetary/financing plan to support the reform. But the central government does subsidize the implementation of key reform elements through central budgetary transfers to provinces, e.g., for the essential public health package, social health insurance, standardized GP and resident training, and public hospital reform. Based on the central policy vision, and leveraging the central and provincial resources, the provinces are tasked with putting in place plans and budgets to implement the health reforms. The specific resources targeted by the national and provincial governments to implementing this vision serve to further orient and leverage the bulk of health expenditures prioritized at the sub-provincial level, including municipal and county governments. Policy and oversight activities financed at the provincial level, along with various specific transfers to the subprovincial level are therefore integral to realizing the action plans.

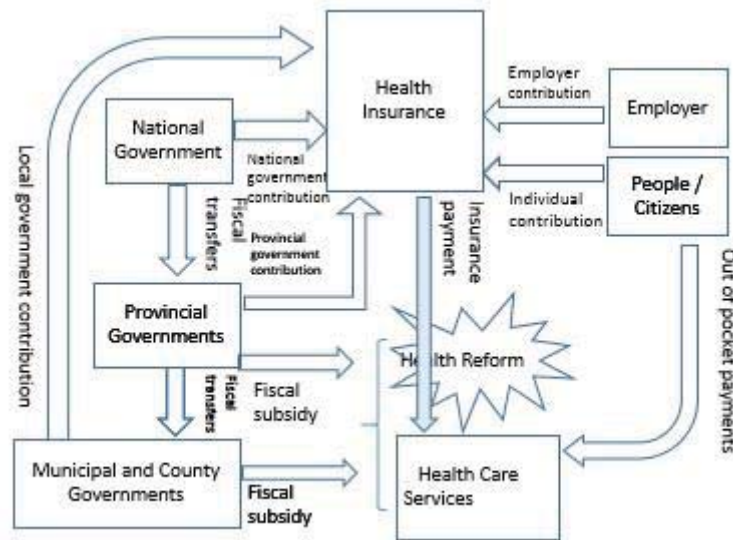
17. ***Adhering closely to the national reform template, Anhui and Fujian provinces have laid out coordinated health reforms for the 2016-2020 13th Five-Year Plan period*** in their respective health sector reform Masterplans, focusing on their respective provincial contexts. In both the provincial Masterplans, the 10 national level reform areas have been consolidated into five reform priorities, namely (i) comprehensive public hospital reform; (ii) building an effective tiered care health system; (iii) addressing the enabling environment, which includes cross-cutting areas applicable to both hospitals and tiered care; (iv) enhancing the regulatory framework for the sector; and (v) promoting the private health industry. The World Bank proposes to support the first three reform priorities of the provincial Masterplans. The reform priorities related to enhancing the overall regulatory framework for the sector, and promoting the private health care industry, are beyond the scope of the PforR, and are also not currently financed under the provincial government budgets. Furthermore, the architecture for public-private collaboration in China is still being discussed and debated. The non-inclusion of these areas in the PforR, therefore, do not have a direct bearing on the achievement of results under the first three reform priorities.

18. ***The health systems in the two provinces include ongoing programs and proposed health reform interventions financed from various sources***. Revenues from various financing sources “cascade” down the different levels of government (national, provincial, district, commune, and ultimately frontline hospital or clinic), and include a range of general and specific/earmarked expenditure lines. For the case of health insurance schemes, financing from the government at various levels, from employers and citizens are pooled. A major intervention is therefore to consolidate the various insurance schemes, and reform provider payments, so as to better incentivize the achievement of the health reform goals. The central contributions to the health sector include direct budgetary transfers to the provinces, as well as contributions to the urban and rural health insurance programs. These include general and earmarked transfers, depending on the specific scheme and flow of funds. These transfers from the

central and provincial level for the two provinces totaled an estimated RMB 35.1 billion (US\$5.1 billion) in 2015. Overall health spending, including social insurance expenditures, by all levels of government, totaled RMB 83.94 billion (US\$12.2 billion) in 2015 in Anhui and Fujian. An estimated 60 percent of these expenditures can be attributed to Anhui, while expenditures in Fujian make up the other 40 percent. Facilities serve as the main delivery points, financing flows from the various levels of government, coupled with their own revenues (including health insurance payments and Out-of-Pocket (OOP) payments), support the operations of the health care system (Figure 1).



**Figure 1: Financing of the Provincial Level Health System**



19. *Part of the central and provincial government financing for health is closely associated with the healthcare reform program outlined in the provincial health sector reform Masterplans.* Given the strategic role played by the central, and particularly provincial, levels of government in steering and supporting province-wide health reforms, the PforR focuses on those contributions by the central and provincial level that serve to finance the healthcare reform initiatives. These include financing for policy reforms, capacity building, and some strategic infrastructure such as IT systems and facility (see details on para 18). While expenditures by the sub-provincial levels of government also contribute to the health reform program, these expenditures are not included in the financial boundary of this PforR due to practical reasons (Figure 2). In 2015, baseline expenditures for the ongoing health reform program, defined in this manner, amounted to US\$828 million, which are projected to total over US\$4 billion over the four-year implementation period of the PforR. As defined, the overall value of the PforR supported government health care program is thus well beyond the operation's financing contribution.

**Figure 2: Financing of Provincial Health Services including World Bank PforR Support**

Health Insurance Funds	Central Government	PforR Financing
	Provincial Government	
	Municipal and County Governments	
Out of Pocket Payments		

## B. Program Development Objective (PDO) and key results

20. **The Program Development Objective (PDO)** of the proposed China Health Reform Program-for-Results (henceforth referred to as the “PforR”) is to improve the quality of healthcare services and the efficiency of the healthcare delivery systems in Anhui and Fujian provinces. The PforR will be implemented across both provinces in urban and rural areas<sup>6</sup>.

21. **The eight Disbursement-Linked Indicators (DLIs)**, along with the monitoring indicators, focus on measurable and achievable improvements in the efficiency and quality of health care services (PforR outcomes) supported by the PforR in the two provinces. These DLIs are expected to translate ultimately into better health outcomes and an improved quality of life for patients, reduced out-of-pocket expenditures and improved patient satisfaction with the services being delivered at all levels of the health care systems. The results framework (Annex 2) explains how the PforR supported reforms are expected to translate into the desired results across the three result areas and the rationale for the selection of the eight DLIs and the monitoring indicators.

22. **The key (PDO level) results indicators of the PforR are summarized below.** The first two assess progress on public hospital reform (Result Area 1), and the other two measure progress on PCIC and the delivery of primary care services (Result Area 2). There are no PDO level indicators for Result Area 3, which relates to the cross-cutting dimensions of the reform relevant to both hospital reform and PCIC; the DLIs for Result Area 3 are intermediate indicators.

23. **Result Area 1:** Reforming public hospitals with the aim of improving the quality and efficiency of hospitals services.

- (i) Proportion of discharged patients for whom county-level public general hospitals and Traditional Chinese Medicine (TCM) hospitals are paid through case-based payment;
- (ii) Proportion of inpatients to be treated through the use of standardized clinical pathways at county level public general hospitals.<sup>7</sup>

24. **Result Area 2:** Establishing effective and accountable PCIC based service delivery system with strengthened primary healthcare services.

- (i) Proportion of outpatient care<sup>8</sup> delivered by primary care facilities; and
- (ii) Number of prefectures that manage Type II diabetes patients using the integrated NCD service package.<sup>9</sup>

25. **PforR beneficiaries.** The most important beneficiaries of the reform are the citizens of the two provinces, who will receive better care at lower costs. Other key beneficiaries, who will benefit from the improved efficiency and quality of healthcare services include national level stakeholders, such as the Health and Finance Ministries; provincial health ministries; hospital managers and staff; and

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<sup>6</sup> The PforR will not be implemented in Xiamen.

<sup>7</sup> Traditional Chinese Medicine (TCM) Hospitals are not included.

<sup>8</sup> Outpatient care includes outpatient visits, emergency services, home visits, physical checkups and health consultations provided by primary health care facilities.

<sup>9</sup> Threshold value for a prefecture to qualify as using the integrated service package is 25% of total Type II diabetes patients managed.

doctors, as well as other health allied professionals. Virtually all the beneficiaries are expected to benefit from the success of the PforR, and the PforR already has strong political commitment and support from the national government.

### C. PforR Scope

**26.Scope:** The PforR will support over a five-year period (2017-2021), a subset of the Anhui and Fujian<sup>10</sup> Governments' health reform Masterplans across the two provinces in both urban and rural areas. The provincial governments' Masterplans cover a timespan from 2016 to 2020. The PforR, which is expected to become effective in August 2017, will support the reform implementation across the years 2017 to 2020, and will focus on knowledge generation, the dissemination of lessons learned, and evaluation in 2021.

**27.PforR Expenditure Boundaries:** The expenditure boundaries with respect to the Masterplans are defined as core expenditures by the Anhui & Fujian Provincial Health and Family Planning Commissions (APHFPC/FPHFPC) for capacity building and reform management, as well as key capital outlays for physical and IT infrastructure. The PforR will include only those expenditures traced to the central and provincial levels that finance the policy reforms and strengthen the health delivery systems (See Annex 4). Thus, health insurance fund flows are not included in the PforR expenditure framework, since – while they are critical for incentivizing provider behavior - they do not finance the health reforms per se. The management expenditures on health insurance schemes, however, are included since these expenditures finance the policy reforms associated with provider payments through the health insurance schemes. Drug procurement expenditures are not included, although the compensation paid by the government to hospitals for the revenues foregone due to the implementation of the zero mark-up policy is included. Financing the upgrading, rehabilitation and/or new construction of healthcare facilities at the county level, township and village levels is also included to achieve the health reforms results. (See Annex 4).

**28.The total IBRD loan for the PforR is US\$600 million, which is 15 percent of total estimated government health reform expenditure plan** (See Table 1). Of the US\$600 million, US\$593.5 million will be disbursed against the DLIs under the responsibility of the two provinces, and US\$5 million will be disbursed against a DLI under the responsibility of the National Health and Family Planning Commission (NHFPC).

**Table 1: PforR Financing**

Source	Amount (US\$ million)	% of Total
Government	3,466	85
IBRD/IDA	600	15
<b>Total PforR Financing</b>	<b>4,066</b>	<b>100</b>

**29.In implementing the PforR, a “scaling-up” approach will be pursued.** As noted, China has a good track record of implementing innovative reform pilots at county or prefecture level. The central government and the two provinces have now committed to scaling-up the successful pilots. The

<sup>10</sup> Excluding Xiamen.

proposed operation will therefore leverage the lessons learned from Sanming and Anhui reform pilots, as well as from international experience - including on PCIC model, the reform implementation pathways, the sequencing of actions, and the institutional and financing milieu – in incentivizing the government’s plan to scale-up these successful piloted initiatives across the two provinces. In support of the central government’s determination to scale-up province-wide the successful pilots in Anhui and Fujian, the PforR will finance the results achieved under the three successful pilots (i.e. the Sanming hospital reform, Fujian’s integration of the management of the health insurance programs, and Anhui’s IDS initiative) upfront in Anhui through DLI 1.1 (US\$15 million) and in Fujian through DLI 1.2 (US\$40 million), upon Program effectiveness.

**30. Result Areas:** The proposed PforR includes three result areas – public hospital reform, PCIC, and cross-cutting dimensions – that are derived from the first three priority areas of the provincial Masterplans. The separation of hospitals and PCIC into two result areas is somewhat synthetic, given that hospitals and PCIC represent a continuum and both are integral to health service delivery. The government, however, has expressed a strong preference for separating out these two levels (as underscored in the national reform strategy and in the provincial Masterplans), in order to highlight the experience of, and the specific interventions that characterize, the Sanming public hospital reform, and Anhui’s IDS pilot. It should be emphasized that the PforR will ensure that issues relevant to governance, financing, IT system and service delivery in these two result areas are addressed in a coordinated manner, thereby leveraging fully the inter-connectedness of the health system and maximizing the impact of the proposed health reforms.

**31. Result Area 1: Public hospital reform.** This result area draws on the reform model in the Sanming prefecture and elsewhere to deepen and mainstream the comprehensive public hospital reforms. The goal of this result area is to support the government’s efforts to improve the quality and efficiency of hospital services in Anhui and Fujian, and thereby contribute to reigning in the fast growth in health expenditures and improve both patient outcomes and satisfaction.

**32. The public hospital reform actions to be supported under the PforR include:** (i) improving the governance and management of public hospitals; (ii) policy and institutional interventions to help control the growth of health expenditures, to which hospitals contribute very significantly; (iii) strengthening quality assurance in the delivery of hospital services; and (iv) institutionalizing an effective hospital monitoring and evaluation (M&E) system that is integrated with the broader Health Management Information System (HMIS). These policy reforms will be supplemented with investments in infrastructure and equipment in the concerned hospitals.

**33.** Improving the hospital governance and management will entail a set of three intertwined interventions. First, empowered local leadership committees (Public Hospital Management Committee), consisting of the relevant government department, and chaired by a senior government official at the county/prefecture level (i.e., vice-mayor and mayor, respectively) will be formed to oversee the reform of the public hospitals and ensure coordination among the various departments. Secondly, hospital autonomy will be expanded by giving hospital directors decision rights over the use of savings from prospective payment methods, as well as over the employment/retention decisions of both tenured and contracted staff. Thirdly, accountability will be strengthened by introducing performance based compensation systems for hospital directors and hospital healthcare professionals, and putting in place systems to monitor drug prescriptions in order to reduce inefficiencies/waste in the drug distribution system, reduce drug prices, and curb the over-prescription of drugs.

34. Controlling expenditure growth at hospital level, and balancing drug, diagnostics and service pricing, will entail a combination of multiple interventions, i.e., public disclosure of the results of the hospital procurement to reduce waste and inefficiencies; an expanded use of generics; implementation of Essential Drugs Lists (EDLs) and drug formularies<sup>11</sup>; use of the “two invoice”<sup>13</sup> system for procurement; implementation of the “zero mark-up” policy for drugs, adjustment of the official fee schedules to increase labor based service pricing; ensuring that health services are provided at appropriate levels of facilities and priced accordingly (e.g., an uncomplicated appendectomy should ideally be handled at a county level facility, where it is less costly to provide, than at a tertiary hospital); and the introduction of prospective payment systems that are consistent with international standards.

35. Interventions to strengthen hospital Quality Assurance (QA) will include the development of standardized clinical protocols/pathways for providers at different levels and applied systematically across Anhui and Fujian; introduction of additional policies to promote the rational use of pharmaceuticals and diagnostics (e.g., adherence to Essential Drug Lists and treatment protocols, diagnostic testing and prescription audits and the publication of the audit results); and promoting the disclosure of hospital performance indicators (e.g. drug revenues vs. total revenues, costs of outpatient services and patient satisfaction assessments) in the public interest and to promote patient engagement.

36. And, finally, provinces will strengthen hospital performance management and monitoring systems, with the electronic management of patient records (EMR) as the core, and including the use of telemedicine/e-medicine to facilitate early diagnosis and treatment; establishing population health information platforms; and fostering the integration of the hospital information systems with the overall HMIS for service and health reform monitoring. This intervention will require investments in IT infrastructure, equipment and personnel, as well as developing and adopting interoperability standards. Details on the health information systems, which are central to both public hospital reform and PCIC, are provided in Result Area 3.

**37. *Financing for these reforms includes a combination of transfers from the central government as well as provincial budgetary contributions.*** For example, the central government currently transfers to the provincial budgets an annual earmarked fund of RMB 3 million for each county in Anhui and Fujian (i.e., a total of RMB 165 million in Anhui and RMB 174 million in Fujian) for implementing the reform of the county public hospitals. These funds can be used to finance the hospital reform program. Implementation of the above interventions will require investments in key areas of infrastructure development. To achieve this goal, Anhui province allocated RMB 510, 251 and 528 million in the provincial budgets for 2014, 2015 and 2016, respectively, and intends to continue making investments over the life of the 13th Five-Year Plan. Fujian has similar plans to upgrade the infrastructure of 68 county-level general hospitals in the course of the 13th Plan.

**38. Result Area 2: Establishing an efficient, high quality and accountable PCIC based service delivery system, with strengthened primary health care and greater integration between the various levels of the healthcare network.** The goal of this result area is to support the government’s efforts to build an effective tiered service delivery system in order to be able to, *inter alia*, address the challenges of an ageing population and the rising prevalence of NCDs.

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<sup>11</sup> A drug formulary, or preferred drug list, is a continually updated list of medications used in health facilities that is supported by current evidence-based medicine, and the judgment of physicians, pharmacists and other experts in the



diagnosis and treatment of disease and preservation of health. The primary purpose of the formulary is to encourage the use of safe, effective and most affordable medications.

<sup>13</sup> The two invoice system is an initiative that allows hospitals a maximum of two invoices, the firsts between the pharmaceutical manufacturer and the supplier and the second between the supplier and the hospital in purchasing pharmaceuticals. This initiative thus cuts down the numbers of middlemen involved in the drug supply chain, and eliminates unnecessary drug price markups, thereby making the drugs cheaper for the hospitals and more affordable for patients (since no drug markups are allowed for hospitals under the government's no drug price markup policy).

**39. PCIC is a term used to refer to the World Health Organization's (WHO) global strategy of People-Centered and Integrated Health Services** (WHO, 2015, a, b). The PCIC model has the following strategic directions: (i) reorienting the service delivery model to strengthen primary health care and change the current roles of hospitals; (ii) integrating providers across care levels and among types of services to provide the coordinated care covering the whole life span; (iii) continuously improving the quality of care; and (iv) engaging people to make better decisions about their health and health seeking behaviors. The bedrock of a high-performing PCIC model is a strong primary care system that is integrated with secondary and tertiary care, and with active engagement of patients in their care. It utilizes multidisciplinary teams of providers that track patients with eHealth tools, measures outcomes over the continuum of care and focus on providing quality and effective disease management for NCDs. The key objectives for results of this result area are to strengthen primary care, shift the service utilization and NCD management to primary care settings, provide integrated/coordinated care, and enhance the quality and effectiveness of NCD management and treatment.

**40. The reform actions to be supported under the PforR (see details in Annex 4 and Technical Assessment report), which will be catalyzed by a combination of incentives to be provided through revamped provider payment mechanisms and improved governance, monitoring and regulation of the PCIC system, include:** (i) strengthening primary care service capacity; (ii) transforming service delivery, including institutional and organizational reforms, in order to strengthen integrated service provision for NCDs; (iii) enhancing quality through adoption and improvements of evidence based clinical pathways, clinical protocols, continuous quality improvement in health facilities, and quality monitoring and public disclosure by health administration and/or health insurers; (iv) introducing prospective provider payment schemes to incentivize the provision of integrated NCD management; and (v) establishing an enabling environment for PCIC through policy reforms and enhanced HMIS, the details of which are described in Result Area 3.

41. Strengthening primary care capacity will focus on a standardized upgrading and expansion of health facilities at county (districts in urban areas) level and below; procurement of basic equipment, portable devices, innovative new technologies and telemedicine to support the new service delivery model; training of the health workforce, including GPs, residents, nurses, community health workers; upgrading or new construction of health professional training centers that are compliant with national standards; enhancing the staffing of the primary care facility for delivery of PCIC services; and promoting application of proper treatment techniques at primary care level. Both Fujian and Anhui will establish/upgrade their telemedicine systems to link primary health care facilities with hospitals at the higher level.

42. Transforming service delivery to strengthen the integrated service provision for NCDs will include activities aimed at: (i) Organizing the integrated care among different levels of providers, including redefining and assigning the responsibility and tasks of each, setting up service alliances with the participation and technical leadership of tertiary hospitals, and establishing corresponding incentives to encourage vertical collaboration. For example, Anhui is well-advanced in establishing service delivery alliances for certain conditions/specialties, linking the province, prefectures and counties/districts, e.g.

for diabetes, hypertension, pediatrics; (ii) Automation of the NCD risk stratification and defining the tailored health/disease management package for various risk groups; (iii) Strengthening the empanelment mechanisms of GP-centered multi-disciplinary teams at PHC level based on tailored service packages, thus transforming the service model of primary care; (iv) Development of integrated NCD management pathways covering prevention, medical treatment, rehabilitation, self-management supports and follow-up to guide providers at different levels for NCD management and treatment; and (v) Establishing public participation mechanisms in health/disease management programs, making them responsible for their own health.

**43. *Funds have been provided by the Government of China to finance public health within primary health care through the Essential Public Health Equalization Program.*** The program was initiated in 2009, with an investment of RMB 15 per capita to provide basic primary health care to all citizens. The funding is co-financed by governments at lower levels. The total allocations have been increasing steadily every year, and reached RMB 45 per capita in 2016. The subsidy is expected to increase further to RMB 50 per capita in 2017. In Anhui, the provision for public health programs in 2015 was RMB 2.42 billion with RMB 1.86 billion coming from central government transfers and RMB 549 million from the provincial budget. Similarly, Fujian allocated RMB 1.15 billion in its 2015 budget for primary care through a combination of central and provincial resources.

**44. *Social health insurance is another financial source for integrated service delivery.*** Both Anhui and Fujian have allocated funding through government budget to finance the administrative/management costs for the three basic health insurances. These allocations, which fall within the PforR's boundaries (even though the health insurance expenditures themselves do not) are intended to incentivize the health insurance schemes to implement the proposed reform of provider payment systems. Financial incentives offered by payers to health care providers are a key instrument to shift the incentives from a focus on disease treatment to the promotion and prevention activities and effective disease management through integrated care. Provider payment reforms to be supported by the PforR, such as introducing prospective payments (such as using capitation payments in service alliances, as piloted in Anhui's Tianchang county, rather than fee-for-service payments), will be a key intervention to incentivize providers to deliver integrated care and enforce compliance on clinical guidelines through their service contracts. Furthermore, along with the increasing contributions to social health insurance, the insurance coverage will need to expand to cover outpatient services, so as to provide incentives for utilizing primary health care. The coverage for outpatient services within the urban and rural health insurance schemes is shallow, as the health insurance was established initially to provide financial protection only for inpatient services, which are considered as the main contributors to catastrophic health expenditures that led to impoverishment.

**45. *Enhancing service quality is an important aspect of the reform,*** which requires enhanced attention and actions. This will be achieved through the adoption, further refinement, and use of evidence-based clinical pathways and clinical protocols as initiated in Fujian and Anhui; continuous quality improvement in health facilities; and quality monitoring and public disclosure of quality data by the health administrators and/or health insurers as initiated in Anhui. As noted, the HMIS system will be critical for the integration and coordination of health services.

**46. Result Area 3: Addressing the cross-cutting dimensions of the policy, institutional and financial environment, as well as program stewardship and institutional capacities, for the health reform.** The goal of this result area is to support the government in strengthening key cross cutting systems that represent the foundations on which the proposed public hospital reform and PCIC are premised.

**47. The reform actions to be supported by the PforR in this result area include:** (i) institutional arrangements needed to provide overall governance and stewardship to the health reform; (ii) strengthening comprehensive management and information systems, including information technology (ICT) for the various levels of service delivery and reform; (iii) training for health providers and para-professionals to improve the delivery of both hospital and PCIC services; and (iv) strengthening program stewardship at the central level, including building implementation capacity in the two provinces.

**48. Stewardship:** Dispersed oversight at the provincial and local levels, and institutional fragmentation both horizontally and vertically, are identified as a key weakness in the health governance structure by the flagship *Joint Health Study*. The dispersed oversight is due to the large array of institutions involved, the low priority attributed to health reform at the local level, and the fact the incentives faced by local officials to plan and implement health reforms are generally weak when compared to incentives to promote economic growth and development. The PforR will therefore support activities that help the central and provincial governments consolidate and strengthen the oversight of the reform PforR and introduce systems to actively monitor and validate implementation progress from a broader systems perspective. These include initiatives such as the establishment of Leading Groups at central and provincial levels and integration of the management of the three health insurance schemes. In the context of Anhui and Fujian, reforming the health financing system will include integration of the urban employee and resident (UEBMI and URBMI) and rural (NCMS) health insurance programs, starting with the integration of their management (which has been undertaken in Fujian); reform of the provider payment systems, so as to move systematically to prospective payment systems that support hospital reform and PCIC; and expansion of the health insurance package to include coverage for prevention and outpatient services.

**49. Health Information & Communication Technology:** The PforR will also support the national and provincial plans for establishing comprehensive HMIS to support effective management and M&E for the two provinces. A robust HMIS system has been identified by all levels as a critical supporting foundation for health reform, and is considered as one of the priorities of the reform. The NHFPC has issued the template for the redesigned HMIS system in China, through what is known as the ‘46312 program’. In this program, ‘4’ represents the establishment of population health portals at four levels, including national, provincial, prefectural and county levels; ‘6’ represents the six major health system functions, namely public health, medical services, health insurance, pharmaceuticals management, family planning, and administration; ‘3’ represents the three databases, namely Electronic Health Records (EHR) for citizens, EMR for patients, and a national population demographic information database; ‘1’ represents one network, which embraces these elements; and ‘2’ represents the unified package of data standards, and the information safety protection system. In addition, financial data will also be collected, and linked to insurance claims data obtained from the health insurance schemes.

**50.** In compliance with this national template, both Anhui and Fujian have formulated specific provincial plans to build a robust health information technology system across the entirety of each province. Despite differences in the HMIS plans in the two provinces, which are premised on their specific needs and different contexts, the core HMIS related actions identified in both Fujian and Anhui are: (i) A population health portal and disease management system to support NCD management; (ii) Information systems for service providers, including hospital information management systems, EMR, electronic imaging systems, pharmacy management system, IT based standardized clinical pathways, as well as an expanded telemedicine network to support integrated care and the IDS network; and (iii) Strengthened quality assurance and monitoring systems for health administration and for health insurance. Among these priorities, Anhui will first step up its efforts to build county-township-village



population health information system with inter-connectivity. Fujian will upgrade and expand its telemedicine network, consisting at least two of five key functions, namely long-distance medical imaging, long-distance cardiac diagnosis, long-distance lab-tests reporting, EMR and dual-referral.

**51. *Human Resources for Health (HRH) Reform and Training:*** HRH is a key component of health systems, and plays a central role in delivering quality care at affordable prices to the population. Issues related to human resources policies, compensation and a shortage of qualified health professionals at lower levels have been identified as critical bottlenecks for health reform, especially for enhancing primary health care. Specific provincial reforms that the PforR will support, therefore include: (i) reform of the HRH policy to grant more mobility to health professionals; (ii) complete implementation of a standardized resident and GP training program; (iii) increase in the supply of GPs in primary care settings; (iv) strengthened capacity of village doctors; and (v) increased supply/training of medical professionals that are in great shortage, such as pediatricians, midwives, and assistant physicians.

**52. *Central Level Support for PforR Implementation:*** The PforR will support the State Council Healthcare Reform Office's (SCHRO) role as the steward of the sectoral reforms. The SCHRO is expected to support institutional capacity building at the provincial and local levels. The SCHRO is also expected to contribute to the achievement of the PDO of the PforR through implementation-oriented guidance, technical assistance provided by national experts, introduction of systems for monitoring and validating progress, and assessing implementation from a "big picture" and system perspective. Finally, the SCHRO is expected to support the provinces in their efforts to foster knowledge generation and sharing (through learning networks based on the Transformational Learning Collaboratives (TLC) model, a knowledge-learning platform, and two-way international knowledge sharing/dissemination) in the process of scaling up reforms. The TLC approach to collaborative learning has been demonstrated to improve health outcomes and the quality of healthcare services with lower costs and provides greater convenience than is possible by traditional means of communication.

**53.** In summary, across the three Reform Areas, the Health PforR will cover the following five categories of government program interventions:

- (i) Comprehensive policy reforms, including medical services pricing, health insurance and provider payment, health care providers' governance and management, service delivery, the drug logistics system, HRH, quality assurance, which will require resources to leverage and implement in an evidence based manner. These will entail the government mobilizing technical expertise to develop policy packages, technical guidelines and action plans, organize relevant training and workshops, and ensure effective implementation, monitoring and supervision of the PforR. Most of the policy reforms are currently being financed by the budget of government agencies. Accordingly, the government plans to increase its current budgetary allocations to support the policy reform.
- (ii) Strengthening service delivery capacity, with a focus on county/district level and below, including county level hospitals, rural township health centers, village clinics, urban community health centers and emergency care at county level and below. County level hospitals are considered as the rural health facilities and one of the key reform objectives is to keep the utilization of most of the services (90 percent of hospitalizations in the case of inpatient care) at the county level and below so as to reduce the overreliance on the urban tertiary hospitals. Therefore, strengthening the service capacity of county hospitals is the focus of government program. The latter includes upgrading, rehabilitation and/or new construction of healthcare facilities at the county level, township and village levels only. It also includes the procurement of appropriate, mobile and portable equipment, as well as the expansion of the telemedicine network, which the PforR will support.

- (iii) Improving the quality and efficiency of service delivery by introducing PCIC based service models, fostering the integration of providers at all levels, supporting the design of appropriate clinical norms and standards for the delivery of high quality health services, together with effective implementation of these standards; as well as changing the financial and governance incentives that providers face through reforming provider payment of health insurance and government financing to the providers.
- (iv) Establishing effective health information platforms according to the national government's overall plan with the focus on expanding telemedicine network to support integrated care; establishing population health portal and disease management system to support NCD management; strengthening quality assurance and monitoring system by health administration and health insurance; and
- (v) Enhancing human resources through intensified training programs and upgrading/new construction of training centers and medical professional training schools, such as assistant physician training centers.

#### D. Disbursement Linked Indicators and Verification

54. ***The four main criteria for defining the eight DLIs described below were that the desired results:*** (i) will improve key aspects the current government program, (ii) are within the control of the government; (iii) are achievable in the Program period; and (iv) are verifiable. The following principles were applied in formulating the specific DLIs: (i) maximizing the use of existing indicators in the government's program, and prioritizing the use of the government's routine information system and existing reporting mechanisms in order to ensure sustainability; (ii) ensuring that the DLIs correspond to the key priorities in the result areas, especially the major bottlenecks along the results chain, and provide the incentives for removing them; (iii) balancing ambition ("stretch") and feasibility ("realism"); and (iv) facilitating scaling up of successful pilot reform initiatives. The use of such DLIs is expected to sharpen the focus of stakeholders on the critical results under the PforR.
55. ***The Center for Health Statistics and Information (CHSI) is proposed for the verification of all the DLIs,*** with the exception of DLI 8 (that is related to the technical and knowledge support to be provided to the provinces by the central government). DLI 8 will be verified by a separate third-party agency to be hired by the NHFPC. Due diligence was carried by the World Bank team as part of the Technical Assessment to evaluate the credibility, qualifications and capacities of the CHSI. The assessment found that CHSI is an independent public institute at the central level, and is the technical lead in China on health information reporting, collection and analysis, including routine facility reporting and household surveys. It also provides technical guidance to the national health reform monitoring indicator system. It has many years of health sector experience, and a large team of professionals, with strong technical skills, who are well-equipped to undertake the verification, and compile verification reports that are acceptable to the World Bank. The quality of the outputs of CHSI has been acknowledged nationally, and the credibility of the data produced by CHSI is evidenced by the fact that it is used by SCHRO for evidence based policy making. As a central entity, CHSI works entirely independently from the two provinces whose performance it is tasked to verify, thereby assuaging any conflict of interest concerns. As part of the assessment, several alternatives were discussed with the government before deciding on CHSI, including universities, research institutions and consulting firms. The assessment concluded, however, that these institutions have neither the numbers of staff, nor the training and experience required to take on the task of verification of the PforR results in the two provinces. Furthermore, the selection of CHSI as

the verification agency would ensure the building of capacities for monitoring and evaluation within a leading national institution. It will also strengthen the sustainability of these functions within the government systems beyond the life of the PforR - a key priority of the PforR lending instrument. Overall, the assessment confirmed that CHSI has the technical qualifications and experience, as well as the financial, human and logistical capacity acceptable to the World Bank to undertake the assigned task of verification.

56. **DLI 1.1:** The IDS system has been scaled up to at least 50 counties/districts in Anhui.

**DLI 1.2:** The integration of the management of the three health insurance schemes at the provincial level in Fujian is undertaken.

*Description:* The NHFPC has recently identified three successful pilots, two in Fujian (viz. the Sanming hospital reform, and the integration of health insurance management) and one in Anhui (the IDS pilot), that it has decided to scale up as part of the PforR.

