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Report Number : ICRR0024458

1. Project Data

Project ID	Program Name
P166373	India TN Health System Reform Program
Country	**Practice Area(Lead)**
India	Health, Nutrition & Population

L/C/TF Number(s)	Closing Date (Original)	Total Program Cost (USD)
		287,000,000.00
Bank Approval Date	**Closing Date (Actual)**	
19-Mar-2019		

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	287,000,000.00	0.00
Revised Commitment	287,000,000.00	0.00
Actual	287,000,000.00	0.00

Prepared by	Reviewed by	ICR Review Coordinator	Group
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2. Program Context and Development Objectives

a. Objectives

As stated in the Loan Agreement between the Government of India and the International Bank for Reconstruction and Development (IBRD), dated June 4, 2019 (Schedule 1, p. 4), the Program Development Objective (PDO) was to "… improve quality of care, strengthen management of non-communicable diseases (NCDs) and injuries, and reduce inequities in reproductive and child health services in Tamil Nadu." The design document presents the same statement (PAD, pp. i, 14, and 34). The PDO statement remained unchanged throughout the life of the project.

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

Yes

Did the Board approve the revised objectives/key associated outcome targets?

No

c. Will a split evaluation be undertaken?

No

d. Components

Original design:

Government of Tamil Nadu's (GoTN's) Health Program. In effect at the time of PforR design, this State-level health program aimed to achieve SDG 3, "to ensure healthy lives and promote wellbeing for all, at all ages**,"** by ensuring universal access to health care. As laid out in Tamil Nadu's health strategy, *Vision 2023,* this involved the strengthening of primary and secondary care centers and upgrading tertiary care hospitals through the transformation of all rural and urban PHCs into health and wellness centers (HWCs). A special focus on NCDs comprised a two-pronged strategy: (a) prevention of NCDs through population-based interventions to raise awareness and induce lifestyle changes; and (b) the strengthening of health facilities' capacities in early screening, diagnosis, treatment and follow-up of NCD patients. The strategy also included the strengthening of trauma and disaster management systems to ensure that an emergency patient reaches the hospital within an hour. Annual policy notes laying out priority areas and interventions within this program focused, at the time of PforR design, on bridging intra- and inter-district disparities in quality of infrastructure and services and on specific diseases and programs, including cardiovascular disease, diabetes, mental health, blood disorders, and trauma care. Key directorates and societies most directly associated with program implementation included the Tamil Nadu Health Systems Project (TNHSP) Society (those involved in the PforR oversight and implementation), the Directorate of Public Health and Preventive Medicine (DPH), Directorate of Medical and Rural Health Services (DMRHS), Directorate of Medical Education (DME), Directorate of Indian Medicine and Homeopathy (DIMH), Tamil Nadu Food Safety and Drug Administration (TNFSDA), and National Health Mission Society, all with clear and complementary mandates (PAD, para. 21-22).

As laid out in *Vision 2023,* Universal Health Coverage (UHC) in Tamil Nadu was to be achieved through: (1) building UHC within the public health architecture without altering the existing State Policies; (2) establishing Public Health Care teams, training, infrastructure, including branding, drugs and diagnostics, IT systems tailor-made for State public health systems; (3) intact continuum of care with forward and backward linkages from community to tertiary health facility supported by Master Registry; (4) Patient-centric convergence of all existing health and related activities at block (between village and district) level; (5) Health Sub Centre Strengthening with differential services provided at different level of the health system; (6) expanded service delivery with a focus on NCD services without compromising MCH services and communicable disease management. Strategies adopted to support Tamil Nadu's UHC goal include: standard treatment guidelines for PHC services; a maternal and child health toolkit; hands-on training at block level for IT systems, standard treatment guidelines and linkages of PHC services; clear roles and

responsibilities of public healthcare team members, availability of drugs; strengthened lab support for HWCs; and building block-level capacity for clinical audits.

The PforR Program supported a subset of GoTN's program with a specific focus on the achievement of SDG3 targets: 3.4 (reductions in premature mortality from NCDs and promotion of mental health and wellbeing), 3.6 (halving of deaths and injuries from road traffic accidents), 3.7 (universal access to sexual and reproductive health care services) and 3.8 (universal health coverage, including financial risk protection, access to quality essential health care services and access to safe, effective, quality, and affordable essential medicines and vaccines for all). To this end, the PforR Program supports three key results areas and a set of cross-cutting interventions to strengthen institutions and state capacity to achieve and sustain the three results areas, through the payment of achievements of eight strategically chosen disbursement-linked indicators (DLIs).

The achievement of the prior results and DLIs would trigger World Bank disbursements to the Program. The DLIs reflect the critical areas the GoTN had to address to push health sector performance to the next level. They encompass the combined effect of a set of specific technical interventions and institutional strengthening interventions. An independent verification agency (IVA) was to verify DLI achievement based on an agreed protocol. In addition, to report progress on hypertension and diabetes management (DLI #3) a STEPwise approach to surveillance (STEPS) survey was to be conducted in Years 1 (baseline), 3, and 5; and a household survey was to be conducted in Years 2 and 4 in priority districts to assess utilization of RCH services (DLI #5). The WHO STEPwise approach to surveillance (STEPS) for NCDs is a simple, standardized method for collecting, analyzing and disseminating data related to the main risk factors for NCDs.

Results Area #1: Improved Quality of Care ***(original: $81.9 million; revised: $85.147 million; disbursed: US$85.147 million).*** Support is organized around the key universal actions for improving the quality of care, as outlined in the Lancet Global Health Commission on High Quality Health Systems in the SDG Era:

- **Govern for quality** to improve accountability by strengthening the feedback loops within health facilities and between health facilities and the state. This includes the development of clinical protocols and guidelines; monitoring quality of care; introduction and scaling up of clinical governance and other quality improvement initiatives; and facility certification (including National Quality Assurance Standards/NQAS for public sector primary- and secondary-level facilities and National Accreditation Board for (private sector) Hospitals and Health care Providers/NABH for tertiary-level facilities.
- **Transform the health workforce** to strengthen quality of care at provider level and the state's regulatory role. This includes the expansion of the continuous medical education (CME) program to include nurses and paramedics, as well as physicians, and the development of decision support tools for providers.
- **Igniting the population's demand for quality and improved accountability of services to the population** by strengthening feedback loops between citizens and facilities, facilities and the state, and citizens and the state. This includes the introduction of patient questionnaires, improved public accessibility of quality and other data, and the conduct of district and state health assemblies.

Two DLIs were designed to directly support this result area.

- **DLI #1:** Implementation of quality improvement interventions in primary, secondary and tertiary care facilities. ***(Initial allocation: $43.7 million, revised allocation $49.5 million)***
- **DLI #2:** Increased number of public facilities with quality certification (primary, secondary, and tertiary care facilities, prior result: 11 primary; 34 secondary) ***(Initial allocation: $38.2 million, revised allocation: $35.65 million)***
- Other cross-cutting DLIs, described at the end of this section, also support quality of care improvements (DLIs #6, #7, and #8).

Results Area #2: Strengthened Management of NCDs and Injuries *(original: $66.6 million; revised: $74.1355 million; disbursed: $74.1355 million)*. PforR Program support was designed to continue and scale-up successful NCD initiatives previously supported by the World Bank and mainstreamed into State activities and the National Program for Prevention and Control of Cancers, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS). With a focus on tracer conditions, including hypertension, diabetes, cervical cancer, breast cancer, oral cancer and mental health, PforR Program support was to include: (a) health promotion and NCD prevention (including a social and behavior change communication/SBCC strategy); (b) population-based screening of NCDs (with the benefit of new guidelines for house visits, awareness raising and referrals); NCD treatment and follow-up (with a focus on strengthening capacities at the primary level); and improved monitoring and evaluation of NCDs (especially for selected tracer conditions and mental health).

The PforR was also designed to support the implementation of Tamil Nadu's advanced Emergency Medical Services (EMS) work plan. Support for improving pre-hospital EMS was to include inter-facility transfer protocols and expansion of the ambulance fleet. In-hospital care improvements envisaged included the provision of 24/7 trauma care services at Levels 1 and 2 emergency departments and the establishment of a trauma registry. In addition, as part of the Tamil Nadu Accident and Emergency Care Initiative (TAEI), Levels 3 and 4 training was to be provided to trauma care providers and other health care workers to strengthen both pre- and in-hospital care.

Two DLIs were designed to directly support this result area.

- **DLI #3:** Increased share of adults with hypertension or diabetes whose blood pressure or blood sugar are under control ***(Initial allocation: $48.9 million, revised allocation: $57.9 million)***
- **DLI #4:** Improved provision of quality trauma care services ***(Initial allocation: $17.7 million, revised allocation: $16.25 million)***
- Cross-cutting DLIs #6, #7, and #8 also support this results area.

