



Report Number : ICRR0023023

## 1. Project Data

**Project ID**

P154984

**Program Name**

China Health Reform Program

**Country**

China

**Practice Area(Lead)**

Health, Nutrition &amp; Population

**L/C/TF Number(s)**

IBRD-87440

**Closing Date (Original)**

31-Dec-2021

**Total Program Cost (USD)**

599,250,000.00

**Bank Approval Date**

09-May-2017

**Closing Date (Actual)**

31-Dec-2021

**IBRD/IDA (USD)**
**Grants (USD)**

Original Commitment

600,000,000.00

0.00

Revised Commitment

600,000,000.00

0.00

Actual

599,250,000.00

0.00

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## 2. Program Context and Development Objectives

### a. Objectives

The objectives of the Program were to improve the quality of healthcare services and the efficiency of the healthcare delivery systems in Anhui and Fujian provinces (Loan Agreement, June 30, 2017, p. 6).



**b. Were the program objectives/key associated outcome targets revised during implementation?**

No

**c. Will a split evaluation be undertaken?**

No

**d. Components**

The operation included three result areas that were derived from priority areas of provincial masterplans (see Program scope and boundaries in 2e, below). Implementation would follow a “scaling-up approach” in accordance with the two provincial masterplans and with lessons learned for sequencing of actions and scaling up of piloted initiatives across the two provinces (PAD, p. 35).

**Result Area 1: Reforming public hospitals with the aim of improving the quality and efficiency of hospital services (US\$268.5 million).** Support would be provided to the government’s efforts to improve the quality and efficiency of hospital services in Anhui and Fujian, contribute to reining in the fast growth in health expenditures, and improve patient outcomes and satisfaction (PAD, p. 10). The Results Area included (i) improving governance and management of public hospitals; (ii) policy and institutional interventions to help control the growth of health expenditures, to which hospitals contributed significantly; (iii) strengthening quality assurance in the delivery of hospital services; and (iv) institutionalizing effective hospital monitoring and evaluation that are integrated with the broader Health Management Information System. These activities would be supplemented with investments in infrastructure and equipment.

**Result Area 2: Establishing effective and accountable People-Centered Integrated Care (PCIC)-based service delivery system with strengthened primary healthcare services (US\$185 million).** Support would be provided to the government’s efforts to build an effective tiered service delivery system to address the challenges of an aging population and the rising prevalence of non-communicable diseases (NCDs). Reform actions would 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, including: (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 as described in Result Area 3 (PAD, p. 12).

Note: The PAD characterized the separation of the two above Results Areas (reforming hospitals and establishing PCIC) as somewhat synthetic, given that they represent a continuum and are integral to health service delivery. The government, however, expressed a strong preference for separating these two levels, as underscored in the national reform strategy and in the provincial masterplans, and to highlight experience and specific interventions of previous pilots (PAD, p. 10).

**Results Area 3: Addressing the cross-cutting dimensions of the policy, institutional, and financial environment, in addition to program stewardship and institutional capacities, for the health reform (US\$145 million).** The Program would support the government in strengthening key cross-cutting systems that represent the foundations on which the proposed public hospital reform and PCIC are premised. Reform actions included: (i) institutional arrangements needed to provide overall governance and



stewardship; (ii) strengthening comprehensive management and information systems, including information technology (ICT); (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 targeted provinces of Anhui and Fujian (PAD, p. 14).

#### e. Comments on Program Cost, Financing, Borrower Contribution, and Dates

**Program scope, boundaries, costs, and financing:** The PforR Program was financed by an IBRD loan of US\$600 million that constituted 15 percent of the government health reform expenditure plan estimated at US\$4.1 billion, that included Borrower expenditures estimated at US\$3.5 billion. The Program was designed to support, over a five-year period (2017-2021), a subset of the Anhui and Fujian health reform masterplans across the two provinces. The loan was essentially fully disbursed at US\$599.25 million, including a front-end fee of US\$1.5 million and a disbursement of US\$5 million against a disbursement-linked indicator (DLI) under the responsibility of the National Health Commission.

According to the Program Appraisal Document (PAD, p. 3), the reason for selecting Anhui and Fujian was that these two provinces were trailblazers in tackling health system issues that are discussed in section 3a. The commitment of these provinces to advance health reforms was strong (ICR, p. 8). Around appraisal, Anhui province had a population of 69 million, and its per capita GDP in 2015 was 35,997 RMB, which ranked 25th among 31 mainland provinces of China. Fujian had a population of about 39 million with a 2015 per capita GDP of 67,966 RMB, placing it seventh nationally. Overall, the health system reform supported by the Program served approximately 100 million people (ICR, p. 23).