*Measurement and verification:* The scale-up of the pilot IDS system to at least 50 counties/districts in Anhui and the integration of the three HI schemes at the provincial level in Fujian will be reported by the provinces, and verified by the CHSI based on documentation provided by the provinces, and field visits, as necessary. These “prior results” have met the World Bank’s criterion that such actions should have been undertaken after the PforR Concept Note review, which is May 5<sup>th</sup>, 2016. Disbursements will be made after verification, once the PforR becomes effective, following the DLI verification protocol and disbursement procedures.

*Theory of change:* Providing funding upfront to the two provinces is intended to incentivize the provinces to seek such out-of-the-box solutions.

57. **DLI 2:** Proportion of discharged patients for whom county-level public general hospitals and Traditional Chinese Medicine (TCM) hospitals are paid through case-based payment.

*Description:* This is to measure the progress of moving from fee-for service to prospective provider payment (case-based payment) at county level public hospitals (which includes public general hospitals and TCM hospitals) in the two provinces.

*Measurement and verification:* Progress is measured by the number of discharged patients for whom county level general and TCM hospitals are paid through case-based payment (numerator) of the total number of discharged patients covered by one of the three health insurance schemes (denominator). The verification will be done by CHSI, which will review the data generated by hospitals and the health insurance schemes. The verification will include visiting a sample of randomly selected facilities for on-site checks.

*Theory of change:* Changing the underlying financial incentives for health care providers from fee-for-service (FFS) payments to prospective payments has been shown in the literature and in applications world-wide to be one of the most significant instruments for positively influencing health care provider behavior.

58. **DLI 3:** Proportion of inpatients to be treated through the use of standardized clinical pathways at county level public hospitals.

*Description:* The total number of inpatients treated through the use of standardized clinical pathways in all county level public general hospitals (TCM hospitals are not included) in the two provinces out of the total number of inpatients treated at these hospitals.

*Measurement and verification:* Progress is measured based on the number of patients that are treated through the use of *standardized* clinical pathways (numerator) of the total number of patients that used

inpatient services. Data sources include routine administrative data reported by health facilities through the national M&E system, which will be verified by CHSI by visiting randomly selected facilities for on-site checks and undertaking chart reviews and audits of a sample of medical records. *Theory of change:* Appropriate use of standardized clinical pathways has been shown to improve the diagnosis, prescription and treatment of health conditions by providers, thereby improving the quality of health services provided, and leading to better patient outcomes and efficient use of resources.

59. **DLI 4:** Proportion of outpatient care delivered by primary care facilities.

*Description:* The total number of outpatient services, emergency services, home visits, physical checkups and health consultations provided at primary care facilities out of the total number of such services across all the levels of health care delivery.

*Measurement and verification:* Progress is measured based on total outpatient services (incl. outpatient visits, emergency care, home visits, physical checkups and consultations) delivered by primary care facilities (numerator) out of the total outpatient visits in a province (denominator). It will be assessed using administrative data, which is regularly reported by health facilities through internet based reporting system, and verified by CHSI by visiting randomly selected facilities for onsite checks.

*Theory of change:* Delivery of these services at primary care facilities are expected to lower the cost of these services and improve the efficiency of service delivery.

60. **DLI 5:** Number of prefectures that manage Type II diabetes patients using the integrated NCD service package (Threshold value for a prefecture to qualify as using the integrated service package is 25% of total Type II diabetes patients managed).

*Description:* The qualified prefecture must ensure that at least 25 percent of the identified Type II diabetes patients in the prefecture are managed using the integrated NCD service package. Integrated management of NCDs would entail the following key elements: community risk stratification for NCDs conducted by primary health service providers, and the tailored health/disease management packages for various risk groups. The GP-centered multi-disciplinary team at PHC level will sign the service agreement with residents based on the tailored service packages, and will provide disease management based on defined disease management pathways. *Measurement and verification:* The yearly results measured are cumulative. As the existing system cannot provide this data directly, the prefectural HFPCs will collect the following data from the Township Health Centers/Community Health Centers (THCs/CHCs in their catchment area and submit them to the provincial HFPCs: (i) the number of Type II diabetes patients in their catchment area; and (ii) among the Type II diabetes patients, the number managed under the integrated NCD service package. The provincial HFPCs will be responsible for the validation of the data, as well as the aggregation of indicators. CHSI will do the final verification by conducting on-site visits of randomly selected THCs/CHCs. The activities include validating data sources, and reviewing the tailored health/disease management packages, service agreements, and service records for a randomly selected sample including tracing down the patients for call interview.

*Theory of change:* Integrated service delivery has proven to be a very effective way of managing NCDs, such as Type II diabetes.

61. **DLIs 6 and 7:** Number of counties/districts that have set up a county-township-village population health information system [Anhui]; Number of THCs/CHCs that have established primary care health information systems [Fujian].

*Description:* These two DLIs aim to incentivize the building of the essential health information systems in the two provinces to support the major reforms.

*Measurement and verification:* The yearly results measured are cumulative. As the information is not collected routinely, the provincial units of HFPCs will be responsible for collecting and validating the data, while CHSI will be responsible for final verification based on visits to randomly selected facilities and documentary evidence.

*Theory of Change:* Population focused health information systems have been shown to facilitate patient participation in healthcare services, foster accountability, and improve efficiency and quality in health service delivery.

62. **DLI 8:** Program experience sharing and dissemination.

*Description:* The central government (NHFPC) will support the provinces in Program coordination, technical assistance and capacity building, implementation support; knowledge generation and sharing, and the dissemination of lessons/experiences.

*Measurement and verification:* The establishment of the knowledge sharing and learning platforms and the technical assistance/capacity building activities will be self-reported. Although the activities are observable, they still will be verified/confirmed by the independent third party agency (which will be independent of the Commission and is not CHSI), based on documentary evidence and field visits, as necessary.

*Theory of Change:* Support provided by the central government to the two provinces in Program implementation, and in knowledge generation/sharing, is critical for effective change management, and the ultimate scale-up of the reforms at the national level.

E. Capacity Building and Institutional Strengthening

63. The Chinese government, and the two provincial governments in particular, have demonstrated strong political commitment towards implementing health reforms and scaling up the successful pilots. As these reforms enter a "deep water" stage, with the goal of addressing some of the most difficult and deep rooted challenges in the health sector in a comprehensive and precise manner, a strong institutional framework and in-depth technical capacity will be required to ensure evidence based policy making, coordination and enforcement of policies, building of adequate technical capacity, a robust M&E system, and the effective change management through mutual learning and implementation support.

64. Gaps in these critical areas have, however, been identified in the assessments. For example, the reforms aim to improve service quality through the adoption of clinical pathways and treatment protocols. The provincial government have encouraged the pilot hospitals to develop their own clinical pathways, but there are concerns as to whether these protocols - developed in parallel by the individual facilities - are consistent with evidence-based domestic and international best practice, and are being standardized/assessed by the national and provincial experts. Moreover, the local technical capacity is low. Provinces need support and technical guidance to develop new technical guidelines for the integrated NCD management pathways covering prevention, medical treatment, rehabilitation, self-management supports and follow-up. Regarding the M&E system, while China has a well institutionalized data collection and reporting system, there are questions regarding the standardization of the measurement of the indicators among different facilities; it is not quite clear how the massive self-reported data is verified, and it is clear that some indicators are not robust, and may not be able to capture the results of the ever-changing health reform measures.



65. Furthermore, the challenge in this effort is not merely one of addressing capacity deficits, but also one of managing large-scale reform. This is particularly so since this is the first time that innovative health reforms are being implemented at such a large scale in China (or any other developing country). To-date, most of the successful innovations in the health sector in China were undertaken as pilots involving a county or a prefecture. The PforR is also expected to have large demonstration effects, both within China and regionally/globally, with considerable knowledge/learning payoffs.

66. The complexity and novelty of the proposed PforR, the large-scale change management involved, and the fact that it leverages international best practice, requires the World Bank team to mobilize expertise throughout Program implementation, as is expected under the PforR approach. On domestic technical assistance, the Program is supporting several vital initiatives. For example, local expertise - in the form of central and provincial expert panels for health reform- will be leveraged in supporting the implementation of the Program by the two provinces. The capacity of the verification agency is being strengthened so that it can carry out this monitoring/verification function even after World Bank support for the Program is no longer available. Heavy emphasis is being placed on the continuous mutual learning and knowledge transfer, through the establishment of learning platforms that draw from the concept of Transformational Learning Collaboratives, as well as national and international learning events. The Program is also supporting significant government investments in capacity building in both provinces across all three result areas.

67. In addition, the World Bank team plans to tailor implementation support to address the capacity issues identified in the technical, fiduciary and environmental and social system assessments (ESSA). From the technical perspective, the World Bank team will bring international and domestic expertise in the following specific areas:

- (i) Engagement with the government on the technical design, assessment, standardization and implementation of provider payment reform, PCIC, integrated management pathway for NCDs, clinical treatment protocols, clinical pathways and corresponding training programs.
- (ii) Support in the strengthening of government monitoring and evaluation system to enhance the capacity of central and provincial government, as well as health facilities, to monitor the health system performance and reform progress. Particular emphasis will be placed on the Program result areas, monitoring compliance with legal agreements, ensuring that the massive self-reported data is verified properly, and that the results of the constantly changing reform measures are captured effectively.
- (iii) Support in setting up the learning network and implementation support platform, such as TLCs, to encourage mutual learning and knowledge sharing in reform scaling up, to support front line health professionals and reform implementers in delivering the reforms and to facilitate reform dissemination domestically and internationally.

68. The World Bank will also provide technical advice in the implementation of the Program Action Plan (PAP), as well as in the mitigation of other social, fiduciary or governance-related bottlenecks relevant to the PforR. The major capacity weaknesses identified relate to adopting GoC's institutional reporting to address PforR financial reporting; the preparation of PforR financial statement audits; compliance with the World Bank's anticorruption guidelines within the expenditure boundary of this PforR; enforcement of the regulations relevant to environment, health and safety management in the two provinces, particularly on the disposal of medical waste and the mitigation of radiation risks. Capacity building on environmental issues will focus in particular on lower level health facilities, in addition to ensuring that there is a systemic approach to the enforcement of environment related measures at the prefecture level. The World Bank's fiduciary, social and environment, as well as

governance teams - working closely with the technical team - will provide continuous implementation support to strengthen the capacity of provinces in these areas.

### III. PROGRAM IMPLEMENTATION

#### A. Institutional and Implementation Arrangements

69. There is strong commitment and acceptable capacity to implement the proposed PforR in both provinces and at the central level.

**70. Institutional Arrangement at the Provincial Level:** The PforR covers a part of the overall provincial health reform programs. The existing structures in the provinces will, therefore, continued to be used under the PforR. In each province, there is a vertical structure for the health reforms that extends from the province to the prefectures and the counties/districts.

71. In Anhui, the Provincial Healthcare Reform Leading Group is headed by the Governor. Under the multi-agency high level leading group, there is a Healthcare Reform Leading Group Office located in the Provincial Health and Family Planning Commission, and headed by the Director General of the Commission. The responsibilities of the Office are to: (i) prepare documents and reports for the Leading Group; (ii) formulate policies and measures to deepen the reforms; (iii) draft annual, mid-term, and long term plans; (iv) coordinate among relevant agencies in drafting reform documents and implementation plans; (v) organize monitoring and evaluation activities; (vi) provide technical support and training; (vii) organize research and knowledge sharing activities; and (viii) provide secretarial service to the Leading Group.

72. In Fujian, the Provincial Healthcare Reform Leading Group headed by the Party Secretary General is the leading organization for the overall health sector reforms program. It comprises of director generals from each sector of the provincial government. There is a Healthcare Reforms Office, located under the provincial government. The Healthcare Reforms Office, and Provincial Health and Family Planning Commission are in charge of the reform activities in the province. In addition, there is a provincial Medical Security Administration, with a mandate to consolidate and manage the three medical insurance schemes.

**73. Institutional Arrangements at the Central Level:** The existing institutional arrangements and capacity at the central level were assessed as adequate to implement the proposed PforR. At the central level, the SCHRO is the leading agency for the national health reforms agenda. It provides policy guidance to all provinces in the country. For the PforR, SCHRO is the direct counterpart of the World Bank at the central level. Under the leadership of SCHRO, consisting of NDRC, MoF and NHFPC, a Central Steering Committee is established. SCHRO is empowered to make decisions for the PforR direction and will play an important role in ensuring the achievement of the PforR development objectives. The Center for Project Supervision and Management of the NHFPC (CPSM) will serve as the secretariat to the SCHRO for this PforR. The CPSM will be responsible for supporting the two provinces in the PforR implementation through technical assistance, ensuring coordination across provinces, capacity building, exchange of experiences and implementation support/guidance to the provinces. The Expert Panel at the central level will serve as a pool of technical experts to the government agencies under the national health reform program.

## B. Results Monitoring and Evaluation

**74. Existing systems will be used to monitor the Results Framework for the proposed PforR presented in Annex 2.** It is to be highlighted that Anhui (population of 69 million) and Fujian (population of 38 million) provinces represent different contexts in terms of their levels of social/economic development, fiscal capacities to guide the health reform, health sector development needs, and health reform priorities. As such, the baselines for the indicators included in the results chain are also necessarily different across the two provinces. Therefore, while the core package of interventions to support the achievement of the PDO - and the proposed DLIs (with the exception of the IT-related DLIs, the DLIs for prior results, and DLI 8) - will be the same for the two provinces, the DLI targets for each year are different for Anhui and Fujian, depending on the DLIs.

**75. Data System:** China has a well-institutionalized and internet-based national data collection and reporting system for the health sector, including routine data reporting by health facilities, specific data collection for health system reform monitoring, and national household surveys every five years. In the two provinces under the PforR, health facilities at every level are required to enter the required data and report monthly and annually using this system. Validation and aggregation of the data is the responsibility of the Provincial Information and Statistics Center and the relevant divisions in the Health and Family Planning Commission in Anhui province, and the Division of Planning and Information and the other relevant divisions in the Health and Family Planning Commission in Fujian province, respectively. The information collected by the CHSI in Beijing from this system is used to compile the National Health Statistics Report. The Report, which is published annually, is one of the major sources of information for the policy makers in the National Council for Health System Reforms. In terms of the verification of the proposed DLIs, it has been agreed with the two provinces that, as most of the DLIs are from the list of indicators monitored by the State Council for Health Reforms Office, the PforR will rely on the data collected through this system.

**76. Methodology:** The health facilities will self-report the results of the DLIs to the provinces. The provinces will be responsible for the collation and validation of all reported data following the existing procedures. Currently the provinces carry out desk reviews and rely on the system's built-in self-checking function to select the health facilities for validation. Usually, facilities that present "contradictory" data, either based on historical comparisons or relative to other facilities, would be selected for further investigation. Under the PforR, the CHSI at the central level will take the final responsibility for verification. The Center will organize a team of experts in health system reforms, hospital statistics, information technology, financial management, and human resources management to carry out the verification. The verification protocol is summarized in Annex 3. The proposed sample size is: 4 to 5 counties/districts in each province (there are 105 counties/districts in Anhui, and 85 in Fujian) and two hospitals or health facilities at each level (prefecture and district/county and township). A random selection method will be adopted. The detailed sampling plan and selection criteria will be formulated and agreed during preparation.

77. The monitoring indicators that are included in the Results framework are also derived from the database of National Health Reform Monitoring Indicators and therefore will be compiled in the same manner as the DLIs. The monitoring indicators will be assessed on a semi-annual basis, while the DLIs will be verified on an annual basis.

**78. Routine monitoring systems:** For most of the other monitoring indicators included in the Results Framework, data from the internet based reporting system will be used. The new indicators necessary to monitor the PforR will be added to the existing reporting system. Given its stewardship role, the



provincial Health and Family Planning Commissions will ultimately be responsible for monitoring progress on these indicators and for ensuring timely collection and reporting of monitoring data and provision of necessary verification documents to the World Bank.

### C. Disbursement Arrangements

**79. Disbursements will be made upon the reporting, and verification of the achievement, of the PforR's DLIs.** Baselines and targets for the DLIs are different in the two provinces, reflecting the considerable differences in population size, economic development and health governance structures. As different levels of effort are required to achieve comparable improvements, the allocations for increment in each DLI also vary across the two provinces. Disbursement arrangements include the following:

- (i) Disbursements for all DLIs will be made on an annual basis. The World Bank loan proceeds will be disbursed against achieved DLI's, and released to the bank accounts designated by two provinces and the central government, respectively.
- (ii) DLIs 1.1, 1.2 are one-time payments.
- (iii) For DLI 2, 3 and 4, disbursement is made for each percentage point increase<sup>12</sup>. Yearly disbursement is capped at the yearly allocation limit. Undisbursed allocations are carried over to the following year.
- (iv) For DLI 5, 6 and 7, disbursement is made for each additional prefecture or county or THC/CHC. Yearly disbursement is not capped. Undisbursed allocations are carried over to the following year.
- (v) For DLI 8, the targets and achievements are in a Yes or No (achieved/not achieved) format. However, if targeted activities are completed in the following year, payments will still be made. In that sense, allocations are carried over to the following year.
- (vi) The two provinces and central ministry have currently not indicated a need for advances, but advances are allowed under the PforR and will be available, as needed, to the two provinces and the central government, in an amount not to exceed 25% of the loan allocations to the two provinces and the central government, respectively.
- (vii) The World Bank may agree to make an advance payment of up to 25 percent of the Financing (i.e. an amount not to exceed US\$150 million for this PforR), unless a higher percentage is approved by Management, for one or more DLIs that have not yet been met ("advance"). When the DLI(s) for which an advance has been disbursed are achieved, the amount of the advance is deducted (recovered) from the amount due to be disbursed under such DLI(s). The advance amount recovered by the World Bank is then available for additional advances ("revolving advance"). The World Bank requires that the Borrower refund any advances (or portion of advances) if the DLIs have not been met (or have been only partially met) by the Program Closing Date.

80. CHSI will carry out the verification of all the reported DLIs, except for DLI 8, using the defined verification protocol. The process includes:

- (i) The submission of the provincial HFPCs report on the DLIs to the CHSI, based on which the CHSI will carry out the verification.

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<sup>12</sup> For DLI 4, in the case of Anhui, disbursements are made for a 0.1% increase.

- (ii) Submission of a final verification report to the World Bank by the CHSI after review of the evidence against protocols.
- (iii) Disbursement requests to be submitted to the World Bank by the Provincial Finance Bureaus and the NHFPC.
- (iv) To ensure regularity and predictability of disbursement, conformance to an annual schedule with specific dates for: (a) Provincial HFPCs to submit reports on the achievement of the DLIs; and (b) CHSI to complete verification of results; and (iii) the World Bank to complete its due diligence.

81. For DLI 8, a third-party verification agency (not CHSI) will be hired by the NHFPC, which will verify the reports on the achievement of the yearly targets submitted by the NHFPC and the provinces. On verification, the report will be submitted to the World Bank. Like the other DLIs, the verification of DLI 8 will be undertaken on an annual basis.

#### IV. ASSESSMENT SUMMARY

##### A. Technical (including PforR economic evaluation)

82. **Technical Soundness and Strategic Relevance.** The technical soundness of the government health reform program is evidenced by: (i) the positive outcomes of the 2009 health reform program; (ii) the initiation of the follow-up “deep-water” phase reforms; and (iii) the reliance of the latest government reforms on the findings and recommendations of the flagship *Joint Health Study*, carried out by the World Bank, the Government of China and the World Health Organization (WHO). There are, however, areas that need strengthening, which will be addressed in the PforR. The strategic relevance of the government program is underlined by the strong political commitment and support from the national government, as well as the likelihood of their yielding substantial economic savings and better health and social outcomes through expanded access to quality healthcare services for the entire population of the two provinces, and particularly in rural poor areas.

83. **Institutional Arrangements.** The technical assessments in Anhui and Fujian provinces concluded that there is strong commitment and a basic capacity to implement the proposed PforR in the two provinces and at the central level. In both provinces, a Provincial Healthcare Reform Leading Group exists, headed by the provincial governor or party secretary-general and tasked with leading overall health sector reforms. At the central level, the SCHRO is leading this type of reform, responsible for policy guidance to all provinces in the country. For this PforR, SCHRO will be the direct counterpart of the World Bank at the central level. Under the leadership of SCHRO, consisting of NDRC, MoF and NHFPC, a Central Steering Committee is established. The Project Management and Supervision Center of NHFPC, which has been managing projects financed by the World Bank, will serve as the secretariat. In short, at the central level there is already administrative and technical support to oversee and finance the PforR’s activities and, further, to disseminate the knowledge gained through successful pilots. This will be augmented through World Bank support.

84. **Expenditure Framework Assessment (EFA).** While the Chinese government’s health sector 13th five-year plan provides an overall vision for the whole health sector by 2020, the financing of this plan is not specified at either the national or provincial levels. The proposed PforR Boundaries therefore have to be assessed against existing and projected financing for the results supported by the operation, both as reflected in the effective on-going operation of the health delivery system and its strengthening. The EFA includes the following dimensions: (i) fiscal sustainability and resource predictability, (ii)

well-functioning budget allocation and execution, and (iii) incentives for efficient service delivery and value for money.

85. In the absence of a pre-existing program, and the differences in provincial settings, the authorities provided an itemized baseline of existing budgets, and identified new sub-PforR activities that would need to be financed for the full life of the PforR. Beyond the role of the subsidies and measures to enhance the incentives for efficient health services delivery associated with insurance payments, the counterparts underscored that expenditure allocations for Capacity Building & Reform Management and capital outlays for critical infrastructure/IT would also be critical for meeting the PforR's objectives. The identified expenditures based on central and provincial financing were seen as instrumental in meeting the overall province wide DLIs. Annex 4 presents the summary of this PforR definition, both capturing 2015 and 2016 expenditure levels, and 2017-2020 projections. The PforR operations will provide only a small, but highly leveraged, part of the health financing in Anhui and Fujian.

86. Fiscal sustainability/aggregate fiscal space does not represent the primary budgeting risk to the Program, particularly for the larger subsidy line items. In terms of budgeting and budget credibility, the main concerns do not lie with the allocations for subsidy flows, but rather efficiency incentives. At the aggregate allocation level these are well established, enjoy a strong commitment by the central and sub-national levels, and at least in the medium term are well within the bounds of available fiscal space.

87. The main priority will be to ensure that information systems, which are the backbone of the PCIC, are effectively budgeted and executed by local governments. Given its importance to the implementation of the health reform, the Finance and Health authorities should provide adequate and predictable co-financing for the IT investments, as projected by the PforR. For the IT related budget lines, the authorities will need to closely track the risk of procurement and implementation delays affecting execution rates.

88. **Monitoring and Evaluation capacity:** The CHSI will be responsible for reporting on and verification of results, including the DLIs (with the exception of DLI 8, which will be verified by an independent third party agency hired by the NHFPC). CHSI is a public institute at the central level and the technical lead in China on health information reporting, collection and analysis, including routine facility reporting and household surveys, on behalf of the central government. The CHSI has many years of experience, a large team of professionals who could organize the verification team and compile the reports as required, and works independently from the two provinces, thereby assuaging conflict of interest concerns. The data collection and reporting system was built and is maintained by the experts hired by the Center. To make the system more robust, the Center is currently investing in developing a sophisticated module to upgrade the current one for self-checking. Technical assistance will be provided to the CHSI under the PAP, strengthening CHSI's monitoring and evaluation capacity, which among the key objectives of the PforR capacity building.

89. **Economic Rationale:** The reforms in the PforR address critical drivers of expenditure in the health sector and thereby will have a long-term impact on them in each of the two provinces. Even as measured during the life of the project, the estimated net present value (NPV) of monies saved is considerable at over US\$ 24 billion at a 3 percent discount rate, and US\$ 22 billion at a 6 percent discount rate, over the life of the project.

## B. Fiduciary

90. Pursuant to World Bank policy and directives for Program-for-Results Financing (July 10, 2015) and the earlier Interim Guidance Note (June 18, 2012), the World Bank’s fiduciary team, conducted an integrated Fiduciary Systems Assessment (FSA) of the CPSM and the Anhui and Fujian provincial fiduciary systems.
91. The objective of the FSA was to determine whether the fiduciary systems of the Program provide reasonable assurance that the PforR financing proceeds will be used for the Program with due attention to the principles of economy, efficiency, effectiveness, transparency and accountability. The integrated Fiduciary Systems Assessment concluded that with the implementation of agreed PAP and proposed mitigating measures (see Annex 5), the fiduciary systems of the Program are considered adequate to provide reasonable assurance on the appropriate use of Program funding and the safeguarding of its assets.
92. The PforR is mainly executed by county and lower level health sector entities in Anhui and Fujian and the HFPCs of the two respective provinces, as well as the CPSM, using existing financial and procurement country systems, with support from the NHFPC.
93. **Financial Management (FM).** The FM assessment concluded that with the implementation of the proposed mitigating measures (See Annex 5) the PforR’s financial management systems are broadly adequate and provide reasonable assurance on the appropriate use of the PforR funds. Annex 5 provides additional information on financial management.
94. Adequate financial control and financial monitoring arrangements are in place for the PforR. Adequate PforR expenditure records are maintained by implementing agencies (IAs) for the earmarked transfers. Expenditures made using the general transfers do not indicate the specific source of funding. PforR expenditures are part of the IAs’ standalone financial statements, but are not separately disclosed in them. As agreed with the borrowers, the PforR financial statements in the two provinces will be generated through the standard health sector final statement process, using the existing final statement software developed by MoF during the PforR life. The Program financial statements will be prepared by the provincial HFPCs and the provincial finance bureaus together, and will include the budget resources and expenditures defined by the Program. The PforR financial statements for the Program activities executed by NHFPC will be prepared by NHFPC through a designated accounting code in its existing accounting system which can capture all the PforR expenditures systematically.
95. No audits of program financial statements have been required or conducted under the current financial architecture. However, going forward, it has been agreed that the PforR financial statement audits will be conducted by the CNAO and the Anhui and Fujian Provincial Audit Offices (PAOs) on an annual basis as authorized by China National Audit Office (CNAO).
96. **Procurement.** The procurement assessment concluded that the current procurement legal framework, comprising the Government Procurement Law of 2003, the Tendering and Bidding Law of 1999, related regulations, and the procurement systems of the CPSM and the two provinces, including the key role of the transactions center in the execution of e-bidding and open procurement, provide enough confidence that procurement under this PforR would be executed with adequate levels of transparency, accountability, competition, efficiency and fairness.

97. PforR key activities will be implemented through a wide array of consulting services, procurement of mobile and portable medical equipment and IT systems, and procurement of works for upgrading and constructing new health centers at county or township level and construction of training centers and the assessment showed that there are not going to be large value contracts of Operational Procurement Review Committee (OPRC) level.
98. Two tiers of complaint mechanism are established for the clients and the relevant supervisory government authority to handle any complaint.
99. **Fraud and corruption risks: Applicability of Anti-Corruption Guidelines for the PforR:**  
The CPSM and the Governments of Anhui and Fujian are fully committed to ensuring that the PforR's results are not impacted by fraud or corruption. Through the PforR's legal documents, China (as Borrower of the World Bank loan), as well as the CPSM, Anhui and Fujian, as Program Implementing Entities, are formally committed to the obligations under the Anti-Corruption Guidelines (ACGs) for PforR operations. In particular, in the context of this PforR, CPSM, Anhui and Fujian have agreed to promptly inform the World Bank of all credible and material allegations of fraud/and/or corruption regarding the PforR, as part of the overall PforR reporting requirements. CPSM, Anhui and Fujian will also provide the World Bank with a summary of any complaints every six months. The World Bank will inform the Borrower - CPSM, Anhui and Fujian - about any allegation that it receives. CPSM, Anhui and Fujian have also agreed to issue specific guidelines instructing all the relevant agencies to comply with the requirements of the ACGs, including all the procuring entities, procurement agents and finance bureaus at all levels under the PforR when the loan for the PforR is effective. The use of these guidelines can ensure that persons or entities debarred or suspended by the World Bank are not awarded contracts, by verifying the same prior to award under the PforR during the debarment or suspension period.
100. The World Bank's right to conduct an inquiry into such allegations or other indications, independently of or in collaboration with the Borrower, regarding the PforR's activities and expenditures and the related access to required persons, information and documents will be observed in accordance with the standard arrangements for this purpose between the Government of China and the Vice Presidency Integrity Department of the World Bank.
101. With the proposed mitigation measures detailed in Annex 5, the procurement procedures would be enhanced and the procurement under this Program would be carried out in compliance with the World Bank's PforR Anticorruption Guidelines. Annex 5 provides additional information on the procurement systems assessed, risks identified and actions proposed.

#### C. Environmental and Social

102. The Environment and Social Systems Assessment (ESSA), prepared by the World Bank team, provides a comprehensive review of relevant environmental and social management systems and procedures in China and the two provinces, identifies the extent to which the country/local systems are consistent with the World Bank's PforR Policy and Directive, and recommends necessary actions to address potential gaps, as well as opportunities to enhance performance during Program implementation.
103. ***Environmental and Social Benefits:*** The PforR is expected to bring about positive environmental, social and health benefits in terms of providing improved health services to the public and communities, particularly in rural poor areas. Along with these, it is expected that



hospital management practices for medical waste, occupational safety and health will be standardized, and that the collection and transportation of medical wastes in rural areas will be improved.

104. ***Environmental and social impacts and risks:*** Some of the activities supported under the PforR have potential negative impacts and risks. Medical waste management and radiation risks are considered the main issues from an environment, health and safety perspective.
105. In healthcare facilities, the medical wastes are collected, packaged by medical workers and temporarily stored at designated places. A special unit (mostly the infection prevention unit) is responsible for providing technical guidance and day-to-day supervision. The collection, transport and disposal of medical wastes are carried out by specialized companies in both provinces. In each prefecture, a medical disposal facility (incinerator) is in place to serve the prefecture and their disposal capacity is considered adequate, but inadequate operation of disposal centers may produce air emissions, bottom slag and fly ashes. The waste management can be compromised by low awareness or technical knowledge, inadequate equipment or storage capacity, or lack of supervision, particularly considering that the PforR will aim to expand lower level healthcare facilities in townships, villages, some of them located in remote rural areas.
106. Radiation equipment including medical imaging and radiotherapy facilities are widely used in the county and above level hospitals and lower level healthcare facilities. If not well managed, radiation and/or radiation contaminated materials (including paper, medical gloves, etc.) will be a great concern for medical workers, the public, and for community health and safety; in particular, if the healthcare facilities are located in core urban areas, with dense populations. In addition, the handling of radioactive sources and decommissioning of old radiation equipment is another concern, if not done properly.
107. The PforR includes upgrading, rehabilitation and/or new construction of healthcare facilities at the county level, township and village levels. The scale of the physical structures may range from small structures, such as test centers, to relatively large ones such as health recovery center or county hospitals (typically class II hospital). Potential environmental and social impacts associated with the construction of physical structures, and the operation of existing or new healthcare facilities include: dust, noise, non-hazardous solid waste, wastewater, and social disturbances such as traffic safety and congestion, and construction safety concerns. These impacts are envisaged to be moderate, and temporary or site-specific, and can be mitigated with readily available measures.
108. The main social issues considered during the assessment, include social risks, potential negative effects, and potential impacts of the Program, related to: (i) introduction of policy reforms; (ii) accessibility and equity; (iii) public participation; (iv) land acquisition and resettlement; and (v) ethnic minorities. More details are presented in Annex 6. The impact of land acquisition is usually the most relevant and predictable negative impact of such programs. Nevertheless, the overall impact of land acquisition under this PforR appears to be limited in scale and moderate in degree.
109. The ESSA finds that, in general, the existing legal and regulatory framework of environmental, health and safety, and social in China, and in the two provinces, are consistent with the World Bank's PforR Policy and Directive. Nonetheless, it is anticipated that, during implementation

of the PforR, certain risks exist due to shortcomings in capacity and enforcement, particularly below county level and in remote poor areas. Thus, recommendations are made to address these risks during the implementation of the PforR, which are summarized in Annex 6.

