



सत्यमेव जयते

INDIA TB REPORT 2018

Revised National TB Control Programme Annual Status Report



Central TB Division

Directorate General of Health Services
Ministry of Health and Family Welfare,
Nirman Bhawan, New Delhi - 110108
www.tbcindia.gov.in



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जगत प्रकाश नड्डा
Jagat Prakash Nadda



सत्यमेव जयते



स्वास्थ्य एवं परिवार कल्याण मंत्री
भारत सरकार
Minister of Health & Family Welfare
Government of India

FOREWORD

It is with great pleasure I present the Annual India TB Report for the year 2017. I hope you will find this report both informative and interesting and that it will give you a greater understanding of the work under taken by Central TB Division, Directorate General of Health Services, Ministry of Health and Family Welfare.

Government of India has set the goal of ending TB in India by 2025. Yes, the targets are very ambitious. However, to pursue it, we have prepared the National Strategic Plan 2017-25, focusing on universal health coverage along with social protection, implementation of which will help us achieve our goal.

Ministry of Health & Family Welfare is moving ahead with scaling up of novel diagnostics tools like CBNAAT to more than 1100 labs in 2018. We have made changes in our treatment protocols with introduction of fixed drug combination of daily regimen, newer and shorter regimens. The newer anti TB drug Bedaquiline has already been introduced for DR-TB patients in the country and soon we will be rolling out Delamanid as well.

Reaching to TB patients in private sector has been identified as one of the key priority to help us achieve our goal. Mixture of collaborative and regulatory approaches have been adopted to increase participation of private providers to improve surveillance and universal access to free diagnosis, drugs and high quality of care.

Patient support system has been an integral part of RNTCP. The Programme has established an efficient system of targeted delivery of patient support benefits. Linkages of AADHAR, NIKSHAY and PFMS have been established to provide Direct Benefit Transfer. We have also decided to provide support of Rs. 500 per month to each TB patient for the duration of his/her treatment.

We are committed to address the challenge of TB and are open to innovate and implement bold strategies. I personally urge all stakeholders –the State Government, the developmental partners, the community, the civil society, to come forward and join us in our fight against TB.

Jai Hind !!

(Jagat Prakash Nadda)

Union Minister of Health & Family Welfare

March 2018

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Ministry of Health & Family Welfare

MESSAGE

I congratulate Central TB Division for bringing out an Annual Report exclusively on TB programme every year. I am happy to see the Annual Report this year also. The Revised National Tuberculosis Control Programme (RNTCP) has been able to bring down the mortality and morbidity due to TB continuously. Annual Report has covered the different aspect of programme Implementation especially during the last one year in a detailed manner.

In order to put a stop to this human tragedy which wreaks havoc in lives of lakhs of families every year, we have committed to eliminate TB by 2025, 5 years ahead of Sustainable Development Goals' target and 10 years before WHO End-TB target. We have improvised several ongoing programmes to reduce and reverse mortality and morbidity rate and also have added several new initiatives to achieve this target. All these action plans have been brought out clearly in the National Strategic Plan, 2017-2025 to eliminate TB (NSP) in line with our National Health Policy, 2017.

NSP has strengthened the RNTCP with a number of newly introduced features. We have launched a campaign for Active TB Case Finding wherein door to door visits are made by health personnel in an effort to find patients with the varied symptoms of tuberculosis and then they are brought to the public health facilities. For rapid diagnosis of TB at these facilities, we have introduced more than 1135 CB-NAAT/GeneXpert test machines covering all the districts of the country. To enhance treatment adherence, Fixed Dose Course (FDC) in Daily Regimen. It has also been observed that TB affects poor disproportionately. Further, TB is a cause as well as the consequence of malnourishment. We are, therefore, starting financial incentives for all TB patients to address their out of pocket expenditure and nutrition through Direct Benefit Transfer (DBT) @ Rs.500/patient/month.

As nearly half the patients seek treatment from the private health sector, we are striving to integrate the efforts of the public as well as the private sector through mandatory notification of TB by all health care personnel. Notifying TB patients will enable the programme to offer all necessary public health support to such patients. It is expected that notification will get a boost and by Active Case Findings and DBT.

In our continuous endeavor to enhance the supervision, monitoring, surveillance and programme operations, we are now linking NIKSHAY, the case based system of surveillance with Drugs Logistics Management Information System, Public Financial Management System (PFMS) etc.