Results Area #3: Reduced Equity Gaps in Reproductive and Child Health (RCH) *(original: $56.5 million; disbursed: $56.5 million)*. Support was to focus on nine priority districts, constituting the bottom quintile of Tamil Nadu's RCH indicators and having a relatively large proportion of tribal populations. Three indicators were to track: full immunization, full antenatal care, and modern contraceptive rate to be achieved through a combination of supply- and demand-side interventions. Supply-side activities included: mobile outreach services for tribal populations operated by NGOs providing minor ailment treatment antenatal screening, NCD screening, lab tests and drugs free of charge. NQAS certification of primary and secondary care facilities and other quality interventions under Result Area #1 would also enhance quality of RCH services. In addition maternity stay wards were to be established in remote areas to facilitate continuum of maternal and child health care, including, immunizations and contraceptive uptake. Demand-side interventions include an SBCC strategy tailored to these priority districts and a

household RCH survey to track service coverage and DLI indicators and to assess demand-side barriers to inform course corrections.

One DLIs was designed to directly support this result area.

- **DLI #5:** Increased utilization of reproductive and child health services in priority districts) ***(Initial, unchanged allocation: $56.5 million).***
- In addition, **DLI #2** (through higher payments for certification of public health facilities in priority districts) and cross-cutting DLIs (#6, #7, and #8) also supported this result area.

Cross-Cutting Initiatives to Strengthen Institutional and State Capacity to Achieve the Three Results Areas *(original: $81.25 million; revised: $70.5 million; disbursed: $70.5 million)*. In complement to the above-cited technical interventions supporting the Results Areas, the following DLIs aimed to strengthen public sector management of the health sector, increase transparency, and strengthen accountability, all with a strong focus on quality assurance. Drawing on good practices and building on Tamil Nadu's already strong performance, further strengthening of management capacities included a number of domains: human resources, financial management, procurement; a more clearly articulated strategy, program and benchmarks to build a common vision for all stakeholders; higher quality, more accessible data for evidence-based decision-making; public access to health data and quality indicators and the convening of district and state health assemblies for transparency and empowerment of citizens; and better coordination and integration of the range of actors and interventions for improved efficiency.

Three DLIs were designed to support this cross-cutting agenda:

- **DLI #6:** Strengthened content, quality, accessibility, and use of data for decision-making) ***(Initial allocation: $36.5 million, revised allocation: $21.0 million)***
- **DLI #7:** Strengthened coordination, integration, performance-based management, learning, and other cross-cutting functions for better results ***(Initial allocation: $30.75 million, revised allocation: $35.75 million)***
- **DLI #8:** Increased transparency and accountability through citizen engagement (voice, agency, and social accountability*)* ***(Initial allocation: $14.0 million, revised allocation: $13.75 million)***

Revised Design:

Following the late-2021 mid-term review, a Level 2 restructuring was undertaken in February 2022 to address COVID-related challenges, evolving priorities and needs, and feasibility considerations. The restructuring did not change the PDO or the Results Areas. Some PDO targets were amended. For PDO 1 (DLI #2) the target for public tertiary facilities with quality certification was decreased, while the same target for secondary facilities was increased. For PDO 2 the baseline and end targets for improved scores in quality scorecard for primary, secondary and tertiary care facilities were established with new data. For PDO 3 the targets for screening in public sector facilities for cervical and breast cancer were decreased. For PDO 4 baseline and end targets for adults with hypertension or diabetes whose blood pressure or blood sugar are under control were established with new survey data. The restructuring also included revisions to the financial allocations to each result area, with more funding moved from the cross-cutting DLIs to DLIs under Results Areas 1 and 2 (as detailed above).

In short, the revisions and refinements to the measurement of PDO and DLI achievements introduced under the restructuring (i) reflected the evolving government strategies and new priorities that emerged after

COVID (e.g., dropping HMIS revamping and introducing instead a new integrated personal health registry; developing a digital platform, TANQuEST, for online continuous health professional education; and expansion of emergency and trauma care capacity) and (ii) introduced minor modifications and clarifications of DLI definitions and verification protocols based on more detailed activity planning and early implementation experience. Revisions to baselines, annual targets and end targets were grounded in: more recent data, a more realistic post-COVID implementation timeline, GoTM's need-based activity plans, and early implementation experiences and feasibility assessment, culminating in a more detailed and realistic implementation plan.

Despite the COVID-related challenges and delays in Program implementation, the restructuring actually took advantage of new reform momentum and strong political will, which emerged during COVID, to further strengthen the quality and resilience of GoTM's health system. The Bank leveraged the unique window of opportunity (new reform momentum and strong political will emerging from COVID) to introduce several ambitious and challenging reform initiatives that were not possible at the time of Program preparation. These covered investments to further enhance emergency and trauma care capacity (equipping ambulances purchased during COVID-19, upgrading more trauma care facilities and establishing postgraduate training for emergency medicine, under **PDO4/DLI5**). They also covered the introduction of home-based NCD care delivery, implementation of NCD quality initiatives at facilities (under **DLI3**), adoption of TANQuEST online platforms for NCD quality education (under **DLI1**) and adoption of an integrated population health registry (PHR) for population-based health management (under **DLI6**). Cross-cutting institutional governance initiatives were further strengthened by the establishment of a Program Steering Committee (PSC) chaired by the Principal Secretary and appointing Nodal officers to ensure accountability and ownership (under **DLI 7**) to encourage collaboration and coordination across the seven MoH directorates. Ten new DLRs supporting these new activities were added across different results areas to incentivize achievements of critical outputs and outcomes. Overall, the restructuring's improvements to the results framework provided a more ambitious, but still feasible path to incentivize implementation, support PDO achievement, and enable more effective monitoring and evaluation of the Program.

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

Cost, Financing, and Borrower Contribution. The total original cost of the five-year PforR Program was estimated at $5,277.750 million, of which IBRD financing was to cover $287 million (or 5 percent of the Program budget), with the balance of $4,990.750 billion (or 95 percent) to be covered by counterpart funding. The actual total costs and financing reported in the ICR (Annex 3, p. 37) are the exact amounts estimated at appraisal. The IBRD loan was thus fully disbursed in full respect of revised allocations under the restructuring, which were close to original allocations: 104 percent for Results Area 1; 111 percent for Results Area 2; 100 percent for Results Area 3; and 87 percent for Cross-Cutting DLIs.

Key Dates. The PforR was approved on March 19, 2019, became effective on July 29, 2019, underwent a mid-term review in November 2021, and closed, as originally scheduled, on May 31, 2024. Following the mid-term review, a Level 2 restructuring was undertaken in 2022 to address the effects and challenges of the COVID-19 pandemic, seize the opportunity of renewed and stronger GoTM commitment to Program objectives and sector reform, and fine-tune the results framework (baselines, targets, DLIs, DLRs, and allocations thereto), in light of these challenges and opportunities and taking into account new data and implementation experience to date (details provided in Section 2d).

3. Relevance

a. Relevance of Objectives

Rationale

The PDO is relevant to the current development priorities of the country. Tamil Nadu's State Health Policy Vision 2030 lays out sustainable and emerging agendas which provide critical support for achieving SDG 3, including: the reduction of equity gaps and quality improvements in RCH care, improvements to the prevention and management of NCDs and mental health; and comprehensive trauma and emergency care. Vision 2030 also articulates the following cross-cutting strategies accompanying and enabling the implementation of the above-cited agendas, including: strengthening human resources for health; continuous professional development and capacity building; improving and ensuring quality of care and continuous quality improvement; effective and efficient drugs and diagnostics; strengthening and integration of health management information systems; and health research. The three PDOs (aka three Results Areas) and accompanying DLIs were chosen jointly with the GoTM with a view to prioritizing and packaging the elements of Vision 2030 that were – and still remain – most critical for achieving SDG 3 and its subtargets.

The PforR instrument was appropriate given the capacity of the Tamil Nadu health system to lead and manage the Program and its strong commitment to its goals. The PforR: (i) aligned with GoTN's vision and commitment to shift from an input-based to a performance-based approach to enhance effectiveness and accountability (ii) allowed flexibility to DoHFW to plan and implement key activities to achieve desired outcomes through the government program, institutions and fiduciary system, all deemed to be capable; (iii) encouraged DoHFW and its seven directorates and societies to realign their efforts and coordinate a more integrated approach to achieving results; and (iv) offered opportunities to further strengthen institutions through system reforms, improved results monitoring, and enhanced performance incentives. It was grounded in GoTN's strong political will and readiness to undertake ambitious reforms and well poised to support DoHFW in designing and implementing a complex reform agenda to elevate GoTN's health system performance to the next level. Tamil Nadu's stable policy environment and reliable public health sector provided a solid foundation for a PforR design.

The PDO was also aligned with the World Bank Group's Country Partnership Framework (CPF) for India (FY18-22), which was extended to FY25. The PforR PDO supported the CPF's "Focus Area 3: Investing in Human Capital." It also supported the CPF's aims to strengthen public sector institutions and support a Lighthouse in India by generating lessons for other states.