110. The overall environmental and social risk rating of this Program is considered Moderate.
111. **Consultations and information disclosure:** During the preparation of the ESSA, the World Bank assessment team carried out consultations with representatives from two Provincial Task Forces (PTFs), provincial environment protection and land resource bureaus, as well as officials from local government agencies. In addition to this, the World Bank team made field visits to health care facilities of varying sizes and coverage in Anhui and Fujian, particularly county level hospitals and township level healthcare centers, as well as village clinics. The discussions and visits were held with staff managing the facilities, including those in charge of construction, and provided a good understanding of healthcare conditions in the two provinces, and created the basis for the development of this ESSA.
112. From February 21 to 25, 2017, public consultation workshops were conducted in 6 venues in the Anhui and Fujian Provinces to receive feedback on the draft ESSA, which was distributed in Chinese beforehand to potential participants and disclosed on both Provincial Commissions for Health and Family Planning websites (on February 17, 2017). Three consultation workshops were held in each Province, one at the provincial level, and the other two at city/county level. The purposes of the multi-stakeholder consultation workshops were to: (i) introduce the Environmental and Social Systems Assessment approach under the proposed Program-for-Results operation; and (ii) seek comments and feedback on the key findings and recommendations of the ESSA. In all workshops, participants voiced strong support to the Program. The participants agreed that, overall, the ESSA report is of good quality; the review and analysis of domestic laws and regulations are comprehensive and well-organized; the key environmental and social issues identified are consistent with the reality in general; the assessment of institutional arrangement, capacity and performance is objective; the recommendations made by the ESSA are pragmatic and achievable.
113. Based on the comments, the revised ESSA was disclosed on the external website of the World Bank, on both Provincial Health and Family Planning Commissions' websites, and on the Center for Project Supervision and Management of the National Health and Family Planning Commission's website, on April 12, 2017.
114. **Fujian and Anhui redress:** Communities and individuals who believe that they are adversely affected as a result of this PforR may submit complaints to the grievance redress mechanism (GRM) of the Anhui and Fujian Health Bureaus.
115. **World Bank Grievance redressal mechanism:** Communities and individuals who believe that they are adversely affected as a result of a World Bank supported PforR operation, as defined by the applicable policy and procedures, may submit complaints to the existing program grievance redress mechanism or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address pertinent concerns. Affected communities and individuals may submit their complaint to the World Bank's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and World Bank

Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).

#### D. Risk Assessment

116. **The overall risk of this operation is high** as the technical and fiduciary assessments (Annexes 4 and 5) undertaken by the World Bank have identified significant risks associated with the technical design of the Program, the institutional capacity, procurement, and financial management.

117. The main sources of the **technical and institutional capacity risks**, which are rated as high, stem from the comprehensiveness and complexity of reforms proposed in the Government program, which requires a strong institutional framework and robust technical design capacity. However, the existing institutional fragmentation, and the weak technical capacity at the local levels, pose substantial challenges. Government officials at both the central and provincial levels have no prior experience of using the World Bank's PforR lending instrument, and are in the process of learning about the requirements.

118. **Fiduciary Risk** is rated as substantial due to: (i) the considerable size and coverage of the Program; (ii) the difficulties in assessing the fiduciary systems of a reasonable and representative number of entities involved in this Program; (iii) the difficulty in accessing bidding and contract records; and (iv) the non-application of World Bank debarment/temporary suspension lists. This may result in bad contract awards to firms and/or individuals under temporary suspension or cross debarment by the World Bank or other Multilateral Development Banks. There is also a potential risk that the World Bank may not be informed of credible and material allegations of fraud and corruption issues during the implementation of the Program. In addition, the two provinces have little or no experience doing Program financial reporting and information system architecture does not currently support Program reporting. Similarly, there is little or no experience of performing financial audits of Program financial statements.

119. The overall **environmental and social risk rating** of this PforR is considered Moderate as in general, the existing legal and regulatory framework of environmental, health and safety in China and the two provinces are consistent with the PforR Policy and Directive.

#### E. Program Action Plan

120. Based on the technical and fiduciary assessments and the ESSA for the PforR, and in consultation with the provinces and central government agencies, the Program Action Plan (PAP, See Annex 8) was developed to support the capacity building needs highlighted under the Key Capacity Building and Systems Strengthening Activities section of the PAD as well as to mitigate risks that have the potential to derail the Program implementation, and the achievement of the PDO. The PAP includes recommendations from the World Bank to address the systemic weaknesses in the two provinces identified in the technical and fiduciary assessments and ESSA, and to further improve the government's capacity to manage the health reform agenda. It includes the most critical steps required in order for the PforR to achieve its objectives, including an identification of areas where specific external support is required.



121. The technical assessment identified several areas of improvement, of which two are key. Firstly, successful implementation of the reform is premised on coordinated policy formulation and implementation, which will require a strong supportive institutional framework. The current fragmentation of governance as a result of three parallel health insurance schemes in China has been identified as a major challenge for deepening the health reform. The government is promoting the integration of these insurance schemes starting with their integrated management. This integration of the management of the health insurance schemes is a required action for the PforR.

122. Secondly, any comprehensive system reform requires a robust monitoring and evaluation system, and this is particularly true for the ambitious reform that the two provinces are proposing to implement. China does have a well-institutionalized data collection and reporting system, including routine data reporting by health facilities, specific data collection for health system reform monitoring, and national household survey every five years. However, there is a need to standardize the measurement of these indicators across different facilities, and verify the massive self-reported data. To strengthen the M&E capacity, the World Bank and government have agreed to assess its routine monitoring indicator reporting system at the central and provincial levels, and enhance the online reporting system with a new data cleaning and data verification function, so as to improve the quality of M&E system of health reform.

123. The PAP also includes measures to mitigate the potential fiduciary management risks that include: (i) issuance of clear instructions by the CPSM and the two provinces to the implementing agencies in charge of procurement regarding compliance with World Bank anti-corruption guidelines, as well as requiring the relevant agencies to ensure that no debarred or suspended firms that are on the World Bank's debarred or suspension list will be awarded contracts financed by the PforR; and (ii) a requirement that any allegations of fraud or corruption are reported to the World Bank.

124. Measures to strengthen the institutional capacity to address social and environmental risks in the two provinces are also part of the Program Action Plan, which include:

- (i) Design and provision of periodic training for hospital managers, health workers and the hospital Infectious Disease Control Units on the proper management of medical wastes, as well as radiation risk control, within facilities, with particular attention to lower level health facilities;
- (ii) Development and implementation of standard monitoring protocols by the responsible agencies to ensure adequate supervision of the chain of custody that covers the continuum of medical wastes classification, storage, collection, transport and disposal, and, in particular, to the capacity of Environmental Protection Bureaus and Sanitation Supervision Stations to work in areas below county level and in remote, poor areas.
- (iii) Reporting of any land acquisition under this PforR, including relevant evidence (land use certificates, compensation agreements, land price payments, and land lease agreements with affected parties), and due diligence by the relevant local governments to verify full compliance with national laws and local regulations, as well as the protection of the interests of the affected people.
- (iv) Development of a public participation plan to increase social accountability and address grievances during the implementation of the health reform, based on the successful experiences of pilot cities, which include more proactive public participation, more transparent information disclosure, and more effective grievance procedures at Program level.

## **Annex 1: Detailed Program Description**

1. The PDO is to improve the quality of healthcare services and the efficiency of the healthcare delivery systems in Anhui and Fujian provinces. The eight DLIs, along with the monitoring indicators, focus on measurable and achievable improvements in the efficiency and quality of health care services supported by the PforR in the two provinces, which – if achieved – are expected to translate into better health outcomes, an improved quality of life for patients, reduced out-of-pocket expenditures and improved patient satisfaction with the services being delivered at all levels of the health care systems – whether facility based or population based.
2. The PforR will support over a five-year period (2017-2021) a subset of the Anhui and Fujian<sup>13</sup> Governments' health reform Masterplans in urban and rural areas across the province. As noted, the provincial governments' Masterplans cover a timespan from 2016 to 2020. The PforR, which is expected to become effective in August 2017, will support the reform implementation across the years 2017 to 2020, and will focus on knowledge generation, the dissemination of lessons learned, and evaluation in 2021.
3. The Government's ambition, which the PforR will support, is to scale up reforms provincewide by financing a purposely-selective subset of result areas with a sharpened focus on health service delivery reform, along with the institutional and policy reforms needed to facilitate it. The PforR includes three reform areas, with associated DLIs, namely: (i) comprehensive public hospital reform; (ii) building an effective tiered service delivery system based on PCIC; and (iii) implementing cross-cutting health systems improvements required to achieve success on both the hospital and PCIC fronts (See Annex 1 Table 1).
4. The separation of the first two result areas is synthetic given that hospitals and PCIC represent a continuum and both are integral to service delivery. The government has expressed a strong preference for separating out these two levels of the delivery system (as underscored in the national reform strategy and in the provincial Masterplans), in order to highlight the experience of the Sanming public hospital reform, and Anhui's IDS pilot. The PforR, however, will ensure that issues relevant to governance, financing and service delivery in these two areas are addressed in a coordinated manner, so as to leverage fully the inter-connectedness of the health system, and maximize the impact of the proposed reforms. Accordingly, the cross-cutting stewardship, financing and institutional reforms that are needed to support service delivery at these levels are clustered and addressed together in result area 3. As shown in Annex 1 Table 1, the PforR will not support the proposed national level enhancement of the health regulatory framework, because they are either beyond the scope of the provincial reform program, or not covered by the governments current policy architecture, such as the promotion of the private health industry. Indeed, the underpinnings of an effective public private collaboration in China are still being worked out. Furthermore, neither area is currently being provided budgetary support by the government.

### **Annex 1 Table 1: Activities of National Health Reform included in the China Health Program**

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<sup>13</sup> Excluding Xiamen.

National Government health reform plan <sup>14</sup>	Included in the PforR	Health PforR Result Areas (Mirroring priority areas identified by Provincial reform plan)	Objectives to be achieved under the PforR	Comments
1. Deepening Public hospital reform	Yes	Result Area 1 Comprehensive Public Hospital Reform (also the priority area 1 of provincial reform plan)	<ul style="list-style-type: none"> <li>Improving the governance and management of public hospitals</li> <li>Controlling the growth of health expenditures</li> <li>Strengthening quality assurance in the delivery of hospital services</li> <li>Institutionalizing an effective hospital M&amp;E system</li> </ul>	
2. Reform of key aspects (e.g. price mark-ups) of the procurement of pharmaceuticals				
3. Establishing a tiered service delivery system	Yes	Result Area 2 Building an effective tiered service delivery system based on PCIC (also the priority area 2 of provincial reform plan)	<ul style="list-style-type: none"> <li>Strengthening primary care</li> <li>Improving service organization &amp; strengthening integrated service provision for NCDs</li> <li>Reforming provider payment arrangements for PCIC</li> <li>Establishing quality assurance mechanisms</li> </ul>	
4. Providing essential public health services				
5. Strengthening the leadership and stewardship for reform	Yes	Result Area 3 Enabling environment (also the priority area 3 of provincial reform plan)	<ul style="list-style-type: none"> <li>Establishing the institutional structures required to provide overall stewardship to the health reform</li> <li>Integrating the management of the three health insurance schemes</li> <li>HRH policy reform and professional training to strengthen the health workforce particularly for the primary health care setting</li> <li>Building standardized and effective health information system to support service delivery system reform</li> <li>Knowledge generation and sharing platform for reform implementation</li> </ul>	
6. Improving social health insurance				
7. Building health information systems				
8. Strengthening human resources for health				
9. Enhancing the regulatory framework for the health sector	No	Priority area 4 of provincial reform plan (not supported by PforR)		Not covered in gov't budget/ financing plan. Also, the proposed national level enhancement of the health regulatory framework does not have a direct bearing on the delivery of hospital and integrated healthcare services.
10. Promoting the healthcare industry (private sector)	No	Priority area 5 of provincial reform		Not covered in gov't budget/ financing plan. The architecture for

<sup>14</sup> The numbers in Column 1 refer to the 10 reform areas in the national reform strategy.

		plan (not supported by PforR)		effective public private collaboration in China is still being debated
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5. The overarching goal of the PforR is to secure efficiency gains and quality improvements in the health service delivery system in the two provinces. The interventions in the government program that will be supported in the PforR include:

- (i) Comprehensive policy reforms, including of medical services pricing, health insurance and provider payment mechanisms, health care providers' governance and management, service delivery, drug supply systems including aspects such as price markups, HRH, quality assurance, which will require resources to leverage and implement in an evidence based manner. Most of the policy reforms are currently being financed by the budget of government agencies. The government has agreed to increase its current budgetary allocations to support the policy reform in the future.
- (ii) Strengthening of service delivery capacity, with a focus on county/district level and below, including county level hospitals, rural township health centers, village clinics and urban community health centers and emergency care at county level and below. County level hospitals are considered as the rural health facilities and one of the key reform objectives is to keep the utilization of most of the services (90% of hospitalizations in the case of inpatient care) at the county level and below so as to reduce the overreliance on the urban tertiary hospitals. Therefore, strengthening the service capacity of county hospitals is the focus of government program, as well as the World Bank-financed Health PforR. In China, the minimum setup is each county must have at least one county general hospital and one county traditional Chinese medicine hospital and this minimum requirement has all been met. Thus, there will be no completely new construction of county level hospitals in the government program, but only the upgrading, rehabilitation and/or new construction of healthcare facilities at the county level, township and village levels. The scale of the physical structure may range from small structures, such as test centers, to relatively large ones such as health recovery centers or county hospitals (typically class II hospital). Also included in the government program are the procurement of appropriate, mobile and portable equipment, as well as the expansion of the telemedicine network, which the PforR will support. Budget lines will identified/established specifically for infrastructure development at and below county level.
- (iii) Improving the quality and efficiency of service delivery by introducing PCIC based service models, fostering the integration of providers at all levels, supporting the design of appropriate clinical norms and standards for the delivery of high quality health services together with effective implementation of these standards; as well as changing the financial and governance incentives that providers face through reforming provider payment of health insurance and government financing to the providers. The PforR will include the NCMS scheme in Anhui; and, the integrated urban and rural resident health insurance scheme in Fujian that are critical for changing incentives for essential health service delivery.
- (iv) Establishing effective health information platforms according to the national government's overall plan with the focus on expanding telemedicine network to support integrated care; establishing population health portal and disease management system to support NCD management; strengthening quality assurance and monitoring system by health administration and health insurance; and

- (v) Enhancing human resources through intensified training programs and upgrading/new construction of training centers and medical professional training schools, such as assistant physician training centers.

6. The Program expenditure envelope totaled US\$ 4.1 billion. The expenditure boundaries with respect to the Masterplans are defined as core expenditures by the Anhui & Fujian Provincial Health and Family Planning Commissions (APHFPC/FPHFPC) for capacity building and reform management, key capital outlays for physical and IT infrastructure. The PforR does not include overall provider payment transfers by the central and local governments (See Annex 4), but only those expenditures traced to the central and provincial level that reform and strengthen the performance of financing stream in terms of health delivery system operations. Health insurance contributions are not included in the PforR expenditure framework, since – while they are critical for incentivizing provider behavior - they do not finance the health reforms per se. Drug procurement expenditures are not included, although the compensation paid by the government to hospitals for the revenues foregone due to the implementation of the drug price mark-up reform (i.e., the “twoinvoice” scheme) is included. The PforR also does not include the infrastructure of hospitals beyond county level; the upgrading, rehabilitation and/or new construction of healthcare facilities at the county level, township and village levels are included.

7. In implementing the PforR, a “scaling-up” approach will be pursued. As noted, China has a good track record of implementing innovative pilots at county or prefecture level to guide future scaling up of these experiences nation-wide. But these pilots have been somewhat ad-hoc, and have not been systematically scaled up for a variety of reasons. However, the central government is now determined to pursue, and the two provincial health reform Masterplans have committed themselves to, a “scaling-up” approach. The proposed operation will leverage the lessons learned from the Sanming and the Anhui IDS pilots, as well as from international experience - including on the reform implementation pathways, the sequencing of actions, and the institutional and financing milieu – in incentivizing the government’s plan to scale-up these successfully piloted initiatives across the two provinces.

8. The design of the proposed PforR is informed by the recommendations of the flagship *Joint Health Study*, as well as previous World Bank project experience. For example, the PforR builds on the operational lessons of implementing the World Bank’s Rural Health Development project (2008/2014), which piloted innovations in 8 provinces and 40 counties—including county hospital providerpayment reform, pay-for-performance, NCD management at grassroots level, and coordinated care across different levels of providers.

9. The result areas and the associated DLIs were selected considering that they: (i) address major challenges facing the health sector in Anhui and Fujian provinces; (ii) are part of or linked to a comprehensive package of reforms aimed at the desired results; (iii) build on the World Bank’s past engagement and ongoing sector analytic work; and (iv) provide “value added” in terms of interventions that are innovative, scalable or expand upon previously piloted initiatives. The choice of result areas and activities within result areas is driven by two factors, i.e. the need to: (i) support the most important interventions in the Government health sector program that can help achieve the PforR results, and (ii) limit the proposed PforR to a reasonable scope within the overall Government program. Specifically, the proposed PforR will focus on the following result areas that support the provincial governments’ vision for health service delivery reform.

**10. Result Area 1: Public hospital reform.** This result area draws on the reform model in the Sanming prefecture and elsewhere to scale up comprehensive public hospital reforms. The goal of this result area is to support the government’s efforts to improve the quality and efficiency of hospital services in Anhui

and Fujian, and thereby contribute to reigning in the recent explosive growth in health expenditures and improve both patient outcomes and satisfaction.

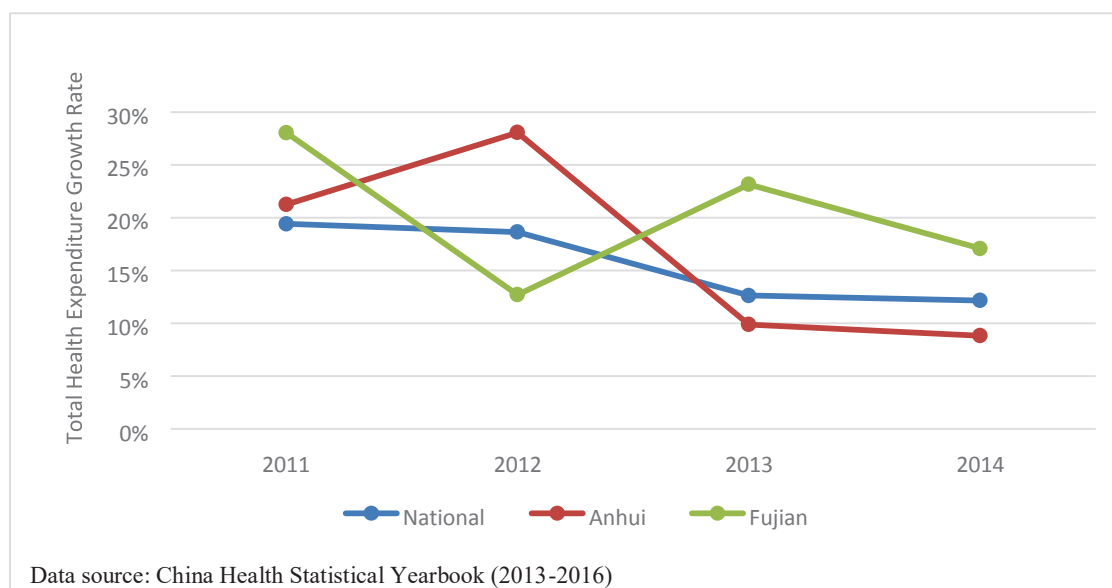
11. Accordingly, the hospital reform actions to be supported under the PforR include: (i) Improving the governance and management of public hospitals; (ii) Controlling the growth of health expenditures, to which hospitals contribute very significantly, through policy and institutional interventions; (iii) Strengthening quality assurance in the delivery of hospital services; and (iv) Institutionalizing an effective hospital M&E system that is integrated with the broader HMIS. These policy reforms will need to be supported by investments in infrastructure and equipment in the concerned hospitals.

12. Improving the hospital governance and management will entail a set of three intertwined interventions. First, empowered local leadership committees (Public Hospital Management Committee), consisting of the relevant government ministries, and chaired by a senior political official at the county/prefecture level (i.e. vice-mayor and mayor, respectively), will be formed to oversee the reform of the public hospitals and ensure coordination among the various departments. Both Anhui and Fujian have begun to establish such leadership committees at prefecture and county level. These committees will be responsible for the integrated management of the medical insurance programs, medicines and hospital supplies, and hospital services within their jurisdiction, thereby ensuring coordination and alignment of the reforms. Integrating the management of the three parallel health insurance schemes will ensure unified payment policies and aligned incentive schemes. Secondly, hospital autonomy will be expanded by giving hospital directors decision rights over the use of savings from prospective payment methods, as well as the hiring/firing of both tenured and contracted staff. Thirdly, accountability will be strengthened by introducing performance based compensation systems for hospital directors and hospital healthcare professionals, and putting in place systems to monitor drug prescriptions in order to reduce inefficiencies/waste in the drug distribution system, reduce drug prices, and curb the over-prescription of drugs. Anhui and Fujian are currently preparing to roll out the hospital autonomy and staff accountability systems across all the hospitals in the province. Implementing these changes will require political will, as well as resources for capacity building.

13. Growth in total health expenditures at the national and provincial level has ranged from 10-28 percent annually over the last several years, and while it seems to be stabilizing in the 10-18 percent range (Annex 1 Figure 1), still significantly outstrips GDP growth. Hospital expenditures contribute very significantly to the observed growth in total health expenditures, and this inflation needs to be addressed as a matter of priority. Controlling expenditure growth at hospital level and balancing drug, diagnostics and service pricing will entail a combination of interventions, including public disclosure of the results of hospital procurement to reduce waste and inefficiencies; an expanded use of generics, Essential Drug Lists (EDLs) and formularies; promotion of the use of the “two invoice” system for procurement; implementation of the “zero mark-up” policy for drugs, adjustment of the official fee schedules to increase labor based service pricing and reduce fees for diagnostics; ensuring that health services are provided at appropriate levels of facilities and priced accordingly (e.g., an uncomplicated appendectomy should ideally be handled at a county level facility, where it is much cheaper to provide, than at a tertiary hospital); and the introduction of prospective payment systems that are consistent with international standards.

## **Annex 1 Figure 1: Trends in Total Health Expenditures at National and Provincial Level**





14. Anhui and Fujian have also begun implementing the other cost containment interventions in some prefectures/counties. For example, in order to compensate hospitals for the loss of revenues associated with the implementation of the zero mark-up policy, Anhui spent RMB 570, 575 and 630 million, respectively in the years 2014-16 and Fujian spent RMB 259 million in 2016. Fujian has also allocated RMB 257 million per year for this purpose for 2017 and 2018. Both provinces are also in the process of scaling up the centralized procurement of supplies for hospitals province-wide.

15. Interventions to strengthen hospital Quality Assurance (QA) will include the development of standardized clinical protocols/pathways at province level that are applicable to all levels of care and applied systematically across Anhui and Fujian; introduction of additional policies to promote the rational use of pharmaceuticals and diagnostics (e.g. adherence to Essential Drug Lists and treatment protocols, diagnostic testing and prescription audits and the disclosure of the audit results); and promoting the disclosure of hospital performance indicators (e.g. drug revenues vs. total revenues, costs of OPD and patient satisfaction assessments) in the public interest and to promote patient engagement. Provinces will finance from their budget the establishment and upgrading of diagnostic, medical and surgical capacities in facilities, particularly at the county level.

16. And, finally, provinces will strengthen hospital performance management and monitoring systems, with the EMR as the core, and including the use of telemedicine/e-medicine to facilitate early diagnosis and treatment; establishing population health information platforms; and fostering the integration of the hospital information systems with the overall HMIS for service and health reform monitoring. This intervention will require investments in IT infrastructure, equipment and personnel, as well as developing and adopting interoperability standards. Details on the health information systems, which are central to both public hospital reform and PCIC, are provided in Result Area 3.

17. As described further in the expenditure framework review, financing for these initiatives includes a combination of transfers from the central government as well as provincial budgetary contributions. For example, the central government currently transfers to the provincial budgets an annual earmarked fund of RMB 3 million for each county in Anhui and Fujian (i.e. a total of RMB 165 million in Anhui and RMB 174 million in Fujian) for implementing the county public hospital reform. These funds can be



used by the counties/districts to finance specific interventions under their hospital reform program budget.

18. As noted, implementation of the above interventions will require investments in key areas of infrastructure development. To achieve this goal, Anhui province allocated RMB 510, 251 and 528 million in the provincial budgets for 2014, 2015 and 2016, respectively, and intends to continue making investments over the life of the 13th Five-Year Plan. Fujian has similar plans to upgrade the infrastructure of 68 county-level general hospitals in the course of the 13th Plan. Respective budget lines have been established and Fujian provincial government will allocate approximately RMB 1.454 billion to support these activities.

**19. Result Area 2: Establishing an efficient, high quality and accountable PCIC based service delivery system, with strengthened primary health care and greater integration between the various levels of the healthcare network.** The goal of this result area is to support the government's efforts to build an effective tiered service delivery system in order to be able to, *inter alia*, address the challenges of an ageing population and the rising prevalence of NCDs.

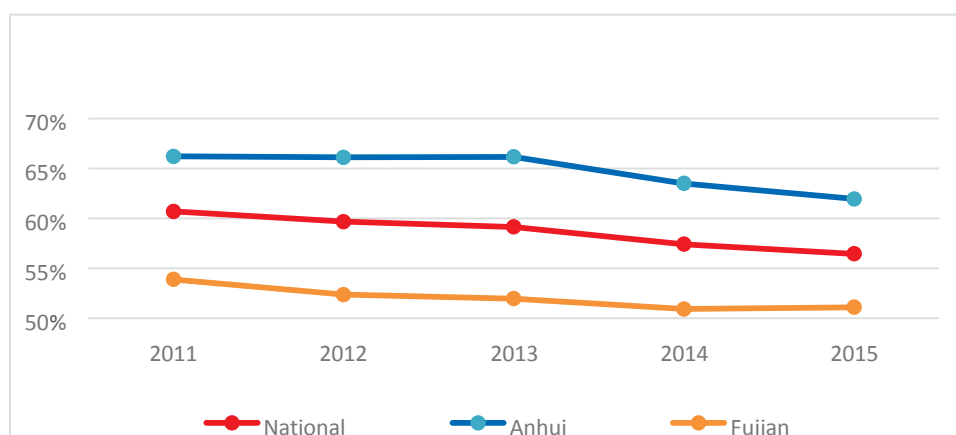
20. PCIC is a term used to refer to the WHO's global strategy of People-Centered and Integrated Health Services (WHO, 2015, a, b). The PCIC model has the following strategic directions: a) reorienting the service delivery model to strengthen primary health care and change the current roles of hospitals; b) integrating providers across care levels and among types of services to provide the coordinated care covering the whole life Span; c) continuously improving the quality of care; and d) engaging people to make better decisions about their health and health seeking behaviors. The bedrock of a high-performing PCIC model is a strong primary care system that is integrated with secondary and tertiary care, and with active engagement of patients in their care. It utilizes multidisciplinary teams of providers that track patients with eHealth tools, measures outcomes over the continuum of care and focus on providing quality and effective disease management for NCDs. The key objectives for results of this result area are to strengthen primary care, shift the service utilization and NCD management to primary care settings, provide integrated/coordinated care, and enhance the quality and effectiveness of NCD management and treatment.

21. In China, the utilization of hospital services has been expanding. Hospitalization rates rose rapidly from 4.7 percent in 2003 to 14.1 percent in 2013. The volume of hospitalization, in both secondary and tertiary hospitals, tripled in roughly the same period. There has also been a shift in capacity expansion and utilization towards higher-level facilities. Between 2002 and 2013, the number of tertiary and secondary hospitals increased by 82 and 29 percent, respectively, while there was a slight decline in the number of primary care providers (Xu and Meng 2015)<sup>15</sup>. The service at primary care level was perceived by the citizens as being of low quality, and people tend to bypass the lower level facility and seek treatment in the city hospitals. The percentage of outpatient services provided by primary health care facilities (urban community health centers, rural township health centers and village clinics), among all the healthcare facilities, have decreased from 2010 to 2015 nation-wide. Both Anhui and Fujian provinces followed the same trend (Annex 1 Figure 2). There is also a shortage of qualified medical and health workers at the primary care level, which further compromises the system's ability to carry out the core functions of prevention, case detection, early treatment and care integration.

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<sup>15</sup> Xu, Jin, and Qingyue Meng. 2015. People Centered Health Care: Towards a New Structure of Health Service Delivery in China. The World Bank. Washington, DC USA

**Annex 1 Figure 2: Proportion of Outpatient Services Delivered by Primary Care Facilities**



22. Moreover, the health services in China are not integrated (or coordinated) across provider tiers (e.g., tertiary, secondary and primary), and between preventive and curative services. Providers at various levels do not routinely communicate in order to coordinate patient services. Linkages between hospitals and PHC providers, including structured referral systems, patient discharge and handover mechanisms, and patient outreach have generally not been put in place. Providers at different levels have incentives to compete with each other to keep the patients so as to maximize their revenue, rather than managing population health in a coordinated way and in a cost effective manner.

23. This service model is suboptimal given the high prevalence of NCDs, which calls for cost-effective delivery and life cycle models that focus on the prevention, treatment and management of NCDs. The weak primary care, poor provider integration, lack of gate keeping and screening systems may have contributed to costly (and avoidable) admissions and readmissions for NCD conditions that can be cost-effectively treated on an ambulatory basis and, increasingly, in patients' homes. There has been steady improvement in diagnosis, awareness and control of chronic conditions, but it is still far from effectively managing NCDs. The proportions of those who are aware, treated and controlling their high blood pressure in China were all lower than that of the average middle-income countries, as well as the high-income countries (Annex 1 Table 2). In the United States, for example, 85.3 percent of hypertensive patients aged 35 and above were aware of their health condition, 80.5 percent were on medication, and 59.1 percent had their blood pressure controlled, compared to 41.6, 34.4 and 8.2 percent respectively in China<sup>16</sup>. As the result, the mortality of premature death of NCDs in China is almost double that of Japan.

**Annex 1 Table 2: Hypertension Diagnosis, Treatment & Control (Age 35-84): International**

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<sup>16</sup> Chow, Clara K, Koon K Teo, Sumathy Rangarajan, Shofiqul Islam, Rajeev Gupta, Alvaro Avezum, Ahmad Bahonar, Jephth Chifamba, Gilles Dagenais, and Rafael Diaz. 2013. "Prevalence, awareness, treatment, and control of hypertension in rural and urban communities in high-, middle-, and low-income countries." JAMA 310 (9):959968.

Country	Diagnosed (%)	Treated (%)	Controlled (%)
China	41.6	34.4	8.2
Thailand	46.0	38.4	17.7
Turkey	49.7	29.0	6.5
South Africa	52.8	37.6	21.0
Germany	53.1	39.2	7.4
Mexico	55.8	49.5	28.0
UK	62.5	53.5	32.3
Bangladesh	62.7	54.6	30.2
Jordan	73.9	71.0	38.2
Russian Fed.	74.9	59.9	14.2
USA	85.3	80.5	59.1
Japan	NA	48.9	22.9
Source: Ikeda et al. 2014; Chow et al. 2013.			

### Comparison

24. The government is aware of the challenges and has enacted a series of policies to strengthen primary care, shift the service utilization to the lower level and establish a ‘tiered service delivery system’. Important elements include strengthening grassroots providers, promoting first contact at grassroots levels, fostering two-way referrals, emphasizing the role of family doctors in managing chronic diseases, and expanding the supply of general practice physicians to staff primary care facilities. In parallel, the government has also provided additional financing to support primary health care. As noted, the ‘Essential Public Health Equalization program’ is a government financed nationwide program with RMB 45 per capita allocated in 2016 covering twelve categories of primary care services, including: (i) creating and maintaining a health file for every citizen; (ii) health education and promotion; (iii) enhanced vaccine immunization program; (iv) growth monitoring for children; (v) health management for pregnant women; (vi) health management for elderly population; (vii) health management for hypertension and Type II diabetic patients; (viii) mental health management; (ix) tracking and management of tuberculosis patients; (x) health management with Traditional Chinese Medicine; (xi) direct online reporting of infectious and emergent diseases; and (xii) community hygiene. The funding is co-financed by the government at different levels, i.e. 60 percent by the central government, 20 percent by the provincial government, and the balance of 20 percent by the prefecture and county level government.

