



ABSTRACT

National Health Mission Tamil Nadu – Strategic document for TB free Tamil Nadu – Approved - orders - Issued.

Health and Family Welfare (EAP II-2) Department

G.O(Ms) No.111

Dated :08.03.2019
Vilambi, Maasi - 24
Thiruvalluvar Aandu 2050

Read:

From the Mission Director, State Health Society, Tamil Nadu, Chennai
Letter No. 6482/NHM/2019, Dated: 15.02.2019 and 08.03.2019.

ORDER:

The Mission Director, National Health Mission in his letter read above, has stated that the large scale implementation of the Indian Government's Revised National Tuberculosis Control Program (RNTCP) was started in 1997 and is implemented throughout the State of Tamil Nadu from the year, 2002. In March 2006, RNTCP-II was designed to consolidate the gains achieved in RNTCP-I, and to initiate services to address TB/HIV, Multi Drug Resistant (MDR)-TB and to extend Revised National Tuberculosis Control Program to the private sector. Revised National Tuberculosis Control Program used the World Health Organisation (WHO) recommended Directly Observed Treatment Short Course (DOTS) strategy. With the Revised National Tuberculosis Control Program both diagnosis and treatment of TB are free. There is also, at least in theory, no waiting period for patients seeking treatment and TB drugs.

The initial objectives of the Revised National Tuberculosis Control Program in India is:

- To achieve and maintain a TB treatment success rate of at least 85% among New Sputum Positive (NSP) patients
- To achieve and maintain detection of at least 70% of the estimated new sputum positive people in the community

3. The Mission Director, National Health Mission has stated that the as the incident cases in Tamil Nadu is also showing a steady decrease, "TB Free Tamil Nadu – 2025" Strategy has been initiated in all districts based on the workshop held in December 2018.

4. The requirements for moving towards TB elimination have been integrated into the four strategic pillars of "Detect – Treat – Prevent – Build" (DTPB). The New Sputum Positive period 2017 – 2025 is a time of immense potential with the hopes of seeing new drugs, regimens and diagnostics. Wider application of ICT tools and health financing methodologies carry with it a promise for a stronger and rapid response to the TB epidemic.

5. The Mission Director, National Health Mission has sent the Strategic document for TB free Tamil Nadu and has requested to approve the same.

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6. The Government have decided to accept the request of the Mission Director, National Health Mission and approve the Strategic document for TB Free Tamil Nadu as indicated in the Annexure to this Government Order subject to the condition that prior approval of the Government should be obtained for financial sanction towards implementation, on need basis.

(BY ORDER OF THE GOVERNOR)

**BEELA RAJESH
SECRETARY TO GOVERNMENT**

To
The Mission Director, State Health Society, Chennai-600006.
The Additional Director (TM) & State TB Officer, Chennai – 600 008.

Copy to

The Finance (Health-I) Department, Chennai – 600 009.
The Health and Family Welfare(Data Cell) Department, Chennai-9
SF/SC

//Forwarded by Order//


SECTION OFFICER

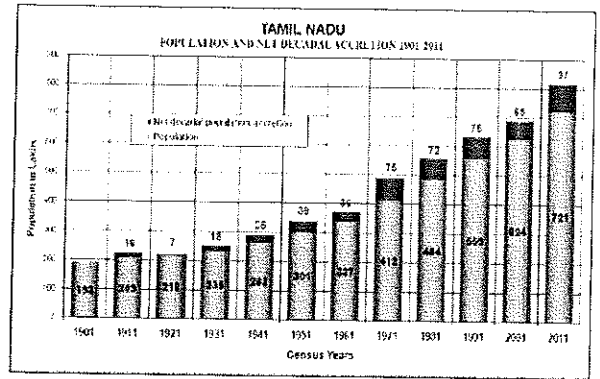
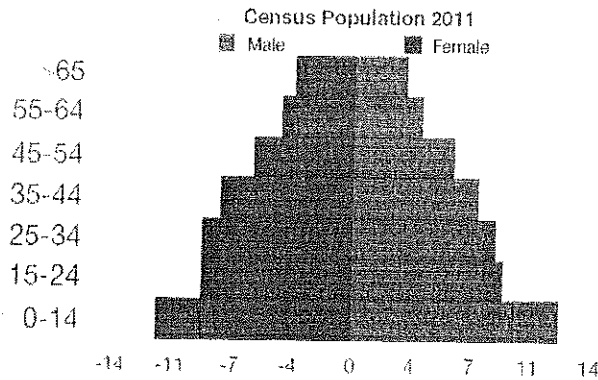
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ANNEXURE

**To GO (Ms) No.111, Health and Family Welfare – EAP – II-(2)
Department,**

Dated 08.03.2019

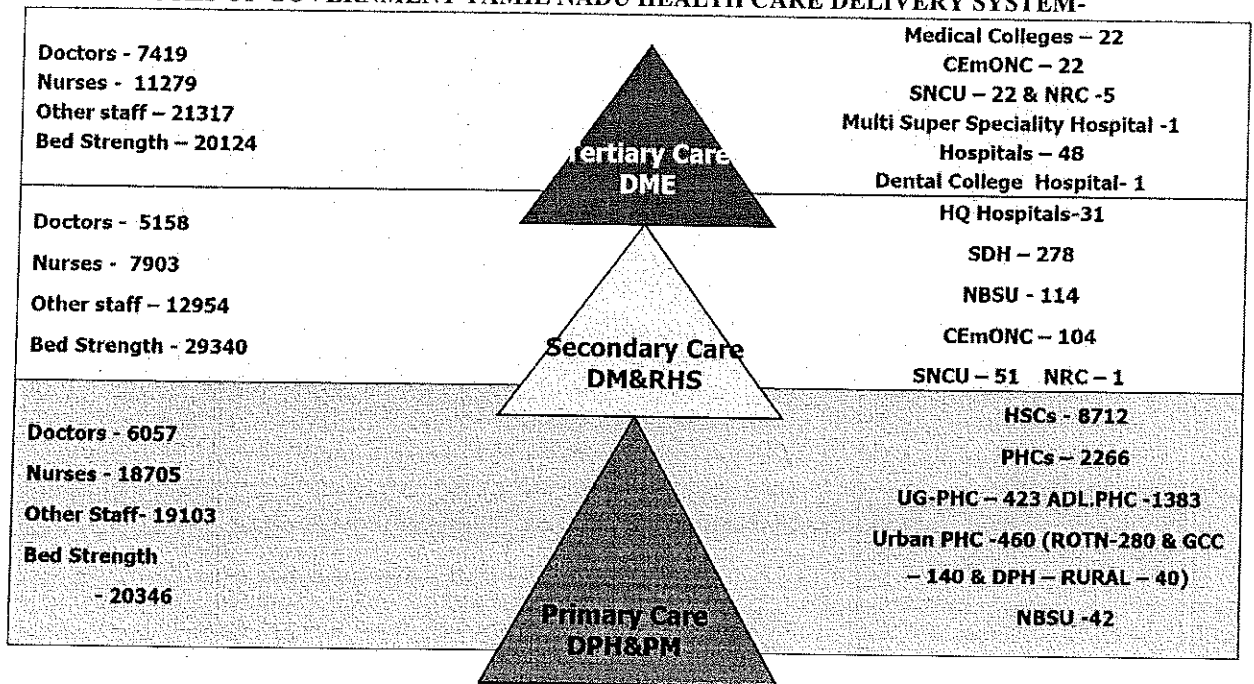
**Strategic Document
For
TB Free Tamilnadu**



2. TAMIL NADU HEALTH SYSTEM

The state of Tamil Nadu has 32 revenue district sand 42 Health Unit Districts (HUDs). The state has a systematically organized health service to cater health for all. The state is renowned for its low maternal and infant mortality rates in addition to the effective healthcare infrastructure and health manpower. Tamil Nadu has led the way in various new approaches to enhance the access to good-quality health services at an affordable cost. It was also the first state to enact a Public Health Act in 1939.

STRENGTHS OF GOVERNMENT TAMIL NADU HEALTH CARE DELIVERY SYSTEM-



Maternal Mortality Ratio (MMR) and Infant Mortality Rate (IMR) have declined drastically over decades. As per SRS 2016, IMR of the state is 17 and MMR is 66 as compared to national average of 34 and 130 respectively.

3. DETERMINANTS OF TB IN TAMILNADU

Tamil Nadu has lower levels of poverty than most other states in the country. As per the world bank reports, the poverty rate of the state is 12% (2012). Poverty rates have declined from 31% in 2005 to 12% in 2012. Tamil Nadu has a Human Development Index of 0.708(2017), stands 11 in HDI among the states in India.

Nutrition status

As per NFHS data (2015-2016) 14.6% of women between 15 to 49 years, has BMI below normal (BMI 18.5 kg/m²) and 12.4% of men between 15 to 49 years has BMI below normal.

HIV

Tamil Nadu is one among the states with high HIV prevalence. The state has witnessed a significant decrease in HIV cases reported over the last decade. As per India HIV estimation, 2017, 0.22% is the estimated prevalence of HIV among adults between 15 to 49 years. There has been a decline in AIDS-related deaths by 64% between 2010 to 2017. It is observed that the trend of new HIV infection by 2017 has declined by 32% in comparison to 2010. (source-India HIV estimation 2017).

Diabetes

Tamil Nadu is one among the high prevalence state in the country for diabetes. Prevalence of diabetes in the State is 11% for women & 15.3 for Men. (NHFS data-2015-16).

Smoking

The current prevalence of tobacco use among men in the state is 31.7 % and among women, it is 2.2%. Tamil Nadu has banned smoking in Public areas. (NHFS data-2015-16).

Alcoholism

0.4 % women & 46.7 % men consume alcohol. (NHFS data-2015-16)

4. RNTCP IN TAMILNADU:

Since 2001, RNTCP is implemented in the state. There are 421 TB units, 829 Designated Microscopy Centres, 2 LPA & LC lab, 68 CBNAAT labs, 7 Nodal DRTB Centres and 24 District DRTB Centres across the state to carry on the diagnosis and treatment of TB. In the year 2018 about 801,349 presumptive TB cases were examined and 100,819 cases were notified for TB. The total TB case notification rate of Tamil Nadu is 129 cases per lakh population for the year 2018.

TB-HIV collaborative activities are well established in the state with 705 co-located Designated Microscopic Centres (DMC) with Integrated Counselling and Testing Centres (ICTCs). All Presumptive TB cases, as well as diagnosed cases, are referred for HIV testing and all clients attending ICTC's and HIV positive cases from ART centers are referred to RNTCP for screening for any TB infection. Tamil Nadu has a TB HIV co-infection rate of 5%. '3 - I' project is also fully implemented in all the Districts. All patients referred to ART centers are tested using CBNAAT & all PLHIV without TB are given chemoprophylaxis with INH 300 mg daily for 6 months to prevent them from developing TB later. 99 DOTS, an ICT based tool for surveillance of drug intake by co-infected cases has also been implemented throughout the State.

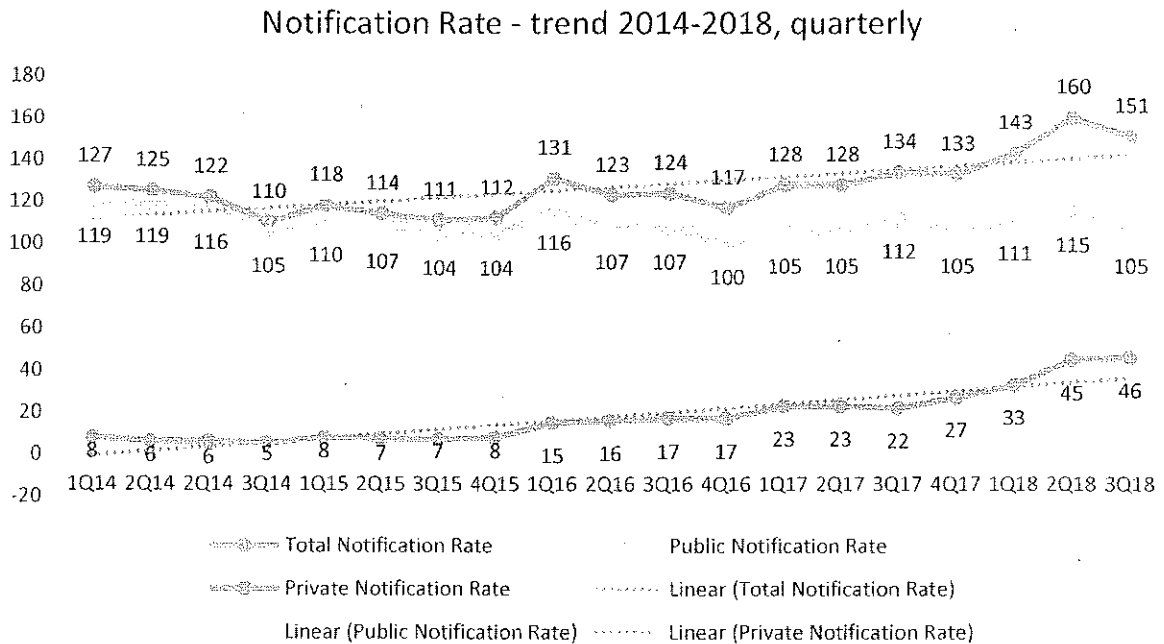
There is good coordination with NCD and all diagnosed TB cases are also tested for diabetes and diabetic cases are also screened for TB. The State has also implemented Programmatic Management of Drug-Resistant TB services since 2009. In the year 2016, about 75578 presumptive Multi-Drug Resistant (MDR) TB cases were tested by CDST for MDR TB and around 1561 patients were diagnosed with RR/MDR TB. There are 33 Gene X-pert machines in the state along with 3 LPA labs catering to the MDR diagnostic services to cover all the districts. There are 3 labs with MGIT (liquid culture) & 6 CDST labs with solid culture facilities. Second IRL in Madurai also will be fully functional with LPA, MGIT & Solid culture. For every 10 million population one Drug-Resistant TB center has been established and as such 6 DR TB centers are functional & the 7th one is under up gradation. Establishing of District level DRTB Centres are in the pipeline for decentralization of MDR treatment initiation at District level.

