

Health System structure & functions for delivery of TB care

Healthcare is one of India's largest service sectors. Under the Indian Constitution, health is a state subject. Each state has its own healthcare delivery system in which both public and private (for profit as well as non-profit) actors operate.

Delivery of TB care in the public sector-

The organisation at the national level consists of the Union Ministry of Health and Family welfare (MoHFW). In each State, the organisation is under the State Department of Health and Family Welfare that is headed by a State Minister and with a Secretariat under the charge of the Secretary/ Commissioner (Health and Family Welfare).

- a) **In 2005, National Rural Health Mission (NRHM)** was launched to provide accessible, affordable, accountable, effective and reliable primary health care facilities, to the rural population, especially vulnerable groups. In addition, the National Urban Health Mission (NUHM) was also launched to further strengthen urban health structure and both NUHM and NRHM have been clubbed together under National Health Mission (NHM) from 2013. The vision of NHM is “Attainment of Universal Access to Equitable, Affordable and Quality health care services, accountable and responsive to people's needs, with effective inter-sectoral convergent action to address the wider social determinants of health”.
- b) **NHM** further aims to provide support to the existing national programmes of health and family welfare including RCH-II, malaria, blindness control, iodine deficiency, filariasis, kala-azar, tuberculosis, and leprosy and for integrated disease surveillance
- c) RNTCP is one of the components under the National Health Mission which is a flagship scheme under Govt. of India. The MoHFW follows equity-based approach to allocate funds under RNTCP to various States. The overall allocation is made on the basis of population of the states, disease burden and socio economic status. The financial management procedures for RNTCP are well established and administered by the Finance Cell of the CTD. These procedures are documented in manuals and guidelines available on the program's website.

i. Institutional arrangements: Overall responsibility for financial management of the program is with the Central Tuberculosis Division (CTD), Directorate General of Health Services, Ministry of Health & Family Welfare (DGHS) a part of the National Health Mission of the MoHFW. At state level these are through state TB cell and at district level through district TB cell.

ii. Budget and release of funds: Program expenditures are budgeted in the Demand for Grants of the MoHFW under the Disease flexi-pool funding arrangement under two separate budget lines for Externally Aided Component (EAC) and General Component (GC).

iii. Fund flow: Fund flow for the program will remain within the existing financial management systems of MoHFW, which operates through the Centralized Pay and Accounts Office. Funds are being released to state in 2-3 instalments. All the states are required to submit the annual audit report to CTD by 30th September.

RNTCP organogram

RNTCP structure comprises of five levels: National, State, district, sub-district and peripheral health institution level.

National Level

Central TB Division (CTD) of Directorate General Health Services (DGHS) is the technical arm of the Ministry of Health and Family Welfare (MoHFW). CTD, under the guidance of DGHS, manages the National TB Control Programme for the entire country at the central level through a National Programme manager, Deputy Director General TB (DDG-TB). The financial and administrative control of the programme is managed by the Joint Secretary from the administrative arm of the MoHFW.

The CTD is supported by *six national institutes*: National Institute for Research in Tuberculosis (NIRT), Chennai, National Tuberculosis Institute (NTI), Bangalore, National Institute of Tuberculosis and Respiratory Diseases (NITRD), Delhi, National JALMA Institute, Agra, Regional Medical Research Centre, Bhubaneswar and BMHRC, Bhopal, and National Task Force of Medical Colleges. Various committees of experts to guide the programme at different levels on technical & policy matters are there supporting Central TB Division.