PforR expenditure boundaries were defined as core expenditures by the Anhui and Fujian Provincial Health and Family Planning Commissions for capacity building and reform management, as well as key capital outlays for physical and ICT infrastructure. PforR included only those expenditures traced to central and provincial levels that financed policy reforms and strengthened health delivery systems. It excluded health insurance fund flows, but included management expenditures on health insurance schemes, since management expenditures were related to policy reforms associated with provider payments. Drug procurement expenditures were not included, although the compensation paid by the government to hospitals for the revenues foregone due to the implementation of a zero-mark-up policy was included. Financing the upgrading, rehabilitation and/or new construction of healthcare facilities at the county, township, and village levels was also included (PAD, pp. 9-10).

**Dates:** The Program was approved on May 9, 2017 and became effective on September 11, 2017. A Mid-Term Review was carried out on July 3, 2020. The program closed on December 31, 2021, as originally planned.

### 3. Relevance

#### a. Relevance of Objectives



## Rationale

The Program was responsive to sectoral needs and challenges. These included volume-driven approaches with strong treatment bias, perverse incentives that played a role in hospital expansion with insurance covering inpatient services through fee for service payments, poor capacity at the grassroots with weak delivery and poor quality of primary health services, and insufficient coordination among institutional actors.

The PforR instrument was appropriate because it was anchored in the government's health reform agenda with a focus on results and it would directly support the government's implementation. Concurrently, it would strengthen existing capacities and program management. The instrument would also facilitate geographic scale-up (PAD, p. 4).

According to the PAD (p. 4), China embarked in 2014 on a so called "deep water" phase of its national health reform to address systemic issues in health financing and health service delivery. In 2015, the government endorsed a comprehensive national health reform agenda, including a national strategy known as the Healthy China 2030 Plan; a Health Sector Development Plan; and the 13th Five Year Health Reform Plan that laid out a sectoral reform agenda for the period 2016-2020, covering ten areas for strengthening and enhancing effective delivery systems, hospital reform, universal health insurance, drug procurement and supply systems, a sectoral regulatory framework, health information, human resources, essential public health equalization, health care industry/private sector, and leadership for implementing comprehensive reforms.

At entry, the operation's objectives were closely aligned with one of the three main areas of engagement of the Country Partnership Framework for China (CPF FY 2013-2016), namely to increase "access to quality health services and social protection." The engagement reflected the World Bank Group's value added in the country by bringing and applying ideas, innovation, and knowledge to support national and provincial healthcare reforms (PAD, p. 4). Outcome 2.1 focused directly on deepening health sector reform, improving the treatment of NCDs, and revising health system organization and service delivery.

At closing, development objectives were fully aligned with the CPF (FY2020-2025), specifically in Engagement Area 3 on Institutional Constraints and its CPF Objective 3.1 on "Increasing Access to Quality Health and Aged Care Services," which focused on addressing (a) a fragmented and hospital-centric health services delivery system and lack of integration across levels of care; (b) the need for strengthened capacity for strategic purchasing from health service providers in support of the National Health Security Administration, and the need for broader use of performance incentives; and (c) the need for a comprehensive policy and institutional framework for elderly care. The above CPF objective intended to deepen health sector reform that was important for China's future social and economic success, and to cope with rapid aging, including through quality aged care that includes NCD management.

## Rating

High

### b. Relevance of DLIs



## **DLI 1**

### **DLI**

The County Integrated Delivery System has been scaled up to at least 50 counties/districts in Anhui

### **Rationale**

Both DLI 1 and DLI 2 (below), which were merged in the ICR text, built on three successful pilots (the integrated delivery pilot in Anhui; the Sanming hospital reform, including pharmaceutical reform; and the integration of health insurance management in Fujian) that triggered a government decision to scale them as part of the PforR. DLIs 1 and 2 captured the effort to improve integration of services. They provided sufficient incentives to promote integration, which has a bearing on efficiency, effectiveness, and improved coordination in general. The PAD also stated that the DLIs would incentivize the provinces to seek out-of-the-box solutions.

### **Rating**

Substantial

## **DLI 2**

### **DLI**

The integration of the management of the three health insurance schemes at the provincial level in Fujian is undertaken

### **Rationale**

As above

### **Rating**

Substantial

## **DLI 3**

### **DLI**

Proportion of hospital discharges paid through case-based payment for all county-level public general hospitals and Traditional Chinese Medicine hospitals

### **Rationale**

This DLI, also used as an outcome indicator, was closely aligned with the PDOs and constituted an important driver to achieve the intended outcome to improve efficiency. Using case-based funding would generate the right incentives to improve hospital efficiency in lieu of open-ended fees for services that commonly encourage over-servicing. Global literature indicates that changing these underlying financial incentives is among significant instruments that can positively influence health care provider behavior. Concurrently, case-based payments contribute to improving the quality of care by sparing patients unnecessary procedures and services.