25. Furthermore, different provinces and cities of China have experimented with pilots and new service models, e.g. the family doctor model in Shanghai, the NCD management specialist model in Xiamen of Fujian province, and the Medical alliance model in Luohu district of Shenzhen Municipality. Anhui province, particular, has been a front runner in piloting the new service model, in particular in the rural areas. Initiated in Tianchang county of Chuzhou prefecture, Anhui has been rolling out a service delivery model step by step to its counties/districts. The model features include: (i) Establishing alliances (i.e. IDS) for the integrated delivery of health services within the county among providers at county, township and village levels; the alliance is responsible for providing inpatient and outpatient care, and, in particular, health maintenance and NCD management services to the residents in their catchment area. The alliance covers the incomes of the village doctors; (ii) Building a telemedicine

network linking the THC with county hospitals, and county hospitals with city tertiary hospitals. This network has brought the services of hospital specialists to patients in THCs, and helped retain patients in the primary care setting, rather than their bypassing this level and seeking care at hospitals directly. (iii) Reforming provider payment of NCMS, and introducing capitation as the mechanism to pay for the care received by the citizens empaneled for the IDS alliance, both within and outside the county; and (iv) Having the alliances sign contracts with city hospitals (which will provide quality inpatient services and provide technical support to the alliance) to purchase the inpatient service for the citizens in their catchment area. The new service delivery model and the new incentive mechanism are shifting provider incentives from a focus on disease treatment, to one on maintaining health and providing effective disease management.

26. Building on these initiatives, the reform actions to be supported under the PforR, which will be catalyzed by a combination of incentives to be provided through revamped provider payment mechanisms, and improved governance, monitoring and regulation of the PCIC system, include: (i) Strengthening Primary Care service capacity; (ii) Transforming service delivery, through institutional and organizational reforms, to strengthen integrated service provision for NCDs; (iii) Enhancing quality through adoption and improvements of evidence based clinical pathways, clinical protocols, continuous quality improvement in health facilities, and quality monitoring and public disclosure by health administration and/or health insurers; (iv) Introducing prospective provider payment schemes to incentivize the provision of integrated NCD management; and (v) Establishing an enabling environment for PCIC through policy reforms and enhanced Health Management Information System (HMIS), the details of which are described in Result Area 3.

27. Strengthening primary care capacity will focus on a standardized upgrading and new construction of health facilities at county (districts in urban areas) level and below; procurement of basic equipment, portable devices, innovative new technologies and telemedicine to support the new service delivery model; training of the health workforce, including GPs, residents, nurses, community health workers; upgrading or new construction of health professional training centers that are compliant with national standards; enhancing the staffing of the primary care facility for delivery of PCIC services; and promoting application of proper treatment techniques at primary care level. Both Fujian and Anhui will establish/upgrade their telemedicine systems to link primary health care facilities with hospitals at the higher level. Anhui plans to completely upgrade its 8 training centers for assistance physicians in the province. Both central and provincial government have been injecting considerable funds to enhance the capacity of primary health care, with over RMB 45 billion allocated through central transfer for the years 2009-2013. In the case of Anhui, the central government provided RMB 361.9, 276.6 and 117 million in 2014, 2015 and 2016, respectively on civil works alone, while the province allocated RMB 19.86, 39.5 and 16.7 million in the three years to complement the central government's contribution. Anhui is planning to gradually upgrade the facility of its 440 central township health centers to enable these centers to provide more services. In order to achieve this goal, the province intends to continue making investments on strengthening primary care over the life of the 13th Five-Year Plan for at least RMB 714 million.

28. Transforming service delivery to strengthen the integrated service provision for NCDs will include activities aimed at: (i) Organizing the integrated care among different levels of providers, including redefining and assigning the responsibility and tasks of each, setting up service alliances, if applicable. For example, Anhui is well-advanced in establishing service delivery alliances for certain conditions/specialties, linking the province, prefectures and counties/districts, e.g. for diabetes, hypertension, pediatrics; (ii) Automation of the NCD risk stratification and defining the tailored health/disease management package for various risk groups; (iii) Strengthening the empanelment

mechanisms of GPs centered multi-disciplinary teams at PHC level based on tailored service packages; (iv) Development of integrated NCD management pathways covering prevention, medical treatment, rehabilitation, self-management supports and follow-up to guide providers at different levels for NCD management and treatment; and (v) Establishing public participation mechanisms in health/disease management programs, making them responsible for their own health.

29. Funds have been provided by the Chinese government to finance primary health care through the Essential Public Health Equalization program. The program was initiated in year 2009, with an investment of RMB 15 per capita to provide basic primary health care to all Chinese citizens. The funding is co-financed by governments at lower levels. The total allocations for primary care have been increasing steadily every year, and was RMB 45 per capita in 2016. In Anhui, the provision for public health programs in 2015 was RMB 2.42 billion with RMB 1.86 billion coming from central government transfers and RMB 549 million from the provincial budget. Similarly, Fujian allocated RMB 1.15 billion in its 2015 budget for primary care through a combination of central and provincial resources. The subsidy is expected to increase further to RMB 50 per capita in 2017.

30. Social health insurance is another financial source for integrated service delivery. Both Anhui and Fujian have allocated funding through government budget to finance the administrative/management costs for the three basic health insurances. The financial incentives offered by the payers to health care providers are a key instrument to shift the incentives from a focus on disease treatment to the promotion and prevention activities and effective disease management through integrated care. Provider payment reforms to be supported by the PforR, such as introducing prospective payments (such as using capitation payments in service alliances, as piloted in Anhui's Tianchang county), will be a key intervention to incentivize providers to deliver integrated care and enforce compliance on clinical guidelines through their service contracts. Furthermore, the coverage for outpatient services within the urban and rural health insurance programs is still shallow, since health insurance was established initially to provide financial protection only for inpatient services, since these expenditures were thought to be the main contributors to catastrophic health expenditures that led to impoverishment. Thus, along with an increase in the contributions to social health insurance, the insurance coverage will need to expand to cover outpatient services, so as to provide incentives to enrollees to utilize primary health care.

31. Enhancing service quality is another aspect of the reform, which has not received the attention it deserves in the government's reform agenda. This will be achieved through the adoption, further refinement, and use of evidence-based clinical pathways and clinical protocols as being done in Fujian and Anhui, and continuous quality improvement in health facilities and quality monitoring and public disclosure of quality data by the health administrators and/or health insurers, as initiated in Anhui. As noted, the HMIS system will be critical for the integration and coordination of health services.

**32. Result Area 3: Addressing the cross-cutting dimensions of the policy, institutional and financial environment, as well as PforR stewardship and building institutional capacities, for the health reform.** The goal of this result area is to support the government in strengthening key cross cutting systems that represent the foundations on which the proposed public hospital reform and PCIC are premised.

33. The reform actions to be supported by the PforR in this result area include: (i) Institutional arrangements needed to provide overall governance and stewardship to the health reform; (ii) Strengthening comprehensive management and information systems, including information technology (ICT) for the various levels of service delivery and reform; (iii) Training for health providers and para-

professionals to improve the delivery of both hospital and PCIC services; and, (iv) Strengthening PforR stewardship at the central level, including building implementation capacity in the two provinces.

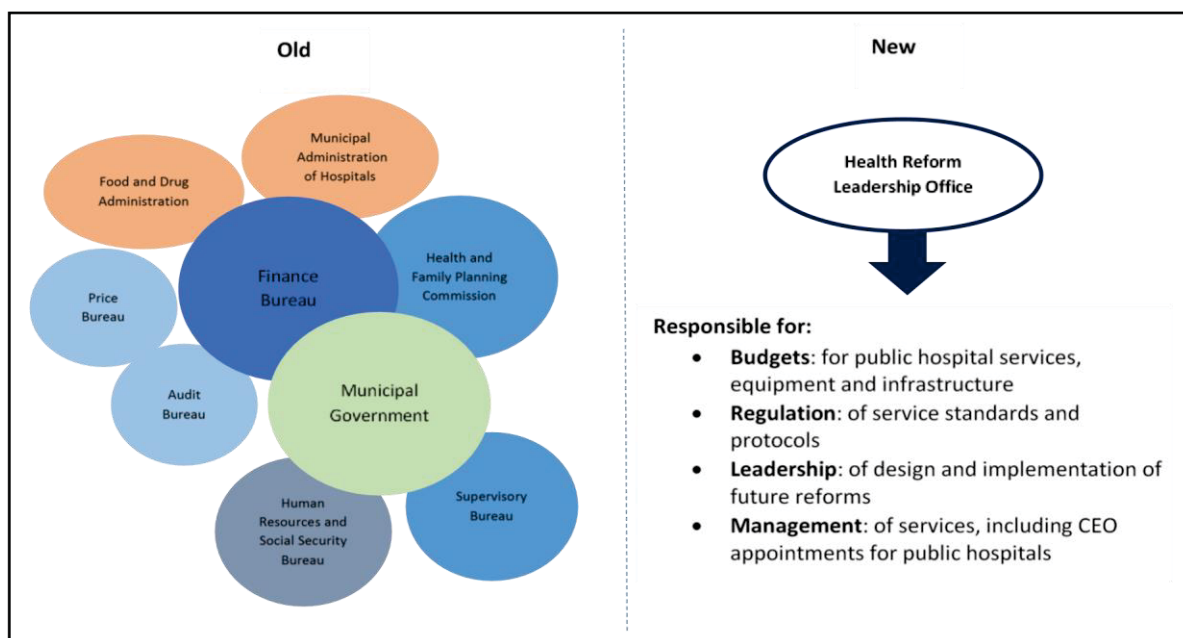
34. **Stewardship:** Dispersed oversight at the provincial and local levels, and institutional fragmentation both horizontally and vertically, are identified as a key weakness in the health governance structure by the flagship *Joint Health Study*. The dispersed oversight is due to the large array of institutions involved, the low priority attributed to health reform at the local level, and the fact the incentives faced by local officials to plan and implement health reforms are generally weak when compared to incentives to promote economic growth and development. The PforR will therefore support activities that help the central and provincial governments consolidate and strengthen the oversight of the reform PforR and introduce systems to actively monitor and validate implementation progress from a broader systems perspective.

35. It should be noted that the template for the proposed approach to addressing fragmentation in governance under the PforR is derived from the leadership structure initiated in Sanming prefecture in Fujian. In China, the four most important functions relevant for health service delivery, namely health insurance, medical services, medicines and medical service pricing are under the jurisdiction of different line departments within the government, headed by different vice governors/mayors. Alignment of decision-making and policy formulation has proven to be difficult under this fragmented structure. Sanming was the first to place the overall responsibility for all these line departments under one vice-mayor in the prefecture, thereby ensuring alignment in policy-making for the health reform. This model has been adopted at the provincial level in Fujian, and one viceGovernor now oversees the departments of health and family planning, social security, SFDA and price bureau within the province. SCHRO has indicated that it would like to scale up this governance model across the country.

36. Accordingly, at the central government level, a multi-agency, high-level Healthcare Reform Leading Group has been established to provide overall direction and leadership nationwide. This Group includes decision makers from all relevant agencies across the central government structure. This Leading Group is headed by the Vice Premier, with the Department of Healthcare Reform of NHFPC (also called State Council Healthcare Reform Office or SCHRO) serving as the Secretariat. SCHRO has 6 divisions with specific responsibilities for advising on national policies and guidelines that also encourage local innovation and flexibility as relevant to the local context. Mirroring the central structure, in Fujian province, a multi-agency, high-level Leading Group has been established, headed by the vice-Governor and comprising of the Director Generals of the Health and Family Planning Commission, the Departments of Finance, Human Resources and Social Security, and the Office of Medical Insurance. Similarly, in Anhui province, the Leading Group is headed by a viceGovernor and comprises of the director generals of the Health and Family Planning Commission, and the Departments of Finance, Human Resources and Social Security. The structures at the county and city/prefecture levels, in turn, resemble the provincial structure, and are in the process of being established province-wide. Annex 1 Figure 3 presents the Sanming example as an illustration of how the proposed leadership committees will function.

### **Annex 1 Figure 3: Formation of Healthcare Reform Leading Group Office in Sanming Prefecture, Fujian**





37. Another important governance reform within the Sanming model is the integration of the management of the three health insurance schemes in China. As noted, China has three stand-alone health insurance schemes for urban workers (URBMI), urban residents (URBMI) and rural residents (NCMS), respectively. The two urban schemes are managed by the Department of Human Resources and Social Security, while the rural scheme is managed by the Health and Family Planning Commission. The contribution levels, risk pooling levels, the benefits packages, and the provider payment policies all vary across these three schemes. While financial incentives offered by the payers to health care providers are a key mechanism for lowering costs, and improving efficiency and quality, the provider payment mechanisms work best when they are defined and applied consistently across all payers and span over the full continuum of health care providers. The fragmentation of the health insurance schemes in China undermines the leverage the health insurance can have if a single, uniform and network-wide incentive scheme design were to be put in place. Sanming's initiative consists of a package of consolidated actions including: (i) establishing a Health Insurance Management Center, which takes over the management of the three health insurance schemes; (ii) making the Center responsible for developing policies on the centralized procurement of drugs, setting up the pricing schemes for health services and formulating unified policies on provider payments; and (iii) full integration of the urban resident health insurance with the rural resident health insurance. This model has consolidated several key functions that were previously under different government agencies, and ensured unified policy making and enforcement. The PforR will facilitate and support the rolling out of the integrated management of the three health insurance schemes in Fujian and Anhui province. In the context of Anhui and Fujian, reforming the health financing system will include integration of the urban employee and resident (UEBMI and URBMI) and rural (NCMS) health insurance programs, starting with the integration of their management; reform of the provider payment systems, so as to move systematically to prospective payment systems that support hospital reform and PCIC; and expansion of the health insurance package to include coverage for prevention and outpatient services. Fujian has already moved to integrate the management of the rural and urban health insurance programs, while Anhui is still exploring ways to facilitate this integration.

**38. *Health Information & Communication Technology:*** The PforR will also support the national and provincial plans for establishing comprehensive health management information systems (HMIS) to support effective management and M&E for the two provinces. A robust HMIS system has been identified by all levels as a critical supporting foundation for health reform, and is considered as one of the priorities of the reform. The NHFPC has issued the template for the redesigned HMIS system in China, through what is known as the ‘46312 program’. In this program, ‘4’ represents the establishment of population health portals at four levels, including national, provincial, prefectural and county levels; ‘6’ represents the six major health system functions, namely public health, medical services, health insurance, pharmaceuticals management, family planning, and administration; ‘3’ represents the three databases, namely Electronic Health Records (EHR) for citizens, Electronic Medical Records (EMR) for patients, and a national population demographic information database; ‘1’ represents one network, which embraces these elements; and ‘2’ represents the unified package of data standards, and the information safety protection system.

39. In compliance with this national template, both Anhui and Fujian have formulated specific provincial plan to build a robust health information technology system across the entirety of each province. Despite differences in the HMIS plans in the two provinces, which are premised on their specific needs and different contexts, the core HMIS related actions identified in both Fujian and Anhui are: (i) A population health portal and disease management system to support NCD management; (ii) Information systems for service providers, including hospital information management systems, EMR, electronic imaging systems, pharmacy management system, IT based standardized clinical pathways, as well as an expanded telemedicine network to support integrated care and IDS network; and (iii) Strengthened quality assurance and monitoring systems for health administration and for health insurance. Among these priorities, Anhui will first step up its efforts to build population health information platforms with inter-connectivity and expand the coverage to the counties/districts by 2020 under the 13<sup>th</sup> Five Year plan. Fujian will upgrade and expand its telemedicine network, consisting of at least two of five key functions, namely long-distance medical imaging, long-distance cardiac diagnosis, long-distance lab-test reporting, EMR and dual-referral.

**40. *HRH Reform and Training:*** HRH is a key component of health systems, and plays a central role in delivering quality care at affordable prices to the population. Rigid HRH policies, low compensation and a shortage of qualified health professionals at grassroots levels have been identified as critical bottlenecks for health reform, especially for enhancing primary health care. Specific provincial reform activities, which the PforR will support, therefore include: reform of the HRH policy to grant more mobility to health professionals; complete implementation of a standardized resident and GP training program; increasing the supply of GPs in primary care settings; strengthening the capacity of village doctors; and increasing the supply/training of medical professionals that are in great shortage, such as pediatricians, midwives, and assistant physicians.

41. It should be emphasized that HRH imbalances often adversely affect the primary health care workforce, especially since primary care facilities and poor rural areas have difficulties in recruiting and retaining qualified health professionals. Anhui and Fujian have realized the importance of providing adequately skilled human resource support to the primary care facilities. Key actions included in the provincial plans to achieve this vision include: (i) Scaling up the standardized training for resident doctors and GPs; (ii) Accelerating ongoing successful efforts to increase supply of general practitioners and nurses; (iii) Reforming the curriculum reform to upgrade medical training and build new skills and competencies required for PCIC; (iv) Improving on-the-job training programs to support competency improvement in current workforce and build new PHC competences; and (v) Setting up alternative cadres of health workers (such clinical assistants, assistant doctors, clinical officers and community

health workers) to strengthen primary health care delivery. In addition, the headcount quota system in China leads to inefficiencies in the management of the health workforce, and should be replaced with HRH management policies that are consistent with the broader, internationally accepted health sector reform trends, including increasing hospital autonomy, increasing health labor market mobility and performance/results based financing policy. The emphasis on revisiting this quota system in the provincial plans is therefore welcome. Overall, the proposed PforR is expected to add value in facilitating the implementation of the provincial HRH reform plans and ensuring their sustainability.

42. Specifically, for PCIC, the Masterplans propose medical training programs for physicians and physician assistants working at primary care institutions, so as to increase the numbers and quality of the primary healthcare workforce. For example, Fujian plans to train around 600 GPs over the next five years through various medical training programs including: (i) Residency programs of 3 years of standardized training for those have completed 5 years of undergraduate medical study; (ii) Physician assistant training programs of 2 years of standardized residency training for those have completed 3 years of junior medical school and more likely to work in rural and remote areas; (iii) Continuing education programs of 1 year for physicians who are working/registered as specialists at primary care institutions to be converted to GPs; and iv) Part-time continuing education programs. The first two programs will be jointly funded by the provincial and central governments (funding per student is roughly RMB 30,000 per year of residency training). The third program is funded by the provincial government (funding per student is RMB 15,000). The financing of the fourth program is shared by the trainees and their employers. Anhui has the similar plan, except that it does not have the part-time continuing education program. Also, Anhui provides full funding for some students enrolled in the first two programs, provided the enrollees work in the designated township health centers for 6 years upon graduation. In 2016, Anhui recruited 350 students to this program, and the government plans to continue this program for the next few years. Moving forward, Anhui plans to upgrade its 8 training bases for assistant physicians in order to intensify the training and ensure the supply of assistant physicians for primary care.

43. In addition to training for physicians and physician assistants, Fujian plans to set up 3 to 5 nurse training centers to train 300 to 500 nurses per year, 4 to 6 clinical pharmacist training centers to train 20 to 30 pharmacists per year, and train 1,800 public health workers and 1,000 maternal and child health workers per year by 2020. Anhui is also working on a similar plan.

44. **Central Level PforR Implementation Support:** Stewardship for the PforR and building institutional capacity at the provincial and local levels will require strong technical assistance and capacity building support from the Central level. The Central level will also facilitate the monitoring and evaluation of the PforR, and particularly the verification of the DLIs for this PforR. Finally, the central level will support the provinces in their efforts to foster knowledge generation and sharing in the process of scaling up reforms.

45. In particular, given the potential of this PforR to generate lessons for scaling up reform both in China and globally, a knowledge generation and learning network will be established under the PforR to support reform implementation on the ground, and facilitate knowledge sharing at the provincial, national, and global levels. The knowledge and learning framework will have three dimensions. First, a learning network will be established to support learning at the frontlines of reform implementation, organized around key technical areas, such as clinical pathways, provider payment reform and integrated disease management of NCDs. This network will be based on the TLC concept described in the Flagship *Joint Health Study*. The goal of this network is to assist local care sites to adopt national and international standards for evidence-based practice, to learn from each other's success or failure

and to close the gap between knowing and doing. This approach to collaborative learning has been demonstrated to improve health outcomes and the quality of healthcare services with lower costs and greater convenience than is possible by traditional means of communication, such as conferences/seminars and audio-conferencing. Second, drawing on the China Rural Health project experience, a knowledge learning platform will be established to facilitate knowledge generation and sharing in Anhui and Fujian, as well as nationally. The expert panels established by the SCHRO, as well as the provincial expert panels, will play an important role in implementing this platform by providing technical assistance, assessing the progress of reform, summarizing lessons learned, and generating knowledges to inform the scaling up of the reforms. Third, through south-south learning programs, study tours, technical assistance, presentations at international conferences and publications the Program will actively support two-way knowledge sharing/dissemination between China and other countries, so that China can learn from the best practice around the world, and, at the same time, can contribute to the global knowledge base on health reform.

46. In sum, SCHRO is expected to add value to the health sector reform in the provinces along two pathways: one related to strengthening accountability and organizational arrangements, and the other involving effective implementation of the recommended reform actions. On the former, the first step is for the central government to prepare policy implementation and monitoring guidelines to steer implementation by provincial and local governments, and strengthen the authority and functions of the SCHRO. Establishing fully empowered Leading Groups led by high level authorities at the provincial and local levels will be another step in moving forward reform implementation. In turn, local government will be responsible for developing and executing implementation plans adopted to local conditions but aligned with the policy implementation and monitoring guidelines. On the latter, the role of the central government in providing technical assistance and implementation-oriented guidance, building capacity and facilitating the sharing of knowledge are all vital. Thus, the central government has a critical role to play in the proposed health reform; this has been recognized and has therefore been included in the PforR.

## Annex 2: Results Framework Matrix

### Results Framework

Results Areas Supported by PforR	PDO/Outcome Indicators (Key indicators to measure the achievement of each aspect of the PDO statement)	Intermediate Results Indicators (critical processes, outputs or intermediate outcomes indicators needed to achieve each aspect of the PDO)	DLI #	Unit of Meas.	Baseline (2015)	End Target (2020)
<b>Results Area 1</b>	1.Proportion of discharged patients for whom county-level public general hospitals and Traditional Chinese Medicine (TCM) hospitals are paid through case-based payment	-	2	%	AH: 12 FJ: 3	AH: 32 FJ: 50
	2.Proportion of inpatients to be treated through <i>standardized</i> clinical pathways at county level public general hospitals	-	3	%	AH: 4 FJ: 0	AH: 50 FJ: 50
	-	3.Growth rate of medical service revenue of public hospitals in the entire province	NA	Yes/No	AH: 8% FJ: 8.88%	<10%
		4.Average length-of-stay for county level public hospitals	NA	Number	AH: 8.82 FJ: 7.41	AH: 8 FJ: 7.37
		5.Number of counties/districts that have public disclosure of quality report (e.g. ALOS, drug revenue as a proportion of hospital revenue, expenditure per visit for outpatient, expenditure per admission for inpatient)	NA	Number	AH: 55 FJ:10	AH: 61 FJ: 68
		6.Proportion of labor based service revenue in total service revenue for all public hospitals in the province	NA	%	AH: 25 FJ: 24.58	AH: 30 FJ: 30.00
		7.Out-of-pocket payment as portion of the total inpatient services expenditure	NA	%	AH: 42 FJ: 50.83	AH: 37 FJ: 48.83
	8.Proportion of outpatient care delivered by primary care facilities	-	4	%	AH: 61 FJ: 51	AH: 61.8 FJ: 55
	9.Number of prefectures that manage Type II diabetes patients using the integrated NCD service package (Threshold value for a prefecture to qualify as using the integrated service package is 25% of total Type II diabetes patients managed)	-	5	Number	0	AH: 6 FJ: 4
	-	10.Proportion of patients hospitalized within county	NA	%	AH: 69 FJ: 63	AH: 73 FJ: 80
<b>Results Area 2</b>	-	11.Proportion of total Registered Physicians (assistant physician) and Registered Nurses practicing at the primary care facilities	NA	%	AH: 26.80 FJ:29.09	increase
	-	12.Number of hypertension patients that are under standardized management	NA	Number	AH: 4500 000 FJ: 1250 000	AH: 4700 000 FJ: 1300 000

-	13.The county IDS system has been scaled up to at least 50 counties/districts in Anhui	1.1	Yes/No	NA	NA
<b>Results Area 3</b>	14.Number of counties/districts that have established a county-township-village population health information system [Anhui]	6	Number	0	20
	15.Number of THCs / CHCs that have established primary care health information systems [Fujian]	7	Number	0	500
	16.Number of prefectures achieving integration (at least of the management) of the health insurance schemes, thereby allowing unified payment arrangement for all providers	NA	Number	AH: 0 FJ: 2	AH: 12 FJ: 9
	17.Program experience sharing and dissemination	8	Yes/No	NA	NA
	18.The integration of the management of the three health insurance schemes at the provincial level in Fujian is undertaken	1.2	Yes/No	NA	NA

### Indicator Description

Indicator Name (#)	Frequency	Data Source	Methodology for data collection	Responsibility for Data Collection	DLIs	
					Responsibility for Data Verification	Scalability of Disbursement (Yes/No)
1.Proportion of discharged patients for whom county-level public general hospitals and Traditional Chinese Medicine (TCM) hospitals are paid through case-based payment	Annually	AH: Report; FJ: Insurance claim data	AH: Selfreporting; FJ: Report by Provincial Health Insurance Office (HIO)	HFPC, HRSS, Provincial HIO	CHSI	Yes
2.Proportion of inpatients to be treated through standardized clinical pathways at county level public general hospitals	Annually	Administrative data from health facility annual report (denominator) and report (numerator)	Routine reporting (denominator) and self-reporting (numerator)	HFPC	CHSI	Yes (except for 2017 in FJ)
3.Growth rate of medical service revenue of public hospitals in the entire province	Annually	Administrative data from health facility financial statement	Routine reporting	HFPC	NA	NA



4.Average length-of-stay for county level public hospitals	Annually	Administrative data from health facility annual report	Routine reporting	HFPC	NA	NA
5.Number of counties/districts that have public disclosure of quality report (e.g. ALOS, drug revenue as a proportion of hospital revenue, expenditure per visit for outpatient, expenditure per admission for inpatient)	Annually	Report	Self-reporting	HFPC	NA	NA
6.Proportion of labor based service revenue in total service revenue for all public hospitals in the province	Annually	Administrative data from health facility financial statement	Routine reporting	HFPC	NA	NA
7.Out-of-pocket payment as portion of the total inpatient services expenditure	Every six months	Administrative data from national health reform monitoring system	Routine reporting	HFPC, HRSS, Provincial HIO	NA	NA
8.Proportion of outpatient care delivered by primary care facilities	Annually	Administrative data from health facility annual report	Routine reporting	HFPC	CHSI	Yes
9.Number of prefectures that manage Type II diabetes patients using the integrated NCD service package (Threshold value for a prefecture to qualify as using the integrated service package is 25% of total Type II diabetes patients managed)	Annually	Report	Self-reporting	HFPC	CHSI	Yes (except year 2017)
10.Proportion of patients hospitalized within county	Every six months	Administrative data from national health reform monitoring system	Routine reporting	HFPC, HRSS, Provincial HIO	NA	NA
11.Proportion of total Registered Physicians (assistant physician) and Registered Nurses practicing at the primary care facilities	Annually	Administrative data from health facility annual report	Routine reporting	HFPC	NA	NA

12.Number of hypertension patients that are under standardized management	Every six months	Administrative data from health facility annual/monthly report	Routine reporting	HFPC	NA	NA
13.The county IDS system has been scaled up to at least 50 counties/districts in Anhui	One-Time Payment	Report	Pilot design and Implementation report	HFPC	CHSI	No
14.Number of counties/districts that have established a county-township-village population health information system [Anhui]	Annually	Report	Self-reporting	HFPC	CHSI	Yes
15.Number of THCs / CHCs that have established primary care health information systems [Fujian]	Annually	Report	Self-reporting	HFPC	CHSI	Yes
16.Number of prefectures achieving integration (at least of the management) of the health insurance schemes, thereby allowing unified payment arrangement for all providers	Annually	Report	Self-reporting	AH: HFPC; FJ: Provincial HIO	NA	NA
17.Program experience sharing and dissemination	Annually	Report	Self-reporting	HFPC	Independent thirdparty	No
18.The integration of the management of the three health insurance schemes at the provincial level in Fujian is undertaken	One-Time Payment	Report	Government documents	Provincial HIO	CHSI	No

### Annex 3: Disbursement Linked Indicators, Disbursement Arrangements and Verification Protocols

**Disbursement-Linked Indicator Matrix**

DLI	Total Financing allocated to DLI (in USD million)	As % of total Financing	DLI Baseline (%)	Target and timeline for DLI achievement (%)				
				Effectiveness in 2017	End of 2017	End of 2018	End of 2019	End of 2020
DLI 1.1: The county IDS system has been scaled up to at least 50 counties/districts in Anhui	-	-	-	The county IDS system has been scaled up to at least 50 counties/districts in Anhui		-		
Allocated amount:	15	2.50%		<b>\$15M</b>				
DLI 1.2: The integration of the management of the three health insurance schemes at the provincial level in Fujian is undertaken	-	-	-	The integration of the management of the three health insurance schemes at the provincial level in Fujian is undertaken		-		
Allocated amount:	40	6.67%		<b>\$40M</b>				
DLI 2: Proportion of discharged patients for whom county-level public general hospitals and Traditional Chinese Medicine (TCM) hospitals are paid through case-based payment	-	-	AH: 12 FJ: 3	-	AH: 17 FJ: 10	AH: 22 FJ: 20	AH: 25 FJ: 35	AH: 32 FJ: 50
Allocated amount:	136.15	22.69%	-		<b>\$27.15M</b> (AH: \$17M FJ: \$10.15M) AH: 35 FJ: develop 100 standardized clinical pathways that can be adapted at county level hospitals (Yes/No)	<b>\$31.50M</b> (AH: \$17M FJ: \$14.50M)	<b>\$31.95M</b> (AH: \$10.20M FJ: \$21.75M)	<b>\$45.55M</b> (AH: \$23.80M FJ: \$21.75M)
DLI 3: Proportion of inpatients to be treated through standardized clinical pathways at all county level public general hospitals	-	-	AH: 4 FJ: 0	-		AH: 40 FJ: 15	AH: 45 FJ: 35	AH: 50 FJ: 50

Allocated amount:	132.33	22.06%	-	-	-	\$60.73M (AH: \$44.64M FJ: \$16.09M)	\$22.20M (AH: \$7.20M FJ: \$15M)	\$27.20M (AH: \$7.20M FJ: \$20M)	\$22.20M (AH: \$7.20M FJ: \$15M)
DLI 4: Proportion of outpatient care delivered by primary care facilities	-	-	AH: 61 FJ: 51	-	AH: 61.2 FJ: 52	AH: 61.4 FJ: 53	AH: 61.6 FJ: 54	AH: 61.8 FJ: 55	
Allocated amount:	80	13.33%	-	-	\$20M (AH: \$10M FJ: \$10M)	\$20M (AH: \$10M FJ: \$10M)	\$20M (AH: \$10M FJ: \$10M)	\$20M (AH: \$10M FJ: \$10M)	\$20M (AH: \$10M FJ: \$10M)
DLI 5: Number of prefectures that manage Type II diabetes patients using the integrated NCD service package (Threshold value for a prefecture to qualify as using the integrated service package is 25% of total Type II diabetes patients managed)	-	-	0	-	Protocols for the integrated NCD service package for Type II Diabetes developed (Yes/No)	AH: 2 FJ: 1	AH: 4 FJ: 2	AH: 6 FJ: 4	
Allocated amount:	90.02	15.00%	-	-	\$30.02M (AH: \$15.0475M FJ: \$14.9725M)	\$17.5M (AH: \$10M FJ: \$7.5M)	\$17.5M (AH: \$10M FJ: \$7.5M)	\$25M (AH: \$10M FJ: \$15M)	
DLI 6: Number of counties/districts that have established a countytownship-village population health information system [Anhui]	-	-	0	-	3	8	14	20	
Allocated amount:	50	8.33%	-	-	\$7.5M	\$12.5M	\$15M	\$15M	
DLI 7: Number of THCs / CHCs that have established primary care health information systems [Fujian]	-	-	0	-	200	300	400	500	
Allocated amount:	50	8.33%	-	-	\$20M	\$10M	\$10M	\$10M	

DLI 8: Program experience sharing and dissemination							Three learning groups are established for three key reform areas (e.g., on clinical pathways, case-based payment, and integrated NCD service management)	(1) Launch operational research on three key reform areas; (2) Organize two national workshops on the health reform in China	(1) Hold one international workshop and two national workshops related to the health reform in China; (2) Prepare one report documenting the Program experience on one of the key reform areas; (3) Completion of one operational research report under each of the three key reform areas	(1) Hold one international workshop and two national workshops related to the health reform in China; (2) Prepare two reports to document the Program experience on the two remaining key reform areas
	Allocated amount:	5	0.83%	-	-	-	\$1.5M	\$1.5M	\$1M	\$1M
	Front-end Fee	1.5	0.25%	-	-	-	-	-	-	-
	<b>Total Financing Allocated:</b>	<b>600</b>	<b>100%</b>	-	-	-	-	-	-	-

**DLI Verification Protocol Table**

#	DLI	Definition/Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
				Data source/agency	Verification Entity	Procedure
1.1	The County IDS system has been scaled up to at least 50 counties/districts in Anhui	This DLI measures prior achievement/results by the two provinces in successfully piloting and documenting their experience.	No	HFPC	CHSI	Each county/district HFPC will provide the information, including official government documents issued by relevant provincial departments to approve the establishment of IDS, and the IDS implementation plan issued by county/district HFPC, to confirm the implementation in 50 counties/districts. The assessment will be undertaken by the verification agency, based on the documents and the field investigation as needed.