The WB had played an integral role in the health sector in Tamil Nadu for twenty years, rendering it well equipped to support a project of this nature. The PforR Program builds on a solid foundation of previous World Bank engagement. Financed by a $210 million IDA credit and implemented over a 10-year timeframe (2005-15), the Tamil Nadu Health Systems Project aimed "…to significantly improve the effectiveness of the health system in Tamil Nadu" through four components: (1) increasing access to and utilization of services, with an emphasis on maternal and child health and marginalized populations; (2) strengthening prevention and control of NCDs; (3) capacity building for health system oversight and management; and (4) improving public sector effectiveness and efficiency to deliver essential services. IEG rated the outcome of this operation as fully Satisfactory. The PDO was also aligned with the World Bank Group's CPF for India (FY18-22), which was extended to FY25. The PforR PDO supported the CPF's

"Focus Area 3: Investing in Human Capital." It also supported the CPF's aims to strengthen public sector institutions and support a Lighthouse in India by generating lessons for other states.

Rating
High

b. Relevance of DLIs

DLI 1

DLI
Implementation of quality improvement interventions in primary, secondary, and tertiary care facilities.

Rationale
This DLI, appropriately featured as an output in the Program theory of change, was directly supportive of the achievement of Objective 1 (to improve the quality of care). It incentivizes institutional reforms to support and monitor quality improvement, including the development and adoption of a Quality of Care (QoC) Strategy, the development and rollout of a quality scorecard for improved monitoring and measurement, and other quality improvement initiatives. It is a scalable indicator and was further strengthened under the 2022 restructuring, which incentivized an additional quality improvement intervention: the adoption of a digital platform, TANQuEST, providing online continuous health professional education (under **DLI1**)

Rating
High

DLI 2

DLI
Increased number of public facilities with quality certification (primary, secondary, and tertiary care facilities) (This also serves as PDO Indicator 1 (PDOI 1).

Rationale
This DLI supported the accreditation of public facilities, with the expectation that (in an initial phase) 11 primary- and 34 secondary-level facilities would receive NQAS certification prior to loan signing, with subsequent increases over the course of implementation. This was a critical outcome, both contributing to as well as measuring the achievement of Objective 1 (improved quality of care). Thus this DLI also appropriately serves as a PDO indicator (PDOI 1). Moreover, through higher payments for the certification of public health facilities located in priority districts, DLI2 also supports equity goals under Objective 3.

Rating
High

DLI 3

DLI

Increased share of adults with hypertension or diabetes whose blood pressure or blood sugar are under control (This also serves as a PDO Indicator (PDOI 4).

Rationale

This DLI supported improvements in prevention, screening, treatment, patient tracking and follow-up of NCDs and their associated risk factors, by incentivizing the control of patients with diabetes and hypertension, chronic conditions which are highly prevalent in Tamil Nadu and for which services were inadequate. It is also appropriately classified as an outcome indicator for Objective 2 (strengthening the management of NCDs and emergency care). Project restructuring further improved the relevance of DLI 3, with the introduction of home-based NCD care delivery and the implementation of NCD quality initiatives at facilities.

Rating

High

DLI 4

DLI

Improved provision of quality trauma care services (This also serves as a PDO Indicator (PDOI 5).

Rationale

DLI 4 supported improvements in the management of injuries (emergency and trauma care), including intermediate results in pre-hospital care (improved inter-facility transfer in the 108 ambulance services) and in-hospital care (establishment of trauma registries and strengthening service provision in trauma centers). These were critical contributions to the achievement of Objective 2 (strengthening the management of NCDs and emergency care). DLI#4 is appropriately reflected in the theory of change as an intermediate result (improved pre-hospital and in-hospital emergency and trauma care capacity) and an outcome (provision of quality pre-hospital and in-hospital trauma care services) and also serves as a PDO indicator (PDOI 5). To further enhance emergency and trauma care capacity, restructuring added support under this DLI for equipping ambulances purchased during COVID-19, upgrading more trauma care facilities and establishing postgraduate training for emergency medicine.

Rating

High

DLI 5

DLI

Increased utilization of reproductive and child health services in priority districts (DLI5 also served as a PDO indicator (PDOI 4).

Rationale

DLI 5 supported and tracked the utilization of three packages of RCH services in nine priority districts (with low RCH outcomes): (a) full immunization of children under age 2; (b) full antenatal care for pregnant women; and (c) modern contraceptive prevalence rate among women of reproductive age. It also triggered investments and activities in strengthening the quality of these services (also incentivized under DLI 1) and the demand for these services. The utilization of these services is critical for improving the low RCH outcomes in these underserved districts.

Rating
High

DLI 6

DLI
Strengthened content, quality and accessibility, and use of data for decision-making.

Rationale
To improve data and its use, DLI 6 originally aimed to strengthen the HMIS, integrate data sources into an online database, and introduce electronic patient medical records. At the time of restructuring, this approach was modified to focus instead on developing a population health registry (PHR), which aimed to create open, neutral information and communication technology infrastructure at state level for integrating all health data and applying advanced analytics for decentralized, evidence-based, data driven decision support systems without compromising data privacy. While at the time of restructuring the first HMIS DLR (HMIS concept) had already been achieved, the remaining HMIS DLRs were dropped in favor of a new DLR: the development of an integrated population health registry and its rollout in one district of Tamil Nadu."This change was made to align the approach to health data systems strengthening that was to be adopted by the entire country, moving from a facility-based system to a more integrated and holistic, patient-based system. As such, the restructured DLRs under DLI 6 were more ambitious than the original design. The relevance of DLI 6 remains high because: (1) DLRs were adjusted to reflect GoTM's evolving priorities and sound vision for improving data quality and decision-making; and (2) DLI 6, itself, did not change, whose achievement is critical for improved sector governance and oversight and service delivery at all levels of the system.

Rating
High

DLI 7

DLI
Strengthened coordination, integration, performance-based management, learning, and other cross-cutting functions for better results.

Rationale
This DLI supported the strengthening of state capacity for planning and implementation. It features in the theory of change as a mix of outputs and intermediate results supporting: Objective 1 (quality of care) through expanded and improved continuous medical education (CME) program; Objective 2 (strengthening management of NCDs and injuries) through the development of performance-based incentive mechanisms in

primary health facilities; and cross-cutting institutional strengthening through improved guidelines, protocols and user-friendly tools, and well-defined goals and priorities in policies and strategies. Cross-cutting institutional governance initiatives were further strengthened at restructuring by the establishment of a Program Steering Committee (PSC) chaired by the Principal Secretary and the appointment of Nodal officers to ensure accountability and ownership to encourage collaboration and coordination across the seven MoH directorates.

Rating
High

DLI 8

DLI
Increased transparency and accountability through citizen engagement (voice, agency, and social accountability).

Rationale
DLI 8 supports transparency, collaborative social accountability, and consolidation of citizen engagement through annual district and state health assemblies to strengthen the feedback loops between citizens and the state, and the piloting of patient experience questionnaires, appropriately reflected in the theory of change as cross-cutting outputs and intermediate outcomes. These activities are critical for ensuring trust and partnership between the health service providers and the population. They also facilitate the factoring in and monitoring of patients' perspectives with a view to achieving a more client-centered approach to quality assurance (supporting Objective 1) and more effective utilization of services by the population (supporting Objectives 2 and 3).

Rating
High

OVERALL RELEVANCE RATING

Rationale
The relevance of the DLIs is rated high. The DLIs were a subset of the results framework indicators, measuring a mix of outputs, processes, intermediate outcomes and outcomes along the results chain. Five DLIs (2, 3, 4 and 5) measured development outcomes on Objectives 1 (quality), 2 (NCD and trauma care) and 3 (equity in RCH services use). Five DLIs (1, 4, 6, 7, 8) supported key health program implementation and governance processes supporting Program objectives. DLIs and the RF were also aligned with the key health policy documents in effect at the time of design (Vision 2023 strategy and 2018-19 Policy Note). The DLIs provided a good balance between specific health service delivery indicators and broader policy reform and institutional strengthening. The designation of governance/capacity building outputs and intermediate outcomes as DLIs gave them prominence and funding that they might not have otherwise attracted in a typical government health program, particularly: the carrying out of a STEP survey to document information

on NCD prevalence, treatment gaps and outcomes (DLI 3), the implementation of operations research to inform program implementation (DLI 7), and establishment of a Program Steering Committee (DLI 7).

The DLI matrix maintained its relevance throughout implementation, even with the restructuring. Indeed, ten new DLRs supporting these new activities were added across different results areas to incentivize achievements of critical outputs and outcomes. Overall, the restructuring's improvements to the results framework provided a more feasible path to incentivize implementation, support PDO achievement, and enable more effective monitoring and evaluation of the Program.

The DLIs were well defined, each with a clear definition and protocol to evaluate achievement (with data source, verification entity, and procedure specified). They were reasonably ambitious, judiciously distributed over the implementation period, and clearly identified in terms of scalability and rollover. The DLRs' timings and allocations were calibrated for cumulative/sequential achievement of DLI targets and for moving implementation forward.