**Rating**  
High

**DLI 4**

**DLI**

Proportion of inpatients to be treated through the use of standardized clinical pathways at county-level public general hospitals

**Rationale**

This DLI, also used as an outcome indicator, was closely aligned with the PDO. Clinical pathway protocols provide guidance on recommended steps to follow in the course of treatment. Appropriate use of standardized clinical pathways is known to improve case management, thereby improving the quality of health services provided, and leading to better patient outcomes and efficient use of resources. Using clinical pathways reduces variation in treatment. Their institutionalization can facilitate continuous quality improvement.

**Rating**  
High

**DLI 5**

**DLI**

Proportion of outpatient care delivered by primary care facilities

**Rationale**

This DLI, also used as an outcome indicator, was relevant, as addressing primary health care needs at the primary level rather than at higher levels of care would be expected to lower the cost of overall health services. However, the DLI assumed that the primary health care system and general practitioners (GPs) were effectively responsive to patient needs even when low capacities and performance at the primary level were being strengthened.

**Rating**  
Substantial

**DLI 6**

**DLI**



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 managed patients).

### **Rationale**

DLI 6, also used as an outcome indicator, was relevant because adopting protocols for the integrated management of Type II diabetes promotes the quality of related patient management. The DLI can promote the utilization of an integrated package of NCD services combined with adequate workforce training. Nevertheless, the DLI was narrow and did not fully reflect effective and accountable PCIC-based service delivery approaches with strengthened primary healthcare services.

### **Rating**

Substantial

## **DLI 7**

### **DLI**

Number of counties that have established a county-township-village population health information system in Anhui

### **Rationale**

DLIs 7 and 8 were relevant, as they supported the government in strengthening key cross-cutting systems that represent some of the institutional foundations and capacities on which the proposed public hospital reform and PCIC are premised. Also, information systems can facilitate patient participation in healthcare services. The two DLIs were aligned to a reasonable extent with the PDOs.

### **Rating**

Substantial

## **DLI 8**

### **DLI**

Number of Township Health Centers/Community Health Centers that have established primary care health information systems in Fujian

### **Rationale**

As above.

### **Rating**

Substantial



## **DLI 9**

### **DLI**

Program experience sharing and dissemination

### **Rationale**

As a DLI, experience sharing may not be a core driver or primary trigger to improve the quality and efficiency of health services at the local level. Nevertheless, the DLI had its merits in incentivizing other stakeholders to replicate interventions, and in guiding the scale-up of reform initiatives.

### **Rating**

Substantial

## **OVERALL RELEVANCE RATING**

### **Rationale**

Program objectives were fully relevant to the country context, government reform agenda, and the Country Partnership Framework, both at entry and at Program closing.

DLIs were also generally aligned with the PDO and constituted adequate triggers for enhancing favorable conditions and performance toward improving the quality of healthcare services and the efficiency of the healthcare delivery systems in Anhui and Fujian provinces. However, the relevance of DLIs had some shortcomings by omission. The ICR (pp. 14-15) noted the gaps in addressing demand-side levers of health service utilization, and patient perceptions and satisfaction aspects that are key considerations in dealing with service quality and effectiveness, including for aspects related to influencing patients on the merits of seeking care at the appropriate level of health settings, uptake of primary health care, and reducing unnecessary hospitalizations.

### **Rating**

Substantial

## **4. Achievement of Objectives (Efficacy)**

### **OBJECTIVE 1**

#### **Objective**

Improve the quality of healthcare services in Anhui and Fujian provinces

#### **Rationale**





The theory of change held that improving governance and accountability, the use of standardized clinical pathways in hospitals, the use of integrated NCD management pathways at the primary level (including prevention, treatment, rehabilitation, and self-management), health personnel training (including GPs, nurses, and community workers) would plausibly contribute to improving the quality of health care services in Anhui and Fujian provinces.

The Program supported activities that sought to strengthen the health system and to improve service quality, including (a) mandating the development of clinical protocols, establishing quality assurance mechanisms, and creating GP-centered multidisciplinary teams; (b) rolling out an empanelment mechanism based on tailored service packages; (c) developing integrated NCD management pathways covering prevention, medical treatment, and rehabilitation; (d) establishing public participation mechanisms; (e) strengthening health management information systems; (f) providing public disclosure of information on the use of diagnostics and prescriptions; and (g) promoting disclosure of hospital performance indicators (ICR, p. 16).

The number of clinical pathways that were adopted with verified use reached 595 protocols. Their implementation was incorporated into staff's performance-based salaries. Fujian also developed a module on clinical pathways within the hospital's information system to encourage clinicians' adherence.

As part of a move toward PCIC, the Program supported prefectures in managing Type II diabetes by promoting the utilization of an integrated package of NCD services. Both provinces issued protocols for the integrated management of Type II diabetes, starting with pilot prefectures.