1.2	Integration of the three health insurance schemes <sup>17</sup> at provincial level in Fujian is undertaken	No	Provincial HIO	CHSI	The provincial government will provide (i) the government official documents approving the institutional reorganization resulting from the integration of the three schemes, (ii) the government official documents on human resources appointments and retention, and (iii) the government official documents issued by the HIO, announcing the policy of three health insurance schemes. The assessment will be undertaken by the verification agency, based on the documents and the field investigation as needed.
2	Proportion of discharged patients for whom county level public general hospitals and Traditional Chinese Medicine (TCM) hospitals are paid through case-based payment <sup>18</sup>	Yes	AH: we will request health facilities to report the data to HFPCs;  FJ: health insurance claim data managed by provincial HIO	CHSI	To be verified based on the number of discharged patients that are paid through case-based payment (numerator) and total number of discharged patients covered by one of the three health insurance schemes (denominator).  AH: 1) Health facilities will report the numerator and denominator to the county HFPCs, and county HFPCs will report the data to the municipal HFPCs, and then municipal HFPCs will report the data to the provincial HFPCs; 2) The provincial HFPC will validate and aggregate the data; 3) CHSI will do the final verification before submitting to

<sup>17</sup> The integration of the management of the three health insurance schemes means the duties and operations of three health insurance schemes are integrated under one responsible office.

<sup>18</sup> Case-based payment is a hospital payment system in which a hospital is reimbursed for each discharged inpatient at rates established prospectively for groups of cases with similar clinical profile and resource requirements. Unlike historical budgeting and fee-for-services payment systems this payment system creates incentives for hospitals to reduce costs per case (See *John C. Langenbrunner, Cheryl Cashin, and Sheila O'Dougherty* 2009. "Designing and Implementing Health Care Provider Payment Systems: How-To Manuals").



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	level public general hospitals <sup>19</sup>						

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<sup>19</sup> Clinical pathways are multidisciplinary evidence-based care plans that provide specific guidance on the sequencing of care steps and the timeline of interventions. The goal of clinical pathways is to standardize care, improve outcomes and reduce cost.

						<p>HFPCs, and then municipal HFPCs will validate and report the data to the provincial HFPCs;</p> <p>2) The provincial health HFPCs will do the re-validate and aggregate the data;</p> <p>3) CHSI will do the final verification before submitting to the World Bank. The verification team will review the relevant documents/reports issued by the provincial government and health facilities (see the details in the paragraph describing the criteria of implementing standardized clinical pathways). In addition, CHSI will conduct on-site review of selected hospitals. The on-site activities include (i) review selected clinical pathways and conduct chart audit to make sure the quality of the implementation of standardized clinical pathways; and (ii) check data sources, statistical methods, and the consistency of data from various sources such as hospital registries and health information systems.</p>
4	Proportion of outpatient care <sup>20</sup> delivered by primary care facilities <sup>21</sup>	This DLJ measures outpatient services provided by primary care facilities relative to higher level facilities. It shows the total number of outpatient services, emergency services, home visits, physical checkup, and health consultations provided at primary care facilities out of the total number of such services across all the levels of health care delivery.	Yes	Calculated from the data regularly reported by health facilities in the internet based reporting system	CHSI	<p>To be verified based on total outpatient delivered by primary care facilities (numerator) and total outpatient visits in a province (denominator).</p> <p>1) Health facilities will report the numerator and denominator to the county HFPC, and county HFPCs will report the data to the municipal HFPCs, and then municipal HFPCs will report the data to the provincial HFPCs;</p> <p>2) The provincial HFPCs will re-validate and aggregate the data;</p> <p>3) CHSI will do the final verification before submitting to the World Bank. The verification team will conduct onsite review of selected hospitals and primary care health facilities. The review activities include validating data sources and statistical methods, and checking the consistency of data from various sources such as hospital registries and health information systems.</p>
5	Number of prefectures that	This DLJ measures the number of prefectures that	Yes (except Year 2017)	The existing system cannot	CHSI	To be verified based on the number of Type II diabetes patients that are managed by integrated NCD package in the

<sup>20</sup> Outpatient care includes the following: outpatient services, emergency services, home visits, physical checkup and health consultations.

<sup>21</sup> Primary care facility means, according to the health facility registration and license, a health facility classified as the following categories: 1) community health centers (stations); 2) township health centers; 3) village clinics; 4) outpatient clinics.

manage Type II diabetes patients using the integrated NCD service package (Threshold value for a prefecture to qualify as using the integrated service package is 25% of total Type II diabetes patients managed) <sup>23,24</sup>	manage Type II diabetes patients using a defined integrated NCD package.  A prefecture to qualify as using the integrated NCD package, it must have at least 25% of the identified Type II diabetes patients managed under integrated NCD service package.	provide this data directly. We will request THC/CHCs to report the data to HFPCs		<p>prefecture (numerator) and total number of registered Type II diabetes patients in the prefecture (denominator).</p> <ol style="list-style-type: none"> <li>1) THCs/CHCs will report total number of registered Type II diabetes patients and the number of Type II diabetes patients that are managed by integrated NCD package (both in their facilities and their catchment area) to the county HFPCs;</li> <li>2) County HFPCs will submit the THCs/CHCs data to the municipal HFPCs, and then municipal HFPCs will validate and report the data to the provincial HFPCs;</li> <li>3) The provincial HFPCs will re-validate and aggregate the data;</li> <li>4) CHSI will do the final verification before submitting to the World Bank. The verification team will conduct onsite review of selected THCs/CHCs of qualified prefectures. The activities include validating data source, and reviewing the tailored health/disease management packages, the service agreement, and the service records for a randomly selected sample.</li> </ol>
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<sup>22</sup> Type II diabetes is a the most common form of diabetes. Diabetes is a problem with the body that causes blood glucose (sugar) levels to rise higher than normal. For the diagnosis criteria, please refer to *Type II Diabetes Prevention and Control in China (Edition 2013)*.

<sup>23</sup> Integrated management of NCDs would entail the following key elements: community risk stratification for Type II diabetes patients is conducted by primary health service providers, and the tailored health/disease management packages are defined for various risk groups. The GP centered multi-disciplinary team at PHC level will sign the service agreement with residents based on the tailored service packages and will provide disease management based according to a defined disease management pathway.

<sup>24</sup> During the first year, this DLI will be measured by the establishment of protocols for the integrated NCD service packages.

6	Number of counties/districts that have established a county-township-village population health information system [Anhui]	The total number of counties/districts in Anhui that have established a county-township-village population health information system.	Yes	Each county self-reports whether it has set up the population health information system, as required to the HFPCs	CHSI	<p>To be verified based on the number of counties/districts satisfying agreed the criteria.</p> <p>The qualified county level platform must meet the following criteria: (i) the county-level public hospital information system with EMR as the core should meet Anhui Province Population Health Information Standard<sup>25</sup>; (ii) as the supporting system of county, township and village integration, it includes at least two of the following five functions: dual-referral, family-doctor services, EMR, longdistance electrocardiography and long-distance medical imaging; (iii) can be connected with the municipal or provincial population health information platform and the provincial public service platform.</p>
						<p>1) The county HFPCs will report the data to the municipal HFPCs, and the municipal HFPCs will submit the data to the provincial HFPC;</p> <p>2) The provincial HFPC will re-validate the data;</p> <p>3) CHSI will do the final verification before submitting to the World Bank. The verification team will randomly sample a certain percent of counties/districts, check whether their system meets the qualification criteria, and the records.</p>

<sup>25</sup> The standard is published on Anhui Province Population Health Information Standard Portal: <http://xxbz.ahwjw.gov.cn/>.

7	Number of THCs / CHCs that have established primary care health information systems [Fujian]	The number of township/community health care centers in Fujian that have established primary care health information systems.	Yes	Each county self-reports, in its catchment area, the number of THCs/CHCs that have established primary care health information systems, as required, to the HFPCs	CHSI	<p>To be verified based on the number of THCs/CHCs health centers satisfying the agreed criteria.</p> <p>The qualified THCs/CHCs must meet both of the following criteria: (i) the primary care health information system (hardware and software) has been installed, commissioned, and running; and (ii) the system consists of at least two of the following five functions: long-distance medical imaging, longdistance cardiac diagnostics, long-distance lab-tests reporting, EMR, and dual-referral.</p> <ol style="list-style-type: none"> <li>1) The county HFPCs will report the data to the municipal HFPCs, and the municipal HFPCs will submit the data to the provincial HFPC;</li> <li>2) The provincial HFPCs will validate the data;</li> <li>3) CHSI will do final verification before submitting to the World Bank. The verification team will randomly sample a certain percent of THCs/CHCs to conduct on-site visit to check whether their system meets the qualification criteria, and the records.</li> </ol>	<p>The information is self-reported and the activities are observable. Still an independent third-part will review the reports and verify and confirm to the World Bank.</p> <p>The launch of the operational research on the three key reform areas must meet the following criteria: (i) TORs have been developed; (ii) consulting contracts for the operational research on three key reform areas have been signed; and (iii)the technical design for the research has been formulated.</p>
8	Program experience sharing and dissemination	The central government will support provinces in coordination, capacity building, exchange of experiences, dissemination of the successful pilots, and implementation support/guidance to the provinces; knowledge generation and sharing; and dissemination of lessons.	No	The existing system cannot provide this data directly. We will request the unit of central government, which provides technical assistance, to report the relevant activities.	Independent third-party		

**World Bank Disbursement Table**

#	DLI	Allocation to the DLI	Financing is available for	Deadline for Achievement	Min DLI value	Max DLI value	Determination of amount to be disbursed against achieved and verified DLIs (i.e.
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		(USD million)	Prior results	Advance		required to trigger disbursement of Bank finance	expected to be achieved for Bank disbursement purpose	formula)
1.1	The county IDS system has been scaled up to at least 50 counties/districts in Anhui	15	15	0	Effectiveness	NA	NA	This is a Yes/No for achievement of targets. USD 15 million will be disbursed to Anhui province upon assessment and verification of the establishment of the IDS system to 50 counties/districts.
1.2	The integration of the three health insurance schemes at the provincial level in Fujian is undertaken	40	40	0	Effectiveness	NA	NA	This is a Yes/No for achievement of targets. USD 40 million will be disbursed for Fujian province upon assessment and verification of the integration of the management of the three health insurances schemes at the provincial level (integration at below provincial level is not required).
2	Proportion of discharged patients for whom county-level public general hospitals and Traditional Chinese Medicine (TCM) hospitals are paid through case-based payment	136.15	NA	NA	December 31, 2021	AH: 12 FJ: 3	AH: 32 FJ: 50	The maximum amount to be disbursed every year is capped at yearly allocation. Unutilized amount for previous year could be carried forward to the following year.  Disbursement= (Current year achievement – baseline) * unit price – cumulative disbursed amount  Unit price is: For Anhui= \$3.4 million per 1% increase For Fujian=\$1.45 million per 1% increase  Achievements is calculated based on the number of hospital discharges that are paid through case-based payment (numerator) and total number of discharged patients covered by one of the three health insurance schemes (denominator).
3	Proportion of inpatients to be treated through standardized clinical pathways at county level public general hospitals	132.33	NA	NA	December 31, 2021	AH:4 FJ:0	AH: 50 FJ: 50	The maximum amount to be disbursed every year is capped at yearly allocation. Unutilized amount for previous year could be carried forward to the following year.

								<p>Disbursement= (Current year achievement – baseline) * unit price – cumulative disbursed amount [except Fujian for Year 1]</p> <p>Year 1 FJ = \$16.09 million (full disbursement will be made if the targets are achieved and zero will be disbursed if the target is not achieved)</p> <p>Unit price is: For Anhui= \$1.44 million per 1% increase. For Fujian=\$1million per 1% increase (except for year 1)</p> <p>Achievements is calculated based on the number of patients that are treated through standardized clinical pathways (numerator) and total number of patients used inpatient services (denominator).</p> <p>The maximum amount to be disbursed every year is capped at yearly allocation. Unutilized amount for previous year could be carried forward to the following year.</p>
4	Proportion of outpatient care delivered by primary care facilities	80	NA	NA	December 31, 2021	AH: 61 FJ: 51	AH: 61.8 FJ: 55	<p>Disbursement= (Current year achievement – baseline) * unit price – cumulative disbursed amount</p> <p>Unit price is: For Anhui= \$5 million per 0.1% increase For Fujian=\$10 million per 1% increase</p> <p>Achievement is calculated based on total outpatient visits delivered by primary care facilities (numerator) and total outpatient visits in a province (denominator).</p>

5	Number of prefectures that manage Type II diabetes patients using the integrated NCD service package (Threshold value for a prefecture to qualify as using the integrated service package is 25% of total Type II diabetes patients managed)	90.02	NA	NA	December 31, 2021	No minimum	AH: 6 FJ: 4	<p>The amount to be disbursed every year is NOT capped at yearly allocation. Disbursements will be made for achievements exceeding the target. Unutilized amount for previous year could be carried forward to the following year.</p> <p>Disbursement is calculated as:            Year 1 Anhui= \$15.0475 million            Year 1 Fujian=\$14.9725 million            (For Year 1, full disbursement will be made if the targets are achieved and zero will be disbursed if the target is not achieved)</p>
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								<p>Years 2, 3 and 4 = the number of additional prefectures * unit price</p> <p>Unit price is:            For Anhui= \$5 million for each additional prefecture            For Fujian=\$7.5million for each additional prefecture</p> <p>This indicator is cumulative.</p> <p>The amount to be disbursed every year is NOT capped at yearly allocation. Disbursements will be made for achievements exceeding the target. Unutilized amount for previous year could be carried forward to the following year.</p>
6	Number of counties/districts that have established a countytownship-village population health information system [Anhui]	50	NA	NA	December 31, 2021	No minimum	AH: 20	<p>Disbursement = the number of additional counties/districts * unit price</p> <p>Unit price = \$2.5 million for each additional county/district</p> <p>This indicator is cumulative.</p>

7	Number of THCs / CHCs that have established primary care health information systems [Fujian]	50	NA	NA	December 31, 2021	No minimum	FJ: 500	<p>The amount to be disbursed every year is NOT capped at yearly allocation. Disbursements will be made for achievements exceeding the target. Unutilized amount for previous year could be carried forward to the following year.</p> <p>Disbursement = the number of additional THCs/ CHCs * unit price</p> <p>Unit price = \$0.1 million for each additional THC/CHC</p> <p>This indicator is cumulative.</p>
8	Program experience sharing and dissemination	5	NA	NA	December 31, 2021	NA	NA	<p>This is a Yes/No for achievement of targets. For each year, full disbursement will be made if the targets are achieved and zero will be disbursed if the target is not achieved. Amounts not disbursed in one year can be carried over to the next year.</p>

## Annex 4: Summary of Technical Assessment

### A. Strategic Relevance and Technical Soundness of the Proposed PforR

1. China has made remarkable progress in the past five years toward achieving universal health insurance coverage, but progress on service delivery has been much slower. The Government of China has identified as top priorities two reform goals: establishing an integrated health service delivery system and scaling up a comprehensive reform of public hospitals. Both the vision for these changes and specific interventions to achieve them are recognized in the government's recently issued policy directives, which now form the basis of the provincial masterplans in Anhui and Fujian provinces. The proposed PforR is therefore strategically relevant and well aligned with the government's health sector goals and priorities.

2. The PforR's design draws on the findings and recommendations of the flagship *Joint Health Study* recently completed jointly by the World Bank, WHO and the government (a policy summary from the study has been released, and the final volume is now in the process of being formally approved). The overall vision and the policy interventions listed are well aligned with government policy directives and, importantly, they build on lessons learned from health reform experiences in China (including in Anhui and Fujian provinces), as well as international experience. The PforR is expected to bring about positive health and social benefits by expanding access to quality healthcare services for the entire population of the two provinces, and particularly in rural poor areas. The strategic and technical soundness of each of the PforR's three result areas—public hospital reform, people-centered integrated care, and cross-cutting reforms—are discussed next.

3. **Public Hospital Reform: Strategic Relevance.** Hospitals consume about 54 percent of all health spending in China, and more than half of patients' first contacts with the system during illness episodes occur in hospitals. They are the center of the health care universe in China, the face of the delivery system for the citizenry, and the key drivers of cost escalation. The *Joint Health Study* finds that hospitals suffer from problems in efficiency, in quality of care, and in patient satisfaction. Having recognized the importance of these challenges, the government identified public hospital reform as one of the main pillars of its 2009 health reform program. There is broad agreement in China today that deeper reforms are needed, and in this context the proposed public hospital reform interventions in the provincial masterplans, which this PforR supports, are strategically highly relevant.

4. **Technical Soundness.** The PforR is designed to address the underlying causes of the poor quality and inefficiencies inherent in the current public hospital system. It draws on both the successful reform experience in Sanming Prefecture and the local and international lessons summarized in the *Joint Health Study*. As such, the interventions make sense from a technical standpoint, although success will still depend on effective implementation.

5. In general, the Sanming reforms of public hospitals' "macro policy" and governance have proven quite effective. However, more needs to be done on internal hospital management reform, especially but not exclusively related to service quality assurance. Future reforms need to place greater emphasis on reforming the internal governance, separating hospital management and governance (oversight) functions, improving efficiency by raising managerial performance, and adjusting the pricing, compensation, and hospital payment mechanisms to delink revenues and physician bonuses from service volume. There is also a need to strengthen primary health care and facilitate the integration of primary healthcare services, both horizontally with social and aged care services and vertically with hospitals.

6. Accordingly, the PforR proposes to scale up the Sanming experience with hospital reform by setting up a leadership committee with the power to coordinate multiple ministries/departments in formulating policies for governance; establishing accountability mechanisms for hospital directors and giving them increased decision rights over personnel; reforming physician pay to tie remuneration with performance; delinking physicians' income from drug sale revenue or profits; readjusting fees to increase those for labor-based services and reduce those for high-tech diagnostics tests; and establishing the two-invoice system to streamline the drug distribution system. Although Sanming did not introduce provider payment reform, this PforR specifically emphasizes its importance by changing the incentive structures in the health insurance schemes, including changing from fee-for-service to prospective payment methods, and aligning the three insurance schemes' provider payment methods. Furthermore, quality of care will be emphasized through the use of standardized clinical pathways and clinical protocols and of essential drugs and formularies, as well as by promoting the rational use of drugs. These changes will create the right environment for introducing internal management changes, and adopting electronic records and management, which in turn will enable and enhance continuous quality improvement.

7. Virtually all the stakeholders are expected to benefit from the success of the PforR and therefore have an incentive to implement it well to deliver results. The stakeholders include the national government, the National Health and Family Planning Commission (NHFPC), the Ministry of Finance (MoF), the National Development and Reform Commission, and the Ministry of Human Resource and Social Security, as well as the provincial and prefectural level counterparts of those agencies; they also include hospital directors and managers, physician staff and other health workers in the public hospital system, and, ultimately, the patients. The PforR already has strong political commitment and support from the national government. Revenues lost by hospitals because of the GoC's "zero-markup" policy for drugs are being made up through increased central and provincial budgetary allocations. Reductions in the bonuses currently paid to doctors for the volume of services rendered and drug prescribed will be compensated by higher base salaries and bonuses linked to the quality of the services they deliver. The implementers thus have a strong incentive to implement the Program well in order to deliver the anticipated results. The only party that may lose from the PforR's proposed activities are the middlemen involved in the pharmaceutical supply chain, who have to-date been benefiting unfairly from the high drug price mark-ups without adding significant value. Reductions in these mark-ups is therefore in the broader societal interest.

8. **People Centered Integrated Care (PCIC):** The goal of this result area is to support the government's reform efforts for building an effective tiered service delivery system by creating a more balanced and people-centered service model through strengthened primary care and greater integration between levels of the healthcare network.

9. **Strategic Relevance.** As mentioned above, China's current health service delivery system is heavily hospital centered. As detailed in the *Joint Health Study*, it is also fragmented and volumedriven, with a bias toward disease treatment rather than health maintenance, and a corresponding bias for admitting patients to hospitals rather than treating them at the primary care level. Hospital services account for 54 percent of China's total health expenditure, while primary care accounts for less than 10 percent and the percentage has been shrinking in the past decade. The situation is no different in the two provinces to be supported by the proposed PforR. This situation must be addressed if China is to move toward a low-cost high-impact health care model; so the proposed initiatives are relevant and appropriate.



10. The proposed PCIC model of service delivery is well aligned with the PCIC model that WHO is promoting as a global strategy in many middle- and high-income countries, including the United States, the United Kingdom, Netherlands, Denmark and Singapore. It is also the approach recommended by the *Joint Health Study* as an innovative model that will enable China to meet its 21st century population and health challenges. The government is fully committed to applying it, in line with international best practice.

11. **Technical Soundness.** Building on the government's reform initiatives, including leveraging the ongoing pilots, the proposed PforR aims to improve the ongoing reforms and roll them out across both provinces. The PCIC model forms the backbone of this result area because it should enable a new efficiency and effectiveness in addressing common serious health issues, including the current NCD epidemic. It emphasizes strengthening primary care, shifting service utilization and NCD management to primary care settings, providing integrated/coordinated care, and enhancing the quality and effectiveness of NCD management and treatment. As such, the proposed PforR is technically sound.

12. **Cross-cutting Reforms: Strategic Relevance.** To provide a conducive enabling environment and ensure the success of the reform measures proposed for public hospitals and PCIC in Anhui and Fujian, certain cross-cutting health systems reforms will need to be in place. In this context, critical reforms include the strengthening of stewardship with enhanced accountability, establishment of comprehensive management and information systems (MIS), including information and communications technology (ICT) for the various levels of service delivery and reform, sustainable and high-quality training for health workers, and effective implementation support on both the technical and operational fronts. These cross-cutting reforms are consistent with international experience and are emphasized by the *Joint Health Study*. As such, the interventions outlined in the masterplans of Anhui and Fujian to achieve the above cross-cutting reforms, which will be supported by the proposed PforR, are relevant and make strategic sense.

13. **Technical Soundness.** Putting in place new models of service delivery will require strengthening and stabilizing coordination across systems, particularly to overcome institutional fragmentation – both horizontal (across government departments) and vertical (through multiple governmental levels). Decisions on complex issues today are often made through interagency bargaining, which in turn weakens accountability for reform implementation. In addressing the PforR's reforms, patchwork administrative actions negotiated among diverse government departments might be effective in the short term would not be sustainable. The government needs to build and institutionalizes its coordination capacity.

14. Innovations in China's health sector have usually been supported through pilot activities sanctioned by the central government. While the State Council's Healthcare Reform Office is responsible for policy formation and oversight, various central government agencies monitor implementation and each is focused on a specific aspect of reform (e.g., pricing, insurance, or medical services) aligned with its mandates. Bringing all these institutions together under one leadership structure remains critical to ensuring a successful PforR.

15. In sum, effective, scalable and sustainable implementation requires putting in place the incentives and accountability mechanisms that will drive local leaders and government departments to coordinate and enforce health reforms. The leadership initiatives proposed by Anhui and Fujian to strengthen stewardship of the PforR and streamline decision-making are therefore technically sound and operationally valid. The experience of the pilot programs in Sanming and Anhui suggests that such unified decision-making can work. The critical issue is whether that success can be replicated in the scale-up across the provinces.

## B. Program Expenditure Framework

16. The expenditure framework of the PforR amounts to a total of US\$4,066 million. US\$595 million will be for public hospital reform, US\$3,070 million will be for strengthening PCIC, and US\$401 million will support the cross-cutting enabling environment. Annex 4-Table 1 below provides an overview of the main elements of the PforR expenditure framework.

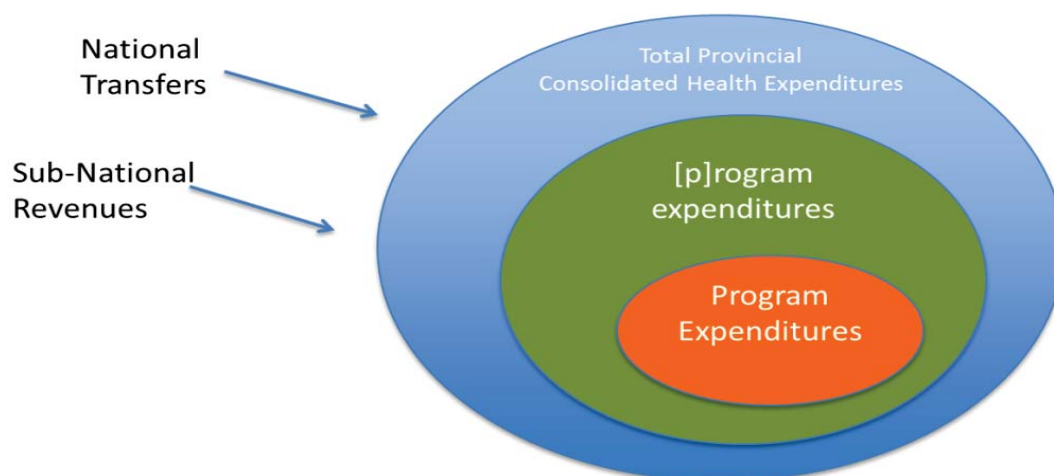
**Annex 4 Table 1: The Government Expenditure Framework by Result Areas and Implementing Governments, 2017-2020 (US\$ million)**

	Fujian	Anhui	Central	Total
The Program	1,497	2,564	5	4,066
1. Public hospital reform	284	311	-	595
2. PCIC	1,016	2,054	-	3,070
3. Enabling environment	197	199	5	401

17. **Expenditure Scope.** As the responsibility for translating the national/provincial vision into action plans rests with the provinces, the PforR expenditure framework consists of the gross provincial government expenditure programs that finance both the effective on-going operations of the health delivery system and its strengthening, and the central government's expenditure program that directly supports the two provinces' implementation of the PforR. Annex 4-Table 3 presents a summary of this PforR definition, capturing both the 2015 and 2016 expenditure levels, and the 2017/2020 projections.

18. As Figures 1 and 2 in the Program Description in the main text show, public health financing associated with the operations of the hospital and frontline facility operations in Anhui and Fujian is associated with multiple levels of government and financing flows. Levels of government include the central government, provinces, prefectures, counties, and townships, as well as hospitals and clinics. While sub-provincial levels of government account for the bulk of ultimate health sector expenditures in the provinces, cascading transfers by the central and provincial levels to sub-provincial governments and facilities are integral to setting incentives for the equity and efficiency of health care delivery in the provinces. Budget contributions by the central and provincial governments, therefore, provide important leverage and accountability for realizing the health care reform system objectives.

**Annex 4 Figure 1: PforR Expenditures within the overall Provincial Health Expenditures**



19. As noted, while the Chinese government's 13th five-year plan provides an overall vision for the health sector by 2020, it does not specify a budgetary/financing plan for the health sector plans. But the central government does subsidize the implementation of key reform elements through central budgetary transfers to provinces, e.g. for the essential public health package, social health insurance, standardized GP and resident training, and public hospital reform. A systematic analysis of the objectives and operational modalities of the eight major subsidy and insurance schemes operating in the province led to the determination that: (i) subsidy schemes (Annex 4 Table 2, Item 1,6,7,8) and (ii) only reform management and capacity building expenditures associated with insurance schemes (Annex 4 Table 2, Item 2-5) should be included in the PforR boundaries.

**Annex 4 Table 2: Major Provincial Health Payment Schemes**

#	Type	Budget/Financing Name	US\$ Millions		
			Anhui	Fujian	Total
1	Subsidy	Basic Public Health Package (BPHP)	349	218	<b>567</b>
2	Insurance	New Rural Cooperative Medical Scheme (NRCMS)	2,616	930	<b>3,547</b>
3	Insurance	Urban Employees Basic Medical Insurance (UEBMI)	0	9	<b>9</b>
4	Insurance	Urban Residents Basic Medical Insurance (URBMI)	451	174	<b>625</b>
5	Insurance	Basic Residents Medical Insurance (BRMI)	0	55	<b>55</b>
6	Subsidy	Zero mark-up subsidy for drugs (ZMDS)	64	28	<b>92</b>
7	Subsidy	Essential Drugs Subsidy (EDS)	87	38	<b>125</b>
8	Subsidy	County Level Hospital Reform Subsidy (CLHRS)	24	25	<b>49</b>
<b>Total</b>			<b>3,591</b>	<b>1,477</b>	<b>5,068</b>

**Source:** PforR Expenditure Reviews

**Notes:** Budgets refer to provincial and central level contributions, unless otherwise stated

20. Program expenditures for the strengthened management and reform of the higher level health financing include various types of expenditures. The technical assessment shows that changes in policy, capacity building, and monitoring for results associated with the higher-level financing flows are likely to yield substantial returns, stemming in part from the large size of these flows. Provincial PforR expenditures associated with higher level financing for strengthened management and reform are part of the provincial-level budgets. The EFA analysis suggests that items 1, 6, 7, and 8 (BPHP,

ZDMS, EDS, and CLHRS) have strong inherent reform components, and these were therefore included in the PforR boundary. However, the parallel flows 2-5 that provide recurrent financing to the system were excluded.

21. The PforR will support activities to improve the effectiveness and efficiency by which these higher level insurance payments are designed and implemented. While the higher insurance financing flows (Annex 4 Table 2 items 2-5) themselves will not be part of the technical boundaries of the PforR, the institutional arrangements and incentives around these flows are carefully documented to identify the contribution of the PforR expenditures associated with the strengthened management and reform of these higher level financing flows. In short, the institutional and reform analysis is critical to evaluate the budgeting and efficiency associated with the PforR. The subsidy payments, however, can be considered as more direct inputs to the PforR, especially for the PCIC component, and are therefore included in the boundary.

22. The focus of government budgetary expenditures in the past has been to support continuation and expansion of the coverage of the on-going health programs. Some activities that are essential for the implementation of the health reform program, such as IT or development of protocol, are either not funded, or funded by sub-provincial governments, at their own discretion and with their own resources.

23. The remainder of the PforR boundaries includes strategic contributions by the central and local government for eHealth IT systems strengthening and integration, critical infrastructure, and capacity building and reform management (Annex 4, Table 3).

24. Beyond the role of the subsidies, and measures to enhance the incentives for efficient health services delivery through insurance payments, the counterparts underscored that expenditure allocations for Capacity Building & Reform Management and capital outlays for critical infrastructure/IT would also be critical for meeting the Program development objective. The identified expenditures based on central and provincial financing were seen as instrumental to meeting the overall results of the PforR<sup>26</sup>.

25. Budget items identified under the PforR for Capacity Building & Reform Management and Capital Outlays for critical infrastructure and IT were subject to uncertainties across the provinces. An early contribution of the PforR preparation has been to make the key budgetary inputs in the priority areas clearer in the discussions between the provincial departments of finance and health authorities. A further point of clarification has been in linking changes in the incentives associated with the provider payments (insurance and subsidies) with complementary reform management and capacity building expenditures. To ensure that reforms are having traction in frontline facilities, they will also be supported through strengthened monitoring and verification of key indicators.

26. The PforR will provide only a small, but highly leveraged, part of the health financing in Anhui and Fujian. In particular, provider insurance and subsidy payments remain multiples of the PforR financing. However, these financing streams will be critical in driving the frontline health care delivery. Careful analysis is needed to assess the incentives derived by how these programs are allocated and reported. A significant contribution of the PforR process will be to promote more consolidated reporting of provincial health financing. Developments, such as the expansion of the BRMI in Fujian, are a step in this direction.

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<sup>26</sup> Sub-provincial governments and hospitals/facilities also co-finance certain activities (e.g., trainings), but the identified expenditure items were assessed to be the most critical inputs for achieving the PforR results.