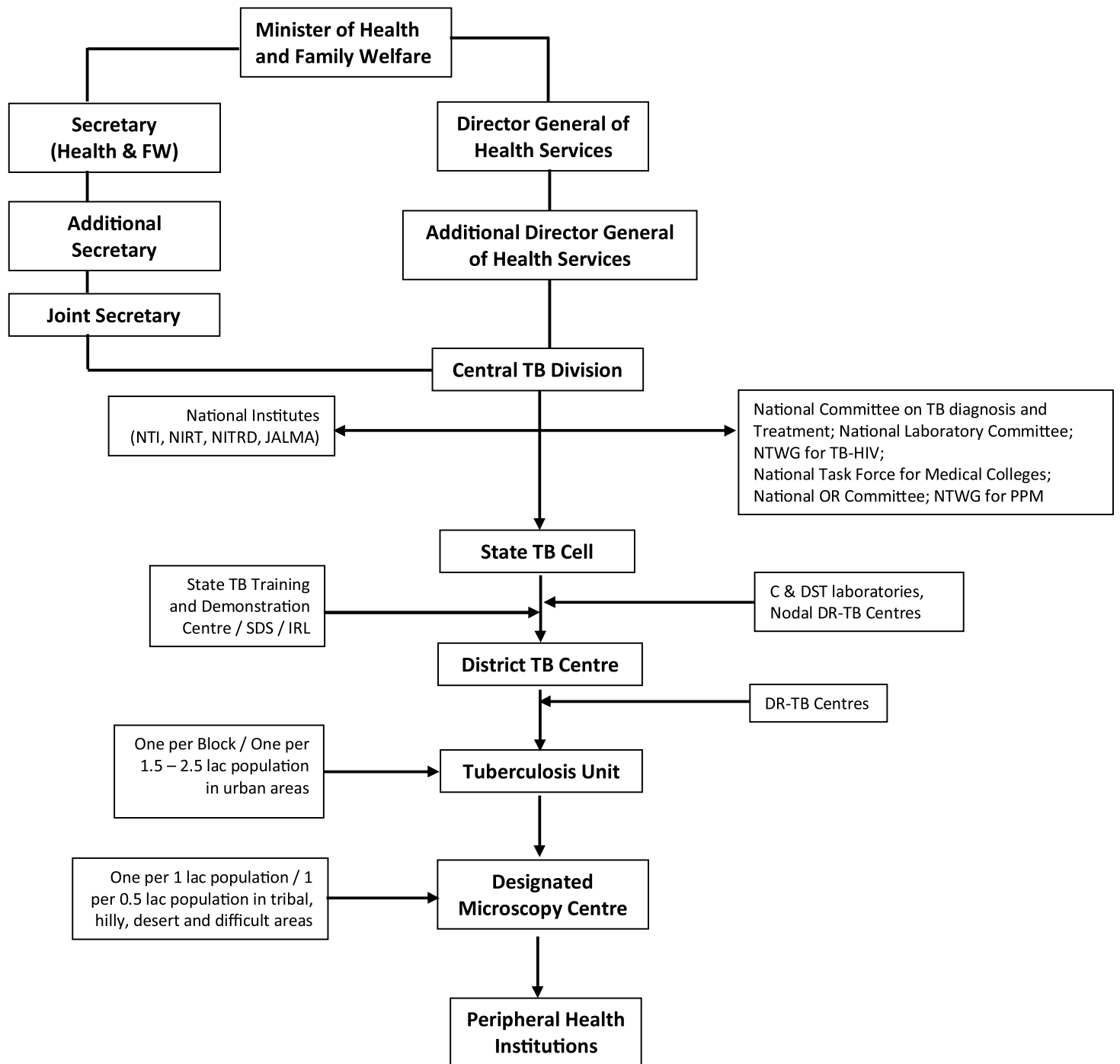
State Level

The States have total ownership and accountability for the TB control in their state. State Health Society or its equivalent under National Health Mission of the state manages the TB Control Programme. A full-time State Tuberculosis Officer (STO), trained at national level and based at the State TB Cell (STC), is responsible for planning, training, supervising and monitoring the programme in all the districts of their respective states. STO is administratively accountable to the State Government, technically follows the instructions of the CTD, and coordinates with CTD and the districts and is assisted by other technical & secretarial staff.

State TB cell is being supported by State TB Training and Demonstration Centre (STDC) in many states through its three units – a training unit, supervision and monitoring unit and an Intermediate Reference Laboratory (IRL) supporting an effective Quality Assurance system of the Sputum smear microscopy network and lab services for PMDT (molecular DR testing and C&DST) in the State.

Each state also has one (1 for each 50 million population at least) fully operational State Drug Store (SDS). It is responsible for effective management of medicines and other logistics and ensuring uninterrupted supply of good quality 1st & 2nd line anti-TB medicines for adults and paediatric population.