Bedaquiline the latest potent drug for treatment of TB has been introduced in Tamil Nadu from 2016 May & so far 57 cases have been registered. There are 2 State Drug Stores, one in Chennai and the other at Trichy and 31 district drug stores for drug procurement, storage and distribution of RNTCP drugs as per norms for distributing patient wise boxes free of cost to patients. Case-based web-based notification with real-time entries of TB cases on NIKSHAY portal is done regularly.

Epidemiology of TB in Tamil Nadu

Notification Rate Trends:

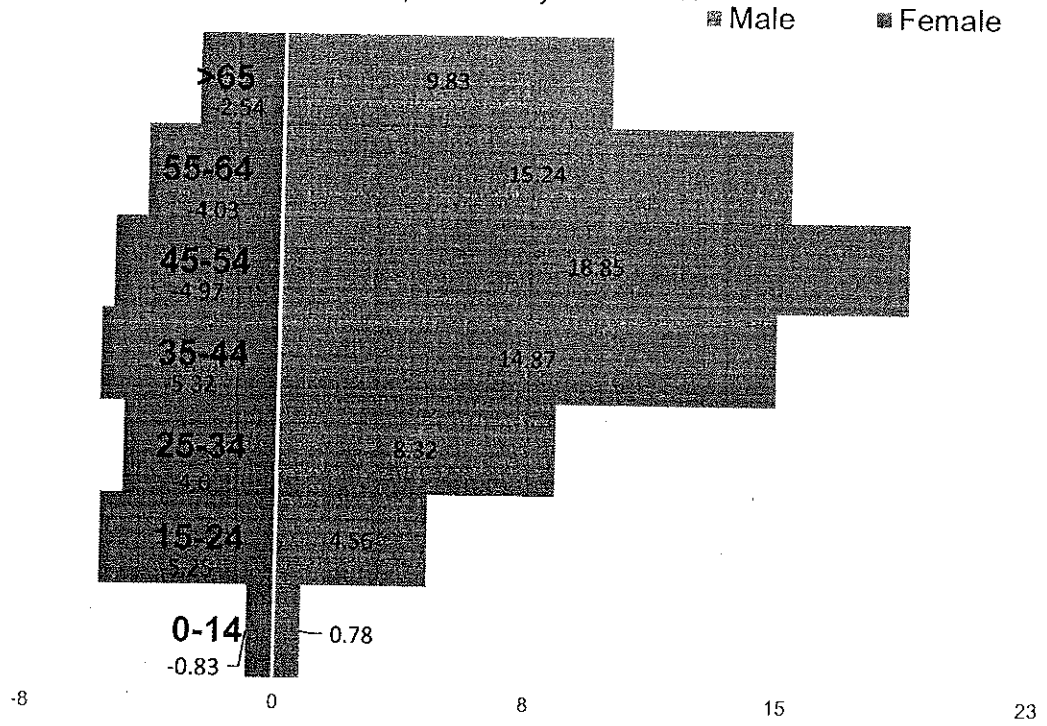
The quarterly trend analysis between 2014-18 shows that there has been a gradual rise in the TB notification rate (maximum in 2nd quarter of 2018), with significant contribution from the public notification units.



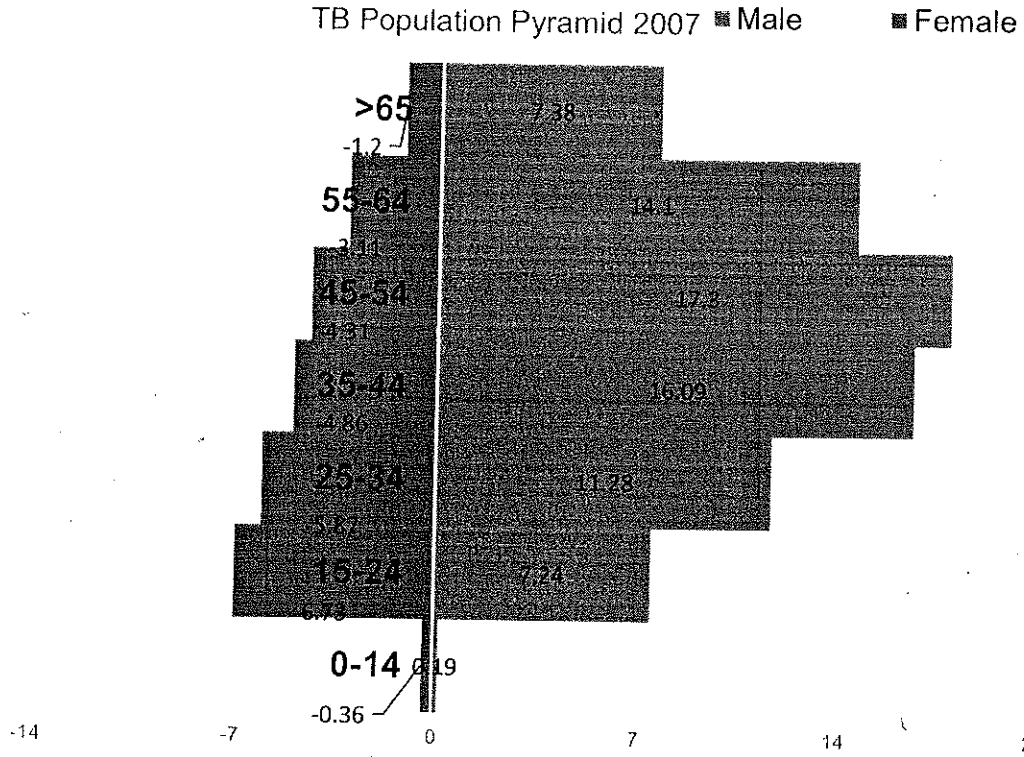
Age/Sex Distribution of TB patients (2007 vs 2017) :

In 2017 there has been a significant rise in the number of TB cases when compared to 2007 and the maximum number of cases lies in the age group of 45-54 years in both 2007 & 2017. There has been a male preponderance in both these time periods. The number pediatric cases have been very less in both 2007 and 2018. Chennai carried the highest notification rate and the highest burden of smear positive cases were observed in Erode.

TB Population Pyramid 2017

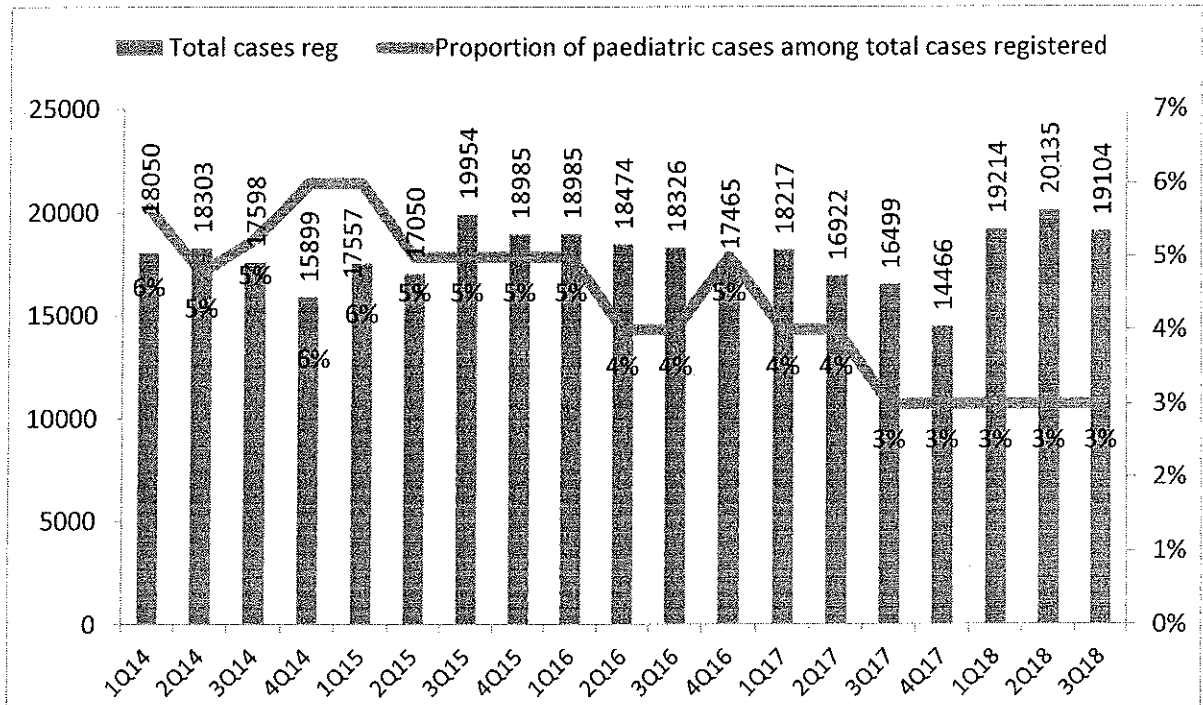


TB Population Pyramid 2007



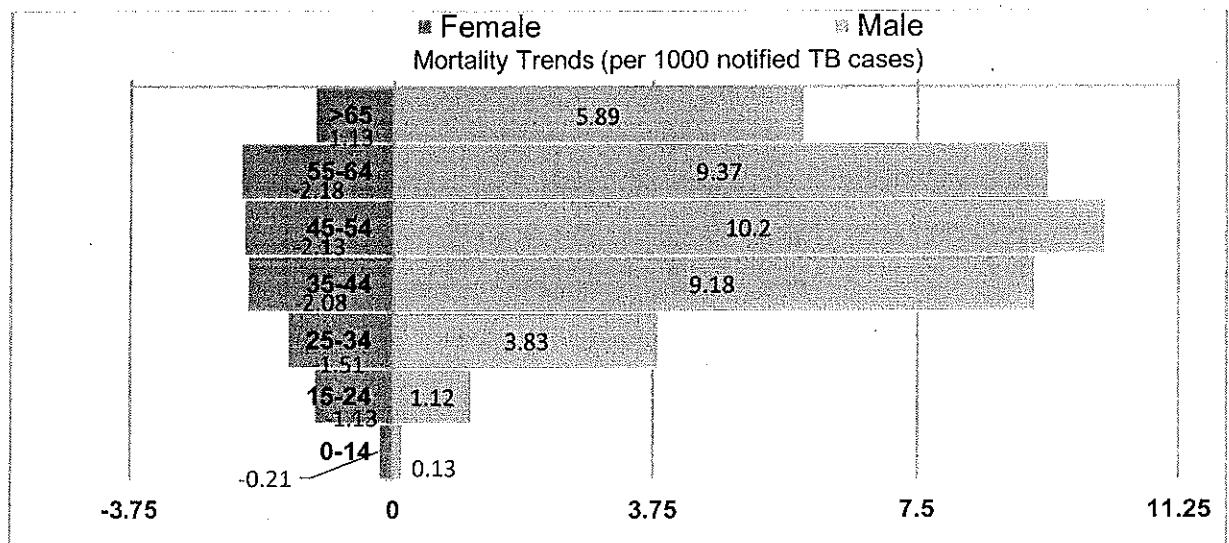
Childhood TB trends (First quarter of 2014- third quarter of 2018):

As discussed earlier, the number of pediatric cases has been very less when compared to the adult population and their proportion lies between 3% and 6% during the mentioned time period.



TB mortality

Tuberculosis, which has been the 7th most important cause of death in 2007 has improved its rank to become the 6th leading cause of death in 2017. Higher mortality was observed in males of the age group, 45-54 years of age.



Drug Resistant Tuberculosis:

During 1997-1998 when RNTCP was launched as a national programme, prevalence of new DR-TB was 3.4% and previously treated cases were 25%. In 2011, there was a significant decline in the new cases (1.8%), whereas DR-TB among previously treated cases was 13.2%. Tamil Nadu Drug Resistant survey in 2016 showed a decline in previously treated DR-TB cases (7.8%), whereas there was a rise in the new DR-TB cases when compared to 2011 (2.9%).

District Prioritization for Intensified activities in Tamil Nadu:

Dharmapuri has a higher burden of DR-TB, Salem and Namakkal for high burden of HIV-TB co-morbidity, Krishnagiri for low case finding, hence these districts need to be prioritized for intensified activities, whereas Central Chennai, Dindigul, Erode, Kanchipuram, Madurai, North Chennai, Ramanathapuram, Thiruvavur, Trichurapalli, Tirunelveli, Thoothukudi, Vellore and Virudhunagar need to be prioritized for the high burden of TB.

Gaps in Surveillance & Strengthening Solutions:

- Gaps in the Surveillance system:
 - Low coverage in private sector Hospitals, Labs and pharmacies
 - Low Contact Screening [Access and availability of X-rays and Sputum Examination]
- Solution for Gaps in the surveillance system:
 - Integration of the Software's within the system [IDSP, HMIS] and outside the system [Private Sector Hospital, lab and pharmacies software]
 - GIS Integration
 - Unique ID for any service, anywhere
 - Integration with General Health System for Risk surveillance
 - Work place screening as an intervention
- Quality of Data-Inconsistent, incomplete information and delay in reporting which can be improved by data analysis for quality and give feedback for improvement and field validation. Also Training and facilitation of real time data entry with more support [HR /INTEGRATION WITH GENERAL HEALTH SYSTEM]
- Risk mapping Surveillance-Quantification of Risk-Population Attributable Fraction:
 - Community based Risk mapping at the level of Household at least once a year along with updating of the Family Register
 - Opportunity to focus/prioritize on High risk individual and areas of high risk vulnerability

- Intervention strategy based on Population attributable risk from the community data
- Plan interventions for the risk groups along with the Health system.

Monitoring the progress towards End-TB programme:

- TB Disease Prevalence Survey to be repeated every 5 years. First district-wise prevalence of microbiologically confirmed pulmonary tuberculosis in Tamil Nadu will be done by NIRT from 2019-20. We need to align with the NSP [Rate of reduction in Prevalence and incidence and adapt for the Districts]
- Access and Availability/Universal Health Coverage for TB Services
- TB mortality by verbal autopsy/From Vital Registration System

5. TOWARDS TB-FREE TAMILNADU

This section deals with a set of important questions that deal with the understanding about the need, rationale, implications, opportunities, and challenges for a state-specific End TB Strategy towards TB Free State.

Q1. Is Tamil Nadu prepared to move towards TB Free State?