**Annex 4 Table 3: PforR Boundary Nominations, Million US\$**

	Fujian	Anhui	Total	Fujian	Anhui	Total	Fujian	Anhui	Total
	(2015 Baseline)			(2016 Baseline)			(2017-2020 Projections)		
<b><u>RA 1. Hospital Results</u></b>									
Capital Investments (incl. IT)	21	0		11		11	176	51	
Capacity Building & Reform Management	64	64	21	28	0	92	108	260	227
			127		64				368
<b><u>RA 2: PCIC</u></b>									
Capital Investments (incl. IT)	0	40	40	0	17	17	20	142	162
Capacity Building & Reform Management	40	310	349	38	351	388	169	1,599	1,768
Subsidies	131	84	214	148	88	235	826	313	1,139
<b><u>RA 3: Cross-Cutting Health Systems</u></b>									
Capital Investments (incl. IT)	0	0	0	0	0	0	50	170	220
Capacity Building & Reform Management	41	35	76	37	30	67	147	29	176
Subsidies	0	0	0	0	0	0	0	0	0
<b><u>Total</u></b>	295	532	828	262	549	810	1,497	2,564	4,061

*Source:* Provincial Authorities, staff

*Notes:* The PforR as summarized in this table was developed on the basis of budget/sub-program line items identified with the two respective authorities, and will form the basis of the financial report. The Fiduciary and ESSA reports provide a further discussion of salient aspects of key PforR categories.

27. **Program financing** consists of two sources: (i) the contribution of the central government; and (ii) the budgetary allocations from the provincial governments' own general budget revenues. In addition to the financing schemes analyzed above, the central government will appropriate a significant portion of the PforR resources to complement the on-going government programs. The PforR is expected to promote the future roll-out of support to the two provinces as an integral part of the intergovernmental fiscal framework. The PforR will, therefore, provide additional financial incentive to the two pilot provinces. While the loan proceeds will be managed in a designated account according to China's domestic financial management policy, they will be brought on the provincial government budgets and integrated with the other budgetary contributions to the PforR financing.

28. The PforR funding is expected to be predictable, and in full synchronization with local government budgeting cycle. China has a well-established budget plan, mid-term budget review and execution monitoring and reporting system. One major weakness of the budgeting system is the delayed approval and authorization by the People's Congress for the government budget. While the fiscal year starts from January 1, the Annual Plenum of People's Congress is scheduled in March at the national level, and in January/February at provincial level. To enable provincial governments to execute the budget plans from the beginning of the year, the central MoF informs the provinces about their respective indicative budget allocations for major programs. To further ensure predictability, the Finance Department and HFPC of the two provinces will jointly develop a multi-year Program expenditure and financing plan.

29. Aggregate fiscal sustainability issues were not identified as a core concern associated with the expenditures. The projected overall financing contributions by the central and provincial governments to the programs to be supported under the PforR significantly exceed the level of financing provided by the operation. Over the life of the PforR, the authorities anticipate sustaining, and even increasing, the levels of subsidies. As Annex 4-Table 4 shows, while large in their own right, the whole provinces' consolidated health expenditures (including sub-provincials) represent a limited share of around 9 percent of the total general budgetary expenditures.

**Annex 4-Table 4: Consolidated Province Government Health Program by Functions in 2015**  
**Million US\$**

	Fujian	Anhui
Administrative affairs	129	133
Public Hospital	591	491
Local medical care	565	570
Public health	568	855
Health insurance	2,274	4,093
Traditional medicine	14	6
Family planning	638	666
Food and medicine supervision	126	103
Others	199	142
<b>Total</b>	<b>5,105</b>	<b>7,058</b>
<i>% of total general budgetary expenditures</i>	<i>8.8%</i>	<i>9.3%</i>

*Source:* Provincial Authorities, staff

30. **Expenditure performance** of the ongoing government program has been satisfactory, with no major expenditure performance issues. However, the expenditure framework assessment finds that some activities (e.g. information systems, and development of protocols) essential for the achievement of the Program development objective are exclusively financed by city and county governments through PPP style arrangements. Given the importance of strengthening information systems and feedback, particularly through IT, clarity is needed on financing modalities and procurement for pivotal projects and training across the provinces, and how sub-provincial governments and providers are brought into this process. For IT lines, the authorities will need to closely track the risk of procurement and implementation delays affecting execution rates. Contribution to these essential activities from the central and provincial governments through the PforR could motivate compliance from local governments towards the achievement of the PforR results.

31. The authorities are committed to further strengthen the public finance management institution to improve the alignment of expenditure framework with the Program development objective and incentivize sub-provincial governments to make more effort in reform implementation. The government will develop a multi-year expenditure plan to prioritize the financing allocation for the achievement of the result indicators. This plan will be updated annually by drawing on the lessons learned from the Program performance monitoring. This plan will also provide the basis for regular execution reporting, and serve as a framework for enhancing public transparency on central and



provincial health expenditures. The provinces will look to adapt and adopt commonly accepted standards for fiscal transparency.

### **C. Results Chain and the Logic Underlying DLI Selection**



<p><b><u>Result Area 1:</u></b></p> <p><b><u>Improve Hospital Governance and Management</u></b></p> <ul style="list-style-type: none"> <li>- Establish leadership committee: Strengthen leadership and governance structures to empower local healthcare reform leading group and integrate the management responsibilities for medicines, medical insurance and medical service under one responsible leader</li> <li>- Deepen institutional reform, including by expanding hospital autonomy <ul style="list-style-type: none"> <li>• Give hospital director decision rights on use of savings from prospective payment methods</li> <li>• Give hospital director decision rights over hiring/firing (for both tenure and contract system)</li> </ul> </li> <li>- Implement accountability systems <ul style="list-style-type: none"> <li>• Introduce performance based compensation systems for hospital directors and hospital healthcare professionals</li> <li>• Monitor drug prescriptions in order to reduce the inefficiencies/waste in the distribution system, cut the drug price, and curb the overprescription of drugs</li> </ul> </li> </ul> <p><b><u>Improved efficiency and expenditure growth control</u></b></p> <ul style="list-style-type: none"> <li>- Implement public disclosure of the results of hospital procurement</li> <li>- Price differentiation for services across levels of facilities</li> <li>- Introduction of prospective payment systems that are consistent with international standards - Regulate drug costs through expanded use of generics, use of Essential Drug Lists (EDLs) and formularies, and the use of the “two</li> </ul>	<p>Established leadership committee at provincial and prefecture levels, with clear roles and responsibilities, governance structure.</p> <p>Increase in the number prefectures/counties which allow hospital directors to decide on how to use savings [review policies issued by local insurance agency and finance]</p> <p>Increase in the number of prefectures issuing documents allowing hospital directors to hire and fire (both tenure and contract staff)</p> <p>Increase in the number of hospitals establishing and implementing performance-based formulas for directors and staff remuneration that are linked with the quality and quantity of services, as well as patient satisfaction</p> <p>Increase in the number of hospitals paid through prospective payment methods</p> <p>Increase in the number of prefectures implementing two-invoice system for drug procurement</p>	<p>Increase in the variation in hospital directors and staff remuneration that is correlated with their performance</p> <p><b>DLI 2: Increase in the proportion of discharged patients for whom county-level public general hospitals and Traditional Chinese Medicine (TCM) hospitals are paid through case-based payment</b></p> <p>Proportion of labor based service revenue in total service revenue for all public hospitals</p>	<p><b>Outcomes:</b> Improved efficiency and quality in health service delivery (More value for money)</p> <ul style="list-style-type: none"> <li>-Reduced risk adjusted disease specific 30-day readmission rate</li> <li>-Reduced 30-day surgical readmission following certain procedure (e.g. hip or knee replacement)</li> <li>-Reduced hospital acquired infection rate, e.g. nosocomial pneumonia</li> </ul> <p><b>Impact:</b> Improved Health Outcomes (More health for money)</p> <ul style="list-style-type: none"> <li>-Reduced disease-specific (AMI, heart failure, pneumonia) 30-day riskadjusted hospital mortality rate</li> </ul> <p>Improved Patient satisfaction (More happiness for money): - Measured using objective indicators such as waiting time; -Patient satisfaction surveys</p>
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<p>invoice” systems</p> <p><u>Strengthen Hospital Quality Assurance (QA)</u></p> <ul style="list-style-type: none"> <li>- Mandate the development of clinic protocols at provincial level, which are applicable for each level of care and used across the provinces - Introduce policies to promote the rational use of pharmaceuticals and diagnostics <ul style="list-style-type: none"> <li>• Adherence to EDLs and treatment protocols</li> <li>• Prescription audits and sharing audits results</li> <li>• Public disclosure of information on use of diagnostics and prescriptions</li> </ul> </li> <li>- Promote disclosure of hospital performance indicators (e.g. drug revenues vs total revenues, costs of OPD and patient satisfaction assessments) in the public interest and to promote patient engagement - Establish quality assurance mechanism, such as evidence based clinical pathway, clinical protocol, continuous quality improvement in health facilities and quality monitoring and public disclosure</li> </ul> <p><u>Hospital M&amp;E</u></p> <ul style="list-style-type: none"> <li>- Implement comprehensive electronic hospital information systems, with electronic management of records (EMR) as the core - Promote the use of telemedicine/emedicine to facilitate early diagnosis and treatment</li> <li>- Promote the integration of the hospital information systems with the overall health management information systems (HMIS)</li> </ul> <p><u>Capacity building for county-level hospitals</u></p> <ul style="list-style-type: none"> <li>- To build disinfection supply, cardiac diagnostic, lab-test, medical imaging, pathology, and distance diagnostics centers in the counties</li> <li>- To strengthen the 290 medical specialties that were weak at the county level (Fujian)</li> <li>- To establish the within-county information platform for medical services</li> </ul>	<p>Increase in the proportion of county level hospitals adopting standardized clinical pathways</p> <p>Increase in proportion of hospitals that have public disclosure of quality report (e.g. ALOS, drug revenue as a proportion of hospital revenue, average cost)</p> <p>Increase in number of hospitals using data from HMIS to generate quarterly reports on ALOS, expenditure per admission, quality indicators</p> <p>Increase in the infrastructure and the capacity of health facilities to deliver efficient and high-quality care</p>	<p>in the province</p> <p>Reduction in the drug revenue as a proportion of hospital revenue Reduction in the growth of hospital expenditure</p> <p>Reduction in the average length of stays at county general hospitals</p> <p><b>DLI 3: Increase in the proportion of inpatients to be treated through the use of standardized clinical pathways at county-level public general hospitals</b></p> <p>Decrease in OOP payment as a portion of the total inpatient services expenditure</p> <p>Growth rate of medical service revenue of public hospitals in the entire province</p>	
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- To build standardized surgery operation wards within counties		Reduction in the proportion of admissions at hospitals	
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		above county level	
<p><b>Result Area 2:</b></p> <p><b><u>Enhance service capability</u></b> Upgrading/new construction of facilities and ensure basic equipment/portable device/new technology to support the new service delivery model</p> <p>Training of the health workforce, including GPs, nurses and community health workers for delivery of PCIC services</p> <p><b><u>Improve Service organization &amp; strengthen the integrated Service provision for NCDs, including hypertension</u></b></p> <p>Organizing the integrated care among different levels of providers, including defining and assigning the responsibility and tasks of each, and setting up service alliance, if applicable</p> <p>Community health risk stratification and define the tailored health/disease management package for various groups</p> <p>Establish the GP-centered multidisciplinary team at PHC level and roll out empanelment mechanism of GPs based on the tailored service packages</p> <p>Development of integrated NCD (including hypertension) management pathway covering prevention, medical treatment, rehabilitation, selfmanagement supports and follow-up</p> <p>Establish public participation mechanisms, engage in health/disease management, responsible for their own health</p> <p>Create an enabling IT and HIMS</p>	<p>Increase in the proportion of County hospitals / Township health centers that met the national standards for health facility</p> <p>Increase in the proportion of community residents have signed service agreement with GPs based on tailored service package</p> <p>Integrated NCD (including hypertension) management pathways covering prevention, medical treatment, rehabilitation as well as selfmanagement supports and follow-up is formulated and implemented in two provinces</p> <p>Subnational guidelines for payment reform supporting integrated service provision developed and implemented in two provinces</p> <p>Increase in the number of counties/prefectures that have adopted provider payment reform (capitation or bundled payment) to incentivize integrated care</p> <p>Increase in the number of clinical conditions / Share of hospital revenue that have implemented evidence base clinical pathway</p> <p>Increase in the number of prefectures/counties that have a funding pool for outpatient services</p> <p><b>DLI 1.1: The IDS system has been scaled up to at least 50 counties/districts in Anhui.</b></p>	<p>Increase in the number of GPs per 1000 persons</p> <p>Increase in the proportion of total Registered Physicians (assistant physician) and Registered Nurses practicing at the primary care facilities</p> <p><b>DLI 4: Proportion of outpatient care delivered by primary care facilities</b></p> <p><b>DLI 5: No. of prefectures that manage Type II diabetes patients using the integrated NCD service package</b></p> <p>Increase in the proportion of NCDs patients being treated as outpatients at village, township and county level</p> <p>Increase in the proportion of patients hospitalized within county</p>	<p><b>Outcomes:</b> Improved efficiency and quality in health service delivery (More value for money) -Increased percentage of hypertensive adults whose blood pressure is under control - Reduction in annual hospital admissions for acute complications of Type 2 diabetes</p> <p><b>Impact:</b> -Better quality of life of NCD patients (measured by SF-36 score) -Reduced OOP expenses (with end goal as 20%) -Improved patient satisfaction</p>

infrastructure			
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<p><b><u>Establish quality assurance mechanism</u></b>, such as evidence based clinical pathway, clinical protocol, continuous quality improvement in health facilities and quality monitoring and public disclosure</p> <p><b>Reform payment arrangements for PCIC</b> service provision, reform health insurance package to expand coverage to prevention and outpatient services</p>		<p>Decrease in annual hospital admissions for acute complications of Type II diabetes.</p> <p>Increase in the proportion of outpatient expenditures reimbursed by social health insurance</p> <p>Increase in the reimbursement rate of outpatient pooling fund</p>	
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<p><b><u>Result Area 3:</u></b></p> <p><b><u>Establishing the institutional structures required to provide overall stewardship to the health reform</u></b></p> <p>-Initiate joint reform of health insurance, health care provision, and circulation of pharmaceutical products</p> <p>-Integrate URBMI and NCMS, gradually integrate the management of health insurances, and eventually three health insurances</p> <p><b><u>HRH</u></b></p> <p>Strengthen HRH and reform HRH policies (training &amp; recruitment of health professionals with shortage; training of GPs for locally recruited students who will return to practice in local health facilities; Integrated management of Village doctors; headcount quota reform, human resource performance based salary)</p> <p><b><u>Health Information system</u></b></p> <p>- Establish health information system</p>	<p>Functional and effective health reform leadership &amp; governance structures established.</p> <p>Integration (at least the management) of health insurances, thereby allowing unified payment arrangement and policy for all providers</p> <p><b>DLI 1.2: The integration of the management of the three health insurance schemes at the provincial level in Fujian is undertaken.</b></p> <p><b>DLI 6: Number of counties/districts that have set up a county-townshipvillage population health information system (Anhui)</b></p>	<p>Increased number of counties that report using the population health information system</p>	<p><b><i>Outcomes:</i></b></p> <p>-Reduced risk adjusted disease specific 30-day readmission rate</p> <p>-Reduced 30-day surgical readmission following certain procedure (e.g. hip or knee replacement)</p> <p>-Reduced hospital acquired infection rate, e.g. nosocomial pneumonia</p> <p>-Increased percentage of hypertensive adults whose blood pressure is under control -</p> <p>Reduction in annual hospital admissions for acute complications of Type 2 diabetes</p> <p>-Better quality of life of NCD patients (measured by SF-36 score)</p> <p><b><i>Impact:</i></b> Improved Health Outcomes (More health for money)</p> <p>-Reduced disease-specific (AMI, heart failure,</p>
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<p>(Anhui)</p> <ul style="list-style-type: none"> <li>- population health information platform for sharing information among provincial, prefecture, and county level (Anhui)</li> <li>- Support the expansion and upgrade of prefecture level information / data center (Fujian)</li> <li>- Software development, rolling out, installment, training for integrated care (imaging, electrocardiography, examination, structured electronic health record, referral system to upper and lower level health facilities) (Fujian)</li> </ul> <p><b><u>Strengthening PforR stewardship,</u></b> including building capacity at central and provincial levels</p>	<p><b>DLI 7: Number of THC / CHCs that have established primary care health information systems (Fujian)</b></p> <p>Increased number of counties that have established HMIS to support PCIC (e.g. full coverage of EMR and telemedicine)</p> <p><b>DLI 8: Program experience sharing and dissemination</b></p> <p>Technical assistance provided by the central government to the provinces and knowledge sharing/dissemination events being held regularly</p>	<p>Increased number of THC / CHCs that report using the primary care health information systems</p> <p>Increased number of counties that report using HMIS established to support PCIC (e.g. full coverage of EMR and telemedicine)</p>	<p>pneumonia) 30-day riskadjusted hospital mortality rate</p> <ul style="list-style-type: none"> <li>-Reduced out-of-pocket expenses (with end goal as 20%)</li> <li>-Improved patient satisfaction</li> </ul>
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### Theory of change for Result Area 1: Public Hospital Reform

32. Improved efficiency and expenditure growth control is one of the key areas of intervention, which entails a number of activities, including introduction of prospective payment systems that are consistent with international standards; implementing a transparent and centralized online procurement for hospital supplies; regulating drug costs through expanded use of generic drugs and EDLs and eliminating middle men in drug procurement and distribution; and the introduction of price differentiation for services across levels of facilities to ensure that appropriate services are provided/sought at the appropriate level. The government is also implementing comprehensive reform on price setting for the health services with the aim of changing the perverse incentives created by the previous distorted pricing schemes, which have led to overprovision of drugs and physical exams. Increasing the price for labor based services, such as nursing, surgical operations and physician consultations to reflect the real costs can reduce the reliance of hospitals and physicians on prescription of unnecessary/expensive drugs and physical exams, and optimize the revenue structure of the hospitals as well as increase the compensation of health professionals. These activities, taken together, will lead to an increase in the proportion of hospital discharges paid through case based payments, especially at the county level, and increasing the number of prefectures using the two invoice system. This, in turn, will lead to a reduction in the drug price markups between the manufacturer and the hospital; reduced average lengths of stay; and ultimately improved hospital performance as measured by outcome indicators focused on efficiency, and longer-term impact indicators, such as reduced hospital mortality rates and improved patient satisfaction. As such, the experience of Sanming prefecture, where these

reforms were piloted, forms the template for the scaleup of the hospital reforms province-wide and beyond.

33. Strengthened hospital Quality Assurance (QA) will be achieved through the development and use of evidence based clinical pathways and clinical protocols at provincial level, which are applicable for each level of care and will be used across the provinces; promoting the rational use of pharmaceuticals and diagnostics; regular quality monitoring; and public disclosure of overall hospital performance. In addition to a reduction in costs (e.g. through the rational use of drugs and diagnostics), these activities will lead to improved quality of care, which in turn will result in better outcomes, as measured by reduced hospital acquired infection rates and reduced readmission rates, as well as impact measures such as reduced hospital mortality rates.

34. Improved hospital governance and management through organization reforms such as leadership committees, expanded hospital autonomy (such as giving hospital directors decision rights on HRH hiring/firing, the right to retain and use savings), and establishing a corresponding accountability mechanism (by introducing performance based compensation for hospital directors, monitoring of drug prescription) will lead to increases in the variation in hospital directors and staff remuneration that is correlated with their performance. This, in turn, will contribute to improved hospital performance as measured by reduced hospital acquired infection rate, reduced readmission rate and overall patient satisfaction.

## **Theory of change for Result Area 2: PCIC**

35. Enhancing service capability will be achieved by upgrading/refurbishing/renovating facilities and ensuring the availability of basic equipment/portable devices/new technology to support the new service delivery model, as well as the training of the health workforce for the delivery of PCIC services. This will lead to a larger proportion of county/township health centers meeting national standards, and an increased number of communities having service contracts with GPs for tailored service package. In turn, this will lead to an increase in the numbers of GPs, a larger proportion of registered physicians and nurses at the primary care facilities, and an increase in the proportion of outpatient visits delivered by primary care facilities, thereby improving efficiency.

36. Strengthening service organization and the integrated provision of NCD services will be achieved by defining and assigning the responsibility for NCD care among different levels of providers; stratification of communities according to the health risk and defining a tailored health/disease management package for various groups; establishing a GP-centered multi-disciplinary team at PHC level, and rolling out an empanelment mechanism for GPs based on the tailored service packages; developing integrated NCD management pathways covering prevention, treatment, rehabilitation, self-management support and follow-up; establishing mechanisms to engage citizens on their own health; and creating enabling IT and HMIS infrastructure. These activities will, in conjunction with the other activities listed, lead to a higher proportion of outpatient visits delivered by primary care facilities, an increased percentage of the population being covered by NCD service packages, and an increasing share of clinical conditional implementing evidence based clinical pathways. This, in turn, is expected to more hypertensive patients having their blood pressures under control, a reduction in hospital admissions for complications of Type-2 diabetes, reduced hospitalization rates for NCD patients, leading to a better quality of life for NCD patients, and improved system efficiency. As such, the proposed scale-up of the PCIC reforms in the PforR leverages the experience of the IDS model in Anhui province.

37. Establishing quality assurance mechanisms, such as evidence based clinical pathways, clinical protocols, continuous quality improvement in health facilities, and quality monitoring and public disclosure will lead to more and more clinical conditions being treated appropriately. This is expected to increase the number of hypertensive patients whose blood pressures are under control and a reduction in hospital admissions for complications of hypertension, which will lead to a better quality of life for NCD patients and improved system efficiency.

38. The reform of payment arrangements for PCIC services will mainly be done by revisiting the health insurance benefit packages and payment systems to expand coverage to preventive and outpatient services. This will require development of subnational guidelines for payment reform supporting integrated care in the two provinces, and an increase in the proportion of communities that have signed service agreement with GPs based on tailored service packages. Successful implementation is expected to an increased integration of NCD management, covering prevention, medical treatment and rehabilitation, and an increased number of prefectures/counties adopting provider payment reform. These, in turn, will lead to increased numbers of prefectures/counties having a funding pool for outpatients and improved reimbursement rates for outpatients, which is expected to reduced out-of-pocket expenses, a better quality of life for NCD patients, and improved patient satisfaction.

### Theory of Change for Result Area 3: Cross-cutting Reforms

39. The goal of this result area is to support the government in strengthening key cross cutting systems that represent the foundations on which the proposed public hospital reform and PCIC are premised. The dispersed oversight and the institutional fragmentation will be addressed by establishing unified and effective health reform leadership and governance structures at both the central and provincial level. For example, at the central government level, a multi-agency, high-level Healthcare Reform Leading Group has been established to provide overall direction and leadership nationwide. Mirroring the central structure, in the provinces, multi-agency, high-level Leading Groups have also been established, comprising of the Director Generals of the Health and Family

Planning Commission, the Departments of Finance, Human Resources and Social Security, and the Office of Medical Insurance. Furthermore, the integration of the three health insurance systems will be supported, starting with the integration of their management by the provinces.

40. Human resources for health will be strengthened by supporting the provincial plans for reforms of relevant HRH policies, including headcount quota reform and the establishment of performance-based compensation for hospital and PCIC staff; recruitment and training of health professionals in areas with shortages, including training of GPs for locally recruited students who will return to practice in local health facilities; and the integrated management of village doctors.
41. The PforR will strengthen health information systems by supporting the provincial plans for establishing comprehensive health management information systems to support effective management and M&E for the two provinces.
42. Finally, program stewardship and institutional capacity at the provincial and local levels will be strengthened through technical assistance and capacity building support from the Central level. The Central level will also facilitate the monitoring and evaluation of the PforR. In addition, the central level will support the provinces in their efforts to foster knowledge generation and sharing in the process of scaling up reforms.
43. **PDO and DLIs:** To recap, the proposed PforR's development objective is to improve the quality of healthcare services and the efficiency of the healthcare delivery systems in Anhui and Fujian provinces, and if achieved it is expected to translate into better health outcomes and patient satisfaction. The eight DLIs, along with the monitoring indicators, focus on achieving the results of the PforR. The DLIs, which the two provinces have agreed to, were designed to meet three core criteria: (i) the desired results would be within the control of the government; (ii) the DLIs would be achievable in the PforR period; and (iii) the DLIs would be verifiable. Where applicable, undisbursed amounts for a DLI in a given year will be rolled-over for use in subsequent years, with a cap.
44. In addition, the specific DLIs were designed to follow five principles. They would have to: (i) maximize use of the government's existing indicators and prioritize use of the government's information system and reporting mechanisms in order to ensure sustainability; (ii) correspond to the key priorities in their respective result areas, especially in removing major service bottlenecks; (iii) stimulate quality performance at all levels of the healthcare delivery system; (iv) balance ambition ("stretch") and feasibility ("realism"); and (5) facilitate scaling up of successful pilot reform initiatives.

45. Because Anhui (population 69 million) and Fujian (population 38 million) provinces differ in their socioeconomic development, their fiscal capacity for guiding reform, and their health sector development needs and priorities, the baselines for measuring each DLI must also differ. Therefore, while the core package of interventions and the proposed DLIs (with the exception of the IT related DLI and the DLIs for prior results) will be identical for both provinces, the DLI targets for each year could differ.
46. **Public Hospital Reform.** Two of the most important sources of hospital revenues are health insurance payments and service fees, including drug markups. Hospital efficiency is therefore expected to be improved by, among other things, three major changes: (i) Changing the payments system from a fee-for-services system, which incentivizes high volume, to a case-based system will reward the right mix of services (DLI 2). This removes the incentives to oversupply services, provide unnecessary services, and extend bed days. This will be supplemented by capping the growth of hospital expenditures; (ii) Implementing a two-invoice system for drug procurement reduces costs by lowering the number of middlemen involved in drug supply; and (iii) Integrating the three health insurance systems' methods to make their payment arrangements uniform across rural and urban areas, which also applies to the PCIC, will also help to correct hospitals' misaligned supply-side incentives. In addition, hospitals' quality of care is expected to be improved through the use of standardized clinical pathways in the treatment of patients (DLI 3). Global experience shows that treating patients using standardized clinical pathways improves quality of care and patient outcomes.
47. **DLI 2: Proportion of discharged patients for whom county-level public general hospitals and Traditional Chinese Medicine (TCM) hospitals are paid through case-based payment.** The theory of change behind this DLI is that switching the underlying financial incentive for health care providers from fee-for-service to a prospective-payment system will motivate hospitals to use resources more efficiently while ensuring positive health outcomes. This approach has been shown in the literature and in applications worldwide to be one of the most significant instruments for influencing health care provider behavior. Progress on this DLI will demonstrate improvements in hospital efficiency.
48. **DLI 3: Proportion of inpatients to be treated through the use of standardized clinical pathways at county-level public general hospitals.** The theory of change for this DLI is that appropriate use of standardized clinical pathways, which has been shown to improve the diagnosis, prescription, and treatment of health conditions, will improve both service quality and patient outcomes.
49. **Theory of Change:** Improving efficiency and expenditure growth control, one of the key areas of intervention, entails a number of activities. In addition to the above-mentioned introduction of prospective payment systems and reduction in reliance on middle men in drug procurement, they include implementing a transparent and centralized online procurement of hospital supplies, regulating drug costs through expanded use of generic drugs and EDLs, and introducing price differentiation for services across levels of facilities to ensure that appropriate services are provided and sought. These activities, taken together, will lead to an increase in the proportion of hospital discharges paid through case-based payments, especially at the county level, and to the use of the two-invoice system by more prefectures. In turn, this should lead to lower drug price markups between the manufacturer and the hospital, shorter average lengths of stay, and ultimately improved hospital performance both as measured by efficiency



- indicators and longer-term impact indicators, such as reduced hospital mortality rates and improved patient satisfaction.
50. Strengthened hospital quality assurance will be achieved through the development and use of evidence-based clinical pathways and clinical protocols, applicable for each level of care, across the provinces, promoting the rational use of pharmaceuticals and diagnostics, regular quality monitoring, and public disclosure of overall hospital performance. In addition to reducing costs, these activities will lead to improved quality of care, which in turn will result in better outcomes, as measured by reduced hospital-acquired infection rates and readmission rates and longer-term impacts such as reduced hospital mortality rates.
  51. Improved hospital governance and management is expected to lead to greater correlation between the remuneration of hospital directors and staff and their performance. This, in turn, will contribute to improved hospital performance as measured by the same short- and long-term indicators mentioned above. Improvements in governance and management will be pursued through such reforms as the use of leadership committees, expanded hospital-director autonomy (e.g. in hiring and firing), and the introduction of corresponding accountability mechanisms (such as performance-based compensation).
  52. **People Centered Integrated Care.** The key objectives for this result area are to strengthen primary care, shift service utilization and NCD management to primary-care settings, provide integrated/coordinated care, and enhance the quality and effectiveness of NCD management. All of this should lead to greater efficiency and quality in the delivery of PCIC services. The proposed PforR includes two DLIs for this result area, as follows.
  53. ***DLI 4: Increase in the proportion of outpatient care delivered by primary care facilities.*** This indicator measures the ability of the system to actually deliver the number of services at the primarycare level that it is capable of delivering at that level. The theory of change on which this rests is that increasing the effectiveness and capacity of primary care will reduce the need to provide the same services at hospitals, thereby improving overall efficiency and lowering the cost of services generally. The PforR will aim to strengthen the service capacity at the primary care level and organize the integration of care among the different levels of providers, including by defining relevant responsibilities and tasks.
  54. ***DLI 5: Number of prefectures that manage Type II diabetes patients using the integrated NCD service package.*** (Threshold value for a prefecture to qualify as using the integrated service package is 25% of total Type II diabetes patients managed). This DLI measures both the quality and efficiency of primary care services. The theory of change underlying it is that this goal will be achieved by strengthening the service capacity at the primary care level, establishing and organizing integrated care among different provider levels as described above, introducing a new service model for Type II diabetes management, and reforming the provider payment system to support integrated care.
  55. ***Theory of Change.*** Service capability in primary care will be enhanced by upgrading, refurbishing, or renovating facilities, ensuring the availability of equipment, portable devices, and new technology as needed to support the new service delivery model, and training the health workforce. This will lead to a larger proportion of county/township health centers meeting national standards, and more communities arranging tailored service contracts with GPs. In turn, this will lead to increase in the numbers of GPs, a larger proportion of registered

- physicians and nurses working at primary care facilities, and an increase in the proportion of outpatient visits handled by primary care facilities, improving efficiency.
56. Improved and integrated provision of NCD services will be achieved by defining and assigning the responsibility for NCD care among different levels of providers; stratifying communities according to their health risks and defining tailored health/disease management packages for them; establishing GP-centered multidisciplinary teams at the primary care level; developing integrated NCD management pathways covering prevention, treatment, rehabilitation, and self-management support and follow-up; establishing ways to engage citizens in caring for their own health; and creating the enabling IT and HMIS infrastructure. In conjunction with the other activities described earlier, these activities should raise the proportion of outpatient visits delivered by primary care facilities, the percentage of the population being covered by NCD service packages, and the share of clinics implementing evidence-based clinical pathways. As a consequence, the number of hypertension patients getting their blood pressure under control should rise and hospital admissions for Type II diabetes complications and for NCD patients generally should fall, improving efficiency and NCD patients' quality of life.
  57. Establishing quality assurance mechanisms, such as evidence-based clinical pathways, clinical protocols, continuous quality improvement in health facilities, and quality monitoring and public disclosure will also lead to more and more clinical conditions being treated appropriately, contributing to the same outcomes described above among hypertension and NCD patients.
  58. Payment arrangements for PCIC services will be reformed mainly by revisiting the health insurance benefit packages and payment systems to expand coverage for preventive and outpatient services. This will require the development of subnational guidelines for payment reform supporting integrated care in the two provinces and an increase in the proportion of communities with tailored GP-based service packages. Successful implementation is expected to increase the integration of NCD management and increase the number of prefectures and counties adopting provider payment reform. That in turn will lead more prefectures and counties to have funding pools—and improved reimbursement rates—for outpatients, which is expected to reduce out-of-pocket expenses and improve NCD patients' quality of life and patient satisfaction.
  59. **Cross-Cutting Reforms.** The proposed PforR has three DLIs for this result area, all focused on cross-cutting systems that are expected to strengthen the integrated delivery of care and improve the efficiency and quality of both hospital and PCIC services.
  60. **DLI 6:** *Number of counties/districts that have set up a county-township-village population health information system [in Anhui Province].*
  61. **DLI 7:** *Number of THCs/CHCs that have established primary care health information systems [in Fujian Province].*
  62. **DLI 8:** *Program experience sharing and dissemination.*
  63. The theory of change underlying the first two DLIs in this result area is that setting up more population-focused HMIS will facilitate patient participation in health-care services, foster greater accountability, and improve both the efficiency and quality of health care services. The

third DLI measures the stewardship and technical assistance provided by the central government to the two provinces in Program implementation and in knowledge generation/sharing, thereby increasing the likelihood of achieving the Program results.