Orgnogram



District Level

The key level for the management of primary health care services is the district. The Chief District Health Officer (CDHO) / Chief District Medical Officer (CDMO) / Chief Medical Officer (CMO) / Civil Surgeon or an equivalent functionary in the district is responsible for all medical and public health activities including control of TB. The District Tuberculosis Centre (DTC) is the nodal point for TB control activities in the district. A full-time District Tuberculosis Officer (DTO), trained at national level & based at the DTC, is responsible for planning, training, supervising and monitoring the programme in the district. DTO is assisted by other technical & secretarial staff. The primary role of the DTC is managerial.

Sub-District Level (Tuberculosis Unit Level)

Integrating the TB control programme with the health system increases effectiveness and efficiency of TB care and control. India's TB control programme has been mainstreamed efficiently with National Health Mission (NHM).

A major organizational change in RNTCP is the creation of a sub-district level (Tuberculosis Unit - TU). The TU is the nodal point for TB control activities in the sub-district. TUs are based mainly in NHM health blocks with the overall aim to align with NHM Block Programme Management Unit (BPMU) for optimum resource utilization and appropriate monitoring. In urban areas the TUs have been created based on a population of 1 per 2,00,000 (range 1.5 – 2.5 lakh). The Tuberculosis unit (TU) consists of a designated Medical Officer-Tuberculosis Control (MO-TC), as well as one full-time supervisory staff - Senior Treatment Supervisor (STS). One Senior TB Laboratory Supervisor (STLS) will continue to be in 5 lakh population and 1TBHV per one lakh urban population is there to support the urban TB control activities.

The Block Medical Officer also functions as a MO-TC who is trained in RNTCP at a state level institution. MO-TC has the overall responsibility of management of TB Control Programme at the TU and is expected to undertake supervisory visits for seven days in a month. The team of STS and STLS are under the administrative supervision of the MO-TC and the DTO. The TU will have one Microscopy Centre for every 100,000 population (50,000 in tribal, desert, remote and hilly regions) referred to as the Designated Microscopy Centre (DMC). Microscopy Centres are also located in Medical Colleges, Corporate hospitals, ESI, Railways, NGOs, private hospitals, etc.

Peripheral Health Institutions (PHIs)

For the purpose of RNTCP, a PHI is a health facility which is manned by at least a medical officer. At this level, there are dispensaries, PHCs, CHCs, referral hospitals, major hospitals, specialty clinics or hospitals (including other health facilities), TB hospitals, and Medical colleges within the respective district. All health facilities in the private and NGO sectors participating in RNTCP are also considered as PHIs by the programme. Some of these PHIs also function as DMCs. Peripheral health institutions undertake tuberculosis case-finding and treatment activities as a part of the general health services. In situations where more than one MO is posted in any of the peripheral health centres, one of them may be identified and entrusted with the responsibilities of the RNTCP.

TB Laboratory Services

The services of the laboratory are utilized for diagnosing TB & DR-TB cases and for monitoring of treatment of these patients. The Laboratory network under RNTCP is a **3-tier system** for provision of diagnostic services and maintaining its quality.

A. The peripheral laboratories are situated in the public sector like the dispensaries, PHCs, CHCs, referral hospitals, major hospitals, specialty clinics, other sector hospitals, TB hospitals, Medical colleges and in the private/NGO sectors. For establishment of microscopy centre in a lab, it must have adequate physical infrastructure, Binocular microscope and a trained LT. These laboratories are covered under quality assurance mechanisms

- i. Some of the labs not having facility for sputum microscopy, function as a sputum collection centres, and such facilities are also established in areas such as the tribal, hilly, desert and difficult to reach areas of the country for improving the access to diagnostic services.
- ii. In addition, large hospitals and medical colleges have facilities of digital X-Ray, rapid molecular test (CBNAAT & LPA), FNAC, histo-pathology, and culture & DST for diagnostic services of TB.

B. At the state level a nodal laboratory is designated as Intermediate reference laboratory (IRL) which is usually situated in the State TB Training and Demonstration Centre (STDC) / medical college/ public health laboratory. The main functions of IRLs are monitoring of lab services across the state and maintenance of its quality through external quality assurance. There are 27 IRLs with facilities for culture & DST using Phenotypic (Solid – LJ & Liquid Culture – MGIT) and Genotypic technology (LPA & CBNAAT).

