



## The Tamil Nadu Model of Healthcare Delivery: A Narrative Review

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### Abstract

The Tamil Nadu healthcare delivery system is frequently cited as a successful state-level public health model in India due to its relatively strong primary healthcare infrastructure, effective governance, and improved population health indicators. This narrative review synthesises existing evidence on the structure, performance, and policy characteristics of the Tamil Nadu healthcare model to identify its strengths, challenges, and transferable lessons for similar low- and middle-income settings. Relevant literature was reviewed from databases including PubMed, Google Scholar, and institutional reports using keywords related to healthcare delivery, primary healthcare, public health governance, and system performance. Findings suggest that the model is supported by robust primary healthcare networks, efficient drug procurement and supply mechanisms, better maternal and child health outcomes, and proactive public health initiatives. Nonetheless, persistent challenges include uneven workforce distribution, the rising burden of noncommunicable diseases, and variability in service quality across facilities. Overall, the Tamil Nadu experience demonstrates that sustained public investment, administrative efficiency, and strong primary healthcare systems can significantly improve health outcomes, although continued policy focus is essential to address emerging health needs, equity concerns, and long-term system sustainability.

**Keywords:** Healthcare delivery India; health policy; health system strengthening; public health system; Tamil Nadu healthcare model.

### 1. Introduction

Health is a key factor affecting individual and community welfare, while directly impacting productivity, stability and quality of life.[1] In the healthcare field, Tamil Nadu is viewed as one of India's top states.[2] The state is known for its low mortality rates, and also benefits from strong infrastructure developments and a skilled workforce in the healthcare industry.[3] The autonomy for agencies in the public sector of health also adds to its success.[2] The political system in Tamil Nadu is also responsible for creating and introducing new initiatives to improve access to high-quality care at economical prices. [3&4] Tamil Nadu's health traditions date back to ancient times, connecting health to spiritual and karmic beliefs.[5] The British rule, though not doing much in the field of public health, was the one that introduced the Western

system of medicine in India. [5] Since then, the state has undergone significant changes, beginning with the introduction of the Public Health Act in 1939.[3] Today, Tamil Nadu, with the third-highest per-capita income in the country, has seen improvements in literacy and fertility rates, which contributed to its public health progress.[6] Gender equality is also on the rise, with a consistently better male-to-female doctor ratio compared to other states. [7] The state's health indicators, like infant mortality, maternal mortality and crude death rate, are better than the national average and most other states.[5] Additionally, the state has advanced maternal health by promoting innovations and concentrating on programs for women and children.[4] The model facilitated the creation of primary and community health centres.[3] It also brings together various health initiatives, including the provision of essential



medications to improve access to safe, effective and affordable modes of treatment for common diseases.[8] The Tamil Nadu Model differs from those of the other states by having 9 directorates, when compared to other states, which have only 2 or 3 directorates. They include the Directorate of Public Health and Preventive Medicine (DPH), Directorate of Family Welfare (DFW), Directorate of Medical Education and Research (DME), Directorate of Medical and Rural Health Services (DMRHS), Directorate of Indian Medicine and Homoeopathy (DIM), Tamil Nadu Medical Services Corporation (TNMSC), Directorate of Drugs Control Administration (DCA), Tamil Nadu State Health Transport Department (SHTD) and the Medical Services Recruitment Board (MRB).[9]The Directorate of Public Health and Preventive Medicine aims to deliver quality primary care to the community. It also focuses on maternal and child health, prevention and control of communicable and non-communicable diseases.[10] The Directorate of Family Welfare works to provide maternal and child health care while focusing on bringing down the birth rate and preventing female foeticide and female infanticide.[11] The Directorate of Medical Education focuses on education and research in Medical, Dental and Paramedical sciences and also on clinical care at the Tertiary care level.[12] The Directorate of Medical and Rural Health Services focuses on providing medical care through non-teaching institutions while working towards the goal of "Health for All" as per the Alma-Ata Declaration. Its efforts also aim at lowering infant and maternal mortality rates, crude death rate and crude birth rate.[13] The Directorate of Indian Medicine and Homoeopathy promotes systems of AYUSH, namely Ayurveda, Yoga, Unani, Siddha and Homoeopathy. It aims at providing healthcare, education and research in these fields while promoting the growth of medicinal plants and supporting herbal industries.[14] The Tamil Nadu Medical Services Corporation (TNMSC) was also launched to provide free-of-cost medications to patients in government-run facilities.[15] The TNMSC also deals with issues