#### **D. Program Results Framework**

64. The PforR Results Framework will use 4 PDO level Results Indicators, and 16 Intermediate Results Indicators to measure progress towards achieving the PforR results. Of these results indicators, 9 were selected as DLI because of their relevance for the success of the intended reform, as well as their ability to incentivize the required changes.

65. Measurement and verification of these results will be mainly rely on the existing monitoring systems. This decision is intended to improve and strengthen the country's M&E systems, as well as enhance the sustainability of such systems beyond the PforR period. The monitoring will use data reported by health facilities using the existing system and data from health insurance schemes. The data will be validated and compiled at the appropriate level by the provincial HFPCs and then verified by the CHSI. As such the provincial HFPC is responsible for compiling and validating the administrative data reported by prefectures, counties, health facilities insurance schemes within the province.

66. Ultimately, the National Health and Family Planning Commission will be responsible for monitoring implementation progress across the two provinces.

#### **E. Monitoring and Evaluation**

67. **Data System.** China has a well-institutionalized, internet-based, system for national data collection and reporting for the health sector. In the two provinces under the PforR, health facilities at every level are required to enter the required data and report monthly and annually using this system. Data validation and aggregation are the responsibility of the Information and Statistics Office in Anhui Province and the Division of Planning and Information in the Health and Family Planning Commission in Fujian Province, respectively. The information collected is used by the CHSI in Beijing to compile the National Health Statistics Report on behalf of the State Council for Health Reforms. This annual report is a major source for policy makers on the National Council for Health System Reforms. Since most of the DLIs are derived from the list of indicators monitored by the State Council for Health Reforms, the PforR will rely on the data collected through this system.

68. **Methodology.** The health facilities will self-report their DLI results, and the provinces will be responsible for validating them following their existing procedures. Usually, facilities that present conflicting data, either based on historical comparisons or relative to other facilities, would be selected for further investigation. Under the PforR, the CHSI will take this final responsibility for verification, organizing a team of experts in health system reforms, hospital statistics, information technology, financial management, and human resources management to carry it out. The proposed sample size for validation is four or five counties/districts in each province and two hospitals or health facilities at each level. A random selection method will be adopted, with the detailed sampling plan and selection criteria to be formulated and agreed during preparation.

69. As an independent parastatal agency, the CHSI has many years of experience and a large team of professionals who can organize the verification team and compile the reporting as required. To make its own system more robust, the CHSI is currently investing in a sophisticated module to replace the current one for self-checking. As an added value, the proposed PforR would provide an opportunity for

this center to enrich its knowledge and strengthen its capacity for monitoring, evaluation, and verification for health system reforms nationwide.

70. Most of the other indicators in the Results Chain can be efficiently monitored through the internet based reporting system. The new indicators necessary to monitor the PforR will be added to the existing reporting system. Given its stewardship role, the provincial Health and Family Planning Commissions will ultimately be responsible for monitoring progress indicators, including timely data collection and reporting and provision of necessary verification documents to the World Bank.

## **F. Governance Structure and Institutional Arrangements**

**71. Institutional Arrangements at the Provincial Level.** The proposed PforR covers a part of the overall provincial health reform programs, so it will follow the existing structure in the provinces. In each province, there is a vertical structure for introducing health reforms that runs from the provincial level to the prefectures and finally to the counties/districts.

72. In Fujian, the Provincial Healthcare Reform Leading Group headed by the Party Secretary General is the leading organization for the overall health sector reforms program. It comprises of director generals from each sector of the provincial government. There is a Health Reforms Office, located under the provincial government. The Health Reforms Office is in charge of the reform activities in the province. In addition, there is a provincial Medical Security Administration, with a mandate to consolidate and manage the three medical insurance schemes.

73. In Anhui, the Provincial Healthcare Reform Leading Group is headed by the Governor. Under the multi-agency high level leading group, there is a Healthcare Reform Leading Group Office located in the Provincial Health and Family Planning Commission, and headed by the Director General of the Commission. The responsibilities of the Office are to: (i) prepare documents and reports for the Leading Group; (ii) formulate policies and measures to deepen the reforms; (iii) draft mid-term and long term plans and annual plan; (iv) coordinate among relevant agencies in drafting reform documents and implementation plans; (v) organize monitoring and evaluation activities; (vi) provide technical support and training; (vii) organize research and knowledge sharing activities; and (viii) provide secretarial service to the Leading Group.

**74. Institutional Arrangements at the Central Level.** The existing institutional arrangements and capacity at the central level were assessed to be adequate to implement the proposed PforR. The SCHRO is the leading agency for the national health reforms agenda and provides policy guidance to all provinces. For this proposed PforR, SCHRO will be the World Bank's direct central-level counterpart. It will be empowered to make decisions for the PforR direction and will play an important role in ensuring that the PforR achieves its development objectives.

75. The Center for Project Supervision and Management of the NHFPC (CPSM) will serve as the secretariat to the SCHRO for this PforR. The CPSM will be responsible for supporting the two provinces in the PforR implementation through technical assistance, ensuring coordination across provinces, capacity building, exchange of experiences and implementation support/guidance to the provinces. The Expert Panel at the central level will serve as a pool of technical experts to the government agencies under the national health reform program.

## **G. Economic Rationale**

**76. Sources of Major Inefficiencies.** The proposed PforR is a continuation of an ongoing program and additional new activities. As noted, the health system is hospital-centric and fragmented and fraught with inefficiency. China has more hospitals per population than a number of OECD countries, including Canada, Spain, the United Kingdom, and the United States<sup>27</sup>, and it also has expanded its hospital capacity and made use of higher-level hospitals more than it has expanded primary care facilities. Hospitals account for 54 percent of total health expenditure, compared to the OECD average of 38 percent, and the growth of the hospital sector seems to have come at the expense of primary care providers, whose use has decreased. Between 2002 and 2013, the number of tertiary hospitals rose by 82 percent and the number of secondary hospitals by 29 percent. Such developments, coupled with increased movement of trained health workers toward hospitals, is increasing the role of hospitals as principal providers of health services. This imbalance has started to reflect in the increased costs of health care.

77. Another major source of inefficiency is in the functioning and behavior of the public hospitals, which is mainly driven by the incentive structures they are facing. Hospitals in China draw revenues mainly from service fees, including the marked-up drug prices charged to patients and insurance payments. All of this encourages higher volumes of services and expensive procedures, providing a perverse incentive for hospitals to over-supply services, over-prescribe drugs, and overuse diagnostic services to maximize revenue. The current fee structure used by payers also underprices preventive and health-promoting services by pricing some of these activities below cost. With the existing system, the incentive for providers at different level of the health care system is to maximize profits, rather than coordinate to maximize population health.

78. Despite the significant progress China has made in increasing coverage under the three forms of health insurance, the fragmented nature of these schemes means equity in access to care and financial protection remain a challenge. The three schemes—the rural New Cooperative Medical Scheme (NCMS), Urban Resident Basic Medical Insurance (URBMI), and Urban Employee Basic Medical Insurance (UEBMI)—are administered separately by two entities, and the funds for each are pooled at smaller county-level and municipal/prefecture-level entities. This has led to unequal benefit packages between rich and poor counties and municipalities, both within a given scheme and between schemes. For instance, given the limited funding, NCMS beneficiaries have limited access to care and bear a higher financial burden than URBMI beneficiaries. Furthermore, such fragmentation creates further a burden on migrants.

**79. Solutions.** As explained in the preceding sections, an integrated provider system with gatekeeping and post-discharge care would help reduce costly hospital admissions and readmissions for most NCDs, which could be treated at a lower cost using ambulatory care. The delivery system could be modified to adopt a cost-effective model focused on prevention, treatment, and management of NCDs. The interventions in the proposed PforR are meant to address these areas of inefficiencies.

80. Interventions aimed at reforming the public hospitals include gradually changing the current provider payment system into a prospective payment system, reducing incentives for overprescription by adopting zero-markup pricing, rebalancing the revenue from labor-based sources, providing autonomy for hospital directors, and gradually instituting a system that holds managers accountable for hospital performance. Paralleling this reform will be interventions to strengthening PCIC, which in turn will reduce costly hospital admissions and readmissions. Changes in the payment system to provide

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<sup>27</sup> Joint China Health Study



incentives for coordination among providers, so that care is provided at appropriate levels, are also proposed.

81. Regarding insurance fragmentation, the PforR will support the efforts by the provinces of Fujian and Anhui to consolidate these schemes. In some localities, the process of merging the NCMS and URBMI has already taken place.

82. **Measuring PforR Benefits.** The proposed PforR supports a complex set of reforms that will impact the sector in the two provinces for years to come. The PforR's economic impact has been assessed by examining both the benefits it will generate and the costs it will involve. Given the complexity of the PforR, a number of assumptions were made. Throughout the analysis, the counterfactual is a scenario without the Program where the current trends in key cost and outcome variables are assumed to continue.

83. For reasons of measurement and quantification, the cost-benefit assessment reviews only a limited set of benefits corresponding to the reform of the public hospital and PCIC components, notwithstanding that the PforR supports many other benefits as well. The benefits from improved stewardship and those from integrating the three insurance systems were among the benefits not quantified. As such, the benefit quantification below underestimates the PforR's total benefits.

84. For example, improved primary care and a more integrated system are expected to reduce hospital admissions of cases that can be managed at the primary care level. Given the prevalence and level of spending stemming from such cases, significant savings can be made by reducing the number handled at hospitals. For instance, diabetes is estimated to affect more than 100 million Chinese, and in 2009/10 it accounted for more than US\$25 billion in treatment costs, fully 13 percent of China's national health expenditure.<sup>30</sup>

85. Each of the following expected PforR results should significantly reduce overall health system expenditures:

- (i) Reduction in hospital readmissions;
- (ii) Reduction in hospital readmissions;
- (iii) Increased use of standardized clinical pathways;
- (iv) Reduction in hospital-acquired infections;
- (v) Reduction in average length of stay;
- (vi) Efficient and transparent procurement of medicines, increased use of generic drugs, and rational use of drugs; and
- (vii) Reduced morbidity and mortality due to NCDs.

86. The targets indicated in the results framework for each of the above results are used to measure the contribution of the Program. The counterfactual—the “no Program” scenario—is measured as the continuation of the current trends in each of these indicators.

87. **PforR Costs.** The PforR costs include the projected ear-marked budget of the government at the central and provincial levels for the five-year period (2017–2021), together with the World Bank's contribution in support of implementing the activities identified under the Program. The overall PforR cost is expected to be US\$4,666,000,000. Of this total, the government's contribution is US\$4,066,000,000 and the World Bank's contribution is US\$ 600,000,000. Though the World Bank's

portion represents a relatively small financial contribution, it will incentivize the quality improvement of the much larger government spending on the PforR.

## H. PforR Benefits

**Annex 4 Table 5: PforR Benefits**

Baseline: Current situation	After PforR implementation <sup>#</sup>	Counterfactual (in the absence of the PforR)
Hospital admission	18.11%	25 %
Hospital readmission	9.625%	12.5%
Inpatients treated through the use of standardized clinical pathways	28,985,055 patients	12,648,024 patients
Hospital acquired infection <sup>31</sup>	639,767 patients	1,005,009 patients
Average length of stay	7.3 days	7.9 days
Efficient/transparent centralized online	US\$504,000,000 <sup>32</sup>	0

<sup>30</sup> Weiyan Jian, Karen Eggleston, Ming Lu and Hai Fang.

<sup>31</sup> By Program end, hospital acquired infection will be similar to that in the United States.

<sup>32</sup> It is assumed that the full savings documented in the literature will be realized only by the end of the Program. Only a fraction of the assumed savings will occur every year till full savings is achieved at the end of the Program.

procurement of hospital supplies, increased use of generic drugs, and rational use of drugs (savings)		
Reduced morbidity and mortality due to NCDs (savings)	US\$26,257,000,000 <sup>28</sup>	0

<sup>#</sup> The cumulative benefits/costs that are computed annually as they are realized and discounted to present value.

**Annex 4 Table 6: PforR Benefits, Costs and NPV Over the life of the PforR**

Discount rates	Benefits over the life of the Program (USD)	Costs over the life of the Program	NPV over the life of the Program
3%	\$ 29,176,599,046	\$4,401,996,230	\$24,774,602,817
6%	\$ 26,857,258,854	\$ 4,166,836,558	\$22,690,422,296

## I. Evaluation of Technical Risks

88. There are a few risks associated with the PforR's execution and monitoring that will need to be mitigated as part of the PforR. The over-arching challenge is that the new service model represents a transformative change from the existing hospital-centric system. Its success therefore requires new incentives, new ways of doing business, and new institutional and organizational settings. These issues will have to be addressed as a priority as part of PforR implementation.

89. **The proposed PforR is complex.** Although Sanming offers a blueprint to follow, not all municipalities can follow Sanming's plans fully. Each municipality will need to adapt the underlying principles of the Sanming reform to its own local context. The provincial government will also need to play a critical role in facilitating and resolving any conflicts of interest that may arise among the

<sup>28</sup> It is assumed that the benefit from the two provinces are proportional to their population share. And the full savings documented in the literature will be realized only by the end of the Program. Only a fraction of the assumed savings will occur every year till full savings is achieved at the end of the Program.



multiple agencies involved. Sufficient technical support is also essential to ensure that the principles are adapted appropriately.

**90. Quality improvement is a challenging task.** Sanming was able to achieve results in reducing expenditures, but there is less evidence of its success in improving quality. It is therefore critical for the PforR to provide adequate support and monitoring on the activities aimed at improving quality noted above and to monitor the progress of quality improvement.

**91. Provider payment reform is still being designed.** As identified by the technical assessment, provider payment reform is critical to achieve improvements in efficiency and quality. Sanming did not introduce provider payment reform during its first phase of reform. It is now beginning to introduce Diagnosis Related Grouping (DRG) payment methods, but this is still in its initial phase. Also, while DRG is appropriate for acute, episodic-based hospital admissions, it actually creates incentives for hospitals to increase admissions, which are already very high in China. Therefore, much more effort needs to be put in to designing appropriate provider payment methods.

**92. The local experts' capacity, particularly at grassroots level, is relatively low.** It is unclear whether local experts can lead or play a major role in supporting this complex PforR's design and implementation. They will need to be supported by more experienced and knowledgeable experts.

**93. Weaknesses at the primary care level.** While the reforms are aligned in the right direction, their implementation will require focused technical assistance, supported by broader and deeper systemic reform, in order to achieve the intended impact when brought to scale. It should be noted that the low delivery capacity of primary care settings and the shortage of qualified health workers both continue to hamper the application of the new service model, which is centered on primary care.

## **Annex 5: Summary of Fiduciary Systems Assessment**

1. Pursuant to the World Bank policy and directives for Program-for-Results Financing (July 10, 2015) and the earlier Interim Guidance Note (June 18, 2012), the World Bank's fiduciary team, financial management (FM) and Procurement conducted an integrated Fiduciary Systems Assessment (FSA) of the CPSM and the Anhui and Fujian Provincial fiduciary systems. The overall objective of the assessment was to determine whether the fiduciary systems of the Program provide reasonable assurance that the Program financing proceeds will be appropriately used, with due attention to the principles of economy, efficiency, effectiveness, transparency, and accountability.
2. The PforR will support implementation of the Anhui and Fujian Governments' health reform Masterplans over a four-year period (2017-2020). The Government's ambition is to scale up reforms province-wide by financing a purposely-selective subset of result areas with a focus on health service delivery reform along with the institutional and policy reforms needed to facilitate it and will focus on knowledge generation, the dissemination of lessons learned and evaluation in 2021
3. The PforR activities are implemented through a wide array of consulting services, procurement of equipment and IT systems and procurement of works for upgrading, refurbishment and construction of primary health centers at county or township level. These activities might comprise policy reforms, design of medical norms and standards for delivery quality health services, engineering design of health facilities, upgrading and refurbishment of health centers, and construction of diagnostic centers, upgrading and construction of training centers, procurement of mobile and portable medical equipment, expansion of telemedicine network, establishing health information platforms and several IT systems to support the management of non-communicable diseases and a wide array of training programs.
4. The World Bank fiduciary team assessed the PforR financial management and procurement systems to determine the degree to which the relevant planning, budgeting, internal controls, treasury management and funds flow, accounting and financial reporting, as well as the auditing arrangements, provide reasonable assurance on the appropriate use of PforR funds and the safeguarding of its assets, and the degree to which planning, bidding, evaluation, contract award and contract management arrangements and practices provide reasonable assurance that the PforR will be adequately supported through its procurement processes and procedures.
5. Financing of the PforR expenditures mainly comes from central and provincial government general transfers. The PforR is mainly executed by county and lower level health sector entities in Anhui and Fujian, as well as the CPSM and the Health and Family Planning Commissions (HFPC) of the two respective provinces, using existing financial and procurement country systems, with support from the National Health and Family Planning Commission (NHFPC).
6. The FM assessment concluded that with the implementation of the proposed mitigating measures, the PforR's financial management systems are broadly adequate and provide reasonable assurance on the appropriate use of the PforR funds and safeguarding of its assets.
7. The procurement assessment concluded that the current procurement legal framework, comprising the Government Procurement Law of 2003 the Tendering and Bidding Law of 1999 and its regulations and the procurement systems of the CPSM and the two provinces provide enough assurance that procurement under this PforR would be executed with adequate levels of transparency, competitiveness, efficiency and fairness. With the proposed mitigation measures, the level of adequacy

of the procurement procedures would be even enhanced and the procurement under this Program would be carried out in compliance with the World Bank's PforR anticorruption guidelines.

8. None of the expected procurement activities is considered of large value. It is not envisaged that the Program will finance any contract for consulting, works or goods above the OPRC thresholds<sup>29</sup>, mainly because the construction of new hospitals is outside the boundary of this Program. Construction of new primary health facilities, the only contracts so far identified of a relatively high value, will not fall under the OPRC level value contracts.

9. Overall the fiduciary risk rating is considered substantial because: (a) the provinces have little or no experience in program financial reporting or program financial statement audit, (b) PforR financial planning is weak, (c) the size and coverage of the Program made us difficult to assess the fiduciary systems of a representative number of entities and (d) due to the numerous entities involved in this Program, there is some risk for the non-application of World Bank debarment/temporary suspension lists.

10. The Fiduciary assessment identified the following principal findings, risks and proposed mitigating measures to address them:

## **Financial Management Systems**

### ***Findings***

11. The PforR planning is guided by the national and provincial 13th Five-Year Plan for the health sector. Discrete, detailed PforR financial planning supporting the vision presented in the Provincial Masterplans would strengthen PforR implementation.

12. Recurrent budgets are prepared at each level of government with due regard to national and provincial strategies, policies, and priorities, and follow well-established and nearly uniform national practices. Budgets are not consolidated vertically up to the provincial level. The PforR funding sources are comprised of existing national and provincial general transfers to lower levels and some new earmarked funds to be established under the PforR. The existing national and provincial transfers have been appropriated to county and lower level in a stable and predictable manner over the past two years. Program budgets, with a separate profile or budget code, are not an element of China country systems.

13. Most of the IAs are independent public institutions and follow MoF-issued accounting standards and regulations for Public Institutions and the "Hospital Accounting Regulations" jointly issued by MoF and the National Health and Family Planning Commission (NHFPC). County level hospitals maintain their accounting independently. The accounting for Primary Health Centers is either done centrally by the accounting center of each county health bureau or handled by themselves independently. IAs record PforR expenditures financed by general transfers comingled with local government funding but do not separately identify them by program or by funding source. IAs prepare standalone financial statements on a monthly basis. Each level HFPC will prepare the consolidated fiscal final statement of the health sector for the same level budget entities on an annual basis using a uniform software developed by the Ministry of Finance which has been in use for more than ten years.

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<sup>29</sup> The current OPRC threshold for works is US\$75 million for substantial risk. The unit costs for the construction of a new hospital with standard decoration are between RMB 3000 to 4000 per sq. m. A county level hospital of 10 floors with 33,000 sq. m will cost approximately RMB 100 million (equivalent to US\$ 14 million); this value is far below the OPRC thresholds for works.

Each level's health sector fiscal final statement is reported to the same level finance bureau. The whole province consolidated health sector fiscal final statement is done by the Provincial Finance Bureau generally in March every year.

14. Each level of government's Finance Bureau has a treasury single account (TSA) opened in the central bank (PBOC). Each IA has its own zero balance account opened in agent commercial banks which are selected and approved through government procurement procedures. Every working day (around 4 pm), the TSA clears account balances with all agent commercial banks. The FB treasury division at each level of government can process "direct" or "authorized" payments for IAs. For direct payment, the money will be directly paid from the TSA to third party contractors, suppliers or service providers. For authorized payments, a lump sum of money will be authorized to zero balance account of the budget entity based on their payment plan and the budget entity will pay third parties. In the health sector, the majority of transactions are done through the "authorized" payment mechanism though high value direct payments make up the larger share of payment dollar value. PforR activities are carried out in accordance with the approved budget and sufficient funds are transferred to TSAs to make timely payment. 2012 National Treasury reforms appear to have been implemented successfully in the two Provinces.

15. The county or higher level audit offices conduct annual audit on budget execution and final accounts at its level. The audit reports on budget execution and other fiscal revenues and expenditure are published once approved by the same level People's Congress. Besides disclosing overall budget information of actual revenue and expenditures, the audit reports focus on compliance issues. Audits are performed for selected sectors on a rotation basis in accordance with government priorities each year. Usually a sector will be selected for a budget execution audit every four to five years. In Anhui, the latest audit of the provincial health sector was in 2013. In Fujian, there has been no audit of the provincial health sector in the past three years.

### ***Risks and Mitigation measures***

16. Most of the funding related to PforR capital investments, including IT, will be financed by new earmarked funds, which are subject to provincial government's approval and have not yet been included in the regular annual budgeting process. Moreover, the Anhui Provincial DRC indicated that past financing to county and lower level health facilities was not included in the 13<sup>th</sup> Five-Year Plan. It also indicated that DRC's financing for IT systems is not expected to take place in the first three years of the 13<sup>th</sup> Five-Year Plan. This might lead to financing gaps that will need to be filled from other sources. The provincial HFPCs, DRCs and FBs should work together to prepare more detailed Program planning for the financing of PforR activities.

17. The PforR financing includes general transfers of BPHP, ZMDS, EDS and CLHRS. The general transfers were set up to subsidize the operating deficits in county public hospitals and PHCs including THCs and village clinics (VC). These transfers are comingled with local government funding and can be used by Implementing Agencies (IAs) for any recurrent budget line item. This provides IAs flexibility but makes it difficult to identify how specific planned PforR activities will be financed.

18. The provincial governments currently do not require PforR financial statements, and the current financial reporting architecture makes it difficult to generate PforR financial statements. This creates a risk of non-compliance with the PforR financial statement requirements. To mitigate this risk, as agreed with the borrowers, the PforR financial statements for the two provinces will be generated and prepared through the health sector fiscal final statement process by using the existing final statement software developed by MoF during the PforR life. The Program financial statements will be prepared by the

provincial HFPCs and the provincial finance bureaus together, and will include the budget resources (i.e. subsidies) and expenditures defined by the Program. The PforR financial statements for the Program activities executed by the NHFPC will be prepared by NHFPC through a designated accounting code in its existing accounting system, which can capture all the Program expenditures systematically.

19. No Program financial statements audit is currently required. Carrying out a first-time PforR audit will require coordination across government audit units and the application of financial audit techniques not practiced by some audit units. This creates a risk of weak audits, at least in the initial years of the PforR. To mitigate this risk, PforR financial statement audit arrangements will be agreed with the Borrowers. The PforR financial statement audit will be guided by CNAO and will benefit from the experience learned from P4R audits carried out in Hebei province.

## **Procurement Systems**

### ***Findings***

20. End users (health centers and hospitals at different levels) conduct procurement planning (preparation of procurement plans according to the public budgets allocated and/or their self-raised funds).

21. Bidding documents are prepared by the Purchasers with inputs provided by government design institutes (in charge of the technical specifications and estimated budgets), procurement agents (in charge of the commercial part of the bidding document) and consulting engineering firms who will elaborate the bill of quantities in case of the procurement of works.

22. The bidding and contract procedures stated in the two national laws and in the related regulations are adequate to ensure transparent and efficient procurement processes but also open and fair competition. The time from publication of the procurement notices to the deadline for bid submission and bid public opening is set at a minimum of 20 calendar days. Invitations for bids should include all key information of the bidding process and be published in national media and/or easy accessible websites. The bid evaluation is normally completed in one day by an independent team comprised of bid evaluators selected randomly from a data base and a representative of the Purchaser. The contract will be signed within the 30 calendar days after contract award publication. Contract awarding recommendation notices and contract award notices are published timely and a standstill period of 3 calendar days allow bidders to complain if they are not satisfied with the outcome of the procurement processes. Bidders are also allowed to submit requests for clarifications during the bidding period, and both laws set up clear periods for addressing bidder's request for clarifications and complaints.

23. To ensure transparency and provide more efficiency to the procurement processes, the government set up transactions centers nationwide with the primary mandate to conduct e- bidding for all open competitive processes. Hefei transaction center foresees that by 2017, 80% of the open bidding processes will be conducted electronically. These centers are normally equipped with adequate resources, including physical facilities for conducting bid openings and bid evaluations sessions, and most importantly, they account with modern and well-functioning e-bidding platforms. Bidders need to be registered for participating in the bidding processes, but the registration process is free, fast and can be done on-line. In Hefei's transaction center, 40,000 bidders are registered and international bidders are allowed to be registered. Purchasers are fully satisfied with the performance of these centers; they work expeditiously even 7 days a week.

24. There are two tiers of complaint mechanism. Under the first tier, the bidder can lodge any complaint to the client regarding the bidding document, the bid opening, or the intended contract award recommendation. The intended contract award recommendation is required to be disclosed for at least three calendar days. The complaint regarding the intended contract award recommendation shall be submitted within this standstill period. The client is required to respond to the complaint within three calendar days. Under the second tier, the bidder can lodge any complaint to relevant supervision government authority regarding the bidding document, the bid opening, the intended contract award recommendation or other non-compliance of the procurement processing with relevant laws, rules and regulations within 10 calendar days from his awareness of the issue. Within 3 working days, the supervision government authority shall determine whether the complaint is valid. If the complaint is determined valid, within 30 working days, the supervision government authority shall issue a written judgment and determination.

### ***Risks and Mitigation measures***

25. Transactions centers and implementing agencies in charge of procurement at different levels, and the health and family planning authorities, will be instructed to comply with the suspension and cross-debarred list. CPSM, Anhui and Fujian Provinces will issue official instructions to cause the implementation agencies at various levels to ensure that no contract will be awarded to a firm or individual which is in the World Bank's debarred list or under temporary suspension. In addition, the TORs for audits will include the assignments of selecting the awarded contracts on a random basis, and checking whether any contract is awarded to an ineligible firm or individual.

26. CPSM, and the Health and planning family authorities at the provincial level, should inform the World Bank of any credible and material allegations of fraud and corruption issues on a regular basis in the Program progress report.

27. Since the overall budget of the contract will be disclosed in the bidding document and any bid which offers a price higher than the budget shall be rejected, the budget shall be reliable. When the procurement plan is prepared, the Purchaser shall carry out a market analysis, check the historic records for similar procurement and work out a reliable and accurate budget for the contract. Before approving the procurement plan the Purchaser and or the design institute as the case might be, should check the budget with the market to ensure its reliability and reasonability. Prior to issuing the bidding document the Purchaser and/or design institute in charge of that procurement, may also update the budget based on the latest market information. It is unlikely that any bid would be rejected on this basis, because estimated budgets are being published, but if this occurs, justifications for bid rejection shall be provided in the procurement files and that documentation should be subject to inspection by the auditors. Transactions centers should be able to provide reports containing this type of information, as demanded.

28. Purchasers should conduct due diligence before awarding/signing a contract. Because evaluation members do not normally check the veracity of the documents submitted in the bids, and there is a risk of falsified information, it is necessary that Purchasers verify the documentation submitted by the winner bidder, such as to confirm the past experience claimed, financial resources available, etc. Purchasers would be instructed (see Annex 9) during the project implementation to carry out due diligence before awarding contracts.



## **Annex 6: Summary Environmental and Social Systems Assessment**

1. As noted in the technical assessment, the PforR is expected to bring about positive environmental, social and health benefits in terms of providing improved health services to the public and communities, particularly in rural poor areas. Along with these, it is expected that standardized hospital management practices for medical waste, occupational safety and health, and that the collection and transportation of medical wastes in rural areas will be improved.
2. Nonetheless, some of the activities supported under the PforR have potential negative impacts and risks. The PforR includes upgrading, rehabilitation and/or new construction of healthcare facilities at the county level, township and village levels. The scale of the physical structures may range from small structures, such as test centers, to relatively large ones such as health recovery center or county hospitals (typically class II hospital). Potential environmental and social impacts are associated with construction of physical structures and the operation of existing or new healthcare facilities. The ESSA summary presented below focuses on those potential impacts.
3. The overall environmental and social risk rating of this PforR is considered moderate.

### **Potential Environmental and Social Impacts and Risks**

#### ***Environment***

4. During construction of the physical works under the PforR, potential environmental impacts will include dust, noise, non-hazardous solid waste, wastewater, and social disturbances, such as traffic safety and congestion and construction safety concerns. These impacts are envisaged to be moderate, temporary or site-specific, and can be mitigated with readily available measures.
5. The activities under the PforR include the operation of new and existing health facilities and procurement of medical equipment. These activities result on operational effects and risks including: (i) medical solid waste management within healthcare facilities; (ii) transport and disposal of medical solid wastes; (iii) radiation leakage, handling of radiation contaminated wastes; (iv) decommissioning of medical radiation equipment; (v) medical wastewater; and (vi) air emissions in healthcare facilities. If not well managed, these activities will threat the environment, public health, occupational and community.
6. Medical waste management and radiation risks are considered the main issues from an environment, health and safety perspective.
7. *Medical waste handling, transport and disposal.* In healthcare facilities, the medical wastes are collected, packaged by medical workers, and temporarily stored at designated places. A special unit (mostly the infection prevention unit) is responsible for providing technical guidance and day-today supervision. The collection, transport and disposal of medical wastes are carried out by specialized companies in both provinces. In each prefecture, a medical disposal facility (incinerator) is in place to serve the prefecture and their disposal capacity is considered adequate, but inadequate operation of disposal centers may produce air emissions bottom slag and fly ashes. The waste management can be compromised owing to low awareness or technical knowledge, inadequate equipment or storage capacity, or lack of supervision, considering that the PforR will aim to expand lower level healthcare facilities in townships, villages, some of them located in remote rural areas.



8. *Radiation risks.* Radiation equipment, including medical imaging and radiotherapy facilities, are widely used in county and above level hospitals and lower level healthcare facilities. If not well managed, radiation and/or radiation contaminated materials (including paper, medical gloves, etc.) will be a great concern for the medical workers, and for public and community health and safety. In particular, if the healthcare facilities are located in core urban areas with dense population. In addition, the handling of radioactive sources and the decommissioning of old radiation equipment is another concern, if not done properly.

9. Nonetheless, these environmental impacts and risks are considered moderate, and suitable for activities to be supported by the PforR according to the Bank's PforR Directive and Policy.

### *Social*

10. The main social issues considered during the assessment include potential negative effects and potential impacts of the PforR, related to: (i) introduction of policy reforms; (ii) accessibility and equity; (iii) public participation; (iv) land acquisition and resettlement; and (v) ethnic minorities.

11. *Introduction of policy reforms.* The hospital governance reform will delink the payment of bonus for the medical staff with the prescription of drugs and examination, which could affect their income. This might have a risk of demotivating doctors and other health workers to provide quality health services. On this matter, the reform will introduce performance based compensation systems for healthcare professionals. The findings of the post evaluation of the pilot in Sanming prefecture showed that the income for medical workers has more than doubled since the reform, which had led to tangible improvements in staff satisfaction and motivation. Introduction of the case-based payment system will result in a change from the existing Fee-for-Service payment system. If the case fee rating cannot be determined properly, it may result in an increase in health service costs. On the other hand, it might cause the under-provision of health services, which can be reduced and controlled by the new standardized clinical pathways at county level public general hospitals.