With these value added initiatives, which are described in detail in this report, I look forward to achieving impressive gains in the reduction of morbidity and mortality due to TB in India.

New Delhi
8 March 2018


(Preeti Sudan)

डॉ. बी.डी. अथनी
Dr. B.D. Athani

M.S.(Ortho.), DNB
Director General Health Services



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1st March, 2018

दिनांक/Dated.....

MESSAGE

Revised National TB Control Programme (RNTCP) provides quality assured free diagnostic and treatment services to all the TB patients in our country. The programme has developed Standards for TB Care in India (STCI) to facilitate uniform care of TB patients in India including the private sector. In the recent past, the programme has successfully implemented a few pilot interventions for involving the private sector in the country using free drugs/diagnostics and Information Communication Technology. Expansion of such interventions across country would facilitate Government in ensuring standards of care outside public sector and increasing notification in the public health system.

However, late diagnosis of the disease, non-adherence or non-completion of treatment, co-morbidities, drug resistant TB and inter and intra-state difference in health system response are some of the challenges we are facing today. Elimination of TB is not possible unless there is a major jump in notification, diagnosis and treatment of all TB cases.

Currently TB incidence is declining by about 1-2% per year and to achieve the TB elimination goal by 2025, we need to have a decline in TB incidence by about 15-20% annually. For this we need to optimize utilization of CBNAAT lab, engage private sector by providing free diagnostic and drugs using ICT and ensure social protection for all TB patients through available social schemes in different line Ministries.

Mass public campaign about preventive and curative aspects of TB, counseling of patients and their family members on all aspects of Tuberculosis will go long way in achieving the goal of TB elimination in India.

Total notification of TB patient is gradually improving year by year due to improvement in TB notification from private sector as well. As per the NSP estimates, early diagnosis of TB & active case finding increases further in upcoming years with the help of many newer interventions to detect TB as early as possible.

(Dr. B.D. Athani)

Dr. N.S. DHARMSHAKTU

Principal Advisor (PH)
MD (AIIMS), Cert. Sr. H. Plg. (JH), GEIS (CDC)



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MESSAGE

Tuberculosis has remained a disease of public health importance since ages and is known to inflict large quantum of socioeconomic cost on the society. The Revised National Tuberculosis Control program is being implemented under the umbrella of the National Health Mission(NHM).

The Revised National TB Control Program has taken many new initiatives and policy changes in the last year. The National Strategic Plan (NSP) sets out the strategic direction and key initiatives that the Ministry of Health and Family Welfare will undertake from 2017 to 2025 for working towards achieving the goals of eliminating TB by 2025.

Reaching TB patients in private sector has been identified as one of the key to universal health coverage for TB care services under the programme. The expansion of free diagnosis and treatment services with newer tools and strategies to private sector will be the key to achieve our success of reaching every one.

RNTCP and National program for Prevention and Control of Cancer, Diabetes, Cardio vascular diseases and Stroke (NPCDCS) have jointly developed a frame work for collaboration which aims to reduce mortality and morbidity by promoting bidirectional screening,early detection and prompt management Diabetes and TB. In another initiative, National Tobacco Control Program is working in synergy with RNTCP for implementation of a joint collaborative frame work

TB has been curable for several decades now. Great strides have been made in innovations for newer diagnostics and drugs. All we need now is a surge in our actions to reduce the TB burden dramatically. To achieve our goals, all health care providers need to work in synergy and all available resources including those in private sector are utilized for TB control.

On the occasion of this publication of TB INDIA 2018 report I am humbled by the progress that we have made in the last one year. Ending TB will need a quantum leap in our efforts, and yet we're hopeful of a new beginning. I take this opportunity to express the commitment of Ministry of Health and Family Welfare, Government of India to achieve TB elimination by 2025 as envisaged by our Honorable Prime Minister.


Dr. N.S. Dharmshaktu
(Principal Advisor MoHFW)

March 2018



Dr. Sunil D. Khaparde

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Dated.....1st March, 2018

MESSAGE

TB India 2017 is an annual publication from Central TB Division wherein a comprehensive status of TB control activities in the country has been compiled. The TB India report is released every year on 24th March, on the occasion of World TB Day.