The ICR (p. 16) reported that service capacity in 332 primary medical institutions was strengthened to meet basic quality standards, including 249 township hospitals and 83 Community Health Centers. The Program established networks across facilities and enhanced GPs' training. In Fujian, medical alliances were established to provide technical support to contracted family doctors. By the end of 2020, 8,970 teams of family doctors were organized and 7.5 million people were contracted, including the poor, elderly, pregnant women, children, and patients with chronic diseases. According to the ICR, training created a stronger pool of existing practitioners and a future pipeline. A total of 259 GPs and 235 assistant-GPs passed a certification exam, and an additional 248 GPs and 375 assistant-GPs were in the pipeline for future training. In Anhui, 1,058 doctors completed a training program and qualified as GPs.

The ICR (p. 17) reported that the Center for Health Statistics and Information conducted evaluations that reflected improvements in reporting on hospital performance, information systems, and governance. Over the life of the Program, 17 additional hospitals in Anhui and 18 additional hospitals in Fujian began disclosing their performance. Also, 39 additional hospitals in Anhui and 90 additional hospitals in Fujian connected with regional health information platforms. The number of hospitals reforming staff remuneration systems increased from 195 to 227 hospitals in Anhui and from 154 to 215 hospitals in Fujian.

The ICR reported the following process quality indicators (that were also DLIs) to reflect the objective's achievement:

- The proportion of inpatients treated through standardized clinical pathways at county-level public general hospitals increased in Anhui from a baseline of 4 percent in 2017 to 71.4 percent in 2021, exceeding the target of 50 percent; and in Fujian from a baseline of zero to 62.2 percent, exceeding the target of 50 percent.



- The number of prefectures that managed Type II diabetes patients using the integrated NCD service package increased in Anhui from a baseline of zero in 2017 to 6 prefectures in 2021, achieving the target, and in Fujian from a baseline of zero to 4 prefectures, achieving the target.

All outcome indicators (for both Objectives 1 and 2) consisted of DLIs. This is appropriate in many instances when DLIs are in an advanced location on the results chain pathway, or when PBF operations use quality scorecards reflecting structural and process indicators. However, final outcomes such as improved patient outcomes and patient satisfaction were envisaged under the Program (PAD, p. 10 and Results Area 1 in section 2d). Final outcomes on the quality of care are commonly related to dimensions of treatment effectiveness, patient safety, and patient-centeredness such as patient satisfaction. The ICR reported that the National Health Commission has recently launched a national public hospital performance assessment framework for tertiary hospitals and secondary hospitals that includes patient satisfaction.

The above-reported results associated with quality dimensions were also reflective of improved efficiency (Objective 2, below). For example, the use of standardized clinical pathways also reduces unnecessary procedures in patient management and thus attenuates the cost of over-servicing.

## **Rating**

Substantial

## **OBJECTIVE 2**

### **Objective**

Improve the efficiency of the healthcare delivery systems in Anhui and Fujian provinces

### **Rationale**

In addition to the elements described under Objective 1, the theory of change held that using case-based payments, promoting service integration (including insurance schemes and agreements with general practitioners), and developing information systems would plausibly contribute to improved efficiency in healthcare delivery.

The Program sought to achieve this objective through public hospital reforms and an overall shift in the service delivery model toward increased activity in primary care settings (ICR, p. 17). The Program established GP-centered multidisciplinary teams and facilitated service agreements with GPs. The Program incentivized more efficient use of the healthcare network by limiting the use of hospital facilities for services that can be provided in primary care settings, and sought to promote efficiency through the integration of care, that can help in limiting unnecessary procedures and costly interventions. The advancement of hospital reform and the shift to primary settings occurred against a backdrop of a wider context where there was continued expansion of hospitals in both provinces.

Over 11,000 standardized village clinics were established, and 9,994 village clinics were connected with the health insurance system (ICR, p. 17). In Anhui, a total of 59 counties set up 124 medical alliances providing integrated services to cover a population of 45 million. Over 60 percent of the population was empaneled by 2019. Also, 109 central township hospitals were upgraded to secondary hospitals. This resulted in a two percent increase in in-county utilization of care. In Fujian, a modified global budget system was introduced in 44 counties, allowing the retention of savings with the aim of reducing costs. In addition, county hospitals



were strengthened to serve as the nucleus for the prefecture by developing core skills, technologies, and various core disciplines, including pathological investigations, electrocardiography, imaging, and remote medical services.

Evaluations conducted by the Center for Health Statistics and Information showed that, in Anhui, between 2019 and 2020, expenditure per inpatient admission fell from CNY 8,314 to CNY 7,999, with a reduced average daily inpatient expenditure from CNY 935 to CNY 879 (ICR, p. 18).

Telemedicine services were strengthened, notably for managing increased patient expectations in the context of an aging population with a growing NCD burden. In Fujian, telemedicine covered 905 primary medical and health care institutions, enabling remote imaging and remote electrocardiograph diagnosis. In Anhui, an electronic health card was rolled out in the province, and 26.2 million e-health cards were in use. The telemedicine service system covered 1,309 hospitals at all levels. There were also innovations to access radiologist advice at primary care institutions that reduced the need for patients to seek X-rays and other imaging services at the hospital level. Small survey results provided to the ICR mission showed that imaging requests generated by primary care institutions increased from 22,922 in 2016 to 117,335 in 2020, and that 93 percent of patients were willing to use Township Health Centers for imaging (ICR, p. 18).