related to drug shortages and quality concerns, while efficiently managing the purchasing, storage and distribution of medications to the beneficiaries.[16] The Directorate of Drugs Control Administration deals with the safety and effectiveness of drugs while ensuring that they are reasonably priced. They also monitor for misleading advertisements and ensure the safety of blood and blood products.[17] The Tamil Nadu State Health Transport Department is responsible for maintaining all vehicles of the Directorates under the Department of Health and Family Welfare. Effective health programme delivery is ensured through the provision of vehicles of the Health Department. [18] Lastly, the Medical Services Recruitment Board deals with the direct recruitment of medical and paramedical professionals.[19]Tamil Nadu has a wide network of health science institutions, covering various medical systems. As per 2025 data, the state has 37 medical colleges that provide undergraduate medical education. Three government institutions offer a Bachelor's in Dental Sciences, while 19 government institutions offer a Master's in Dental Sciences. Nursing education has also been strongly developed, with 273 colleges offering a Bachelor of Science in Nursing, 2 institutes offering Post Basic Bachelor of Science in Nursing, and 3 colleges offering Master of Science in Nursing. In addition to modern medicine, Tamil Nadu also supports education in the AYUSH system. The State has 1 college offering a Bachelor's in Ayurvedic Medicine and Surgery (BAMS), 2 colleges offering a Bachelor's in Unani Medicine and Surgery (BUMS), 3 colleges offering a Bachelor's in Siddha Medicine and Surgery (BSMS), and 1 college offering a Bachelor's in Homoeopathic Medicine and Surgery (BHMS). At the postgraduate level, there are 3 colleges offering a Doctor of Medicine in Siddha (MD Siddha), 3 colleges offering Doctor of Medicine in Homoeopathy (MD Homoeopathy), 2 colleges offering Doctor of Medicine in Yoga and Naturopathy (MD Yoga and Naturopathy), and 1 college offering Doctor of Medicine in Unani. (MD Unani).[20] Together, these institutions play an important role in training health care professionals



and strengthening medical, nursing, dental, and AYUSH education in the state. From the year 2012, Universal Health Coverage to the economically backward sections of society is covered under the Chief Minister's Comprehensive Health Insurance Scheme (CMCHIS). [21] The Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) has been used to address issues of access to healthcare and poverty arising from increased health expenditures, and to improve the quality of care provided to people. [6] Another scheme implemented by the Tamil Nadu Government in the year 2019 was the Tamil Nadu Health Systems Project (TNHSP). It was launched to strengthen the existing health policies and for the betterment of the health of those from the weaker socioeconomic sections of society. [3] Since 1990, the expansion of the private sector has led to an improvement in the state's health indicators. This led to an increase in the public-private partnerships, including health education campaigns, contracts with diagnostic facilities and financial support. [3] Despite the major developments in the state, challenges in implementing the model persist. These include the widening gap of access to healthcare due to the differences in socioeconomic statuses and development of the private sector, uneven workforce distribution, incessant malnutrition and anaemia in the population and rising demands from the public health services. [3] This narrative review aims to synthesise findings on Tamil Nadu's healthcare model to highlight its strengths and challenges, and to develop a feasible solution to improve healthcare that can be adopted in similar low- and middle-income settings.

## 2. Method

In this narrative review, we assessed published articles from scientific databases like PubMed, institutional reports and used Google Scholar as a common scientific search engine. The group of keywords searched includes "Healthcare delivery India", "Tamil Nadu healthcare model", "public health system", "health policy" and "health system strengthening". The inclusion criteria were: (1) Studies on healthcare delivery in Tamil Nadu, (2)

Studies published between 2016 and 2026, (3) Studies related to health care access, utilisation, health policies and drug distribution models, and (4) peer-reviewed articles, policy reports and empirical studies that highlighted healthcare delivery outcomes and components. The exclusion criteria were: (1) Studies not related to the state of Tamil Nadu, (2) Studies unrelated to healthcare service delivery or health policies, (3) duplicates, and (4) Studies not in English.

## 3. Results and Discussion

### 3.1. Results

The public health system of Tamil Nadu is extensively used by the lower socioeconomic section of society who are unable to afford private healthcare. [15] Over the years, the health system of Tamil Nadu has seen drastic changes. Institutional deliveries have increased with a reduction in home deliveries from 80% in the 1970s to just 10% by 2005, along with the rise in public institutional deliveries from 72% to 77% by 2012-2013. Provision of safe water increased, with improved coverage in both rural and urban areas. [2] Public sector utilisation in the state is higher when compared to other states. [22] Utilisation of public health care services in the state is dependent on gender, education, family size, occupation and community. People were moderately satisfied with the laboratory facilities offered in select urban primary health centres. Satisfaction also extended to Siddha, Dental and Eye check-up services. The beneficiaries of the maternity schemes were well informed and used the services efficiently. [1] Tamil Nadu households have lower out-of-pocket expenditures for maternal and neonatal health care than the national average. This can be said to be due to the Chief Minister's Comprehensive Health Insurance Scheme (CMCHIS) and Nammai Kaakkum 48 scheme, which caps emergency care costs at ₹2 lakh for the first 48 hours. The state's healthcare needs are shifting to focus on geriatric care and non-communicable diseases. This leads to insurance providers having to cover long-term outpatient care as well. [22] Makkalai Thedi Maruthuvam is a major initiative in Tamil Nadu