A1. The World Health Organization defines TB elimination as <1 case of TB disease per million population annually and defines a low incidence region as <100 cases per million. Currently, Tamil Nadu notifies approximately 151 cases per lakh. Notification of incident TB (new and recurrent) is 125 (103 and 22) per lakh population (ref:<https://www.tbfacts.org/tb-statistics-india/>). In Nilgiris districts & Kodaikanal TU in Dindigul district, this is less than 40 per lakh population. Annual risk of tuberculosis infection (ARTI) in Tamil Nadu has been estimated to be as 1.5. Childhood TB notification also is also low - 2% to 3% of total cases put on treatment. Age-specific notification is also skewed to the right. All these could be early epidemiological indicators of a declining TB transmission.

However, term TB elimination cannot be loosely applied. 'Moving towards TB Free State' is accelerating impact with appropriate interventions in appropriate settings. Thus a few settings in Tamil Nadu may be identified to accelerate impact.

Q2. What are the state's strengths to move towards elimination?

A2. The Health System of Tamil Nadu is having a very good infrastructure up to the HSC units. The State government, Health System & National Health Mission are highly committed to ending TB to achieve sustainable development. The health system is robust and

TB control is fully integrated with it. The private health sector maintains a reasonable quality of care and is in synchrony with the government initiatives. Social support networks are efficient, social welfare and social justice are the government's prime agendas. Access to diagnostic and treatment services suits the good health-seeking behavior of the public. The decentralized planning empowering local governments ensure government stewardship and gives room for grass root level intervention towards elimination. Of late, E-health is implemented providing a conducive environment for an ICT supported surveillance system.

Q3. Will it be possible to bring down incidence to Pre-elimination levels in the State?

A3. The major risk factor for developing TB in the State is that good number of TB cases reported having contacts with a TB case in the household or neighborhood during their childhood. Majority of those who developed TB now had their childhood in an era where chemoprophylaxis for household childhood contacts of TB did not exist. Many of the cases had clear contact of TB within the household or workplace within the past five years. The risk of developing TB is more in comorbidities like HIV & Diabetes. Nearly 10% of the cases diagnosed are also HIV positive in some of the pockets. Diabetic is also another comorbidity in the State who develop TB. One study shows that 25% of the TB cases also have associated Diabetes in Tamil Nadu. The disease is also common in Chronic smokers & habitual alcoholics. One-tenth of the cases gave a history of a chronic respiratory illness. As per RNTCP guidelines, the State is providing chemoprophylaxis to the childhood household contacts of pulmonary TB for the last 15 years. All PLHIVs without evidence of TB are also given INH chemoprophylaxis. TB in the State is now a disease of middle-aged people and elderly, particularly exposed to TB during their childhood. It is expected that the incidence of TB in Tamil Nadu may see a dramatic drop in coming years as the current younger cohort with a low prevalence of LTBI gets older. The decline could be accelerated by diagnosing all cases earlier by household contact tracing and active case finding and screening for and treating LTBI in appropriate settings.

However, a current attempt is to bring TB incidence to less than 40/lakh population by the year 2025. It means the incidence needs to be drastically reduced. After achieving this, further intensive action will follow for complete elimination.

Q4. What are the challenges for moving towards TB Free status?

A4. The following challenges may be expected.

1. **Migration:** Massive on the job migration is an important challenge to achieving TB Free status in Tamil Nadu. It is estimated that there are a lot of migrants in the state; the majority of which are laborers, especially from the Northeastern part of the Country. Many of them are working in the cotton industries as well. Migrants often would have acquired TB infection, due to higher infection rates in their state of origin. They have an increased risk of developing active TB disease, depending on factors such as conditions of their migration, overcrowding, occupation involved in like construction sector or cotton industries, and due to socioeconomic vulnerability augmented by stressful migration conditions. Dropouts from treatment among the migrants are also an issue. Migrant workers also have a higher risk not completing treatment once started.
2. **Vulnerable groups:** In Tamil Nadu, 48.45% of the population live in Urban areas (http://censusindia.gov.in/2011-provesresults/paper2/data_files/Tamilnadu/Tamil%20Nadu_PPT2_Volumel_2011.pdf). There is more than 28.89% Slum population in Chennai alone (ref: <https://www.census2011.co.in/census/city/463-chennai.html>). The prevalence of TB is high in urban areas compared to rural areas. The incidence rate of disease in slums in Chennai, on analysis, was observed as four times more than the non-slum areas. TB has been concentrated in certain vulnerable groups, such as the poor, the homeless, migrants, people with harmful alcohol and other marginalized groups like tribal. The factors that make these groups vulnerable operate through two principal pathways: increased risks for exposure and infection and an increased risk for progression from infection to active disease
1. **HIV infection:** Though the State has a high HIV prevalence compared to other states, the HIV prevalence is still below the national average, because of sustained intervention of the State. 5% to 10% of the diagnosed TB cases are also HIV positive. The programme has initiated INH preventive therapy to all HIV positive individuals, who do not show any evidence of the diseases.
2. **Diabetes Epidemic:** State is witnessing an ever-increasing trend of diabetes probably due to the modern lifestyle. Diabetes plays an important role in the development of TB disease among infected individuals.

3. Industrial workers: There are a lot of cotton industries in the state, concentrated more in few districts. Because of non-usage of proper personal protection, the chances of developing TB are more among them. There are no specific data about it.

Q5. What are the resource implications for moving towards TB Free Tamil Nadu?

A5. TB control in the State is based on the National program. The resources for the recurring activities are from the Programme as well as from the State funds. State provides a part of the human resources and deploys the general health system HR for TB control activities. Social support is being provided in the form of a TB pension of 1000 rupees per month for the duration of treatment to the TB patients with farmer's card. Nutritional support to the TB and MDRTB patients below the poverty line is being provided by different agencies or Corporations. The ICMR-NIRT in Chennai is giving support and guidance. There are a couple of IRLs and two CDST laboratories. All the Peripheral Health Institutions have diagnosing capacity.

However, efforts to achieve SDG and End TB targets and elimination goal are resource intensive. Focus areas are,

- a. Estimation of TB burden in the state
- b. Establishing a TB surveillance system and link it to e-health where hardware and software ICT support and networking will be required
- c. X-ray units at the block levels with support HR and CBNAAT machines for active case finding.
- d. Diagnosis and treatment of Latent TB infection in low burden subpopulations where IGRA and INH/Rifapentine combinations may be needed
- e. ICT support for treatment adherence
- f. Management of co-morbidities like HIV, Diabetes, and COPD to prevent the death of patients
- g. Bring catastrophic expenditure to zero, where all TB related services are to be provided free of cost to the patient

6. PREPARING GROUND TO MOVE TOWARDS TB FREE TAMIL NADU

The state has developed key strategies to achieve TB-Free Tamilnadu by 2025. The strategies are aimed at achieving the notification rates for each year from 2019 based on the projections, to move towards TB elimination levels by 2025. *The strategies are developed based on the four principles of the National Strategic Plan (NSP) 2017-25 namely, "Detect-Treat-Build-Prevent".*

BUILD Undertake critical management reforms, restructuring of HR and financial norms, pathways for private sector participation, in order to improve efficiency, effectiveness and accountability of the health system for an improved response to the TB epidemic.	POLICY DECISIONS					
	DDHS to lead TB-Free Tamil Nadu programme management in the district and DD-TB to technically and clinically support TB care			March 2019		
	Strengthen State TB cell by placement of 1 Deputy STO, 1 Epidemiologist, 2 DD-TB (PMDT and PPM) from regular cadre.			March 2019		
	DD-HS to nominate a nodal officer for TB control activities at the block level.			March 2019		
	Provision of space for State TB Training and Demonstration center and Strengthen STDC by placement of 1 STDC Director, 1 State Microbiologist, 2 State Pharmacist and 1 Training coordinator from regular cadre.			March 2019		
	Involvement of SHG in TB-Free Tamil Nadu activities			September 2019		
	HI, VHN and WHV to conduct risk mapping of TB along with family register updation			September 2019		
	KEY ACTIVITIES					
	Activities	Timelines	Target Audience	Process	Expected Output	Monitoring Indicators
	State to launch CM TB-Free Tamil Nadu programme for ending TB by 2025	June 2019	All stakeholders and the general population	Event to launch the CM TB-Free Tamil Nadu programme	Awareness about the TB-Free Tamil Nadu programme	NA
Formation of TB-Free Tamil Nadu Board & Task Force at State, District, Block, PHC, Sub-centre, and village levels	April 2019	Refer Appendix 1				
Insurance support to all TB patients for reducing out of pocket expenditure	June 2019	TB patients	The inclusion of free TB OPD/IPD services under CM CHIS scheme	Reduction in out of pocket expenditure	Economic evaluation study to measure the baseline OOP and its impact	

	Exclusive ambulance services to access emergency services in public/private health facilities	March 2019	TB patients	In association with 108 services	Timely access to care to reduce mortality and improve DALYs	1)The proportion of TB cases accessing ambulance services 2) Death rate among notified TB patients
	Implement Prevalence Survey for district level TB Disease burden estimation	March 2019	Refer Appendix 2			
	Setting up TB-Free Tamil Nadu clubs in School and colleges	March 2019	School and undergraduate college students	ICMR-NIRT to facilitate this activity. Refer appendix 7	Increased awareness about TB disease and services available	Can be monitored by comparative KAP studies among students on TB disease
	Involvement of students in schools & colleges as ambassadors for TB prevention & control	March 2019	School and undergraduate college students	ICMR-NIRT to facilitate Refer appendix 7	Case detection by referrals from school children using school slips & establishing "cough cops"	Can be monitored by an increase in patient referral, treatment completion
	Posting newly recruited medical officers at DTC for 1 week on a rotational basis for on the job orientation	March 2019	All newly recruited medical officers	Directives from DPH/DMS	Updating RNTCP policies and guidelines	The proportion of newly recruited MOs completed on-job orientation at DTC
	Capacity building of the newly recruited Medical officers to RNTCP through NIRT's – Online course for TB "MANAGE TB"	March 2019	All newly recruited medical officers	ICMR-NIRT to facilitate	Exposure to RNTCP policies and guidelines on TB diagnosis and Treatment	The proportion of newly recruited MOs completed online orientation to TB
	Capacity strengthening through CMEs for MO, STS, treatment HV, & LTs on newer guidelines for TB management, Adverse events monitoring, community participation etc.	March 2019	All medical officers, HVs, STS, LTs	ICMR-NIRT to facilitate Refer appendix 6 for community participation	Updating RNTCP policies and guidelines	Can be monitored by pre and post-test of participants of these CMEs to assess their knowledge gain

DETECT	Activities	Timelines	Target Audience	Process	Expected Output	Monitoring Indicators
<p>Early identification of presumptive TB cases, at the first point of care, be it private or public sectors, and prompt diagnosis using high sensitivity diagnostic tests to provide universal access to quality TB diagnosis including drug-resistant TB in the country.</p>	<p>Upfront molecular test for diagnosis of TB to Block level, including Pediatric TB</p>	<p>June 2019</p>	<p>Presumptive TB patients</p>	<p>1)Deployment of molecular diagnostics at block level</p> <p>2)Establishment of collection and transportation from PHI to the diagnostic center at block level</p> <p>3)Training of Lab Technician</p> <p>4)Supply chain logistics management</p>	<p>1)Early diagnosis of TB</p> <p>2) Increased access to TB services</p> <p>3)Increase in presumptive TB case examination rate</p> <p>4)Increase in TB notification rate</p>	<p>1)Presumptive TB case examination rate</p> <p>2)TB notification rate</p> <p>3)Can be monitored by operational research to quantify diagnostic & treatment delay</p>
	<p>Hub and spoke model for TB diagnosis and treatment in all HWC of 48 blocks identified for UHC</p>	<p>March 2019</p>	<p>Presumptive TB patients</p>	<p>1)Training of all staff on sputum collection, package and transportation of sputum.</p> <p>2)Management of supply chain logistics.</p> <p>3)Linkages to LIMS</p>	<p>1)Early diagnosis of TB</p> <p>2) Increased access to TB services</p> <p>3)Increase in presumptive TB case examination rate</p> <p>4)Increase in TB notification rate</p>	<p>1)Can be monitored by operational research to quantify diagnostic & treatment delay Presumptive TB case examination rate</p> <p>2)Presumptive TB case examination rate</p> <p>3)TB notification rate</p>

Establishing hubs for pediatric sample collection & testing in all medical colleges/district hospitals	March 2019	Presumptive pediatric TB patients	1) Training of Pediatricians and staff nurse 2) Management of supply chain logistics	1) Increase in presumptive pediatric TB case examination rate 2) Increase in pediatric TB notification rate 3) Early diagnosis of TB 4) Increased access to TB services	1) Presumptive pediatric TB case examination rate 2) Pediatric TB notification rate
Fully functional Mobile X-ray facilities with CDA, to be integrated with MMU of the DPH	June 2019	Presumptive TB cases	Procurement of necessary equipment for upgradation	1) Early diagnosis of TB 2) Increased access to TB services 3) Increase in presumptive TB case examination rate 4) Increase in TB notification rate	1) Can be monitored by operational research to quantify diagnostic & treatment delay Presumptive TB case examination rate 2) Presumptive TB case examination rate 3) TB notification rate
Reimburse cost of X rays from private sector labs	May 2019	Presumptive TB cases	Vouchers to access free X-ray from the private sector	1) Early diagnosis of TB 2) Increased access to TB services 3) Increase in presumptive TB case examination rate 4) Increase in TB notification rate	1) Can be monitored by operational research to quantify diagnostic & treatment delay Presumptive TB case examination rate 2) Presumptive TB case examination rate 3) TB notification rate

	Policies for pre-employment- and periodic screening of industry employees to be prepared jointly with the labor department	March 2019	Organized employees in the state	1)MoU with Labour Department 2)Mapping of the industries 3)Medical camps at the workplace	1)Early diagnosis of TB 2)Increased access to TB services	1)No of industries mapped 2)No employees screened 3)No employees diagnosed
	Establish triad of provider engagement, linkage of services and patient support through interface agency in priority districts Coimbatore, Madurai, Salem, Thoothukudi, Erode, Tirunelveli, Trichy, Villupuram, and Namakkal	June 2019	Presumptive TB cases seeking care at private sector in selected districts of Tamil Nadu	1)MoU with implementing partner agencies on mechanisms of engagement, linkages, patient support in selected districts of Tamil Nadu	1)Increased presumptive TB case examination rate in the private sector 2)Increased notification from the private sector 2)Improved patient support systems	1)Presumptive TB case examination rate 2)TB notification rate 3)Treatment outcome rate
TREAT Provide sustained, equitable access to high-quality TB treatment, care, and support services responsive to the community needs without financial loss thereby protecting the population especially the poor and vulnerable from TB related morbidity, mortality, and poverty.	POLICY DECISIONS					
	Keeping RNTCP TB drugs to all Jan-Aushadhi and Amma pharmacies for private sector TB patients			March 2019		
	Evening clinics with extended hours to cater to the working group population incorporation area			March 2019		
	KEY ACTIVITIES					
	Activities	Timelines	Target Audience	Process	Expected Output	Monitoring Indicators
Assigning responsibility & training for counseling of all TB patients by MO-PHI, VHN, STS, and TBHV	March 2019	All TB patients	1)Training Module Development 2)Conducting training	1)Improved adherence to treatment which can be monitored by LTFU rate	1)The proportion of MO-PHI, VHN, STS, and TBHV trained in counseling	