Notable progress was observed in cross-cutting dimensions and the integration of health information and insurance systems where some DLIs and intermediate results indicators were exceeded. The integration of health information allowed health providers to be better positioned to address patients' needs, avoid unnecessary care, and encourage the uptake of primary care. Through experience sharing, health system administrators were better placed to troubleshoot common challenges (ICR, p. 19).

Pricing adjustments were introduced to correct distorted fee schedules and misaligned provider incentives. Substantial improvements in drug procurement and utilization were observed. In Anhui, a centralized system for supporting outpatient drug use for chronic diseases was developed to reduce out-of-pocket costs for high-value medical consumables and drugs. Prices of 60 drugs were negotiated, resulting in an average decrease of 50.3 percent and a maximum decrease of 76.6 percent, thereby achieving a total saving of CNY 506 million (US\$78 million) in annual drug costs. For example, 86 new medical services were covered by provincial medical institutions, including for COVID-19 nucleic acid detection. Reviews undertaken by the Center for Health Statistics and Information identified a reduction of 3.8 percent in Anhui and 0.8 percent in Fujian in the proportion of medical consumable revenue generated from inpatient services as a percentage of hospital revenue.

A program to reduce the irrational use of antibiotics was also introduced. It had clear guidelines, including a stipulation for withdrawing prescribing rights when there were significant gaps in related performance. The Center for Health Statistics and Information found that, in 2020 and 2021, the 'proportion of patients prescribed with antibiotics' fell from 15.7 percent to 11.0 percent in Anhui, and from 10.8 percent to 10.3 percent in Fujian.

A positive parallel development, independent of the PforR (Task Team clarifications on June 14, 2022), was noted in 2018, when the reorganization of the health sector saw the creation of the National Healthcare Security Administration. This institution gained responsibility for managing health insurance schemes in China, resulting in a purchaser and provider split (ICR, p. 26).



The ICR reported noteworthy progress based on DLIs 3 and 5, which were also considered by the Program as outcome indicators:

- The proportion of hospital discharges paid through case-based payment for all county-level public general hospitals and Traditional Chinese Medicine hospitals increased in Anhui from a baseline of 12 percent to 44.4 percent in 2021, exceeding the target of 32 percent; and in Fujian, from a baseline of 3 percent to 58.7 percent, exceeding the target of 50 percent.
- The proportion of outpatient care delivered by primary care facilities increased from 61 percent in 2017 to 62.7 percent in 2021, slightly exceeding the target of 61.8 percent; and in Fujian, from a baseline of 51 percent to 57.4 percent, exceeding the target of 55 percent.

At the same time, Fujian did not achieve a reduction in the average length of stay for county-level public hospitals or an increase in the proportion of patients hospitalized within the county. The baseline average length of stay in Fujian was 7.41 in 2017. It marginally increased to 7.48 in 2021, and did not decrease toward the target of 7.37 days. By contrast, it was achieved in Anhui, where it decreased from a baseline of 8.82 to 7.8 days. The proportion of patients hospitalized within-county did not increase in Fujian. It remained at 62.75 in 2021, similar to the baseline of 63 percent in 2017 and short of the target of 80 percent. By contrast, it was achieved in Anhui where the proportion of patients hospitalized in-county increased from a baseline of 69 percent to 79.59 percent, exceeding the target of 73 percent.

According to the ICR (p. 19), and apart from variable disruptions caused by the COVID-19 pandemic, low performance in these specific efficiency dimensions of service delivery in Fujian pointed to the persistence of long-standing challenges that the Program was not able to fully address. The ICR concluded that an important unfinished agenda remains within the overall reform. The extent of persisting challenges varied across provinces and according to local responses, political will, and local resources (Task Team clarifications, June 14, 2022).

**Rating**  
Substantial

## **OVERALL EFFICACY**

### **Rationale**

The two Program objectives to improve the quality of healthcare services and the efficiency of the healthcare delivery systems in Anhui and Fujian provinces were almost fully achieved. There was sufficient evidence of results being associated to changes initiated by the government reform trajectory and of improvement in development issues that were targeted by the Program.

**Rating**  
Substantial



## 5. Outcome

Overall Relevance is rated substantial, encompassing a full alignment between development objectives and the Country Partnership Framework at Program closing, and a substantial relevance of DLIs. Efficacy is rated substantial, as objectives were almost fully achieved. These findings are consistent with a satisfactory rating for overall outcome, indicative of essentially minor shortcomings in the operation's achievement of its objectives and in its relevance.