Rating
High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective
Improve quality of care in Tamil Nadu (Also labeled as Results Area 1)

Rationale
To support improvements in the quality of care, the PforR supported ***outputs and intermediate objectives*** rewarded through various DLIs and measured by IRIs to promote: the implementation of quality improvement initiatives covering primary, secondary and tertiary care facilities and cross-cutting institutional strengthening initiatives aimed at improved sector coordination, governance, accountability, transparency and management. These outputs and intermediate objectives were expected to produce ***outcomes*** that were to be measured by: (1) an increase in the number of health facilities that were accredited (compliant with the specific national quality and patient care standards), of which a portion would be located in priority (underserved) districts; and (2) improvements in the quality of health facilities' inputs, clinical processes and selected outcomes, as measured and tracked by quality scorecards, introduced under the PforR.

Outputs and Intermediate Outcomes

The PforR promoted the implementation of quality improvement initiatives covering primary, secondary and tertiary care facilities (DLI 1, IRI 1). (Primary facilities include Community Health Centers and Primary Health Centers.)

- Based on global good practice and local consultations, a quality scorecard was developed for the various levels of health facilities, consisting of 12-14 indicators tracking structural inputs, clinical processes, and patient outcomes.
- The scorecard was adopted by 570 (27 percent of all) primary facilities and 248 (85 percent of all) secondary facilities, and 9 tertiary facilities, with the quality scores reported routinely to the DoHFW (DLI 1). This was the first major effort in Tamil Nadu to introduce systematic and routine quality assessment and monitoring mechanisms across all levels of health facilities. From a baseline of zero, the 570 primary facilities and 248 secondary facilities were implementing at least one endorsed quality improvement measure, and reporting on their quality scorecards on a quarterly basis, ***fully achieving these original, unchanged targets***. (IRI 1).
- The Tamil Nadu Quality of Care strategy was developed and a set of quality initiatives with comprehensive operational plans were developed under the Program. Subsequently, the above-cited 570 primary facilities and 249 secondary facilities set up “Quality Committees,” and nine tertiary hospitals established “Quality Circles,” dedicated teams working on quality improvement of those respective facilities (DLI 1).
- From a baseline of zero, patient experience surveys were conducted in five percent of all secondary and tertiary facilities to incorporate the patient experience as part of health care quality assessment (IRI 2), ***falling short of the original target*** of 10 percent***, and fully meeting the reduced target*** of 5 percent (adjusted in light of delays due to COVID-19). Surveys were used to identify areas for improvement, responding to the patient perspective.
- To close the gap in continuous professional education on quality of care for the health workforce, the TANQuEST digital platform was introduced, covering a range of modules, including: management, communication, ethics, pandemic management, hospital infection control, research methodology, and digital data management. By the end of the Program, 1,272 health care professionals had received TANQuEST training on quality of care.

The PforR rewarded a number of cross-cutting institutional strengthening initiatives, which synergistically supported the achievement of the three Program Objectives (or Results Areas): (1) improved quality of care; (2) strengthened management of NCDs and injuries; and (3) reduced inequities in reproductive and child health services. They are reported under this Objective and mentioned briefly under the other two Objectives, as relevant.

- The PforR strengthened the content, quality, accessibility and use of data for decision-making (DLI 6, IRI 8). The original design sought to incentivize the design and support of a strengthened and integrated Health Management Information System (HMIS) through a series of DLRs, encompassing the development of a conceptual model and operational plan to this end and the implementation of the HMIS in all health facilities in nine districts. Still supporting the unchanged DLI 6, and IRI 8, ***the 2022 restructuring*** amended the DLRs, dropping plans for a strengthened HMIS and rewarding instead the development and piloting of a population health registry (PHR) in one district in the state, as a key initiative to strengthen content, quality, accessibility, integration, and use of data for decision-making. The revised DLR was ***fully achieved.*** During a March 17, 2025 meeting with IEG, the task team noted that this indicator was revised in 2022 to reflect the current strategic direction of the GoTN to move away from a facility-based HMIS and toward a much more holistic and ambitious population-based approach to data systems strengthening. This system involves the establishment of a unique patient number and better integration of all information systems to enable system-wide monitoring and oversight of patients' care, outcome, and follow-up.

The Program also completed several key actions to strengthen coordination, integration, performance-based management, and learning (DLI 7).

- Thirty operation research studies were carried out covering a wide range of topics related to Program implementation and made concrete recommendations (itemized in ICR, Annex 9). The original timing of this research was delayed due to COVID, but nevertheless completed.
- A high-level Program Steering Committee, chaired by the Principal Secretary of the DoHFW, was established in Year 2 providing high-level oversight and stewardship. Meetings, held on a monthly basis every year and ***fully achieving the target,*** focused on the review of Program progress and challenges and agreed on mitigation measures to be implemented by each directorate and society to further improve performance. The ICR (para 31) reports that this Steering Committee has been recognized as the most effective mechanism for enhancing cross-departmental coordination.
- Energy efficiency and liquid waste management audits for health facilities were carried out, with preliminary results suggesting huge cost savings from adopting energy efficiency measures.
- The Program promoted increased transparency and accountability through citizen engagement (voice, agency, and social accountability), creating a platform for the public to speak about their needs and demands (DLI 8, IRI 10). While intermediate targets for Years 2 and 3 were revised in 2022 due to COVID, endline targets were exceeded or fully achieved.
    - From a baseline of no districts conducting Health Assemblies, by the project's end 63 percent of districts were conducting Health Assemblies, ***exceeding the target*** of 60 percent.
    - From a baseline of no State Health Assembly being conducted, by the project's end one State Health Assembly was held, ***fully achieving the target*** of one.

PDO-Level Results Indicators

The PforR supported a significant scaling up of quality certification across all three levels of health facilities in Tamil Nadu ensuring that more health facilities became compliant with the specific national quality and patient care standards and ensuring that 20 percent of the newly certified facilities were located in priority districts, thus enhancing equity (PDOI 1, DLI 2):

- From a 2018 baseline of 0, four tertiary facilities were accredited by NABH, ***falling short of the original target*** of seven, and ***fully achieving the revised target*** of four set at restructuring. (ICR)
- From a 2018 baseline of three, 75 secondary facilities were accredited by NQAS, among which 15 were in the priority districts, ***fully achieving the original targets*** of 75, of which 15 in priority districts (100 percent achievement), and ***exceeding the revised targets*** of 70, of which 14 in priority districts.
- From a 2018 baseline of four, 300 primary facilities were accredited by NQAS, of which 60 are in priority districts, ***fully achieving both the total and the equity targets*** (100 percent achievement).

The monitoring of quality, complemented with targeted quality improvement initiatives supported under this operation, led to a significant improvement in the quality of health facilities' structural inputs, clinical processes, and selected project outcomes. From a mean baseline score of 55 (out of a perfect score of 100), established in 2022 with data collected using the quality scorecards developed by the Program, the mean scores for primary, secondary and tertiary level facilities, as recorded on quality scorecards, increased to 65, ***fully achieving the target*** of 65 set at restructuring (PDOI 2).

Overall efficacy of Objective 1 is high. While there was a shortfall in meeting the original target of seven tertiary facilities being accredited, a split rating would not have made a difference, since (i) the tertiary facilities represented a small fraction of all facilities receiving accreditation, the others (primary and secondary) all highly achieved, even with increased targets for the secondary level; (ii) the change in the tertiary target was made when less than half (or 44 percent) of PforR funds were disbursed; and (iii) all other original or unchanged outcomes and targets were highly achieved, with a mix of full achievement and targets surpassed. Over and above the outcome indicators documenting full achievement and/or surpassing of facility accreditation targets, and improvements in facilities' quality scores, improvements in data for decision-making, research support, sector coordination and oversight, and enhanced citizen engagement through health assemblies, all supported by the Program, are important components of quality assurance, also contributing to improved quality of services

Rating
High

OBJECTIVE 2

Objective
Strengthen management of non-communicable diseases (NCDs) and injuries in Tamil Nadu (also labeled as Results Area 2)

Rationale
To support strengthened management of NCDs and injuries, the PforR supported ***outputs and intermediate objectives*** rewarded through various DLIs and measured by IRIs to promote: better data on NCDs and risk factors that would inform an NCD strategy; an NCD outreach program for home-based support; NCD awareness-raising; various efforts to improve the quality and capacity of trauma and emergency care; and interventions to expand access to mental health services. These outputs and intermediate objectives were expected to produce ***outcomes*** that were to be measured by: (1) the screening rate in public sector facilities for cervical and breast cancers; (2) an increase in the share of hypertensive and/or diabetic adults whose conditions were under control; (3) improvements in the quality of trauma care services; and (4) expanded capacity for mental health care services.

Outputs and Intermediate Outcomes

The project supported a number of interventions to strengthen the management of NCDs.

- To close the data gap on NCDs and risk factors, STEPS surveys were conducted in 2019-20 to establish baselines and in 2023-24 to track progress of NCD control under the PforR. The original survey identified major gaps in patients' awareness of their hypertension and diabetes status, low treatment coverage, and poor treatment outcomes. Based on this data and evidence, a detailed NCD strategy was developed (DLI 3).
- To bring NCD services closer to patients, the MTM outreach program was launched, with field-based teams carrying out home-based NCD screening, drug delivery for hypertensive and diabetic patients, palliative care, and physiotherapy sessions.

- An SBCC strategy was implemented to raise awareness and promote healthy behaviors to prevent NCDs (IRI 7).