	Systematic assessment of TB mortality by death audits and standardized verbal autopsy formats.	March 2019	Families of TB death cases	1)NIRT to standardize formats and share with the programme. 2)Training Refer Appendix 3	1)Listing causes of TB deaths 2)Creation of evidence to improve the quality of TB care, further.	1)The proportion of TB death cases whose death audits/ verbal autopsy have been conducted
	Supplementary Nutritional support to all TB patients in addition to the existing provisions under RNTCP	June 2019	All TB patients	1)Allotment of funds 2)Technical working group for designing the state-specific supplementary nutritional scheme 3)Procurement & supply chain management of nutritional supplement packets.	1)Increased adherence to treatment which will intern improve the treatment outcome 2)The decrease in the OOP	1)The proportion of TB notified patients who have received he nutritional support 2)Operational research on improvement in BMI among patients put on nutritional support
	Ensure implementation of all newer RNTCP guidelines in the state – including ADR monitoring, Fully oral regimen, newer drugs for management of DR-TB, Short-course regimens for DR-TB	June 2019	All TB patients	1)Allotment of funds 2)Procurement & supply chain management	Increased adherence to treatment which will intern improve the treatment outcome	Increased treatment success and a decrease in treatment default among both DS- and DR-TB patients
PREVENT Prevent the emergence of TB in susceptible populations.	Vulnerability Mapping of all households in the state	October 2019- March 2020 (I Phase)	All households	Refer Appendix 4		
	Provision of Airborne Infection Control (AIC) Kits to all the diagnosed pulmonary TB cases	May 2019	All diagnosed pulmonary TB cases	Procurement and supply of AIC Kits	1)All pulmonary TB cases to receive AIC kit and practice cough etiquette	The proportion of diagnosed pulmonary cases who have received AIC Kit

Preparing airborne infection control plan, implementing and monitoring activities in all tertiary, secondary & primary care health facilities	June 2019	All primary, secondary & tertiary health facilities	Refer Appendix 5			
Contact tracing & chemoprophylaxis through HI & VHN involvement	April 2019	Households of all diagnosed pulmonary TB patients	1) Training	1) Early diagnosis of TB among household contacts 2) Prevention of infection among contacts	1) The proportion of household contacts screened, evaluated for TB 2) The proportion of household contacts diagnosed as TB 3) The proportion of eligible household contacts who have been initiated completed IPT	
Screening of eligible population for LTBI, testing using C-Tb skin test in selected districts (Ariyalur, Kanyakumari, and Nilgiris) and treatment using newer 3RH / 3HP regimens as per national policy	March 2019	As per national policy/expert committee suggestion.				

Appendices:

Appendix 1: Formation of TB Free Tamil Nadu Board

Concept:

TB Free Tamil Nadu Board is the apex body to take policy decisions on strategy, operations, resources and timelines for End TB in Tamil Nadu. It is the direct demonstration of state government's stewardship for End TB in Tamil Nadu. It monitors implementation of TB Free Tamil Nadu strategy at all levels and adopts appropriate corrective measures on recognition of shortfalls or gaps.

Constitution:

Chief Patron – Hon'ble Chief Minister

Patrons-

- Hon'ble Minister for Health and Social Welfare
- Hon'ble Minister for Local Self Governments
- Hon'ble Minister for Tribal Welfare
- Hon'ble Minister for Education
- Chief Secretary, Government of Tamil Nadu

Chairperson:

Additional Chief Secretary/ Principal Secretary [H&FW]

Vice-Chairpersons-

- Secretary [LSGD/PRI]
- Mission Director National Health Mission
- Member Secretary- Director of Public Health Services
- Member Secretary – Director of Medical and Rural Health Services
- Convener- State TB Officer

Members-

- Regional Director CGHS
- Director of Medical Education
- Director, ICMR-National Institute for Research in Tuberculosis
- Director, Indian Systems of Medicines
- Director, ESI

- Director, Railway Health Services
- State Official, Pollution Control
- State Official, Tamil Nadu Anti TB Association
- Director of Ayush
- Additional DHS (TB)
- Additional DHS (PH)
- IMA RNTCP State Coordinator
- Pulmonologist
- Public Health Expert
- Project Director, TANSACS
- STDC Director
- Medical College STF Chairperson
- WHO Consultant [RNTCP]
- Chairpersons (Nodal DRTB Centre Committees)

Terms of Reference:

The Board meets once in three months. It takes policy decisions on strategy, operations, resources, and timelines End TB in Tamil Nadu. It takes decisions on appropriate local adaptation of national guidelines for Revised National Tuberculosis Control Program [RNTCP] and seeks resources beyond the budgeted resources in RNTCP PIP. The board also takes final decisions on procurement of goods and contractual services for End TB in Tamil Nadu. It guides the government on the recruitment of regular staff to the key positions of TB control and elimination.

Timeline

Formation of End TB in Tamil Nadu Board is to be completed before 30th April 2019. Meeting should be conducted once every 3 months. Notice for the meeting and agenda should be served one week before the meeting by the convener with the approval of Chairperson.

Monitoring Indicator:

Government of Tamilnadu will monitor proceedings of the board.

Indicators:

- Is the meeting of the board conducted during the current quarter year?
- Were actions taken on all decisions of previous meetings?

2. Formation of End TB in Tamil Nadu Task Force

Concept:

The End TB in Tamil Nadu Task Force plays the lead role in executing various activities for End TB in Tamil Nadu. It plans, executes, supervises, monitors, reviews activities and reports to End TB in Tamil Nadu.

Constitution

Chief Executive: State TB Officer

Executive Members:

- STDC Director
- JD State TB Cell
- JD National Health Mission
- JD Public Health
- IRL Microbiologist
- EQA Microbiologist
- MO State TB Cell
- State Epidemiologist/APO
- Deputy Director (NCD)
- State Program Officer (School Health)
- State HIV TB Coordinator
- State DRTB Coordinator
- State Accountant, RNTCP
- State Publicity Officer
- State IEC Officer
- State PPM Coordinator
- JD (Basic Services), TANSACS
- JD (ART), TANSACS
- Deputy DHS (Mental Health)
- District TB Officer, Chennai
- Medical College STF State Official
- IMA/IAP/Professional Medical Association State Official
- WHO Consultant, RNTCP

Terms of Reference:

The End TB in Tamil Nadu Task Force plans, executes, supervises, monitors, reviews activities and reports to End TB in Tamil Nadu. It prepares RNTCP state PIP and End TB in Tamil Nadu activity plan every year. Each district is assigned to a subgroup of executive members for supervision and monitoring. The subgroup visits the assigned district every month and reports to the Task Force at the end of the month. The Chief Executive compiles these reports and submits to the End TB in Tamil Nadu Board along with the report on state-level activities.

Timeline:

The Task Force is to be formed latest by 30th April 2019. Meeting should be conducted during the second half of 1st month of every quarter. The executive subgroup should submit the supervisory report on or before 1st of every subsequent month. The Chief Executive Officer should submit a report to End TB in Tamil Nadu on or before 10th of every month.

Monitoring Indicator:

- Department of Health & Family Welfare will monitor activities of End TB in Tamil Nadu Task Force.
- Is the meeting of the Taskforce conducted during the current quarter year?
- Are all districts visited by executive members during the previous month?
- Were actions taken by all districts on recommendations of previous visits?

3. Sensitization of State Program Officers of Health Services**Concept:**

End TB in Tamil Nadu demands close integration of most of the national programs. On one hand, the integration enhances the efficacy of activities and on the other, it optimizes resources by pooling and piggybacking. All state program officers are to be sensitized on principles, strategies and action plan.

Target audience:

Regional Director [CGHS], State program officers, SPM and program managers, E-health officials, TANSACS officials, Mental Health Officer, Director of Public Health Laboratory,

Process:

Half a day sensitization using powerpoint presentations on TB epidemiology in the state, RNTCP updates, End TB strategy and action plan, and monitoring checklists.

Expected outcome:

State Program Officers will review TB Free Tamil Nadu activities in districts assigned to them.

Timeline:

Formation of District End TB task force is to be completed before 30th April 2019.

4. Formation of District End TB Board

Concept:

District End TB Board is the district level apex body to take policy decisions on an adaptation of TB Free Tamil Nadu strategy, operations, resources, and timelines. Since TB epidemiology, population characteristics and access to health care vary across districts, the district TB Free Tamil Nadu board will need to customize the state's strategies to suit local situations. The board also monitors implementation of TB Free Tamil Nadu strategy at sub-district levels and adopts appropriate corrective measures on recognition of shortfalls or gaps.

Constitution:

A District End TB Board is to be formed with following Members.

Chairperson: District Collector

Vice-Chairpersons: Joint Director Health Services, Deputy Director PH

Convener: District TB Officer

Members:

- Assistant Director, Panchayat
- District Labour Officer
- Principal, Medical College [all medical colleges in the district]
- Corporation Commissioner/ Municipal Commissioner of all in the Districts.
- District Siddha Medical Officer.
- District TB Surveillance Officer.
- District Programme Manager [TANSACS]
- DTF Chairman, IMA
- TB Specialist
- Public Health Expert
- WHO Consultant [RNTCP]

Terms of Reference:

The Board meets once in three months.

- It takes decisions on appropriate local adaptation of national guidelines for Revised National Tuberculosis Control Program [RNTCP], and state End TB strategies and seeks resources beyond the budgeted resources in RNTCP PIP.
- The board also takes final decisions on procurement of goods and contractual services for End TB. It guides the district administration and on the recruitment of regular staff to the key positions of TB control and elimination.

Timeline:

- Formation of District End TB Board to be completed before 30th April 2019. Meeting should be conducted once every 3 months. Notice for the meeting and agenda should be served one week before the meeting by the convener with the approval of Chairperson.

Monitoring Indicators:

District End TB Board submits quarterly reports to State End TB Board. Convener prepares the reports on actions taken on the minutes of the previous meeting and submits to state with the approval of the Chairperson. Indicators are,

1. Is the meeting of the board conducted during the current quarter year?
2. Were actions taken on all decisions of previous meetings?

5. Formation of District End TB Task Force

Concept:

The district End TB Task Force plans to execute, supervises, monitors, reviews activities and reports to State End TB Task Force. It prepares RNTCP district PIP and End TB activity plan every year.

Constitution:

Chief Executive: District TB Officer

Executive Members:

- District Program Officer [NCD]
- TB Specialist of District TB Centre
- Technical Assistant, JD HS
- DD PH
- District Lab Technician
- District Mass Education Media Officer
- District Nodal Officer [TB], IMA
- One member each from all Medical College Core Committees
- Representatives from Siddha Systems of Medicine
- District Coordinator, Project Akshya & JEET
- All staff of District TB Centre
- MOTCs of all TB Units
- STSs and STLSs of all TB Units

Terms of Reference:

- The End TB Task Force plans to execute, supervises, monitors, reviews activities and reports to District End TB Board and State End TB Task Force.
- It prepares RNTCP district PIP and End TB district activity plan every year. Each health block is assigned to a subgroup of executive members for supervision and monitoring.
- The subgroup visits the assigned health block including the peripheral health institutions, microscopy centers, target population, patient houses and LSG/PRA End TB task force officials every month and reports to the District Task Force at the end of the month.
- The Chief Executive compiles these reports and submits to the State End TB Task Force along with the report on district level activities.

Timeline:

Formation of District End TB task force is to be completed before 30th April 2019. Meeting should be conducted once every 3 months. Notice for the meeting and agenda should be served one week before the meeting by the convener with the approval of Chairperson.

Monitoring Indicators:

- District End TB task force submits quarterly reports to State End TB Task Force. CEO prepares the reports on actions taken on the minutes of the previous meeting and submits to state with the approval of the Chairperson.
- Is the meeting of the task force conducted during the current quarter year?
- Were actions taken on all decisions of previous meetings?

6. Formation of TU level End TB task force**Concept:**

The TU level End TB task force is a coordinating body of various task forces and consortiums within the TU and the district End TB task force. It guides and supports the End TB activities of Block and PRI level TB Free Tamil Nadu task forces.

Constitution:

- Chief Executive Officer MOTC of the TB Unit
- Secretary STS of the TB Unit
- Joint Secretary STLS of the TB Unit

Members:

- One representative from each Public sector PHI in the TU
- Public relations officers of all private hospital in the TU
- One member from the local branch of IMA
- TB Health visitors of the TU
- Two representatives from NGO
- Two community representatives

Terms of reference :

- The TU End TB task force provides support for PRI level and ward/division level task forces for planning, executing, monitoring and reviewing their End TB activities.
- It provides logistics support to the PRI level and ward/division level task forces including brochures, referral slips, questionnaires, data sheets, microplanning formats and sputum containers
- The TU task force reviews the micro plans of PRI task forces and suggests optimal linkages with DMCs, x-ray facilities and CBNAAT sites
- The TU task force helps DTO in health system strengthening by identifying potential DMCs, private x-ray units and specimen transportation agencies
- With the Block Medical Officers and Health supervisors, MOTC, STS and STLS are facilitators for PHI level training and campaign volunteer training
- The TU task force also compiles e-copies of vulnerability data from all panchayats in the TU
- The TU task force coordinates with the external supervision team formed by STO for weekly external supervision.

Timeline:

30th April 2019

Expected outcome:

All PRI level task forces are adequately guided for End TB activities

Monitoring indicators:

Number (%) of TB Units formed task forces

7. Formation of Block Level End TB Task Force

Concept:

The Block End TB Task Force plans to execute, supervises, monitors reviews activities and reports to District TB End TB Task Force. It prepares End TB activity plan for the block in consultation with the gram panchayat End TB task forces.