12. *Accessibility and equity.* Inequity in health service coverage still exists, in spite of three different social insurance schemes established, covering 96% of the total population in urban and rural areas, namely urban employee (UEBMI), urban resident (URBMI), and rural resident (NCMS). There are substantial disparities across these schemes regarding funding source, benefit package, and financial protection, in particular between two resident schemes and urban employee scheme. For example, rural populations have more restricted benefit package than urban worker and less financial protection, mainly due to lower premium for URBMI and NCMS, despite the fact that the government provides significant subsidies of around 75%, of the premium for rural and urban residents. In addition, there are two government supplemental programs focusing on improving the accessibility and equity of health services for the poor and to reduce the burden of disease on households, which include: (i) Medical Aid Scheme (MAS); and (ii) Catastrophic Medical Insurance (CMI). Nevertheless, in some poor areas, the lack of quality health service provision in the local communities may negatively affect accessibility and equity.

13. *Public participation.* During the implementation of the PforR, issues related to lack of evidence of public participation and social accountability of the health care reform may arise, as well as the inadequate participation of users in monitoring the quality, satisfaction and utilization of the delivery of health services.

14. *Land acquisition and resettlement.* For those healthcare facilities to be built, expanded, or rebuilt completely, a certain amount of land acquisition is expected. The overall scale of land acquisition should be moderate, ranging from 5-15 mu for township health care centers to 20-200 mu land area for county level hospital (class II). Given the nature and location of the different types of health care facilities to be covered under the PforR (assuming that most are located in rural and low density areas), the land acquisition is unlikely to be associated with large scale house demolitions and/or displacement. The overall impact of land acquisition appears to be limited in scale and moderate in degree.

15. *Ethnic minorities.* The proportion of ethnic minorities is very low in both provinces, ranging from 0.66% in Anhui Province to 2.16% in Fujian Province. She and Hui nationalities account for about 90% of total minorities in the two provinces. These two nationalities share the same language and live and behave in ways virtually identical to their Han Chinese neighbors, and hence are usually not vulnerable to ethnicity-specific community hardship. Their access to healthcare is identical to other communities. Since the location of potential HCFs under the PforR would be mostly in county towns and township centers, where ethnic minorities are scattered, the potential impact due to land acquisition on minority communities should be limited.

16. Thus, these social impacts and risks are considered moderate, and suitable for activities to be supported by the PforR according to the Bank's PforR Policy and Directive.

#### **Assessment of Legal and Institutional Framework applicable to the PforR**

17. A comprehensive review of the legal and regulatory framework for social, environmental, safety and health protection relevant to the activities supported under the PforR was conducted, including their implementation, institutional performance and capacity, and comparisons with the World Bank PforR Policy and Directive.

18. The national and regional legal framework is comprehensive and provides a full coverage over the main environmental and social effects of the PforR. China has established a comprehensive system for the management of environment, occupational health and safety (EHS), and social issues, which consists of laws, regulations, guidelines and specifications and standards. This system provides a reasonable basis for addressing the environmental and social issues related to activities supported under the PforR.

19. Consultations of government departments and site visits to health care facilities in the provinces of Fujian and Anhui at municipal, county and township levels, have demonstrated that the institutional arrangement at the program level have been clearly established and the procedures, e.g. approval, examination and grievance redress, have been well operated and maintained.

20. The ESSA finds that, in general, the environmental and social management systems to manage the identified environmental and social risks related to the activities to be supported under the PforR are in place, but some improvements should be made to ensure their proper implementation.

#### ***Environment***

21. Specific to the health sector, along with the rapid development and reform of the health sector in the past decades, a set of laws and regulations addressing environmental, health and safety issues in the medical sector have been enacted in China. Through field visits and discussions with authorities and hospitals in the two provinces, it is noted that the waste streams (waste, wastewater and air emissions

etc.) in hospitals, the medical waste collection, transport and disposal, and the radiation risks are managed and regulated following national and local regulations.

22. *Institutional Responsibilities.* The key PforR stakeholders involved in environmental management include various levels of health and family planning commissions (health bureaus), environmental protection bureau, and medical waste disposal facilities. The assessment finds that the responsibilities and accountabilities of these PforR stakeholders and institutions are clearly designated. In general, the government agencies are capable of fulfilling their duties, i.e. review and approval of EIAs and various actions plans, supervision and examination, and grievance redress. The procedure for review and clearance, and supervision and inspection, is well designed. Regular monitoring and inspection by the government agencies are performed. The technical capacity of the government organizations relies largely on their expert panels, which undertakes the review, the preparation of the environmental assessment reports and various action plans, and advises on decision-making.

23. Relevant to the medical waste management and radiation risks that are screened as the main concern associated with the PforR, the following findings are made:

24. *Medical waste handling, transport and disposal.* New regulations, strong political will and continuous investments, over the past decade or so, have resulted in a comprehensive medical handling, storage, transport and disposal system through public investments or Public-PrivatePartnership. The system is regulated by a comprehensive legal framework and appropriate enforcement authorities.

25. In the healthcare facilities in both provinces, it is noted that medical waste categorization system, hospital waste management plan, ad-hoc training programs are practiced. Local health bureau and sanitation supervision stations conduct regular supervision on the effectiveness and performance of the in-hospital medical waste management. On the transportation and disposal of medical wastes, it is noted that in each prefecture, a certified company provides services to the prefecture. The disposal facilities (incinerator) use modern technologies for incineration and air pollution control system, and are monitored by local environmental protection bureaus closely. Since each municipality has one centralized medical waste disposal center, the municipal protection bureau carries out regular site inspection and emission monitoring. Sample emission monitoring report were reviewed, and the results meet applicable emission standards.

26. *Radiation Risks.* Documentation, procedures and capacity are in place to manage the radiation impacts and risks. On radiation exposure to medical workers and communities in healthcare facilities in the two provinces, there are proper protection ware and shelter, and portable detectors are provided to monitor and control radiation leakage. For medical radiation equipment, radioactive source and radiopharmaceuticals, the licensing, review and assessment, inventory, safe use, work-site detection, monitoring, maintenance, emergency response and decommissioning are specifically required, and regulated by HFPC, EPB and Public Security Bureau. For radiation contaminated wastes, specific requirements on collection, separation, storage, packaging, transport, and final disposal are required as well.

27. In managing the retired radiation equipment, the practices follow applicable regulations. The users prepare environmental assessment for the decommissioning of radioactive equipment or isotopes for review and clearance by provincial level environmental protection bureau. Radioactive sources which remain, the value of use are transferred to other users following the regulations on safety and protection of radioactive isotopes and radioactive equipment. Users return the radioactive source to the producers,

the importers or the certified facility for storage. The users are required to submit the request for change or cancellation of the radiation safety certificate in the provincial environmental protection bureau.

28. Nonetheless, the assessment of disposal of medical waste and radiation risk identified potential weakness that could affect the effective operation of the environment management system in the two provinces: (i) As the PforR extends medical services to remote and poor area, the collection of medical wastes to transport of disposal facilities maybe inadequate due to cost reasons or lack of adequate enforcement; (ii) Lower level (counties/districts and below) healthcare facilities and authorities may be constrained due to lack of adequate staff, training, and monitoring or enforcement tools; and (iii) various levels of HFPCs, EPBs, Public Security Bureaus that are involved in the regulation of environmental, health and safety issues may lack information share and intra-agency coordination. Therefore, the implementation of the existing environmental, health and safety management system, institutional coordination and capacity building should be strengthened, particularly at the low administrative level (namely below county level); and the prefecture and/or county level agencies should have their capacity strengthened to ensure adequate performance of the enforcement systems.

### *Social*

29. *Accessibility and equity.* One key element of the “Healthy China 2030 Plan” is to establish and complete a basic health insurance and protection system, which is based on basic healthcare insurance, and supplemented with other forms of insurance and commercial health insurance. The basic approach is to effectively integrate social health insurance, catastrophic medical insurance, commercial healthcare insurance and a medical aid scheme in order to develop a matured healthcare insurance system in the country by 2030. In 2009 and 2015, the Ministry of Civil Affairs and State Council issued regulations<sup>30</sup> to further improve the medical aid scheme. The scheme provides additional financial support to the low-income populations based on their affordability and actual medical costs to meet their needs of basic healthcare services. The scheme has a stable source of financing, operates according to relevant regulations with effective results. On the supply side, the PforR interventions will include the strengthening of service delivery capacity, with a focus on county level and below. By promoting the integration of social health insurance schemes with the support of MAS and CMI, as well as improving the provision of basic health care services, especially in the poorest rural areas, the proposed PforR should enhance the accessibility of the vulnerable groups.

30. *Land acquisition and resettlement.* The Land Administration Law and State Council Decision on Deepening the Reform on Strict Management of Land, are the key legal basis for defining fundamental aspects of the land acquisition system in China. The current legal framework has established a clear procedure for obtaining the approval of land acquisition for investment projects, and managing the land acquisition process, which includes informing the affected people about the purpose, location, compensation rates, and rehabilitation measures for the land to be acquired, confirmation by the affected parties over the outcome of land surveys, and holding public hearings on the land to be acquired. The actual process of land acquisition is handled by the local Land Resources Bureau with assistance from the township government. Based on field visits and assessments of past experience with similar land acquisition procedures in the region, and as long as the procedure is followed, the basic interests of affected people were protected. The findings also showed adherence to the principle of

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<sup>30</sup> Opinions on further Strengthening the Medical Financial Assistance System in Rural and Urban Areas (Min Fa, 2009 NO.81) and Notice of the State Council on Further Improving the Medical Financial Assistance System and Nationwide Implementation of Medical Financial Assistance for Patients with Serious Illness (Guo Ban Fa, 2015 NO.30)

avoiding or minimizing displacement and demonstrated that affected people are assisted in improving or at least restoring their livelihood and living standards.

31. *Public participation.* Based on review of practices adopted by pilot cities, it seems that the content and details of healthcare reform was widely introduced to the public through different forms of media. The improved coverage of healthcare benefits, particularly to vulnerable groups, and face-to-face interaction enabled awareness about the basic content of reform measures, coverage of basic health insurance, and proposed improvements under the PforR. At the same time, regular visits by different healthcare teams also provided opportunities for residents to voice their concerns regarding healthcare plans. Finally, for those with special issue or complaint on different aspect of healthcare program, they could always make complaint through regular county appeal and complaint office set up in all counties/districts.

32. *Ethnic minorities.* There are more than 400 laws and regulations addressing the legal requirements and stipulations in China. This specific legal framework promotes preferential treatment for minority nationalities in some contexts and equitable treatment of all groups in others. The current legal framework supports the lawful rights and interests of the ethnic minorities and also requires that the affected minority communities like other local communities will be consulted and their support obtained, during the project planning and land acquisition process.

## **Consultation and Disclosure**

33. During the preparation of the ESSA, the World Bank assessment team carried out consultations with representatives from two Provincial Task Forces (PTFs), provincial environment protection and land resource bureaus, as well as officials from local government agencies. In addition to this, the World Bank team made field visits to health care facilities of varying sizes and coverage in Anhui and Fujian, particularly county level hospitals and township level healthcare centers, as well as village clinics. The discussions and visits were held with staff managing the facilities, including those in charge of construction and provided good understanding of healthcare conditions in the two provinces, and created the basis for the development of this ESSA.

34. From February 21 to 25, 2017, public consultation workshops were conducted in six venues in Anhui and Fujian Provinces to receive feedback on the draft ESSA, which was distributed in Chinese beforehand to potential participants, and also disclosed on the both Provincial Health and Family Planning Commissions' websites (on February 17, 2017). Three consultation workshops were held in each province, one at the provincial level, and the other two at city/county level. The purposes of the multi-stakeholder consultation workshops were to: (a) introduce the Environmental and Social Systems Assessment approach under the proposed Program-for-Results operation; (b) seek comments and feedback on the key findings and recommendations of the ESSA. In all workshops, participants voiced strong support to the Program. The participants agreed that, overall, the ESSA report is of good quality; the review and analysis of domestic laws and regulations are comprehensive and wellorganized; the key environmental and social issues identified are consistent with the realities on the ground; the assessment of institutional arrangement, capacity and performance is objective; and the recommendations made by the ESSA are pragmatic and achievable.

35. Based on the comments received, and following Program negotiations, the final ESSA was disclosed on the external website of the World Bank, as well as on the Central Health and Family Planning Commission and the Anhui and Fujian Provincial Health and Family Planning Commission websites, on April 12, 2017.



## Recommendations

36. ***Strengthening environmental, health and safety management capacity of HCFs.*** To ensure consistent and adequate EHS management capacity across all levels of healthcare facilities, it is necessary to design and implement protocols for regular training and capacity building of medical workers and HCFs, and ensure coordinated management, supervision and enforcement of EHS issues. These should include:

- (i) Design and implement protocols for providing, replacing and decommissioning safety equipment to, medical workers and the hospital Infectious Disease Control Unit to ensure that they always have access to all necessary equipment in good operational condition.
- (ii) Design, implement protocols for periodic training program for hospital presidents, medical workers and the hospital Infectious Disease Control Unit to ensure adequate awareness and skills across all levels healthcare facilities on the proper management of medical waste management and radiation risk control.
- (iii) Develop and implement a protocol for regularly reviewing, maintaining, and updating the categorization method of medical wastes, internal management system for medical wastes, exposure control plan for infectious disease and radiation, and firefighting plan, with guidance and supervision from local Sanitation Supervision Station, EPB and Public Security Department.
- (iv) Ensure that a system is in place to periodically verify that local healthcare facilities and hospitals have adequate capacity of temporary medical solid storage chamber and the protective gear.
- (v) Strengthen the supervision and enforcement capacity of responsible agencies to ensure adequate supervision of the chain of custody that covers whole medical wastes collection, transport and disposal across all administrative levels (village, township, county and municipality), particularly attention should be given to the capacity of Environmental Protection Bureaus and Sanitation Supervision Stations to work on remote poor areas.

37. ***Improving Public Consultation and Information Disclosure.*** To enhance the effectiveness of existing domestic information disclosure and public participation requirements, the following are recommended:

- (i) Improve the public information disclosure system on the environmental compliance of medical waste, medical waste handling and safety compliance of radiation risks control, by disclosing the emission monitoring results, waste generation and disposal, and inventory of medical radioactive equipment/sources through government websites and environmental bulletins.
- (ii) The draft EIAs of activities supported under the PforR should be made available for public consultation through posting in publically accessible web portals and/or paper-copy distribution locally.

38. ***Enhancing land acquisition monitoring process.*** To ensure a consistent land acquisition monitoring process across all activities associated with upgrading and construction healthcare facilities, it is recommended to establish a standard registry procedure with the relevant evidence indicating full compliance with national laws and local regulations, as well as the protection of the interests of the affected people. Any land acquisition under this PforR should be reported in the progress report, including relevant evidence (land use certificates, compensation agreements, land price payments, and land lease agreements with affected parties) and due diligences by relevant local government agencies.

39. ***Enhancing Public Participation in Health Reform Implementation.*** In order to increase social accountability and address grievance during the implementation of the PforR, a public participation plan should be developed based on lessons learned from the pilot cities in both provinces, which defined basic steps, and measures to be taken so that same positive outcome could be achieved during scale-up implementation. This plan should include more proactive public participation, more transparent information disclosure, and more effective grievance procedures.

**Other Consideration(s)**

40. Considering the geographical coverage and the nature of the PforR activities, OP 7.50 International Waterways or OP 7.60 Disputed Territories are not applicable to the PforR.



## Annex 7: Systematic Operations Risk Rating (SORT)

Stage: Board

Systematic Operations Risk-Rating Tool (SORT)	
Risk Category	Rating (H, S, M, L)
Political and Governance	Moderate
Macroeconomic	Moderate
Sector Strategies and Policies	Moderate
Technical Design of PforR	High
Institutional Capacity for Implementation and Sustainability	High
Fiduciary	Substantial
Environment and Social	Moderate
Stakeholders	Low
<b>OVERALL</b>	<b>High</b>

### Risk Rating Explanation

1. **The overall risk of this operation** is high as the technical and fiduciary assessments (Annexes 4 and 5) undertaken by the World Bank have identified significant risks associated with the technical design of the Program, the institutional capacity, procurement, and financial management.

2. In general, the Chinese government, and the two provincial governments in particular, have demonstrated strong political commitment towards implementing health reforms and the implementation capacity in China and these two pilot provinces is considered fairly adequate. The main sources of the **technical and institutional capacity risks** to the proposed operation stem from the comprehensiveness and complexity of reforms proposed in the Government program, which requires a strong institutional framework and robust technical design capacity. However, the existing institutional fragmentation, and the weak technical capacity at the local levels, pose substantial challenges. Government officials at both the central and provincial levels have no prior experience of using the World Bank's PforR lending instrument and are in the process of learning its nuts and bolts. To mitigate this risk, the PforR requires the consolidation of the management of the three health insurance schemes, as specified in the PforR PAP, to address the fragmented governance framework. The PforR will also provide intensified technical assistance and capacity building to the development of technical guidelines, implementation pathway and transformative learning network.

3. **Fiduciary Risk** is rated as substantial due to: (i) the considerable size and coverage of the Program; (ii) the difficulties in assessing the procurement systems of a reasonable and representative number of entities involved in this Program; (iii) the difficulty in accessing bidding and contract records and (iv) the non-application of World Bank debarment/temporary suspension lists. This may result in unacceptable contract awards to firms and/or individuals under temporary suspension or cross debarment by the World Bank or other Multilateral Development Banks. There is also a potential risk that the World Bank may not be informed of any credible and material allegations of fraud and corruption issues during the implementation of the Program. In addition, the two provinces have little

or no experience doing Program financial reporting and information system architecture does not currently support program reporting. Similarly, there is little or no experience of performing financial audits of Program financial statements.

4. To address these issues, actions will need to be taken by the CPSM and by Anhui and Fujian Provinces, including: (i) Issuing official instructions to the implementation agencies at various levels regulating that no contract will be awarded to a firm or individual that is in the debarred list or under temporary suspension; and (ii) Ensuring that the Terms of References for audits include provisions for the selecting awarded contracts on a random basis and checking whether any contract is awarded to an ineligible firm or individual; (iii) Making the CPSM and the provincial HFPC authorities responsible for informing the World Bank of any credible and material allegations of fraud and corruption on a regular basis through the Program progress reports; (iv) Utilizing the existing health sector final statement process to produce the Program financial statements in accordance with the instruction/guidance issued by MoF; and (v) Seeking oversight and guidance from the national audit office on the PforR financial audits.

5. The overall **environmental and social risk rating** of this PforR is considered Moderate. The ESSA concludes that, in general, the existing legal and regulatory framework of environmental, health and safety in China and the two provinces are consistent with the PforR Policy, and Directive. As mentioned earlier, the Chinese government, and the two provincial governments are committed to implementing health reforms and the implementation capacity in China and in these two pilot provinces is relatively strong, thus the political, macroeconomics, sector strategy and stakeholder risk are considered as moderate.

6. A PforR PAP has therefore been agreed between the World Bank and the provinces to build capacities to fill the identified gaps, and mitigate risks that have the potential to derail the Program implementation, and the achievement of the PDO.

**Annex 8: Program Action Plan**

Action Description	Due Date	Responsible Party	Completion Measurement
<b>Technical</b>			
<p>1. Make steady progress on the integration of the three health insurance schemes (such as starting with the integration of urban and rural resident schemes), so as to ensure unified provider payment policies across the different schemes.</p>	<p><u>Fujian</u>: Integration of HI management in all prefectures; by December 31, 2018</p> <p><u>Anhui</u>: Unify the policy of urban and rural resident schemes by the end of 2017.</p> <p>Two provinces will make steady progress on the integration of the three insurance schemes during the implementation period of PforR.</p>	<p><u>Fujian</u>: Provincial and municipal Health Insurance Offices</p> <p><u>Anhui</u>: Provincial Health Reform Leading Group</p>	<p><u>Fujian</u>: Official documents on 1) organizational integration; 2) personnel appointment; and 3) health insurance policies issued by Health Insurance Offices</p> <p><u>Anhui</u>: official document on the integration (unifying the policy) of urban and rural resident schemes and its implementation plan</p>
<p>2. Strengthen the National Health and Family Planning Statistics online reporting system with a new data cleaning and data verification function, so as to improve the quality of M&amp;E system of health reform.</p>	December 31, 2018	NHFPCC, CHSI, and provincial HISCs	Software is updated, installed and up-running
<b>Fiduciary</b>			

3. CPSM and two provinces issue clear instructions to the implementing agencies in charge of procurement at all levels with regard to compliance with the PforR anticorruption guidelines, as well as to require the relevant agencies to check World Bank's debarred and temporarily suspended list through World Bank's client connection before they award a contract recommendation and ensure no debarred or suspended firms or individuals are being awarded contract financed by this PforR.	Upon Effectiveness of the Health P4R	CPSM and Provincial Finance Bureau	Official instruction issued by CPSM and provincial Finance Bureaus
4. Report in the progress report on any allegation of fraud or corruption, which has been confirmed to be a major issue after due investigation.		CPSM and Provincial HFPC of Anhui & Fujian	Progress report
<b>Environment &amp; Social development</b>			
5. Design and provide periodic training for hospital management, health workers and the hospital Infectious Disease Control Unit to ensure adequate awareness and skills across all levels healthcare facilities on the proper management of medical waste and radiation risk control inside the facilities, with particular attention to lower levels.	Update/Design of training program and training materials to be done by end of 2017  Training: recurrent (at least once per year)	Provincial HFPCs	Training model with training material (including those developed prior to Health PforR), that is jointly agreed by the World Bank and the province, developed and submitted to the World Bank.  Report the number of trainees in progress report. The information should include, at least, the type of training provided (there will be different training), the name of the health facility the trainees belong to, the title of the staff, and gender.

6. Strengthen the supervision and enforcement capacity of responsible agencies to ensure adequate supervision of the chain of custody that covers whole medical wastes classification, storage, collection, transport and disposal, in particular to the capacity of Environmental Protection Bureaus and Sanitation Supervision Stations to work on below country areas and remote poor areas.	New Design or strengthened standard monitoring protocols to be done by the end of 2017	Provincial HFPCs Prefecture/county EPBs	New/revised Protocol for storing, transporting and disposal of general medical waste and radiological waste, which is complied with the national laws and regulations, is submitted to World Bank. Annual report on implementation of the protocol submitted as part of the progress report.
7. Report in the progress report any land acquisition under this PforR including relevant evidence (land use certificates, compensation agreements, land price payments, and land lease agreements with affected parties) and due diligences by relevant local governments to verify full compliance with national laws and local regulations, as well as the protection of the interests of the affected people.	Report if there is any land acquisition.  Recurrent	Provincial HFPC in collaboration with the Bureau of Land Resources of Anhui and Fujian province	Land acquisition information (if any) will be reported in the progress report. The World Bank may conduct onsite review, where there was land acquisition, during the World Bank's implementation support mission.
8. Develop a public participation plan to increase the awareness of and the support on the health reform based on successful experience of pilot cities, which include more proactive public participation, more transparent information disclosure, and more effective grievance procedures at Program level.	Design: end of 2017  Implementation: recurrent	Provincial, municipal, and county Health Reform Office	Public Participation Plan jointly agreed by the World Bank and the provincial government is submitted to the World Bank. Annual report on implementation of the plan, submitted as part of the progress report.

## **Annex 9: Implementation Support Plan**

1. The Chinese government, and the two provincial governments in particular, have demonstrated strong political commitment towards implementing health reforms and scaling up the successful pilots. As these reforms enter a "deep water" stage, with the goal of addressing some of the most difficult and deep rooted challenges in the health sector in a comprehensive and precise manner, a strong institutional framework will be required to ensure evidence-based policymaking, coordination and enforcement of policies, building of adequate technical capacity, a robust monitoring & evaluation system, and effective change management through mutual learning and implementation support.
2. Gaps in these critical areas have been identified in the World Bank's assessments. For example, the reforms aim to improve the service quality through the adoption of clinical pathways and treatment protocols. The provincial governments have encouraged the pilot hospitals to develop their own clinical pathways, but there are concerns as to whether these protocols - developed in parallel by the individual facilities - are consistent with evidence-based domestic and international best practice, and are being standardized/assessed by the national and provincial experts. Moreover, the local technical capacity is low. Provinces need support and technical guidance to develop new technical guidelines for the integrated NCD management pathways covering prevention, medical treatment, rehabilitation, self-management support and follow-up. Regarding the reform monitoring and evaluation system, China does have a well-institutionalized data collection and reporting system, including routine data reporting by health facilities, specific data collection for health system reform monitoring, and national household surveys every five years. However, there are questions regarding the standardization of the measurement of the indicators among different facilities; it is not quite clear how the massive self-reported data are verified, and it is clear that some indicators are not robust and may not be able to capture the results of ever-changing health reform measures.
3. Furthermore, the challenge in this effort is not merely one of addressing capacity deficits, but also one of managing large-scale reform. This is particularly so since this is the first time that innovative health reforms are being implemented at such a large scale in China (or any other developing country); to-date, most of the successful innovations in the health sector in China were undertaken as pilots involving a county or at most a prefecture. To foster the change, a knowledge generation and learning framework with three dimensions is planned to be established. First, to support learning at the frontline of the reform implementation, TLCs will be created at the front lines of service delivery with the function of assisting and guiding local care sites to adopt national and international standards for evidence-based practice, learn from each other's success or failures and close the gap between "knowing" and "doing when implementing and scaling-up the reformed service delivery model. This learning approach has been used successfully in the health sector in many countries. Second, drawing from the World Bank Rural Health project, a Knowledge Learning platform will be established to facilitate knowledge generation and knowledge sharing among the provinces. The domestic expert panel established for health reform at all levels will help capture and document lessons learned through M&E, good practice case study, implementation guidelines, video tapes and etc. Semi-annual workshops on knowledge sharing and dissemination will be held with provinces and prefectures participating. Multi-media applications (such as WeChat group) will be developed to set up Program Data Depository and to facilitate real time knowledge sharing. Third, through south-south learning program, study tours, technical assistance, presentation in international conferences and publications, the Program will actively support the knowledge sharing/dissemination between China and other countries.

4. Given the complexity and novelty of the proposed health service delivery reform program, and the fact that it leverages international best practice, it is anticipated that considerable domestic and international technical assistance will be required to ensure its successful design and implementation in the two provinces. These issues underscore the importance of technical and reform implementation engagement by the World Bank throughout PforR implementation. The World Bank team will also work closely with national expert panel that has been assembled by the State Council National Health Reform Office as well as the local expert team at provincial, prefecture and county levels. Drawing from the successful experiences of World Bank's past health projects in China, the international experts of the WB team will pair up with domestic expert team along the critical reform themes, such as provider payment reform, PCIC and M&E. They will be responsible for providing technical assistance, implementation support and supervision on their respective focus areas, as well as for facilitating the formation and operation of the respective learning groups as part of the overall learning network for the PforR.

5. The World Bank team plans to tailor implementation support to address the capacity issues identified in the technical and fiduciary assessments and the ESSA. From the technical perspective, the World Bank will be focusing on compliance with DLI disbursement requirements and providing continuous technical assistance. For each DLI, the Government will be requested to produce work plans every twelve months, explaining the steps already taken and those planned to ensure that targets are met. The World Bank team will review these plans and suggest adjustments as necessary. In particular, the World Bank team will bring international and domestic expertise in the following specific areas:

- (i) Engagement with the government on the technical design, assessment, standardization and implementation of provider payment reform. PCIC, integrated management pathway for NCDs, clinical treatment protocols, clinical pathways and corresponding training programs.
- (ii) Support in the strengthening of government monitoring and evaluation system to enhance the capacity of central and provincial government, as well as health facilities, in monitoring the health system performance and reform progress. Particular emphasis will be placed on the PforR result areas and indicators, monitoring compliance with legal agreements, ensuring that the massive self-reported data is verified properly, and that making sure that the results of the constantly changing health reform measures are captured effectively.
- (iii) Support in setting up the learning network and implementation support platform, such as Transformational Learning Collaboratives, to encourage mutual learning and knowledge sharing in reform scaling up, to support front-line health professionals and reform implementers in delivering the reforms, and facilitate reform dissemination domestically and internationally.

6. In addition, the World Bank will also provide technical advice on the implementation of Program Action Plan, and the elimination of other social, fiduciary or governance-related bottlenecks relevant to the PforR in the areas noted below. Key members of the World Bank's implementation support team on fiduciary, governance and social/environmental issues are based in the Country Office, which will help to ensure timely, efficient, and effective implementation support to the provinces and the central level.

- (i) Review the implementation progress and work with the task teams to examine the implementation of the action plan, including implementation of the application of the PforR anticorruption guidelines;
- (ii) Monitor changes in fiduciary risks, social and environment risks of the Program and, as relevant, compliance with the provisions of legal covenants.



- (iii) Continue assessing and monitoring the performance of fiduciary, and social safeguard system under the PforR, provide suggestions for improvement and provide supports for capacity building.
- (iv) Assist the provinces in determining an acceptable PforR financial statement reporting process that utilizes, to the extent possible, existing government reporting processes and formats and strengthening financial reporting capabilities.
- (v) Assist the provincial audit offices and CNAO in strengthening audit arrangements to support the audit opinion on the PforR financial statements.
- (vi) Review the PforR implementation with the sector team to assess the timeliness and adequacy of the PforR funds appropriation as part of the approved budget.
- (vii) Discuss PFM issues with national government authorities that exceed the decision-making authority of provincial or lower level government institutions.

7. This intensified technical assistance and implementation support will require funding beyond the regular World Bank supervision budget, in order to tap the best available global expertise for PforR implementation. More resources are therefore needed to support the proposed technical assistance for the Program.

**Annex 9 Table 1: Main focus of Implementation Support**

<b>Time</b>	<b>Focus</b>	<b>Skills Needed</b>	<b>Resource Estimate (Total amount for five years estimated to be US\$ 7 million)</b>	<b>Partner<sup>31</sup> Role</b>
<i>First 12 months</i>	Capacity Strengthening on PforR implementation including budget planning, financial statement, auditing, social and environment safeguard, monitoring and verification of the DLIs and results; engagement in technical design of major reforms.	Technical Expertise on provider payment reform, clinical pathway, integrated care for NCD management, PCIC, M&E, fiduciary and fiscal structure, social and environment safeguard	Three missions, first one will be after negotiation to provide training on PforR implementation; second one is to launch the PforR and start TA on technical design; 3 <sup>rd</sup> one is to supervise and provide implementation supports	Partner will be invited to join the missions and provide training as appropriate

<sup>31</sup> Partners are the entities who will work with the Bank to support the technical assistance.

<i>12-end of year 2020</i>	Timely implementation of Program Action Plan; technical supports on key health reforms; implementation support on forming mutual learning and knowledge generation network to facilitate transformative reforms	International experts specialized on transformative learning and implementation supports, as well as technical expertise on provider payment reform, clinical pathway, integrated care for NCD management, PCIC. Fiduciary and social, environment safeguard	Regular implementation missions every six month, specially designed training and focused activities of participating health organizations	Partner will be invited to join the missions and provide training as appropriate
<i>Last 12 months</i>	Summarization of lessons learned and dissemination of knowledge generated	M&E, especially on evaluation	Regular missions, desk technical review, training and participation/presentation in conferences with government teams	Partners will be invited to join the dissemination activities

**Annex 9 Table 2: Task Team Skills Mix Requirements for Implementation Support**

<i>Skills Needed</i>	<i>Number of Staff Weeks/year</i>	<i>Number of Trips/year</i>	<i>Comments</i>
Task Team Leader	12	2-3	HQ based
Co-Task Team Leader	12	2-3	Country based IRS
Health Economist	6	2	HQ based
Health Specialists (2)	10	4-6	Country based
Operations Officer	6	2-3	International
Provider payment consultant	8	2-3	International
PCIC specialist	8	2-3	international
Transformative learning consultant panel	24	3	international
M&E consultant	5	1	International
M&E consultant	8	1	Country based
Financial Management specialist	4	1	Country based
Procurement specialist	3	1	Country based
Environmental specialist	3	1	Country based
Social specialist	3	2	Country based
Governance specialist	1	0-1	Country based

Annex 10: MAP IBRD 33387R - China Health Reform Program-for-Results