The project also supported interventions to improve the quality of trauma care.

- From a baseline of 64, a total of 205 Advanced Trauma Life Support (ATLS) ambulances were providing Level 1 care, ***exceeding the target of*** 164. A better equipped ambulance system was critical for improving pre-hospital urgent care. (IRI 5) Unchanged from PAD
- The project expanded trauma care capacity through the provision of Level 3 Basic Trauma Life Support (BTLS) and Level 4 (ATLS) training. (IRI 6) (***revised in 2022 to adjust delays due to COVID-19)***
    - From a baseline of 165, by the project's end, there were 6,909 Level 3-trained nurses, ***falling short of the original target of 9000 and exceeding the revised target*** of 6,120.
    - From a baseline of 100, by the project's end, there were 4,537 Level 3-trained doctors, ***falling short of the original target of 6,000, and exceeding the target*** of 4,313.
    - From a baseline of zero, by the project's end, there were 951 Level 4-trained nurses, ***exceeding the original, unchanged target*** of 900***.***
    - From a baseline of zero, by the project's end, there were 624 Level 4-trained doctors, ***exceeding the original, unchanged target*** of 600.
- The Program also heavily invested in supporting the creation and strengthening of emergency departments in 25 medical college hospitals and set up 13 Level-1 and 29 Level-2 trauma and emergency care facilities (DLI 4). These allowed for the creation of an MD Emergency Medicine clinical training program and a career path for the emergency medicine specialty in Tamil Nadu.

The project also supported interventions to expand access to mental health services.

- From a 2018 baseline of zero, 41 percent of primary and secondary facilities had at least one staff trained on mental health by the project's end, ***slightly exceeding the target*** of 40 percent. (IRI 3) Unchanged from PAD
- From a 2018 baseline of zero suicide hotlines for the state, Tamil Nadu established a functional toll-free number for counseling on health issues and grievances related to health services. A hotline linked to this helpline was developed for counseling related to suicide contemplation and attempts, ***fully achieving the target*** of establishing a state suicide hotline. (IRI 4) Unchanged from PAD

PDO-Level Results Indicators/Outcomes

An endline (2023-24) STEPS survey confirmed improved NCD awareness, treatment coverage and outcomes.

- The screening rate in public sector facilities increased for both cervical and breast cancers (PDOI 3). Based on a substantial decline in screening rates which occurred in Year 2, due to the impact of COVID, and modest increases towards pre-COVID levels thereafter, the 2022 restructuring lowered screening targets to be more realistic in the context of COVID recovery. Achievements of revised targets surpassed pre-COVID rates and showed a doubling of reduced levels in Year 2 (itemized below), reflecting a reinforced effort towards strengthening community-based services for NCDs and cancer screening introduced by the state in 2021. These post-COVID achievements exceeded the post-COVID targets set in 2022, at which time less than half (or 44 percent) of the PforR proceeds had

been disbursed. Moreover, in the absence of this project's support to NCDs, it is likely that these rates would have been very slow to increase or perhaps they even would have continued to stagnate in the aftermath of COVID. For these reasons, these outcomes are considered to be highly satisfactory.

- From a 2018 baseline of 15.8 percent of all women in the state aged 30+ years, screening for cervical cancer in public sector facilities increased to 17 percent, ***not achieving the original (pre-COVID) target*** of 30 percent, ***but slightly exceeding the reduced target of 16 percent*** set under the 2022 restructuring. This represents a notable increase from the Year 2 level of 7.10 percent, when the initial impact of COVID on these rates was recorded.
- From a 2018 baseline of 19.5 percent of all women aged 30+ years in the state, screening for breast cancer in public health facilities increased to 23 percent, ***not achieving the original (pre-COVID) target*** of 30 percent***, but exceeding the revised target*** of 19 percent set under the 2022 restructuring, reflecting a notable increase from the low Year 2 level of 10.2 percent, as a result of COVID.

- From a baseline of 32 percent in 2019-20, more hypertensive patients became aware of their diseases, rising to 46 percent in 2023-24. And the share of adults with hypertension or diabetes, whose blood pressure or blood sugar are under control increased (PDOI 3, DLI 3).
  - From a baseline of 7.3 percent, established after NCD risk factor surveillance (STEPS) was implemented in 2019-20, the share of adults with hypertension, whose blood pressure was under control, increased to 17 percent, ***exceeding the target*** of an increase of three percentage points over the baseline.
  - From a baseline of 10.8 percent, also established from 2019-20 STEPS data, the share of adults with diabetes whose blood sugar was under control increased to 16.7 percent, ***essentially meeting the target*** of an increase of six percentage points over the baseline (***99 percent achieved).***
- An evaluation of the NCD outreach (MTM) program (DLI 3) revealed that the program led to an increase in drug indent from primary facilities by 92 percent for diabetes and 78 percent for hypertension, indicating significant expansion of NCD treatment coverage through primary care.

The provision of quality trauma care services improved with project support (PDOI 5, DLI 4). ***(Revised in 2022)***

- From a 2018 baseline of zero, a total of 54 trauma centers across the state were using the integrated trauma registry, ***fully achieving the original, unchanged target*** of 54. Developed with project support, the integrated trauma registry facilitates seamless information flow and prompt process management for pre-hospital, in-hospital, and rehabilitation care. Protocols for inter-facility transfers were developed for more effective patient care.
- The timeliness of emergency surgery improved significantly, with 85 percent of cases requiring emergency surgeries operated within six hours of admission, almost double the level of 45.9 percent, established during the 2022 restructuring, and ***exceeding both the original target*** of 15 percent (on the basis of a 6.7 percent baseline in 2018) ***and the revised target*** of 55 percent set at restructuring (DLI 4).
- All of the above-cited outputs and intermediate outcomes supporting trauma medicine (strengthening/creation of emergency medical departments; establishment of an MD emergency medicine career path and specialized training; investments in ambulances; and the training of over

1300 doctors and nurses in Level-3 and Level-4 care) also contributed to the significant enhancement of the tertiary-level trauma care capacity in Tamil Nadu.

While there were no specific outcome indicators to assess the quality of mental health services, mental health capacity was significantly boosted by the Program, with 41 percent of primary and secondary facilities having at least one staff trained on mental health by Program completion (IRI3) (compared with minimal capacity at the baseline) and the establishment of a toll-free hotline to provide counseling and help on health issues, including suicide contemplation and attempts (IRI4).

Rating
High

OBJECTIVE 3
Objective
Reduce inequities in reproductive and child health (RCH) services in Tamil Nadu (also labeled as Results Area 3)

Rationale
To support a reduction of inequities in RCH services in Tamil Nadu, the PforR supported ***outputs and intermediate objectives*** rewarded through various DLIs and measured by IRIs to promote: the implementation of a social and behavior change communication strategy to increase awareness and generate public demand for RCH services; and various measures supporting the strengthening of RCH services in priority (underserved) districts. These outputs and intermediate objectives were expected to produce ***outcomes*** that were to be measured by: (1) an increase in the share of pregnant women who fully utilized the package of antenatal care services; (2) an increase in the share of children aged 12-23 months who are fully immunized; and (3) an increase in the share of women of reproductive age using modern contraception.

Outputs and Intermediate Outcomes:

The project supported the strengthening of RCH services in nine priority districts with lagging RCH outcomes, including three districts with a relatively large proportion of scheduled tribe populations.

- A Social and Behavior Change Communication (SBCC) strategy was updated and implemented to increase awareness and generate public demand for RCH services and their utilization.
- A comprehensive RCH service package was developed based on gaps identified in a survey. The package included: (1) at least four antenatal visits, including: iron and folic acid supplementation, tetanus-diphtheria vaccine for pregnant women, blood glucose monitoring, high-risk mothers camp, nutritional kits for anemic mothers, vitamin K prophylaxis at birth, home-based newborn and post-natal mother care, scheduled post-delivery visits, breastfeeding promotion, nutrition counseling, transport to health facilities for women ready to deliver and back to their homes, post-delivery; (2) child immunization; and (3) modern contraceptive services.
- Infrastructure, equipment, and institutional capacity for service delivery were strengthened at primary care centers, continuous professional education, Medical College Hospitals, call centers, and through dedicated health staff such as Village Health Nurses and Accredited Social Health Activists.

- From a 2019 baseline of zero, a total of 4.082 million people received essential health, nutrition and population (HNP) services, exceeding the target of 3.6 million.
- From a 2019 baseline of zero, a total of 4.082 million children immunized were immunized, exceeding the target of 3.6 million (CRI, number).
- In a meeting with IEG on March 17, 2025, the task team explained that the two indicators immediately above are core indicators, part of the Bank's new scorecard for HNP. Data provided is for children immunized with BCG for the entire state. The baseline of zero is required, as part of the Bank's guidelines on reporting against these indicators. The two indicators report the same numbers because it is only the children immunized against BCG that are reported under people receiving essential HNP services.

PDO-Level Results Indicators:

Data from the fifth National Family Health Survey (NFHS5) indicate a significant increase in the utilization of core RCH services in priority districts (PDOI 6/DLI 5).