Constitution:

- Patrons: Chairman and Members of Block Panchayat and relevant PRI members at appropriate levels (District, Block, including village panchayat president) .
- Chief Executive: Block PHC Medical Officer
- Secretary: Health Supervisor of the Block PHC/CHC
- Executive Members:
- All medical Officers of the Block PHC
- Lady Health Supervisor
- Health Inspector of block PHC
- Lady Health Inspector of Block PHC
- STS of corresponding TB unit
- NGO members
- Members from community

Terms of Reference:

- The End TB Task Force plans, executes, monitors, reviews activities and reports to District TB Free Tamil Nadu Task Force.
- It prepares the block End TB activity plan every year. Each gram panchayat is assigned to a subgroup of executive members for supervision and monitoring.
- The subgroup visits the assigned panchayat including the peripheral health institutions, microscopy centers, target population, patient houses and gram panchayat End TB task force officials every month and reports to the District Task Force at the end of the month.
- The Chief Executive compiles these reports and submits to the district End TB Task Force along with the report on block level activities

Appendix 2: Prevalence Survey for District level TB Disease

Burden Estimation

The rationale for state TB prevalence-

- Important to know the disease burden at the State level
- Monitor the progress towards TB control
- With the aim to 'End TB' as per Sustainable Development Goals (SDGs)
- Diversity and variation of the burden of disease across the Districts
- Equally important to know the state-level prevalence of Tuberculosis
- National TB Prevalence survey provides state wise estimates of TB Prevalence and we need to know the district wise TB Prevalence Estimates

Objectives-

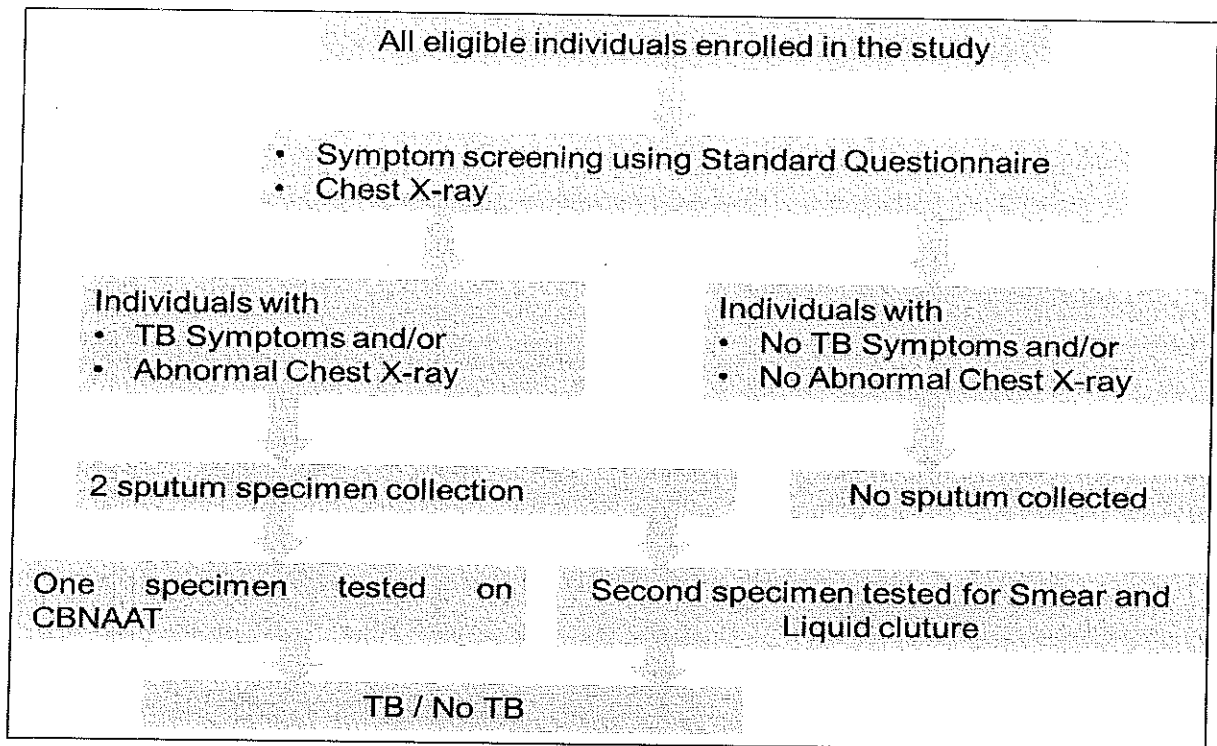
Primary objectives:

- To estimate the point prevalence of microbiologically confirmed pulmonary TB among persons ≥ 15 years in age in Tamil Nadu at the national level
- To estimate the point prevalence of microbiologically confirmed pulmonary TB among persons ≥ 15 years in age for all the Districts of Tamil Nadu

Secondary objectives

- To explore the health seeking behavior of survey participants who are:
 - Symptomatic
 - Currently on TB treatment
- To find out the source of treatment, [whether RNTCP or non-RNTCP] among persons having a history of ATT (previous/current) in last one year
- To determine the proportion of those currently on TB treatment who were notified to the RNTCP surveillance system
- To estimate the expenditure incurred by survey participants who are currently on TB treatment
- To profile socio-demographic and associated risk factors for TB Disease

Screening Strategy



Time schedule

After analysis final report will be available for dissemination by World TB Day 2020

Ethics Approval

NIRT Institutional Ethics Committee Approval will be sought

Expected Benefits

- TN State wise TB burden with district wise estimation
- Plan and focus on high burden districts
- Design interventions based on health care seeking behavior
- Guide strategies for improving the notification process
- Useful for monitoring the progress to the TB Control in India and state level

Rationale

- With the available practice of Death reporting we hypothesize that the TB deaths are misclassified (overestimated /under estimated)
- The purpose of this study is to correctly classify the deaths among TB patients who were registered and treated both in Public and private sector in Tamil Nadu for the year 2019 using Verbal Autopsy

Objectives

1. To describe the existing “cause of death” reporting practice in Tamil Nadu using a questionnaire
2. To identify the cause of death among TB patients registered for treatment (Public and private sector) in Tamil Nadu using Verbal autopsy

Methodology

Study Design: Prospective study

Study population: All TB patients (both adults and children) registered for treatment under the RNTCP

Study Period: 1st April 2019 to 30th March 2020

Study Area: All Districts of Tamil Nadu

- Situation Analysis – A questionnaire will be used to abstract data to describe the existing practice of Death reporting among TB patients who are registered and treated in Public and private sector in Tamil Nadu.
- Retrospective Record Review of death Audit forms of all the deaths reported between 1st Jan 2018 to 31st Dec 2018 will be perused if possible and the following data will be collected.
 - Data Collected from TB registers: - Deceased name, age, gender, marital status, father/spouse name, informant's name, occupation, place of death, address Date and time of death, TB Number, TB Unit and Co-Morbidity
 - Data Collected from the Treatment card:
 - Diagnosis details: Date of diagnosis/ sputum examination, /X-ray and HPE reports
 - Treatment details: Date of starting treatment, Time delay reasons, Type of case, Disease classification, Category, IP extension, hospitalization before and after treatment and drug regularity
- Death cause – Direct and Indirect cause of Death.

Verbal Autopsy Technique

- Data will be collected using a questionnaire developed based on validated WHO 'International standard verbal autopsy questionnaire 3 (Version 1.4.2 (2016))
- VA questionnaire includes questions on Interviewer's visit details, demographics, basic information about the respondent and diseased, past medical history, co-morbidity, and, most importantly, a checklist of signs & symptoms pertaining to TB disease - diagnosis, Rx and outcome.
- VA questionnaire will be administered within 15 days of the occurrence of death.
- The questionnaire also contains open-ended questions to record details on signs & symptoms of the disease in order of appearance, doctor consulted and hospitalization
- A narrative of the events leading to death will be recorded as stated by the respondent.
- Data will also be collected from TB Rx drug cards, lab registers, hospital records, laboratory tests done.
- Death certificates will be photocopied, included in review process
- MOs /Field Staff will be trained to conduct the verbal autopsy interview and complete the form before the start of the study.
- The local PHI Medical Officer in charge of RNTCP trained in ICD coding will assess the completeness of the VA data and ascertain the cause of death as per International statistical classification of diseases and related health problems, 10th revision- ICD-10
- A panel of members comprising of DDHS, JDHS, DTO, BMO and an independent Chest Physician will be constituted for every district who will meet at monthly intervals to review the verbal autopsies performed.

Study Timelines

- Training of the field staff and MOs on Verbal autopsy questionnaire administration and ICD coding will be done prior to study initiation.

Approvals

- The proposal will be circulated to the NIRT Scientific Advisory Committee and Institutional Ethics Committee Approval obtained by the month of April 2019

Study Outcomes

- Cause of death among TB patients on treatment in RNTCP using Verbal Autopsy
- Extent of Misclassification of Death in RNTCP death Audit as compared to Verbal Autopsy
- Risk factors associated with death among TB patients on treatment in RNTCP

Expected Benefits

Study will provide details on

- actual cause of death whether it is TB related or unrelated
- Whether conducting Verbal Autopsy yields additional information on the cause of death
- will serve as a potential improved source of TB mortality estimation for the state of Tamil Nadu

Based on this the TN State wise can

- Plan and focus on high burden districts and design interventions accordingly

Verbal Autopsy Questionnaire for relatives in case of death of a TB patient

Name of the interviewer:

Date of Interview: First attempt Second attempt: Third attempt:

Reason for form not filled: 1. Refused 2. Do not know the details 3. Wrong address 4. Others (Specify)

Section I: Details of the Respondent

1. Name of the respondent:
2. Age in years:
3. Sex: Male/Female
4. Educational Status: Illiterate/Literate
5. Relationship of the deceased to respondent: Spouse/Sibling/Father/ Mother/Son/ Daughter/ Grandson/Granddaughter/Others (Specify).
6. Did the respondent live with the deceased during the events that led to death: Yes/No

26. Did she/he complete the TB treatment: Yes/No/Not Known
27. What was the reason for default?
28. Did she/he develop any toxicity during TB treatment? Yes/No/Not Known
(a) If yes details: -----
29. Did she/he ever smoke? Yes /No/Not Known.
(a) If yes Duration of Smoking (in years):
30. Did she/he consume alcohol? Yes/No/Not Known
(a) How often did she/he consume alcohol? Never /Monthly / 2 to 4 times a month / 2 to 3 times a week / 4 or more times a week

Section IV: Narration of events which lead to Death

Section V: ICD Coding of Death and Classification

Thank you for the responses

Date of interview

Signature of interviewer

Signature of the MO with date:

Appendix 4: Assessment of vulnerability to TB and active case finding

Rationale

- Important to identify populations vulnerable to TB to target for active case finding
- Essential for early TB diagnosis and treatment initiation
- Paves way for reduction in TB disease transmission and better treatment outcomes
-

Objectives

1. To identify the individuals vulnerable to TB in the community
2. To ensure active case finding in individuals vulnerable to TB
3. To generate awareness regarding TB in the community

Methodology

Design

- Cross-sectional survey for identification of individuals vulnerable to TB in the community – 6-month duration
- Prospective cohort – Active case finding with periodic follow-up of individuals vulnerable to TB

Sites

- Districts in Tamil Nadu with TB case notification rate <100 cases per lakh population in 2016 (Cases registered under RNTCP)
- The following are the list of districts with TB notification rate
 1. Thiruvannamalai -98 cases per lakh population
 2. Nilgiris – 53 cases per lakh population
 3. Kanyakumari – 66 cases per lakh population

Procedure

1.Pre-survey activities

1a. Development of TB vulnerability screening tool

- The risk factors for TB will be listed
- The relative risk for the identified risk factor will be obtained from published studies (local /National/ global)
- The population attributable fraction for TB will be calculated for the identified risk factor
- Based on the relative risk and population attributable fraction for TB contributed by the risk factor weighted scores will be determined
- The grading of vulnerability will be derived based on the scores

1b. Designing of TB vulnerability screening proforma

- The TB vulnerability screening proforma will be designed
- The following data will be collected
 - Unique id – District no, Block no, Household no., Household member number
 - Name of head of household
 - Address
 - Phone number
 - Name of household member
 - Presence/Absence of listed risk factors for TB
 - Scoring of the risk factor
 - TB symptoms – Present / Absent
 - Referred to DMC – Yes / No
 - Referral outcome – TB / No TB / Not known
 - Follow-up TB screening – Yes / No

- TB symptoms – Present / Absent
- Referred to DMC – Yes / No
- Outcome of referral – TB / No TB / Not known

1c. Finalization of awareness material on TB

- The awareness material will focus on cause, spread, diagnosis, treatment and prevention of TB
- Pamphlets in the local language about TB will be prepared for distribution to the household

1d. Preparing the geographical area for survey

- All the households in the selected districts will be visited by the “End TB team”
- The district will be divided into “End TB Sectors” containing 200 houses each
- The “End TB team” will be allotted one “End TB Sector” for their activities
- Designated Microscopy Centres (DMC) will be identified for each “End TB Sector”
- Health sub-centres will be identified for each “End TB Sector”
- Generating awareness about the survey through media (e.g. FM radio/local Newspaper/local cable channels)

1e. Constitution of “End TB team”

- The “End TB team” will comprise of trained volunteers
- Each team will include a total of 2 volunteers – one from Health system and one from the community e.g. SHGs
- Members of the “End TB team” will be preferably selected from the same locality

1f. Training of members of “End TB team”

- The “End TB team” members will be trained to
 - generate awareness about TB
 - collect information pertaining to vulnerability to TB from each household member using a questionnaire
 - conduct initial active case finding in the individuals vulnerable to TB

2. Survey activities

2a. Identification of individuals vulnerable to TB in the community

- The “End TB team” will visit all the households in the “End TB Sector”.
- A total of 10 to 15 houses will have to be visited by the team per day.
- The ‘End TB Team’ members will be paid incentive.
- The visits will be planned to ensure meeting all the members of the household – e.g. evenings, Sundays
- If any household member is not available at the time of survey information can be collected from the other member of the household
- TB vulnerability screening proforma will be used to collect information on every member of the household (One proforma per household)