**Outcome Rating**  
Satisfactory

## 6. Risk to Development Outcome

At the time of the ICR, the risks that development outcomes may not be maintained are relatively moderate. Political commitment and ownership at the center and in the two provinces remain high for continuing the Program agenda and its focus on improving the quality of health services and efficiency of healthcare delivery.

There are some technical risks associated with the capacity of the sector in sustaining the management of NCDs, such as in integrated diabetes management, as was reported by the ICR (p. 32). Also, there may be challenges for future scale-up in other provinces that may have different commitment to health reform than Anhui and Fujian provinces.

Nevertheless, the Program contributed to strengthening the public hospital sector, including improving governance and management, controlling growth expenditures, strengthening quality assurance, and building better links between hospital management information systems and health information systems. Overall, 295 hospitals, accounting for 98 percent of secondary hospitals, strengthened internal governance and management systems. In addition, recruitment and compensation procedures were strengthened to focus on performance-based pay and institutionalize levers to strengthen the quality and efficiency of the health system (ICR, p. 22).

## 7. Assessment of Bank Performance

### a. Quality-at-Entry

The overall design of the Program was relevant and pertinent. Health sector issues were thoroughly identified, and the World Bank was co-leader of a Joint Health Study that provided strong technical underpinnings for health reform. Preparation benefited from Senior Bank Management engagement that was essential given the complexity of the Program and its ambition. This engagement in the preparation



process also helped in building further political support. The PforR was the first in the health sector in China and was only the second PforR in the country. The Bank Team supporting Program preparation had an adequate mix of skills that included domestic and international experts on health system reform. The DLI verification protocol was appropriate to the context and to information available at the time of preparation. The selection of the Center for Health Statistics and Information as the agency verifying DLI achievements represented a deliberate choice to develop government capabilities to monitor future reform efforts (ICR, p. 24).

Institutional implementation arrangements, including for M&E, built on existing structures in the provinces where there was a vertical structure for health reforms extending from the province to the prefectures and the counties/districts. In Anhui, the Provincial Healthcare Reform Leading Group was headed by the Governor, and in Fujian, by the Party Secretary General. At the central level, the State Council Healthcare Reform Office was the leading agency for the national health reform agenda. It was supported by the Center for Project Supervision and Management that served as its PforR secretariat, responsible for supporting the two provinces in implementation through technical assistance, coordination across provinces, capacity building, exchange of experiences, and implementation support (PAD, p. 21). An Expert Panel at the central level was to serve as a pool of technical experts to government agencies under the national health reform program. Program assessments in terms of technical, fiduciary, and social and environmental aspects were adequately carried out. The overall risk of this operation was assessed as high, as the technical and fiduciary assessments identified significant risks associated with the Program's technical design, institutional capacity, procurement, and financial management (PAD, p. 30). The lack of familiarity with the PforR instrument was adequately mitigated through early training and regular engagement to identify specific issues requiring additional support (ICR, p. 24). The Bank provided several training workshops on PforR to familiarize participants with the instrument, and shared best practices in key reform areas.

Program design had moderate shortcomings, as it lacked a focus on patient satisfaction and demand-side drivers of hospital utilization. Its theory of change required a clearer articulation of the implicit assumptions and links between broad inputs and specific outcomes (ICR, p. 31). The theory of change made broad assumptions that the changes would improve patient satisfaction without gathering information on patient perspectives either before or after the changes took place (ICR, p. 8). The Program did not include indicators that directly assessed patient satisfaction to better understand whether the reforms were having the desired impact on patient experience, given that this constitutes an important dimension of quality (ICR, p. 27). Demand-side drivers of hospital utilization were not addressed, although these aspects were well discussed in the Joint Health Study, according to the ICR.

In terms of readiness, the Client was not clear about fund flows and the allocation process, subsequently resulting in disbursement delays. Guidance on how to disburse in the context of a PforR was still under development. The Program became effective in September 2017, but the first disbursement for Anhui Province was delayed by one year until October 2018 because the on-lending agreement signing process was significantly delayed. The ICR stated that one takeaway from the Program was the importance of discussing fund flow arrangements as early as possible, both during preparation and following Program effectiveness (ICR, p. 25).

## **Quality-at-Entry Rating**

Moderately Satisfactory





## **b. Quality of supervision**

Program monitoring and supervision were reportedly effective and provided additional support for the proactive resolution of arising issues. Throughout supervision, there was a consistent focus on development impact and advancing key reform aspects (ICR, p. 31). Reporting on Program monitoring and Implementation Status & Results Reports were candid about Program progress and arising issues. Reporting provided realistic advice on areas for attention and on recommended actions. Additional joint fiduciary and procurement missions were deployed when it was recognized that there were substantial challenges for the government to address, and such missions included training, technical support, and sustained follow-up. The Team provided added support on procurement, contract implementation, and procurement audits (ICR, p. 25). As DLI 5 (recorded as DLI 4 in the ICR text) -- to promote outpatient care delivery by primary care facilities -- was more challenging to implement than other DLIs, the Bank Team carried out several missions and provided additional support to help in addressing related bottlenecks (ICR, p. 25).