- From a baseline of 28.8 percent, the share of pregnant women in the priority districts who fully utilized antenatal care services rose to 41.3 percent, ***fully achieving the target*** of 41.3 percent. Full ANC means at least four ANC visits, at least one tetanus toxoid injection, and having taken iron and folic acid tablets or syrup for 100 days or more.
- From a baseline of 57.9 percent, the share of children who are fully immunized rose to 70.4 percent, ***fully achieving the target*** of 70.4 percent. Full immunization means children 12-23 months receiving vaccinations against tuberculosis, diphtheria, pertussis, tetanus, polio, and measles.
- From a baseline of 38.5 percent, the share of women of reproductive age (15-49 years) using modern contraception rose to 43.5 percent, ***fully achieving the target*** of 43.5 percent. Modern contraceptive prevalence rate includes the following methods: male and female sterilization, injectables, IUDs (including post-partum IUDs), contraceptive pills, implants, female and male condoms, diaphragms, foam/jelly, the standard days method, the lactational amenorrhoea method, and emergency contraception.

The project fully achieved its targets to promote an increased utilization of three critical packages of RCH services now offered in the nine priority districts, chosen for their low RCH indicators, compared to state averages. While this probably means a reduction in inequities, the ICR does not provide any data to compare the baseline and endline utilization rates in the nine priority districts with the state averages or with districts having highest RCH indicators for a clearer documentation of trends in equity. Under Objective 1, the equity targets, ensuring that 20 percent of newly accredited health facilities would be located in priority districts, were fully achieved or exceeded. Of the 75 newly accredited secondary level facilities, 15 were located in priority districts, fully achieving the original target of 15 and exceeding the revised target of 14. Of the 300 newly accredited primary facilities, 60 were located in priority districts, fully achieving the target of 60. During a meeting with IEG on March 17, 2025, the task team noted that, while project data only tracked the increase in service utilization in the nine priority districts, based on the NHFS survey results, they expect that the significant improvements in utilization achieved for all three RCH services reduced inequities within the state.

Rating

Substantial

OVERALL EFFICACY

Rationale

All three objectives were highly achieved. All main targets under **Objective 1** were fully achieved or exceeded. Moreover, the establishment and implementation of quality improvement and quality assurance activities and processes also contributed to the full achievement of Objective 1. **Objective 2** was fully achieved. In year 2 the screening of cervical and breast cancer fell far below the original baseline because of the impact of COVID. The restructuring set new, low (but still ambitious) targets in this difficult context; and those targets were exceeded by the Program's end. The delivery of these services would not have achieved these revised, ambitious targets (never mind actually exceeding them), without the Program's support. The quality of trauma care improved with PforR support, with targets fully achieved or exceeded. All three outcome targets under **Objective 3** were fully achieved, with increased utilization rates of key packages of reproductive and child health services by targeted populations in nine priority (underserved) districts.

Attribution. The project design and results chain laid out a tight and convincing logic connecting outputs and intermediate outcomes with outcomes. It also wove in critical institutional and capacity development DLIs aiming to strengthen sector oversight and management – both an end in itself, as well as a contribution to the three Objectives/results areas. Moreover, the technical assistance provided directly by the Bank and by other experts procured through Bank-acquired trust funding also contributed to the achievement three results areas, as well as to institutional strengthening. In a meeting with IEG on March 17, 2025, the Bank team noted that donors operating in Tamil Nadu were involved only in small-scale pilots and that the outcomes reported in the ICR are directly attributable to the PforR, including enhanced quality of care and quality monitoring, improved management of NCDs with services brought closer to the patient, improved capacity for trauma care, and improved RCH services and their uptake in the most disadvantaged districts.

Counterfactual. During the March 17, 2025 meeting with IEG, the Bank team shared their views that, had there been no PforR intervention, we would not have seen the strong response of the health system during COVID, post-COVID health services strengthening, or improvements in trauma care and quality of care. Given that Tamil Nadu is a unique, well-performing state, it may be possible that some improvements would have happened anyway, albeit maybe more modest and not benefiting from the technical support and monitoring, accompanying the operation. But they said, unequivocally, that without the PforR, improvements in trauma care and the push/achievements for data-driven decision-making, quality scorecards most certainly would not have occurred. The PforR gave support and guidance to reforms that the state took upon themselves to do better: trauma care and measurement. Technical assistance accompanying the PforR brought significant value added in supporting reforms, including social and behavior change communications and addressing NCDs.

Rating

High

5. Outcome

The relevance of the PDO and the relevance of the DLIs are each rated High.

Efficacy in achieving all three objectives is rated High with all main targets fully achieved or exceeded. The PforR improved quality of care, as evidenced by functioning tools and processes for quality assurance and monitoring, increases in facility-based quality scores and a substantial rise in the share of primary, secondary and tertiary facilities which are now accredited, including some located in priority districts. The Program strengthened the management of NCDs and injuries, as evidenced by increased screening of cervical and breast cancer, an increase in the proportion of patients with hypertension or diabetes who are under control, and enhanced provision of quality pre-hospital and in-hospital trauma care and services. The project achieved an increase in the use of RCH services in priority districts, thanks to DLIs supporting demand- and supply-side interventions. Cross-cutting institutional strengthening interventions contributed to the achievement of all three objectives. They also enhanced overall state public health sector capacity to coordinate, manage, oversee, and ensure the delivery of quality services, and to enhance governance, transparency and accountability to this end.

Outcome Rating
Highly Satisfactory

6. Risk to Development Outcome

The ICR considers the risk to the Program's development outcomes to be low. The institutional capacity developed at the DoHFW and various levels of health facilities is expected to sustain development outcomes and contribute to improved health system performance and governance in the long-term. The discontinuation of dedicated Program funding, at the closing of the PforR, challenges GoTN to incorporate activities and initiatives, previously financed by the Program, into the routine work programs of respective directorates and societies. These various directorates and societies have developed a short-term plan to absorb some of these activities into their routine work program and continue the scaling up of those activities. For instance, NCD screening and management programs, trauma care, and RCH programs have already been absorbed into DoHFW's routine budget and planning. The ICR (p. 14) notes that further scaling up and continuation of the population health registry, TANQuEST online continuing professional education training, facility quality scorecards, and patient experience surveys were also discussed and will likely require additional policy and budget investment by DoHFW for the long term. Strong GoTM ownership and commitment to the Program, as articulated in its Vision 2030, coupled with enhanced citizens' engagement and patient experience surveys, together, should strengthen prospects for sustainability of activities and initiatives supported under the Program. While the emergence of another pandemic could pose a risk to development outcomes, experience under the Program in the aftermath of COVID and strengthened institutional capacity achieved under the Program indicate that the health system and capacity would be more resilient and able to recover from temporary setbacks in performance and outcomes.

During the meeting of March 17, 2025 with IEG, the Bank team provided additional information. While there is no follow-on operation planned for now, there is another ongoing health PforR supporting the Federal Ministry of Health, with a focus on Tamil Nadu, among other states. This operation overlapped with the Tamil Nadu PforR by about 1-1.5 years. The new PforR continues to provide TA on the patient experience survey and supports the development of a human resources for health strategy. The Bank's experience of 20 years of direct support to Tamil Nadu's health sector reveals that the state does streamline and continue

most of the activities supported under projects, but not all, as some change in light of GoTM's evolving strategy and approaches. Quality scorecards will receive GoTM support, going forward, especially at the secondary level, starting with an updating of the indicators. If this is institutionalized at the secondary level, then scorecards are likely to be supported at the primary level, based on secondary-level experience. The budget recently discussed at Assembly will provide resources for the state to take the population health registry (PHR) on, applying it beyond the one district supported thus far. PHR is a Federal decision, which will ultimately be applied in all states.

7. Assessment of Bank Performance

a. Quality-at-Entry

The GoTN's commitment to the various ambitious reforms in the Program was grounded in GoTN's own ambition to take the state's health system performance to the next level. As such the design captured well and realistically both the policy and institutional aspects of the GoTN's vision. Design also built on the long trust and collaborative model with the World Bank health team, which had supported Tamil Nadu's health reforms over the past 20 years. The collaborative model of co-creating innovative solutions, drawing on country context and international best practices, formed the basis of Program design and implementation. DoHFW and World Bank jointly explored several new transformative activities at the appraisal stage and included them in the Program design, including setting ambitious targets on the NCD treatment outcome as a PDO indicator and DLI, conducting two rounds of STEPS surveys, and introducing systematic quality of care programs and institutionalizing quality scorecards to measure heath facilities' performance against a range of service quality criteria. The World Bank team's collaborative model and strong technical assistance support gave the DoHFW confidence to dive deep into the unknown. M&E design was strong, based on a sound and clearly articulated theory of change, a clear statement of objectives and a logical results chain (see Section 8 for details).