2b. Active case finding in individuals vulnerable to TB

Initial TB screening

- The member of the “End TB team” will enquire about the symptoms of TB to all the household members
- Those with symptoms suggestive of TB will be counseled about the need to be investigated for TB. They will be referred to the DMC assigned for the “End TB Sector” with a referral slip. A sputum container will be given to them for collection of sputum and submission at DMC.
- Entries will be made in the TB vulnerability screening proforma about TB symptoms and referral.
- Information on TB diagnosis will be obtained from the DMC by the “End TB team” members and updated in the TB vulnerability screening proforma within a week.
- The “End TB team” members will be eligible for Rs.500 for each case diagnosed with microbiologically confirmed TB
- TB vulnerability screening proforma after completion will be given to the Health Care Worker of Health sub-centres for vulnerability scoring and grading

Follow-up TB screening in individuals vulnerable to TB

- Those with Grade II vulnerability will be follow-up once in 3 months by Health Care Worker of Health sub-centres identified for the “End TB Sector”
- Those with Grade I vulnerability will be follow-up once a year by Health Care Worker of Health sub-centres identified for the “End TB Sector”
- The Health Care Worker of Health sub-centres will contact the individuals with Grade I/II vulnerability to TB as per the follow-up TB screening schedule
- They will enquire about the symptoms of TB
- Those with symptoms suggestive of TB will be counseled about the need to be investigated for TB. They will be referred to the DMC assigned for the “End TB Sector” with a referral slip. A sputum container will be given to them for collection of sputum and submission at DMC.
- Entries will be made in the TB vulnerability follow-up screening proforma about TB symptoms and referral
- Information on TB diagnosis will be obtained from the DMC and updated in the TB vulnerability follow-up screening proforma within a week

2c. Generate awareness regarding TB in the community

- Information about TB will be given to all members of the household prior to TB vulnerability screening proforma
- The member of the “End TB team” will talk with all members of the household about the cause, spread, diagnosis, treatment and prevention of TB
- Pamphlets in the local language about TB will be given to the members of the household

Data management

- The Health Care Worker of Health sub-centres will verify the data completion and make arrangements for the data to be entered in the software designed by ICMR-NIRT
- The data will be analyzed by ICMR-NIRT
- The data will be sent to the District TB Officer every fortnightly
- The analyzed data will be sent to State TB Officer, NHM Director, WHO Consultants once a month
- NIRT will be responsible for 10% quality check on data collected

Monitoring indicators

S.No	Indicator	Numerator	Denominator	Target
1	Proportion of households covered per month	Number of households covered per month	Total number of households	20%
2	Proportion of population screened for TB vulnerability per month	Number of individuals screened for TB vulnerability per month	Total population	20%
3	Proportionate increase in the examination of presumptive TB cases compared to 2018 in the District / TU / DMC per month	Number of presumptive TB cases examined in the District / TU / DMC in 2019 per month compared to corresponding month in 2018		
4	Proportionate increase in the detection of TB cases compared to 2018 in the District / TU / DMC per month	Number of TB cases detected in the District / TU / DMC in 2019 per month compared to corresponding month in 2018		
5	Proportion of presumptive TB cases among those screened by active case finding per month	Number of presumptive TB cases per month	Number of individuals screened for TB by active case finding per month	
6	Proportion of TB cases detected among presumptive TB cases identified by active case finding per month	Number of TB cases detected per month	Number of presumptive TB cases identified by active case finding per month	
7	Proportion of individuals vulnerable for TB with follow-up TB screening done per month	Number of individuals vulnerable for TB with follow-up TB screening done per month	Total number of individuals eligible for follow-up TB screening per month	90%
8	Proportion of presumptive TB cases identified during follow-up of vulnerable individuals per month	Number of presumptive TB cases identified during follow-up of vulnerable individuals per month	Number of vulnerable individuals eligible for follow-up by active case finding per month	
9	Proportion of TB cases detected among vulnerable individuals with presumptive TB per month	Number of TB cases detected during follow-up of vulnerable individuals per month	Number of presumptive TB cases identified during follow-up of vulnerable individuals per month	

Expected benefits

- Individuals vulnerable to TB will be sensitized and offered TB screening for early TB diagnosis
- Generation of database of Individuals vulnerable to TB at the community level facilitates planning of targeted interventions in future
- Potential reduction in TB disease transmission and better treatment outcomes

TB vulnerability screening proforma

Name of household head		Date of Interview:		Address		Phone numbers		District name		End TB sector id					
House number: Street Name: Pin Code: Ward / Panchayat: Location: Slum / Tribal / Coastal		1. 2. 3.													
												Number of household members:		Household id	
												Number of household members on TB treatment:			
Household member id															
Name															
Age (years)															
Gender (M/F/TG)															
Weight (Kg)															
Height (cm)															
Occupation															
Smoking/Tobacco use															
Alcohol															
Biomass fuel															
Diabetes															
COPD/Asthma															
Other illness															
TB in family/workplace															
Past TB															
TB symptoms*															
Referred to DMC															
Referral outcome															
ETT Signature & date															
Vulnerability score															
Vulnerability grade															
HSC Signature & date															

Gender: M: Male, F: Female, TG: Transgender, **Occupation:** Not working/ Brick Kiln/Leather factory/Textile/Rice mill / Quarry/ Mine/ Health care worker/ Others (specify), **Smoking/Tobacco:** Yes/ No, **Alcohol:** Yes/ No, **Biomass fuel:** No/Wood/ Cow dung/ Others (specify), **Diabetes:** Yes/ No, **COPD/Asthma:** Yes/ No, **Other illness:** No/ Liver /kidney / malignancy, **TB in family/workplace:** Yes/ No, **Past TB :** Yes/ No, **TB symptoms:** Yes/ No, **Referred to DMC:** Yes/ No, ***TB symptoms:** Any of the following: Cough >2 weeks/Fever >2 weeks/ Weight loss/ Hemoptysis, **Referral outcome:** TB / No TB/ NK(Not known), **Vulnerability grade:** Score <5 (Grade I), Score >5 (Grade II), **ETT:** End TB Team, **HSC-Health sub Centre**

TB vulnerability follow-up screening proforma

Name of household head	Address		Phone numbers	District name	End TB sector id
	House number:	Street Name:			
Number of household members on follow-up:	Pin Code:		1.	Household id	
	Ward / Panchayat:		2.		
			3.		
Household member id					
Name					
Vulnerability grade					
Date of follow-up					
TB symptoms*					
Referred to DMC					
Referral outcome					
Signature & date					
Date of follow-up					
TB symptoms*					
Referred to DMC					
Referral outcome					
Signature & date					
Date of follow-up					
TB symptoms*					
Referred to DMC					
Referral outcome					
Signature & date					

Date of follow-up									
TB symptoms*									
Referred to DMC									
Referral outcome									
Signature & date									

TB symptoms: Yes/ No, referred to DMC: Yes/ No, Referral outcome: TB / No TB/ NK: Not known

***TB symptoms: Any of the following: Cough >2 weeks/Fever >2 weeks/ Weight loss/ Hemoptysis**

Appendix 5: Improving Airborne Infection Control (AIC) practices among tuberculosis patients in selected districts of Tamil Nadu

Pre / post intervention Questionnaire

Name of the patient	Address	Nikshay No	Name of the TU, Dist.	Date of interview	Smear status : positive/negative		
						Monthly income	
Age in Years		Date of ATT Initiation			Pre /post intervention	Occupation	
Gender- M/F/TG						House type – katcha, semipucca, pucca	

Characteristics	Response	Characteristics	Response
1. Cough etiquettes/safe disposal of sputum taught in the centre ?	Yes/ No	6. How can we prevent the spread of TB?	1. Regular TB medicines 2. Following cough etiquette 3. Safe disposal of sputum 4. Open windows and rooms to allow fresh air 5. All of the above 6. Don't know 7. Others
2. Received information materials in the centre?	Yes/No		
3. Received mask for wearing in the centre during visit?	Yes/No	7. Precautions you will take while coughing?	1. Nothing 2. Covering my mouth and nose with a cloth 3. Cover my mouth with a cloth 4. Cover my mouth with the hand 5. Others (Specify)
4. Place where you disposed that mask after using?			
5. How does TB spread from one person to another ?	1. Air 2. Food 3. Water 4. Sharing of utensils 5. Don't know 6. Others	8. How do you usually dispose your sputum?	1. Spit it on the ground as and when it comes 2. Spit it in a paper or tissue and bury it 3. Spit in the toilet and flush it 4. Spit it in a pot with ash or lime and bury it. 5. Don't know/ No sputum

Improving Airborne Infection Control (AIC) practices among tuberculosis patients in selected districts in Tamil Nadu, India

AIC education and distribution of AIC kit

To be filled by the Health care worker educating and distributing the AIC kit

Name of the health care worker _____ Designation _____
 _____ centre _____ Date: _____

Education	Response	Distribution of AIC kit	Date	Date	Date	Date
Cough etiquette	Yes/No	No of masks dispensed				
Safe disposal of sputum	Yes/No	Amount of disinfectant dispensed				
Ventilation of the house/place of work	Yes/ No	Sputum cup dispensed				
Distribution of leaflets regarding AIC	Yes/No	Signature of the patient				

Post intervention assessment and follow up

Usage of AIC kit	Response	Date	Date	Date	Date
No of masks used					
Usage of masks	Yes/No				
Amount of disinfectant used					
Safe disposal of sputum	Yes/No				

Appendix 6 - Community engagement through community preparedness and community volunteers

The World Health Organization (WHO), ENDTB strategy and programme guidelines of India also emphasize on need to engage and empower communities for TB care. The TB control programme has been focusing on community engagement as an important strategy for TB control and elimination. However, while this is used as a terminology little is known as to what this really entails in order to be a successful intervention strategy.

The NIRT has been actively involved in community engagement through various research studies. The role of Self Help Groups as a potential task force has been documented and published. This project was carried out in two blocks of Tiruvallur district covering all village panchayats. It was found that 84% of the self-help group women were able to involve in spreading TB awareness. A significant proportion had involved in identification and referral of symptomatic. Their role has proved effective in identification and referral of TB symptomatic and as DOTs providers. The Targeted intervention project carried out in 4 states with NIRT coordinating the project in Gujarat has resulted in showcasing the importance of community engagement to promote the reach and utilization of TB services in remote tribal areas through the Mobile vans equipped with digital X rays and sputum collection. The community volunteers were selected through a participatory approach using influential acceptable persons within the community, NGOs, and the health services. They were trained on TB and served as a link between the community and the TB programme. Their role included spreading TB awareness, identification and referral of TB symptomatic to the vans for further investigations.

We have also found school children as a promising group to serve as TB ambassadors for TB control. As part of this project several IEC materials are developed which are student friendly. An interim analysis done showed that there was a significant increase in the level of TB awareness among the students and it was also reflected that majority of the students had shared that TB message to others like their own families, friends, neighbors and relatives. It is very encouraging to find that the students are very actively involved in TB control in their own capacities.

The NIRT has worked on a community driven model to evaluate and strengthen health services. Currently we are involved in the TB free Chennai project with the Chennai Corporation and have been helping them in the community preparedness activities. This is crucial before the implementation of any programme which includes Active case finding, any operational or implementation research planned.

Furthermore, the NIRT has been involved in various community awareness programs in and around Chennai from the urban slums, school and college students, NSS programme managers, ICDS workers, mothers of Anganwadi children, brick kiln workers, old age homes, corporation conservancy workers, irular tribal area, JAT community, prisoners, prison officials.

Various strategies are used depending on the target population from visuals such as movies, animated films, posters, street plays, villu pattu, puppet shows and interactive sessions

We also have a community Advisory Board (CAB) to guide and direct research activities ensuring that ethical principles are maintained and interests of the communities are not compromised.

For the success of any programme unless the communities are prepared through well designed TB sensitization programme the reach of any of the programs would remain far from satisfactory. Experiences from health visitors and investigators have revealed the reluctance to provide sputum for testing for fear of being stigmatized, the lack of awareness and misconceptions on TB with many who still attribute TB as a heredity disease, a disease that only affects the poor and especially the man, that girls with TB cannot get married, TB treatment is expensive and unaffordable etc. The NIRT has not only supported the TB sensitization activities but has also helped in identification of community volunteers through a community participatory approach, training of the volunteers and reviewing the activities of the volunteers.

Against this back ground the NIRT can support in capacity building activities for community engagement through support in training and capacity building 2. Reviewing and monitoring activities 3. Providing the IEC materials that we have developed 4. Support in any community awareness programmes through our team at NIRT which has a villu pattu, training of community volunteers for promoting TB awareness through role plays and skits 5. Training of community volunteers on assessing and reporting the gaps in TB services so that timely interventions are done to improve quality of services

Appendix 7 - Involvement of students in schools and colleges as ambassadors for TB prevention and TB control –A strategy for TB free Tamil Nadu

Introduction

India which roughly has one fifth of global population is estimated to have the highest burden of tuberculosis (TB) patients globally. As per the Global TB report 2017 the estimated incidence of TB in India was approximately 28, 00,000 accounting for about a quarter of the world's TB cases (Pattnaik S, 2018). Though India's TB control program has treated over 19 million patients, the incidence of TB continues to be high despite the fact that TB is curable and decentralizing of free TB treatment. There are several contributing factors, the salient being the low awareness about TB leading to delays in seeking care resulting in TB transmission, this is an impediment to TB control and the "TB free" vision.

Literature review highlights the role that youngsters can contribute in health services especially in the context of HIV/AIDS. The focus of interventions in this context has been purely on promoting awareness about HIV/AIDS.

NIRT has been involved in a project in promoting the concept of school children as ambassadors for TB control. This project not only aims at promoting TB awareness among school children through school friendly TB sensitization activities but also involve them to further promote TB awareness to other students, teachers, families and their communities. The school friendly awareness tools include visual aids, jingles, short animation movie on TB, villu pattu and interactive sessions. This project has thus far covered nearly 9000 school children from 57 corporation schools reaching out to children from 7th, 8th and 9th grade children.

The process followed is that using these tools mentioned TB sensitization programmes spanning one hour at the time allotted by the teachers in the school. Once this is done school ambassadors are chosen based on the performance during this session, teachers recommendation and the willingness of the child. These school children are given the title of school ambassadors and are given a T Shirt, badge, cap and a school bag with messages on TB. They are then further trained as ambassadors using their own creative skills to further promote TB awareness.