A Midterm Review was carried out in July 2020. It was used to address lagging progress in the integrated diabetes management reflected by the fourth PDO-level indicator. The COVID-19 pandemic had a negative impact on implementation and verification of results, but the Bank Team, working closely with the government, was able to overcome related challenges, including by switching to a virtual modality for interactions.

Team leadership changed three times during implementation, although transitions were smooth, supported by detailed handover, and with no impact on the continuity of implementation support. According to the ICR (p. 31), the government expressed appreciation for the level of support provided by the World Bank Team and the extent to which it was tailored to Program needs at different stages of implementation.

### **Quality of Supervision Rating**

Satisfactory

### **Overall Bank Performance Rating**

Moderately Satisfactory

## **8. M&E Design, Implementation, & Utilization**

### **a. M&E Design**

Program objectives were clearly specified and DLIs were aligned with the stated PDOs, but with moderate shortcomings (see section 3b). The theory of change was reasonably established, but also with shortcomings, including insufficient clarity between inputs and specific outcomes and implicit assumptions. Program design lacked a focus on demand-side drivers of hospital utilization and on patient perceptions and satisfaction, which are key dimensions of service quality (see section 7a), and were envisaged in the PAD.



## **b. M&E Implementation**

Monitoring was reportedly effective in supporting Program implementation as planned. The Center for Health Statistics and Information fulfilled its responsibilities for verifying results and reporting. The Center had a large team of qualified professionals and was independent from other institutions in the two Program provinces. The Center guided and strengthened verification procedures. Concurrently, the Center benefited from technical assistance that was provided under the Program Action Plan to further strengthen its M&E capacity, including the development of new information technology modules on monitoring to improve longer-term monitoring capabilities.

## **c. M&E Utilization**

M&E findings were used to assess progress, to facilitate discussions with government counterparts, and to identify potential challenges and areas for added attention. For example, in May 2019, the mission team noted that progress of non-DLI results indicators was mixed and that there was a need to address the growth rate of medical services revenue of public hospitals in Fujian, and the proportion of patients being hospitalized within the county in Anhui. This led to a sharpened focus on related implementation aspects in these areas.

According to the ICR (p. 28), there was an ongoing dialogue between the government and the World Bank to document reform efforts and lessons learned. This reflected a commitment not only to use the formal tools of M&E, but to go beyond and leverage the Program for a wider learning agenda, including for sharing the experience of successful pilots. The experience of the PforR operation was widely shared and publicized (Borrower's Comments, ICR, p. 53). The Program organized five domestic and three international large-scale health reform experience exchange meetings, and three phases of health reform experience training covering 30 provinces in China.

The health reform experience of Anhui Province and Fujian Province was recognized by leaders at all levels in China. Selected project experience aspects were transformed into health reform policy documents (Borrower's Comments, ICR, p. 54). On October 29, 2021, the general office of the National Health Commission issued a Notice on Promoting the Experience of Sanming City in Fujian for the development of medical alliances to support integrated service delivery, and put forward key tasks for promoting it.

## **M&E Quality Rating**

Substantial

## **9. Other Issues**

### **a. Safeguards**

At appraisal, an Environmental and Social Systems Assessment (ESSA) was carried out, and risks were rated moderate. The ESSA recognized that the Program constituted an opportunity to improve system





performance, while medical waste management, radiation risks, and public participation were considered as the main areas for attention.

Performance in managing environmental and social risks was satisfactory throughout implementation (ICR, p. 29). Both provinces made substantial efforts to strengthen medical waste and radiation management in healthcare facilities in accordance with the Program Action Plan. This included enacting specific rules, providing regular training, and conducting supervision. Training courses to medical workers were recurrent, with a minimum of one course per year on medical waste management and radiation control. Standardized disposal of medical waste was verified. The World Bank conducted regular supervision and facilitated knowledge sharing on environmental and social practices between higher-performing facilities and remote facilities where the management of medical waste was weaker. Also, the Bank Team regularly highlighted the importance of continuous engagement with various stakeholders, including environmental authorities and local governments, to improve and maintain adequate medical waste management.

In terms of social risks, the two provinces submitted public participation plans to the Bank, and public participation and information disclosure activities took place in both provinces thereafter. Implementation aspects were reported in semiannual progress reports. In Anhui, all medical facilities at the secondary level and above incorporated a public participation column on their official websites, and an "interaction with the public" column was set up on the website of the Provincial Health Commission for feedback from the public. In Fujian, "deepening health reform" and "public participation" columns were set up on the official website of the Provincial Health Commission, and a Health Reform Knowledge Sharing Center was founded in Sanming, in Fujian Province.

## **b. Fiduciary Compliance**

At appraisal, a fiduciary assessment of procurement, financial management, and governance was carried out and assessed to be of Substantial risk, and corresponding mitigation actions were taken.