The World Bank team conducted comprehensive technical, fiduciary and environmental and social assessments and identified critical actions needed to keep the Program on track, factored into a detailed Program Action Plan. The economic analysis projected a good return on investment. Poverty, gender and environmental and social aspects were systematically assessed and integrated into the Program design, captured in DLIs, IRIs and PAP actions (detailed in Section 9). The decision to provide support through a PforR instrument was sound. Tamil Nadu's stable policy environment and reliable public health sector provided a solid foundation for further advancing those complex health agendas through an instrument that would put GoTN in a leadership position, rely on its systems and capacities, and support the further strengthening of its institutional and managerial capacity (see also Section 3.a). During its March 17, 2025 meeting with IEG, the task team noted that the risk assessment and mitigation plan developed at design was appropriate, although COVID was not anticipated at that time. Risk assessment was well informed by the long (twenty-year) history of the Bank's support to health in Tamil Nadu.

Quality-at-Entry Rating

Highly Satisfactory

b. Quality of supervision

The WB team undertook regular supervision missions to ensure smooth Program implementation. The Bank reports were timely, comprehensive, and realistic in identifying problems and arriving at jointly developed solutions for addressing issues and obstacles The Bank reports were of high quality and took a forward-looking approach to flag anticipated challenges and proactively identify mitigation solutions. During the mid-term review, the World Bank's team promptly identified key implementation challenges (COVID) and new opportunities (further strengthened GoTN commitment to reform) and restructured the Program to ensure a better and more feasible path to achieve the PDOs, demonstrating the Bank's strong focus on development impact. This, too, was highly appreciated by the Borrower (ICR, Annex 4), which noted that the Bank's restructuring support "…allowed the state's healthcare system to revive and recover from the COVID pandemic (which) instilled incredible strength." The WB team also frequently dialogued with the seven implementing directorates and societies, and the DoHFW leadership to facilitate inter-departmental coordination. The establishment of a high-level Program Steering Committee, which met monthly to review progress and address challenges effectively overcame the challenge of inter-departmental coordination and the flow of institutional knowledge.

The WB team obtained additional trust fund resources and provided extensive technical support to the Program design and implementation, bringing best practices and experts to support the Program. With support from the Korea-World Bank Partnership Facility (KWPF), the Bank team started a US$750,000 small grant project on Transforming the Quality of NCD Care in Tamil Nadu (TF0B4093). Support under this small grant included: (i) overseas study tours to Korea and Sri Lanka, knowledge exchange events and trainings for the DoHFW staff to learn from the best practices on quality improvement for NCD care; trainings on analytical methods for NCD and quality; and (ii) technical assistance to develop an NCD strategy, health promotion strategy, NCD population screening program, MTM home-based care program, SBCC for multi-layers and multisectoral engagement, and monitoring and evaluation for NCDs. The World Bank team conducted additional technical missions to work closely with the PMU and other key DoHFW stakeholders and brought various international and Indian experts (from John-Hopkins University, Indian Council of Medical Research - National Institute of Epidemiology, Ramalinga Swami Centre of Equity and Social Determinants of Health, Public Health Foundation of India, and Centre for Communication and Change India) to support the Program design and implementation. The Borrower's comments (Annex 4 of the ICR) express profound appreciation for this aspect of the Bank's support, initiated at design and continuing throughout implementation.

The Bank team noted to IEG in their March 17, 2025 meeting that the Bank's ongoing PforR support to the Federal Ministry of Health, focused on enhancing quality of care, continues the engagement with the State. (See also Section 6).

Quality of Supervision Rating

Highly Satisfactory

Overall Bank Performance Rating

Highly Satisfactory

8. M&E Design, Implementation, & Utilization

a. M&E Design

The M&E of the Program was well designed overall. The Program's theory of change was clear and well articulated, as were the Program's objectives. The RF at appraisal and after restructuring comprised adequate, specific, measurable and realistic outputs and intermediate results indicators, which adequately captured the contribution of activities, outputs and intermediate outcomes (and their links) to the achievement of Program objectives and institutional and management capacity building. Six PDO indicators provided good measures of achievement of the three Program objectives (or results areas) and of capacity building. The DLI matrix was composed of eight DLIs with 23 DLRs. Some DLIs and DLRs were composite indicators, with multiple parts and/or categories. While this increased the complexity of M&E, it was logical and aligned with concrete Program implementation plans across different types of health facilities. Two minor shortcomings in M&E design were that (1) NCD indicators were not disaggregated by gender; and (2) the objective of reduced inequities was measured by improvements in the nine priority districts (increased utilization of key RCH services and health facilities receiving accreditation), but not by comparing these levels of achievement with state averages (or averages for the best performing districts) to get a sense of trends in the equity of quality improvements and service utilization. Verification protocols for all DLIs/DLRs were clearly established at appraisal and updated with restructuring. Annex 3 of the PAD presents a sound and detailed verification protocol for DLIs, laying out for each DLI: (1) a full definition/description of the expected achievement, (2) the scalability of the disbursement, and (3) the protocol to evaluate the achievement of the DLI and data/result verification, specifying (a) the data source/agency, (b) the verification entity, and (c) the verification procedure. The PMU had managed previous World Bank operations and was thus considered to be capable of implementing the Program M&E.

A key strength of the Program M&E design was to include DLIs that would support additional data collection activities to establish critical baselines and promote data-driven policymaking in the Tamil Nadu health sector. These included the design and rollout of the quality scorecard to be reported regularly by the health facilities (DPL 2); the design and piloting of population health registries (DLI 6/IRI 8), added after restructuring; and the implementation of STEPS surveys every two years (DLI 3) to assess Program achievements on NCD outcomes. DLIs provided stronger incentives for robust data collection and evidence-based program implementation, which also support GoTM's ambitions to sustain these practices after Program completion as a part of its institutional capacity building for improved sector management.

b. M&E Implementation

M&E performance was satisfactory throughout implementation. While neither the PDO nor DLI statements changed under the restructuring, the RF was adjusted to reflect other changes (adjustments to targets, indicators, DLRs and timelines), as detailed in the efficacy section. The PMU was adequately staffed to coordinate the data collection with key implementation entities and implement the M&E design, with experienced staff and program assistants to support data collection and monitoring of the RF. The PMU routinely conducted data analysis, reported to the Program Steering Committee on a monthly basis, and reported to the World Bank every six months. The Program assigned existing staff at district and health facility levels to manage routine data collection, analysis and reporting. DLI achievements were verified by an independent verification agency (IVA), IQVIA. IVA reports were submitted on time. All planned major data collection activities have been carried out (population health registry, STEPS survey,

quality scorecard, and MTM [NCD outreach] process evaluation). The task team in its meeting with IEG on March 17, 2025 commented on the quality and reliability of data generated by the M&E and verification process. The team noted that M&E and verification process were quite good and diligent in the quality of reports, though they acknowledge room for further improvement of M&E, which GoTM is addressing. The IVA was very thorough with multiple checks and balances. M&E was thoroughly checked at appraisal and was assessed to be a relatively reliable system. Now with the new PHR approach to information collection and management, they expect further improvement in the reliability and quality of data. The task team also noted that since project M&E mainly used government systems, most of it should be sustained.

c. M&E Utilization

M&E findings were disseminated to key stakeholders and used to inform Program implementation, strategic adjustment, and assessment of Program efficacy. During Program implementation, monthly Program Steering Committee review meetings were held to monitor progress, identify issues, and discuss course correction measures with all seven implementing directorates and societies. At the district level, a new position of quality manager was recruited to analyze health facility quality data monthly and work closely with facilities to identify quality challenges and targeted improvement strategies. Upon Program completion, in August 2024, a knowledge conclave event was organized in Chennai with key stakeholders from the DoHFW and health sector officials from other states and foreign countries. The knowledge event systematically reflected on the lessons and challenges of the Program and facilitated knowledge exchange with other states and countries in the areas of NCDs, quality of care, and equity in access and health outcomes. The M&E findings could also benefit other state Programs and the broader World Bank portfolio in India and other countries. The lessons were also documented in a series of case studies for broader dissemination.

Overall M&E quality is rated high, with only two minor shortcomings in design.

M&E Quality Rating

High

9. Other Issues

a. Safeguards

During the March 17, 2025 meeting with IEG, the task team confirmed that the PforR was compliant with all environmental and social safeguards. An Environmental and Social Systems Assessment (ESSA), undertaken during preparation, identified opportunities for strengthening the existing institutional, operational, and regulatory systems and capacities pertaining to environment and social issues in the health sector in Tamil Nadu. The findings of the ESSA were based on field visits to health facilities, use of checklists to assess BMWM, a self-scoring institutional assessment questionnaire, and discussions with key stakeholders. The ESSA also benefited from the experience of the successful implementation of the previous TNHSP, especially its focus on tribal health, and other ongoing World Bank-financed projects in

the state. The draft ESSA was disclosed by the World Bank on November 21, 2018 and recommendations were then incorporated and integrated into the Program design.