C. At the central level there are six designated National Reference Laboratories (NRLs) namely National Institute for Research in Tuberculosis (NIRT), Chennai, National Tuberculosis Institute, Bangalore, National Institute of Tuberculosis and Respiratory Diseases (NITRD), Delhi, National JALMA Institute, Agra, Regional Medical Research Centre, Bhubaneswar and Bhopal Memorial Hospital & Research Centre (BMHRC), Bhopal. NIRT Chennai is also a Supra-Reference Lab (SRL) for World Health Organization (WHO) for the South East Asia Region. NITRD is a WHO Collaborating Centre for Training, while NIRT is WHO centre of excellence in TB laboratory services. The NRLs are mainly responsible for External Quality Assurance of Lab network, drug resistance surveillance, training and research.

Delivery of TB care services in the private sector

The private sector referred to in this section is everything outside the ambit of the government run public health initiatives. The private sector in India varies widely in its size, nature of service delivery and the socio-economic groups served. It consists of a wide range of providers from individual medical practitioners of many different systems of medicine, including allopathic as well as Indian Systems of Medicine and Homeopathy, paramedics and even traditional healers who possess no formal training to private hospitals and nursing homes, NGO run hospitals, and corporate sector health care institutions.

The private sector holds a factual predominance of health care service delivery in India. As per National Sample Survey Organization report of 71st round of survey, more than 70% of patients seek care in private clinics or hospitals.

Delays in diagnosis, over-diagnosis of TB due to an over-dependence on X-rays, the use of multiple non-standard regimens for inappropriate durations, the lack of a mechanism to ensure the full course of treatment and to record treatment outcomes are some issues of concern in the private sector. Similar problems in varying degrees are encountered in other health sectors as well.

	Public Sector	Private Sector
Advantages	<ul style="list-style-type: none"> • Free diagnosis • Free treatment • Standardized regimen • Referral and transfer system • Supervision and monitoring • Accountability of treatment outcome 	<ul style="list-style-type: none"> • Wide choices (> 5 lac practitioners) • Better access <ul style="list-style-type: none"> – Convenient timings – Shorter distances – Personal attention and care – Projected discounts • Faith and perceptions of better care
Disadvantages	<ul style="list-style-type: none"> • Staff's nonresponse to symptoms • Delays between tests and receiving results • Difficulty in transporting specimens • Financial expenditure on travel, food, daily necessities, extra medicines • Perceived low quality of services 	<ul style="list-style-type: none"> • Cost of clinical examination fees • Cost of diagnostic tests • Cost of drugs • Irrational prescriptions • Infrequent use of quality sputum tests for diagnosis of TB • No adherence tracking mechanisms • Fear of losing patient if involved in RNTCP

The strategic vision of RNTCP is to lay down guidelines and norms for TB care in country. The underlying principle is for RNTCP to extend public services to privately managed patients. Standards for TB care in India, mandatory TB notification, NIKSHAY, ban on serodiagnostics and amendments in H1 schedule are among the tools to improve TB care services in private sector. Regulatory tools, however, are limited and partnership is preferred. Programme staff should understand that RNTCP needs private providers more than private providers need the RNTCP.

Other approaches include an expanded acceptance by RNTCP of internationally approved diagnostic and treatment protocols, reliance on market forces rather than normative exhortation, increased use of accreditation and contracting, further outreach to private laboratories, increased control of TB drugs, and innovative use of information and communication technologies for TB notification and treatment adherence monitoring. It is important to recognize that partnerships come in a wide variety of shapes and sizes, and operate at all levels, from local to global.

Model of care envisioned for delivery of services in continuum of care of TB patients from being a presumptive TB to the diagnosis, treatment and final treatment outcome in public and private sector is depicted below. It also shows what systems are in place for ensuring the various aspects of patient care in the public sector in the upper half and the other sectors in the lower half. All these systems ensure quality of services being provided to the patients irrespective of the place where the patient seeks care.

Patients Centric Model of Care