From a procurement perspective, the approach to mitigating the risks of hiring barred firms and limiting the use of contractors with a history of fraud was effective, and both provinces issued updated lists and guidance on barred firms to all agencies concerned. To mitigate the risk of fraudulent contractors being hired, the contracting process was adapted to include a qualification criterion on previous experience. Some of the procurement issues that were encountered during implementation were related to the fixed budgeting process. Procurement assessments for medical equipment were often undertaken one to two years in advance of actual procurement, and market prices often changed. The norm of accepting the lowest-priced bidder and the limitations of preset budgets made it challenging to ensure equipment quality even when a market study was conducted shortly before contracting.

Nevertheless, the Program's overall fiduciary performance was rated satisfactory throughout implementation. All financial management reports were submitted on time and were of adequate quality.

## **c. Unintended impacts (Positive or Negative)**



None reported.

#### d. Other

The ICR reported that the Program likely contributed to climate co-benefits by promoting the use of technology for primary care consultations, including through increased virtual sessions with reduced travel times of patients. Related contributions were not directly estimated (ICR, p. 23).

### 10. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	This ICR Review rated Quality-at-Entry as moderately satisfactory because of shortcomings in Program design and DLIs, as they lacked a focus on demand-side drivers and on patient satisfaction. The theory of change had clarity gaps. Also, the Client's lack of clarity about fund flows and allocation processes impacted implementation readiness. This ICR Review rated the Quality of Supervision as satisfactory in view of the extent to which the Bank proactively identified and resolved threats to the achievement of development outcomes and the Bank's fiduciary role. The aggregation of both sub-ratings is consistent with a moderately satisfactory rating for overall Bank Performance.
Bank Performance	Satisfactory	Moderately Satisfactory	
Quality of M&E	Substantial	Substantial	
Quality of ICR	---	High	

### 11. Lessons



The ICR (pp. 33-34) offered several useful lessons and recommendations, including the following lessons slightly adjusted by the IEG Review:

- 1. Ambitious reform programs can benefit from in-depth studies and the consensus of the government, World Bank, and the World Health Organization.** The Joint Health Study afforded the reform agenda with a coherent and comprehensive technical plan that secured buy-in from leading stakeholders in advance of Program preparation and implementation. The technical background provided a shared vision for reform and enabled the selection of interventions that were amenable to being addressed through the PforR. This provided a road map for engagement on complex and demanding reforms.
- 2. The PforR instrument is an appropriate instrument for World Bank engagement in a country with a strong commitment to health reform.** As the first PforR in the health sector, the Program represented a significant shift away from the use of input-based financing, but that was possible only through close alignment with the government's reform agenda and by strong commitment from national and provincial stakeholders.
- 3. Complementary actions across distinct but interlinked sectoral areas facilitate large-scale health sector reform.** The Program was bolstered by a series of interlinked reform actions in the development of medical alliances to support integrated service delivery, compensation of health care workers, development and use of information technology, and pooling of health insurance funds.
- 4. When programs focus on the quality of health services, monitoring and measuring patient satisfaction constitute integral parts of quality assessment.** The Program's high-level focus on service quality could have been augmented with indicators that were focused on the perceptions of patients and their experiences. This is particularly relevant because a key feature of the quality of health care is how a patient perceives the value of services, which in turn becomes an important determinant in building trust in healthcare and prevention aspects.

In addition, the following lesson was identified by the Borrower (ICR, p. 54):

- 5. Using domestic health reform planning and modalities enhances ownership and facilitates operational applications, potential achievement of desired results, and sustainability.** The Program integrated international experience with local innovation and health reform with domestic characteristics as a pathway to promote the transformation and dissemination of health reform achievements, which can also facilitate replication to help the development of China's health care.

## 12. Assessment Recommended?

No

## 13. Comments on Quality of ICR

The ICR provided a thorough overview of the Program. Its narrative supported the outcome rating and available evidence. It was candid, accurate, and aligned to development objectives. The evidence and analysis were



aligned to the messages outlined in the ICR. The ICR referred to the Program's theory of change, which helped the reader to understand how the ratings were reached, and aptly identified some clarity gaps in the results chain as well as DLI gaps in patient-centered aspects and demand-side drivers. The ICR offered specific lessons derived from Program experience. It was reasonably concise and followed guidelines. The ICR had two lapses: first, it should have conducted the assessment of relevance for each DLI, resulting in separate rationales and ratings. Second, the ICR was inconsistent in DLI numbers and titles between the text and DLI annexes [Annex 5A (ICR, pp. 55-58) and Annex 1B (ICR, pp. 44-47)] that were based on an up-to-date version, but the Task Team clarified on June 14, 2022 that the ICR text used DLI title numbers that were in the portal. Nevertheless, within the larger spectrum of criteria indicating a high level of ICR quality, the above lapses were considered to be substantively minor.

**a. Quality of ICR Rating**

High