aimed at improving public health. For non-communicable diseases, the program focuses on early screening, medication and regular patient monitoring through home visits.[23] Under this scheme, patients also receive physiotherapy and palliative care services. Patients with chronic kidney disease on Continuous Ambulatory Peritoneal Dialysis are given peritoneal bags for dialysis at home.[23] Around 72.8% of patients with diabetes were screened, and 20.7% were diagnosed with Diabetes mellitus, with 64.8% of these diagnoses from Makkalai Thedi Maruthuvam. Medications for such patients were received through the scheme. Makkalai Thedi Maruthuvam identified 75.4% of new cases, with 62.7% of the identified cases being treated through the scheme. Breast cancer screening was more common than cervical cancer screening. 12.5% of urban women were more likely to get cervical cancer screening than 10.1% of rural women. However, screening was lower in the literate population (80.9%) than in the illiterate population (73.9%).[24] An intervention program was implemented for hypertension in public health facilities. Dedicated nurses and standard treatment protocols were used to help strengthen the health system. The program emphasised that better access to care and free medicines can help patients adopt healthy lifestyles and habits and adhere to treatment. In the case of hypertension control, the rate rose from 32.4% to 40.5% post the introduction of the noncommunicable disease program. Medication supply for 28+ days rose to 84.5%. Counselling on reducing salt and increasing activity saw an improvement to 79% and 49.4%, respectively.[25] Concerning drug distribution, there are instances of drug shortages due to low budget allocations, poor stock management, potentially unnecessary prescriptions and issues with the distribution of medication. Moreover, doctors would also refer patients to purchase medicines locally from private pharmacies due to such shortages.[15] Reasons for this may be due to low budgets for medications, inadequate stock management, distribution glitches and unnecessary prescriptions by doctors while ignoring standard

guidelines. [15] The Tamil Nadu Health Systems Project (TNHSP) aims to achieve targets across Program Development Objectives over five years, starting from baseline. It aims to improve tertiary certifications to 7 facilities, secondary facilities with NQAS certification to 75, with 15 in priority districts and primary facilities with NQAS certification to 300, with 60 in priority districts by the fifth year. It also aims to boost cervical and breast cancer screening from 15.8% and 19.5% to 30%, respectively. Improvement in trauma care facilities from zero to 54 facilities, while reproductive and child health utilisation in priority districts targets full antenatal care at 41.3%, with targeted immunisation at 70.4%. Hypertension under control was targeted at a 3 percentage-point increase from baseline, while diabetes under control was targeted at a 6 percentage-point increase from baseline.[26]

### 3.2. Discussion

Based on the findings, Tamil Nadu's healthcare delivery model is evolving and strengthening itself. The results find that the state focused on improved public health outcomes by employing a comprehensive approach consisting of different schemes and interventions. Different schemes introduced by the government, a strong primary healthcare system and community involvement have led to improved health outcomes in the state. [22,23] Prioritisation of accessible, affordable and quality healthcare services increases the health system's efficiency.[26] The Tamil Nadu Health System Project (TNHSP) aims to expand facility certifications, improve cancer screening rates and access to trauma care while also focusing on utilisation of reproductive and child health services.[26] The project also focuses on controlling hypertension and diabetes mellitus to reduce the number of cases related to non-communicable diseases.[26] The efficiency of primary health systems, drug procurement and management highlights the role of the Tamil Nadu Medical Services Corporation, Chief Minister's Comprehensive Health Insurance Scheme and Makkalai Thedi Maruthuvam.[22,23,26] While the



Chief Minister's Comprehensive Health Insurance focused on geriatric and non-communicable disease care, Makkalai Thedi Maruthuvam focused on reducing the out-of-pocket expenditure by providing medications and treatments for different conditions.[22,23] The state encourages the development of the AYUSH system of medicine, while contributing to forming an extensive network of educational institutions in the field of health sciences to increase the number of skilled workforce in the healthcare sector.[20] Despite these achievements, there are challenges persistently present in the Tamil Nadu Model. Uneven amount of workforce and malnutrition still exist in the state.[3] There are problems of drug shortages due to inadequate budget allocation, deficiency in stock management, and inappropriate prescribing practices, which can hinder optimal care delivery. [15] There still exists a disparity in the screening rates for breast and cervical cancer among urban and rural populations.[24] Socioeconomic status affects the screening rates, with higher-income women being more likely to get screened for cervical and breast cancer than rural women.[24]

### Conclusion

Tamil Nadu's healthcare model stands as an example of how public investment and efficient administration can improve the health outcomes in resource-constrained settings. This narrative review highlights the different strengths, such as extensive primary health care, drug procurement and supply and improvement in maternal and child health care. Initiatives like the Chief Minister's Health Insurance Scheme and Makkalai Thedi Maruthuvam have helped in increasing access to care to control the rise of non-communicable diseases. However, challenges remain with the uneven availability of the workforce, persistence of non-communicable diseases and problems in the drug supply chain. The Tamil Nadu model offers insights for global health policies while having a strategic focus towards addressing the gaps in the system, to ensure the sustainability of Tamil Nadu's healthcare system.

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