The school ambassadors conduct the TB awareness to the other school children during the full school assembly in the morning. Furthermore, they are encouraged to carry the TB awareness messages to their families and communities. They have been linked to outreach workers in the community from NGOs and have been involved in promoting TB awareness through them as well.

An interim analysis done we have found that that is a significant increase in the level of awareness among the students. And it was also found that nearly 93 % of the students were able to

share the TB messages with in their own families and others in the community. It is very evident from these results that students could be a potential task force in TB control this idea could further be explored through TB clubs in schools and colleges. This could follow the red ribbon clubs as done in HIV/AIDS.

Objectives:

- a) To sensitize the school and college students about Tuberculosis through a participatory intervention strategy .
- b) To engage the sensitized school and college students as TB “cough cops” through TB clubs to impart TB awareness in their schools, colleges, family and social settings.
- c) Linking of the TB clubs with health system such as school health programme and RNTCP programme

Study design

Study area and study population

All Government run and Government aided schools and colleges will be included in this project. Higher secondary and high school students and in colleges under graduate students will be part of the clubs.

Methodology

We propose an implementation research programme following a sequential approach. **Phase 1** will include selection of districts, schools and colleges based on discussion with the health and education officials. Mapping the areas, they are located in to ensure that there is a good representation. The TB case detection rates from the DMCs /DTCs in these areas will be collected. **Phase 2** will include the intervention phase which would involve TB sensitization in these schools and colleges using the available IEC materials already produced in the NIRT project as well as those available with the RNTCP programme. During this phase the acceptability and feasibility of TB clubs through discussion with the principals, teachers and students will be assessed and documented. The name and role of these clubs will be outlined based on these discussions which will use a participatory approach.

During this phase the student ambassadors will be selected based on the teachers, and professors’ inputs and the willingness the students for the TB clubs could be decided through a participatory approach. The principals will also be encouraged to nominate teachers to be involved in this programme. The teacher and the student ambassadors will work on their strategies to promote TB

control. 1. This would include TB advocacy in their own schools to cover the whole school/college 2. Promoting TB awareness in their families and communities 3. Referral services and linkage to RNTCP. Once these ambassadors are selected for involving in a list of all the available TB services public and private will be given to them to convey the information to those who may require it.

During this time a decision will also be made on how often the TB awareness programme could be held- preferably twice a month initially followed by once a month. The role of the clubs which will not only be on TB but will also include other creative programme such as sports to promote TB, planting trees, healthy diets, painting competitions, rallies etc. could also be included

The outcome indicator would be the number of TB clubs established, the number of TB awareness programs held through the clubs, the number of students involved as ambassadors, Secondary data from the RNTCP register will be obtained prior and after the programme implementation to measure the outcome indicators.

Conclusion

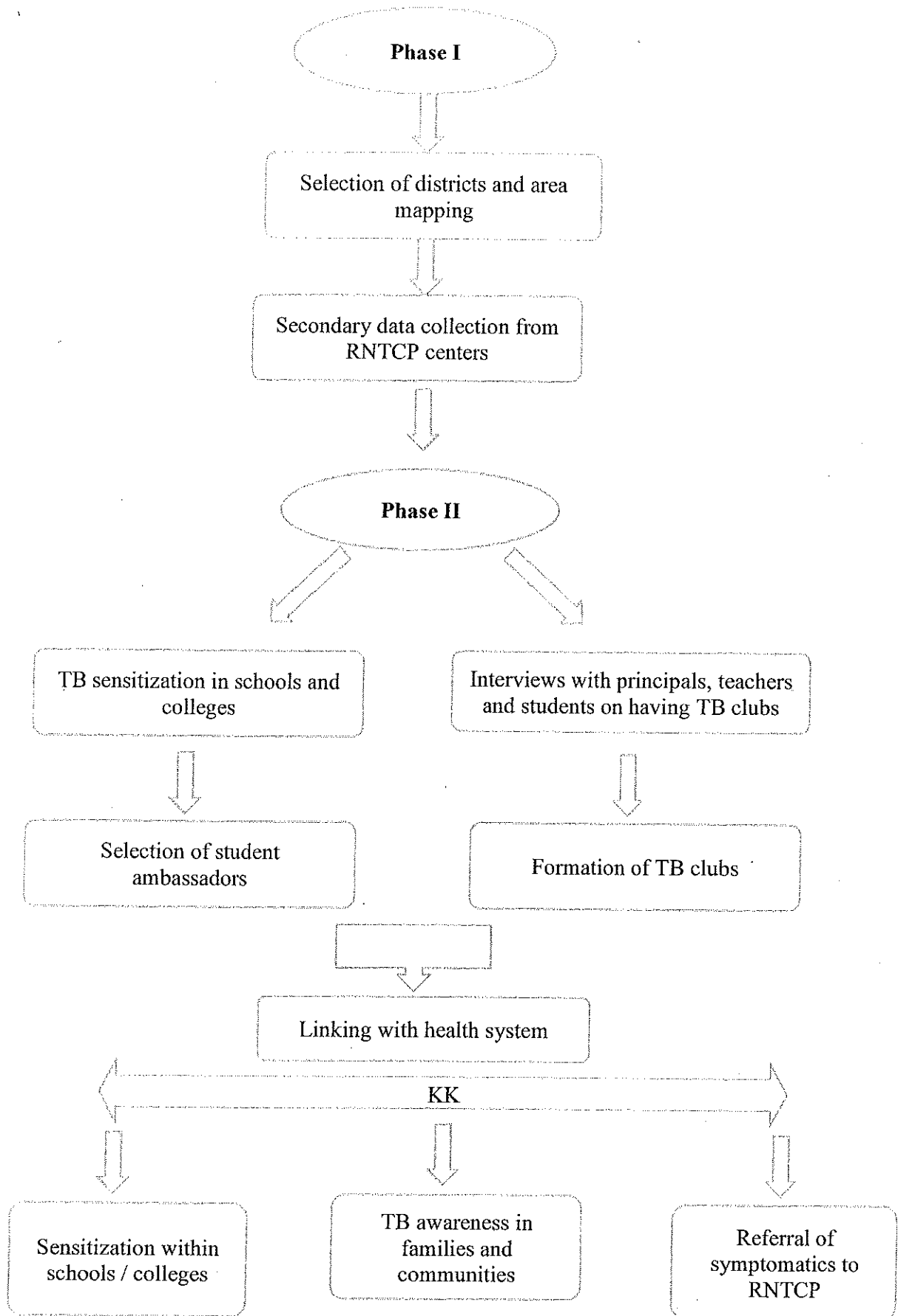
This programme with the school and college students will throw light on the capacity of the youth in TB control. This will also ensure that the TB control efforts are self-sustained in the long run.

BEELA RAJESH

SECRETARY TO THE GOVERNMENT

TRUE COPY


SECTION OFFICER



PROCEEDINGS OF THE DIRECTOR OF PUBLIC HEALTH AND
PREVENTIVE MEDICINE, CHENNAI - 600 006.

Present: Dr.K.KOLANDASWAMY,MBBS.,MAE.,DPH.,DIH.,DBE.,

R.No.10904/HEB/A2/2018

Dated: 03.01.2019

Sub: Public Health and Preventive Medicine--RNTCP-- Defining TB Units and Subunits - Designation of TU Medical Officers and Subunit Medical Officers- job responsibilities- Orders - issued - regarding

- Ref:
1. Lr.R.No:12378/SHS/RNTCP/P6/2016, dated 20-11-2018 of the Mission Director, National Health Mission
 2. G.O (Ms) No. 138, Health and Family Welfare Department dated 16.05.2011

The Revised National TB Control Programme (RNTCP), based on the internationally recommended Directly Observed Treatment Short course (DOTS) strategy, was launched in 1997 and expanded across the country in a phased manner with support from World Health Organisation and other development partners. Nation-wide coverage was achieved in March 2006. In terms of treatment of patients, RNTCP has been recognized as the largest and the fastest expanding TB control programme in the world.

The goal of Revised National Tuberculosis Control Programme (RNTCP) is to decrease the mortality and morbidity due to Tuberculosis (TB) and interrupt the transmission of infection until it ceases to be a public health problem. It aims to control TB by detecting and curing sputum smear positive patients, there by interrupting the chain of transmission through reaching out to all tuberculosis patients in the community and providing universal access to standardized treatment protocol. Since the implementation of the Revised National Tuberculosis Control Programme in Tamil Nadu, a lot of progress has been made in preventing and controlling tuberculosis in the State.

The cornerstone strategy in case detection of TB is quality assured diagnosis. RNTCP has quality assured laboratory network for bacteriological

examination of sputum in a three tier system consisting of Designated Microscopy Centre (DMC), Intermediate Reference Laboratory (IRL), and National Reference Laboratory (NRL).

District TB Centre (DTC)

The district TB centre (DTC) is the nodal centre for all TB control activities of a district. At the DTC, all reports from the sub-districts are consolidated and sent to the state. The DTO is responsible for all TB activities in the district including training of all categories of staff particularly the Medical Officers and Lab technicians and EQA activities. Maintenance of a regular supply of good quality laboratory consumables and reagents to all DMCs in the district is also the responsibility of the DTO.

Tuberculosis Unit (TU)

The Tuberculosis unit is a sub-district supervisory unit, established for 500,000 population (250,000 in tribal and hilly areas). One Medical Officer in the TU Headquarters, is designated as TU Medical Officer. Programme has provided a Laboratory technician, Senior Treatment Supervisor, Health Visitor and Senior Tuberculosis Lab Supervisor, on contractual basis, for carrying out RNTCP activities. EQA activities - On-site evaluation visits to DMCs and Random blinded rechecking of routine DMC slides coordinated by the DTO at the DTC level. STLS prepares staining solutions for smear microscopy, checks the quality using internal QC slides and ensures adequate supplies to DMCs.

Designated Microscopy Centre (DMC)

The most peripheral laboratory under the RNTCP network is the designated microscopy centre (DMC) which serves a population of around 100,000 (50,000 in tribal and hilly areas).

The RNTCP is given national level importance and for the effective implementation of the programme Government have already issued necessary guidelines in G.O. Ms. No. 138, Health and Family Welfare (G) Department 16.05.2011.

Recently the Chief Secretary to Government of Tamil Nadu conducted a review meeting on RNTCP programme. In the meeting the following bottlenecks in the implementation of RNTCP were identified.

1. Since the TU is not aligned with the administrative structure of the Directorate of Public Health and Preventive Medicine, complete integration has not taken place.
2. Involvement of the PHC medical officers is not up to the expected level, since the programme has not designated them as TU medical officer.
3. Since only few select centres are identified as Designated Microscopy Centres, access to sputum testing facilities are limited.
4. Laboratory technicians under different programmes are functioning vertically.
5. Access to X-Ray facilities is lacking in rural areas.
6. Gap in knowledge management exists. Till such time training programmes are approved, large number of Medical Officers, Laboratory Technicians, Pharmacists, nurses and other staff are not trained in the District. No trainings are initiated in the District.

Based on these findings, the following guidelines are issued.

1. All the 385 blocks are designated as Tuberculosis Control Units (TU). All the Additional PHCs and Urban PHCs are designated as TB Sub Units.
2. All the PHCs/Urban PHCs where lab technicians are available are designated as Microscopy Centres. The Lab Technicians in these PHCs should follow the guidelines prescribed in the RNTCP for diagnosing and reporting to effectively identify cases of Tuberculosis.
3. Training for MOs, LTs and others should be organised then and there by DDHS and DTO as a routine activity.
4. New Medical Officers should be posted for one week in DTC for orientation as Hands on Training. Similarly Lab technicians should be deputed to DTC for three days for TB training.

- 100
5. BMO is nominated as TB medical officer (MO-TC) of the block. He / She shall be responsible for all the components of RNTCP in the Block area and shall ensure that RNTCP is a part of the block review meetings.
 6. In-charge MO of Additional PHC/ Urban PHC are designated as TB Sub Unit Medical Officer. He / She shall be responsible for all the components of RNTCP in the Primary Health Centre area including HSCs.
 7. PHCs where diagnostic facilities are not available, the PHC should act as sample collection centre and fix the sputum in slide and send them for laboratory examination.
 8. In UHC blocks all the components of RNTCP should be implemented in full scale.
 9. DDHS and BMO should ensure that X-ray machine is functional and radiographer available. On every Tuesday in the UG PHC/ Block PHC, X-Ray facility must be available for screening the Presumptive TB cases.
 10. Deputy Director of Health Services will monitor the implementation of RNTCP in all the PHCs and UPHCs. DTC should provide all technical support and material support. Performance of the RNTCP staff posted in PHCs/UPHCs should be monitored by DDHS during field visits.

District Public Health Microbiologists engaged under IDSP are responsible for training the lab technicians and quality control. Job responsibilities prescribed in the G.O cited in the reference should be followed meticulously.

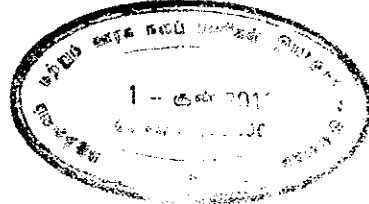
A. G. S. S. S. S.
04/01/19
Director of Public Health and Preventive Medicine

To

1. All the Deputy Director of Health Services
2. All District Tuberculosis Officers

72
11/6/11

33978



ABSTRACT

Revised National Tuberculosis Control Programme (RNTCP) – Guidelines for effective implementation and coordination – Issued.

Health and Family Welfare (G) Department

G.O.(Ms) No. 138

Dated : 16.05.2011
Thiruvalluvar Aandu 2042
Valkaci : 2
Read

From the Director of Public Health and Preventive Medicine
Letter No.1753/PHC.Inspn/A1/2011, dated 12.05.2011.

ORDER:-

The goal of Revised National Tuberculosis control Programme (RNTCP) is to decrease the mortality and morbidity due to Tuberculosis (TB) and cut the transmission of infection until it ceases to be a public health problem. It aims to control TB by detecting and curing sputum smear positive patients, thereby interrupting the chain of transmission, through reaching out to all tuberculosis patients in the community and providing universal access to standardized treatment protocol. Since the implementation of the Revised National Tuberculosis control Programme in Tamil Nadu, a lot of progress has been made in preventing and controlling tuberculosis in the State. From the experiences gained so far, certain bottlenecks have been identified in the implementation of the programme. A joint review meeting of Deputy Director of Health Services (DDHS) and Deputy Director of Medical Services (TB control) was conducted on 26th and 27th of April 2011, to review the programme and find solutions to the bottlenecks under the Chairmanship of Principal Secretary to Government, Health and Family Welfare Department. Based on the decision taken in the said meeting, a sub group comprising of Deputy Directors (TB Control), Deputy Director of Health Services, Joint Director (Epidemic), Joint Director (Inspection) and World Health Organisation Consultant was formed to work at a strategy to strengthen the implementation of the RNTCP Programme. The committee has given its report.