The primary environmental risk of the Program centered on the biomedical waste management (BMWM) generated at the health care facilities. The previous World Bank-funded project built good capacity and made significant advances in BMWM. The Program Action Plan included two BMWM-related actions: (1) the undertaking of annual performance audits for the common biomedical waste treatment facilities (CTFs) and the public disclosure of reports by the competent authority; and (2) the introduction and rollout of a new refresher training course on biomedical and other waste management for health staff across all health care facilities. Given the projected doubling of BMW over the next six-to eight years, the ESSA noted the need to develop an integrated Environment Strategy to deal with the increase in wastes. The development and adoption of this strategy is included in DLI 7. The two actions in the PAP were implemented. Performance audits of the of the common treatment facilities were periodically undertaken by the State Pollution Control Board, and continuous learning and training on several environmental aspects, such as biomedical waste handling and disposal for COVID waste, was also undertaken. Energy audits carried out in healthcare facilities pointed to huge cost savings by adopting energy efficiency measures, while lowering the environmental footprint, particularly reduced greenhouse gas emissions.

The social assessment found that the Program had a low likelihood of adverse social impacts and noted the overall good performance of the GoTN under the previous project. It also raised issues, including: inequities across the state with regard to low quality of care in certain deprived districts; low utilization of services for specific diseases that only affect women (particularly cervical and breast cancers); and the need for enhanced community engagement with the health sector. All of these concerns were fully embedded into the Program design, with a relevant mix of PDOs and DLIs prompting and measuring progress on these fronts under the Program's three objectives and cross-cutting institutional strengthening support that were fully implemented. Despite challenges due to COVID-19, the Program established and implemented health assemblies, which serve as a platform for citizens to voice community concerns and engage with policymakers and service providers in health system planning. This model, drawn from international best practices, was the first of its kind in India. The Program also made good progress in setting up early screening and treatment for NCDs, including for breast and cervical cancers. A SBCC strategy was also deployed for improving adolescent health and nutrition.

b. Fiduciary Compliance

During the March 17, 2025 meeting with IEG, the task team confirmed the Pfor R's compliance with Bank's fiduciary requirements for financial management as well as for procurement. The Integrated Fiduciary Systems Assessment undertaken at appraisal concluded that the Program's fiduciary systems provided reasonable assurance that financing proceeds would be used for intended purposes, with due attention to the principles of economy, efficiency, effectiveness, transparency, and accountability. The assessment followed the World Bank's Policy for PforR and the related directive, identified key fiduciary risks that might affect the Program's development outcomes, and recommended systems- and capacity-strengthening mitigation measures that would be implemented during the life of the Program. The fiduciary risk of the Program was assessed to be 'Moderate'.

Financial Management (FM). The ICR (para. 47) reports that FM systems of the Program performed well throughout the Program period. The FM risk was consistently assessed as Moderate and performance was

rated as Satisfactory. The GoTN provided the budget under the agreed budget lines. No substantial delays were noted in the release of funds. Budget execution reports summarizing spending by health directorates on Program budget lines were generated from the State Integrated Financial and Human Resource Management System portal and shared with the Bank during the six-monthly implementation support missions. Program expenditures were adequate to cover DLI amounts disbursed by the Bank. The audited financial statements of Tamil Nadu Medical Services Corporation (TNMSC), Electronics Corporation of Tamil Nadu (ELCOT), NHM Society, and the Tamil Nadu Health Systems Project (TNHSP) Society and the audit certificate of the Comptroller and Auditor General of India were submitted to the Bank. None of these documents reported any accountability issues. The PAP actions on strengthening the accounting and auditing practices at NHM Society were substantially met. The NHM Society used the Government of India's Public Financial Management System (PFMS) for release of Program funds and expenditure monitoring. Training programs on the effective use of PFMS, accounting, and bookkeeping functions were delivered to health facility staff. The concurrent audit systems at the Society were in place and audits were done regularly.

Procurement. The ICR (para. 48) reports that the procurement risk was consistently assessed as Moderate, while the procurement performance was rated as Satisfactory throughout the Program life. Three PAP actions to promote bidders' participation (establishing a procurement-related complaint handling system, conducting an annual vendor conference, and disclosure of contract awards above the threshold of INR 20 million) and one DLI (rollout of e-procurement system and award of 20 percent of Program tenders by TNMSC using that system) were all achieved by the three procuring agencies: TNMSC, ELCOT, and TN Public Works Department. The PAP action to ensure compliance with the Bank's Anti-Corruption Guidelines for PforR Programs was also achieved with the office of the Principal Secretary for Health providing six-monthly reports on fraud and corruption complaints to the World Bank. No cases of fraud and corruption-related allegations/investigations were reported.

c. Unintended impacts (Positive or Negative)

None reported.

d. Other

None reported.

10. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Highly Satisfactory	Highly Satisfactory	
Bank Performance	Highly Satisfactory	Highly Satisfactory	
Quality of M&E	High	High	

Quality of ICR	---	High

11. Lessons

The following lessons are a subset of the relevant and insightful lessons presented in the ICR, slightly reworded by IEG to be more succinct:

- **A successful PforR builds on strong long-term client engagement and capacity building.** The Program drew lessons and experiences from the WB's engagement in the Tamil Nadu health sector over the past two decades, through which strong trust, good institutional capacity, and a comprehensive government program were developed. The $210 million Tamil Nadu Health System Project (P075058) (2005–15) supported an input-based approach to equip public health facilities to deliver RCH services, developed innovative pilots for clinic-based NCD management, and started setting up programs for emergency trauma care and quality of care mechanisms. This operation helped improve DoHFW and health facilities' capacity to plan, implement, and manage PforRs, with state-level procurement capacity significantly enhanced in the process. This paved the way for the adoption of a PforR approach to support a new phase of GoTM's health program, focused on those same results areas, by scaling up successful models from previous pilots and introducing cutting-edge innovations to take sector reform to the next level. The switch from Investment Project Financing to PforR changed the nature and focus of client dialogue from specific, input-oriented activities to strengthening policy and strategy development, removing institutional governance barriers, aligning incentives for performance, and institutionalizing M&E for accountability, all facilitating a stronger focus on results and institutional strengthening.
- **A PforR can significantly benefit from extensive World Bank technical assistance and additional trust fund resources.** The Program's ambitious design explored innovative areas for the client. The design and implementation of such cutting-edge reforms would have been highly challenging, if not impossible, in the absence of strong technical assistance and co-design of various programs. The WB played a key role in introducing new concepts and global best practices, facilitating global knowledge exchange, providing technical inputs to design specific policies, strategies, tools, and instruments, and bringing in the best international and domestic experts. Despite less WB involvement in implementing a PforR, extensive technical-level support emerged as an important area of client engagement to maximize the operation's impact.
- **Implementation arrangements involving multiple stakeholders necessitate strong and top-level leadership and oversight to facilitate effective coordination.** With PforR operations growing more complex and multi-sectoral, it could become more difficult for the PMU to coordinate and monitor implementation by all the stakeholders effectively. Achieving the Program's objectives necessitated strong and sustained stewardship and technical leadership both within the PMU and at the highest level of agency. The decision in Year 2 to establish the high-level Program Steering Committee, chaired by the DoHFW Principal Secretary, which met monthly to review progress and resolve issues, demonstrates the value of robust leadership and cohesive coordination mechanisms to navigate the complexities of multi-departmental programs and ensure effective implementation.

IEG's discussion with the task team pointed an additional lesson:

- **Progressively structured DLIs and DLRs can help to incentivize a complex set of reforms, which may sometimes be necessary.** Designing DLIs and DLRs with intentionality so that successive DLIs and DLRs raise the bar can help the government achieve progressively higher reforms. In the case of this project, the task team noted that the incremental nature of DLIs and DLRs helped to support GoTM's change in vision and also facilitated continuous monitoring of reform progress and ongoing dialogue between the Bank and GoTM.

12. Assessment Recommended?

No

13. Comments on Quality of ICR

Quality of Evidence. The evidence presented in the ICR was of high quality, properly referenced and from credible sources, validated by a well-designed external validation process. Annexes were well presented, and (necessarily) very detailed to capture the results framework, program logic, indicator definitions, data sources, validation process, targets and sub-targets, both original and restructured.

Quality of Analysis. Grounded in a sound theory of change and results framework, the quality of analysis was strong. The Annexes, as described above, enabled a systematic analysis of the project in light of restructuring, demonstrating in detail how the restructuring's adjustments to challenges (COVID impact) and new opportunities for innovation and reform (with strengthened GoTN commitment to reform) combined to develop a new, pragmatic, and indeed more ambitious path to the achievement of the original PDO and DLIs. Evidence was clearly linked to findings and analysis presented a well-developed and distilled set of salient points. The ICR's **Results Orientation** was strong, with all assessments of efficacy tightly organized around the three objectives (also labeled results areas) with systematic assessment of DLIs and IRIs in terms of how they contributed to the three objectives.

Quality of Lessons was high. Lessons were drawn from evidence, analysis and narrative of this project's design, implementation experience, and outcomes. They all were presented as lessons that could be relevant to other countries and Bank teams considering or embarking on PforR operations in health or in other sectors. And they all are substantiated with the specific experiences and findings for the Tamil Nadu Health System Reform Program.

Internal Consistency/adherence to guidelines. The report was internally consistent, providing a coherent narrative of the project's context, experience, achievements and lessons. It covered the essential points, as dictated by the Guidelines.

a. Quality of ICR Rating

High