2) The Government after careful consideration, issue the following guidelines to implement the programme effectively and to ensure that RNTCP is implemented in a coordinated manner.

i. State level

- 1) The Joint Director of Public Health and Preventive Medicine (Inspection) is nominated as Nodal Officer for RNTCP at the State level.

- 2) Revised National Tuberculosis control Programme shall be a part of agenda in the Deputy Director of Health Services review meetings.
- 3) State TB officer shall involve Director of Public Health and Preventive Medicine and / or the Nodal Officer in all the State level review meetings.
- 4) All the programme officers at the Directorate of Public Health and Preventive Medicine shall be briefed once in a quarter by State TB officer about the status of RNTCP
- 5) Any problems or issues in the implementation of the programme shall be discussed and sorted out by the Director of Public Health and Preventive Medicine and / or the nodal officer and State TB officer.
- 6) State TB officer shall share RNTCP reports with the Director of Public Health and Preventive Medicine and IDSP-State Surveillance Officer regularly.
- 7) State TB officer should submit quarterly report to the government with specific remarks on unresolved bottlenecks if any

II District Level

- (a) 1) **Joint Director of Health Services (JDHS)** shall nominate one Medical Officer in each of District Headquarters Hospital, taluk/non-taluk Government Hospital, ESI Hospital and Dispensaries to be who should be responsible for monitoring and supervising of the Programme.
 - 2) He shall review RNTCP in Chief Medical Officers meeting.
 - 3) He shall inspect RNTCP components during the inspection of above mentioned institutions.
 - 4) When treatment supervisor is not available, Joint Director of Health Services shall nominate a person in Government Hospital for treatment purposes.
- (b) 1) **Deputy Directors of Health Services (DDHS)** shall nominate one Medical Officer in each PHC who should responsible for monitoring and supervising the Programme in Primary Health Centre (PHC) and field. The second Medical Officer of the Primary Health Centre is to be designated as RNTCP in-charge medical officer.
 - 2) Community Health Centre and upgraded Primary Health Centre Block Medical Officer will nominate the RNTCP in-charge Medical Officer.
 - 3) In case there is only one Medical Officer, the Primary Health Centre in-charge Medical Officer will also act as i/c for RNTCP. He/She shall be responsible for all the components of RNTCP in the Primary Health Centre area.
 - 4) He shall ensure that RNTCP is a part of their review meetings at the Primary Health Centre level and District level.

- 5) He shall ensure that the District Entomologist review the assigned laboratory performance of sputum examination / skills including quality assurance. DD (TB) shall nominate the Medical Officer – District TB Control (DTC) to attend the monthly laboratory technicians meeting conducted at the office of the Deputy Director of Health Services.
- 6) He shall facilitate and monitor the programme as per RNTCP guidelines.
- 7) He shall include the programme components of RNTCP in Primary Health Centre inspections.
- 8) He shall depute Medical Officers and other staff for training as and when required by the Deputy Director (TB).
- 9) He shall facilitate the participation of Deputy Director (TB) and other staff in all the monthly review meetings conducted by Deputy Director (HS), for Block Health Supervisor, Non-Medical Supervisor, Community Health Nurse, Staff nurse, Sector Health Nurse, Pharmacist, Health Inspector, Laboratory Technician.

District Tuberculosis Officer (DTO- DD-TB control)

- 1) Deputy Director TB shall attend all the review meetings conducted by Deputy Director of Health Services.
- 2) He shall ensure training of all the Primary Health Centre Medical Officers including Mobile Medical Unit (MMU) Medical Officers, District Training Team Medical Officers, Laboratory Technicians, Staff nurses, Auxiliary Nursing Midwives (ANMs) all field health functionaries and ASHAs/Village Health Volunteers (VHVs) preferably during afternoons (formal as well as informal).
- 3) He shall conduct training to all the Primary Health Centre Medical Officers, Laboratory technicians, Primary Health Centre Auxiliary Nursing Midwives and Staff Nurses and all the field health functionaries formally (budgeted) and informally during Primary Health Centre Medical Officers review meetings and also during block meetings/other meetings.
- 4) He shall brief all the new Medical Officers separately, even if one new recruit joins.
- 5) He shall supervise and monitor RNTCP including drug logistics and laboratory logistics.
- 6) He shall share monthly RNTCP performance reports with Primary Health Centre Medical Officers and Deputy Director of Health Services and also Share information with Integrated Disease Surveillance Project (IDSP) – District Surveillance Unit (DSU).
- 7) He shall guide the Primary Health Centre lab technicians, nurses, Integrated Counselling and Testing Centre (ICTC) staff in RNTCP implementation.
- 8) He shall facilitate the conduct of patient- provider meeting.
- 9) Deputy Director TB shall compile, analyse and give feedback to DDHS for necessary action.

- 10) **Deputy Director of Medical Services (Leprosy Control)** shall assign the His under the control of District Leprosy Officer (DLO) in urban areas to look after RNTCP in addition to their leprosy works (where ever available), since there are only a few leprosy cases
- 11) He shall assign one Government Hospital for each of the urban leprosy Health Inspector.

III Block, Primary Health Centre and Health Sub Centre level

Medical Officers

- 1) shall refer 2 to 3% of adult new out patients for sputum examination.
- 2) shall screen every person with symptoms of TB (this should be not less than 3 persons for every 100 new adult Out Patient cases).
- 3) Primary Health Centre Medical Officer may prescribe symptomatic treatment for one day after the TB suspect gives sputum in the lab / to the nurse. After getting the second sputum in the Primary Health Centre the next day, the Medical Officer should give further course of treatment according to the result.
- 4) shall monitor the programme performance by holding weekly review meetings.
- 5) shall monitor the laboratory performance of all the laboratory technician.
- 6) shall counsel / motivate all diagnosed TB cases and arrange for DOTS as per the convenience of the patients.
- 7) Shall monitor Primary Health Centre / Health Sub Centre level Health Inspectors, who are responsible for implementing the Programme in their area, including case finding, case holding, reporting and monitoring.
- 8) shall ensure the referral of suspect cases (who has cough of 2 weeks or more) by the field health functionaries including the supervisors to the Primary Health Centres / Government Hospitals (nearest facility) with early morning specimen and they also monitor cases on treatment in their respective area.
- 9) shall ensure that sputum cups are made available in all the Health Sub-Centres, Directly Observed Treatment Service providers, VHVs (ASHAs) or any identified person for the purpose at the village level.
- 10) shall ensure the transportation of smears to the assigned laboratory, through one of the Primary Health Centre staff or an assigned Non Government Organisation.

Laboratory Technician

- 1) shall collect the spot sputum, prepare the smear and examine and give sputum cup for the next morning sample.
- 2) shall collect the second sample next day and prepare smear and examine. If second sputum is not received in time follow up of the suspect through the

second sputum is not received in time, follow up of the suspect through the Primary Health Centre /Health Sub-Centre Health Inspector.

- 3) Laboratory Technician should show the negative smears to the concerned Primary Health Centre Medical Officer for declaring as sputum negative after intensive phase of treatment and at the end of treatment.

Staff Nurse

- 1) In Primary Health Centres without laboratory technician (no post sanction, vacancy, leave, or deputation) the duty staff nurse shall collect the sputum sample, prepare smear and send to the assigned laboratory (may be a Primary Health Centre or Government Hospital).
- 2) shall give sputum cup for the second sputum, collect, prepare smear, and send the second smear also to the assigned laboratory. If the second sample is not received, ensure follow up of the patient through the Primary Health Centre /Health Sub-Centre Health Inspector (PHC/HSC HI).

Primary Health Centre Pharmacist

- 1) shall maintain the treatment cards of patients getting treatment from the Primary Health Centre.
- 2) shall update the cards through the concerned area Health Inspector.
- 3) shall ensure maintaining of adequate stock of Patient Wise Boxes (PWB) as per RNTCP guidelines.
- 4) shall identify the treatment interrupters/defaulters getting DOTS from the Primary Health Centre and follow them up through the Primary Health Centre /Health Sub-Centre Health Inspector.

Senior Treatment Supervisor (STS)

- 1) shall attend Primary Health Centre Health Inspectors and other staff meetings as and when required.
- 2) shall visit the Primary Health Centres in rotation, report to the RNTCP in-charge Medical Officer and provide support in the implementation of the programme.
- 3) shall submit a copy of his tour programme to the Primary Health Centre Medical Officer well in advance.
- 4) Senior Tuberculosis Supervisor / Senior Tuberculosis Laboratory Supervisor should ensure the availability of reagents and other materials for laboratory testing and ensure quality assurance.

Senior Tuberculosis Laboratory Supervisor (STLS)

- 1) shall visit the assigned laboratories in rotation, report to the RNTCP in-charge Medical Officer and provide support in the implementation of the programme.

- 2) shall submit a copy of his tour programme to the Primary Health Centre Medical Officer well in advance.
- 3) Senior Tuberculosis Supervisor / Senior Tuberculosis Laboratory Supervisor should ensure the availability of reagents and other materials for laboratory testing and ensure quality assurance.

Block Health Supervisor

- 1) Shall supervise the activities of Primary Health Centre Health Inspectors and Health Sub-Centre Health Inspectors.
- 2) Shall be supportive of RNTCP implementation in his block.
- 3) Shall cross check and verify at least 5% of the TB patients in his block area.

Non Medical Supervisor (NMS)

- 1) Shall be responsible for overall implementation of the RNTCP in his block
- 2) Wherever Senior Tuberculosis Supervisor is vacant, he will hold all the additional responsibilities of Senior Tuberculosis Supervisor.
- 3) Shall cross check and verify at least 5% of the TB patients in his block area

Community Health Nurse / Sector Health Nurse

- 1) Shall supervise the activities of Village Health Nurses.
- 2) Shall be supportive of RNTCP implementation in her block /Primary Health Centre

Primary Health Centre level Health Inspectors

- 1) shall be responsible for RNTCP in his Primary Health Centre area.
- 2) shall maintain line listing of all the TB cases in his Primary Health Centre area.
- 3) shall identify DOTS Providers, train them and maintain the DOTS providers list in the Primary Health Centre area.
- 4) shall ensure that all the listed cases are regularly followed up as per RNTCP guidelines.
- 5) shall identify the treatment interrupters/ defaulters from the Primary Health Centre pharmacist and field staff and follow up them through the Health Inspectors.
- 6) shall update the treatment cards maintained by the pharmacist; and
- 7) shall provide all necessary data for weekly RNTCP meetings to the Medical Officer - Primary Health Centre.

Health Sub Centre Level Health Inspectors

- 1) shall be responsible for RNTCP in his assigned Health Sub Centres area.
- 2) shall maintain line listing of all TB cases in his assigned Health Sub Centres area.
- 3) shall facilitate early morning collection of sputum at home and collection of sputum at Primary Health Centre on the same day.
- 4) shall identify DOT providers at each village (minimum 1 per 1000 population), maintain the DOTS providers list in his assigned area and periodically visit them.
- 5) shall ensure that all the listed cases are regularly followed up as per RNTCP guidelines.
- 6) shall ensure that the treatment schedule is followed properly by the patient and facilitate the follow up sputum examination (after intensive phase and five months period).
- 7) shall identify the treatment interrupters / defaulters from DOTS providers and follow up them.
- 8) shall bring resistant cases for treatment as per protocol.
- 9) shall bring the cases on treatment to the Mobile Medical Unit camp for follow up by the mobile unit medical officer.
- 10) shall ensure that sputum cups are made available at village level (through HSC, ICDS centres, DOTS providers, volunteers, Village Health Volunteers-Accredited Social Health Activists(ASHAS) to facilitate early morning sample collection and diagnosis on the same day.
- 11) shall educate people on prevention, early identification and availability of free treatment facilities for TB; and
- 12) shall work in close co-ordination with the existing Non Government Organisations in his assigned areas.

Village Health Nurse (VHN)

- 1) shall refer suspect cases to the Primary Health Centre / nearby Government Hospital for sputum testing with morning sputum for facilitating single day diagnosis.
- 2) shall act as DOTS provider in their HSC head quarters of the village by herself or through HSC.
- 3) shall make sputum cups available in the HSC.
- 4) shall be supportive for the implementation of RNTCP in her HSC area; and
- 5) shall educate people on prevention, early identification and availability of free treatment facilities for TB.

Mobile Medical Unit

- 1) staff nurse of Mobile Medical Unit shall have the copy of the line list of all the cases in the block and inform the patients on treatment through Health Inspector/Village Health Nurse / Anganwadi Workers (AWW) to come for follow up during the outreach camps by Mobile Medical Unit (MMU).
- 2) Medical Officer shall refer all suspected to the nearest assigned laboratory with the morning sputum for examination to facilitate single day diagnosis.
- 3) shall keep sufficient number of sputum cups in the Mobile Medical Unit for issuing to the suspect cases.
- 4) Mobile Medical Unit team shall facilitate collection of second sputum sample of patients who have not given the second sputum for examination in the laboratory.

3. All the concerned State level and District level Officers are here by directed to follow these instructions meticulously so that Revised National Tuberculosis Control Programme (RNTCP) performance in the State will improve to meet the desired objectives.

4. The Director of Public Health and Preventive Medicine / State TB Officer shall communicate a copy of this order to all district / taluk and field level functionaries for adherence.

(BY ORDER OF THE GOVERNOR)

V.K.SUBBURAJ,
PRINCIPAL SECRETARY TO GOVERNMENT

To

The Director of Public Health & Preventive Medicine, Chennai-6.

The State TB Officer, DMS Office, Chennai – 6.

The Director of Medical and Rural Health Services, Chennai – 6.

The Director of Medical Education, Chennai – 10.

All Joint Directors of Medical and Rural Health Services concerned Through the Director of Medical and Rural Health Services, Chennai-6.

All Deputy Directors of Health Services concerned Through Director of Public Health & Preventive Medicine, Chennai-6.

SF./SC

//FORWARDED / BY ORDER//

G. Perazheli
SECTION OFFICER.

18/5/11

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