The programme has seen many new initiatives and policy changes in the last one year. These include revised guidelines for PMDT, Universal Drug Susceptibility Testing for all diagnosed TB Patients including notified patients from the private Sector, roll out of daily regimen for drug sensitive TB across all the State/UTs, expansion of Bedaquiline services, Active Case Finding in vulnerable groups, and expansion of molecular diagnostic services. All these initiatives lead to early case detection, treatment, adherence and better outcome. The programme is also collaborating with the Pharmacovigilance programme of India to systematically identify, detect and manage adverse effect of anti TB drugs. The programme is continuously working to engage with the private sector to further increase access to patients for a public health impact.

I am delighted to share that our Hon'able Prime Minister Shri. Narendra Modi has written a letter to the Hon'ble Chief Ministers / Lieutenant Governors of all States/UTs in the country, to address the challenge of TB in a mission mode. Our goal is to achieve the vision of universal access to quality diagnosis and treatment for all TB. We will continue our endeavour to overcome challenges and undertake newer initiatives to ensure we achieve this goal. For this, we need support from all of you- civil society, patients, private sector and professional bodies/associations related to medical and pharmaceutical sector. We also need participation from other health and development programmes such as diabetes, nutrition, and urban planning. Unless we receive this multi-sectoral support it is unlikely that we will be able to address these challenges in a comprehensive manner.

I'm thankful to officers and staff of Directorate General Health Services, Ministry of Health and Family Welfare and State Governments for their continued support and endeavours for betterment for the programme. I also acknowledge the support of partners who have pledged to come together for a common cause. RNTCP fraternity will strive further to do the good work as the years continue with renewed enthusiasm and dedication.


(Dr. Sunil D. Khaparde)

ABBREVIATIONS

ACF	Active Case Finding
ACSM	Advocacy, Communication and Social Mobilization
AIDS	Acquired Immune Deficiency Syndrome
AIIMS	All India Institute of Medical Sciences
ANSV	Annual Negative Slide Volume
ART	Anti-Retroviral Therapy
ARTI	Annual Risk of Tuberculosis Infection
ASHA	Accredited Social Health Activist
CGHS	Central Government Health Scheme
CHAI	Clinton Health Access Initiative
CHAI	Catholic Health Association of India
CHC	Community Health Centre
CTD	Central TB Division
DALYs	Disability Adjusted Life Years
DBS	Domestic Budgeting Source
DBT	Direct Benefit Transfer
DDG	Deputy Director General
DGHS	Director General of Health Services
DMC	Designated Microscopy Centre
DOTS	Directly Observed Treatment Short Course
DRS	Drug Resistance Surveillance
DRTB	Drug Resistant Tuberculosis

DST	Drug Susceptibility Testing
DTC	District Tuberculosis Centre
DTO	District Tuberculosis Officer
E	Ethambutol
EPTB	Extra-pulmonary Tuberculosis
EQA	External Quality Assurance
FIND	Foundation for Innovative New Diagnostics
GFATM	The Global Fund to Fight against AIDS, Tuberculosis and Malaria
GMSD	Government Medical Store Depot
GoI	Government of India
H	Isoniazid
HBCs	High Burden Countries
HIV	Human Immuno Deficiency Virus
HRD	Human Resource Development
ICMR	Indian Council of Medical Research
ICT	Information and Communication Technology
ICTC	Integrated Counselling and Testing Centre
IDSP	Integrated Disease Surveillance Project
IEC	Information, Education and Communication
IMA	Indian Medical Association
IPT	Isoniazid Preventive Therapy

IRL	Intermediate Reference Laboratory
JMM	Joint Monitoring Mission
KAP	Knowledge, Attitude and Practices
LT	Laboratory Technician
MDGs	Millennium Development Goals
MDRTB	Multi Drug Resistant
MIS	Management Information System
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
MOTC	Medical Officer-Tuberculosis Control
MoU	Memorandum of Understanding
NACO	National AIDS Control Organisation
NACP	National AIDS Control Programme
NCDC	National Centre for Disease Control
NEP	New Extra Pulmonary
NGO	Non-Governmental Organisation
NIRT	National Institute of Research in Tuberculosis
NJIMOD	National Jalma Institute of Mycobacterial and Other Diseases
NRHM	National Rural Health Mission

NRL	National Reference Laboratory
NSN	New Smear Negative
NSP	New Smear Positive
NSP	National Strategic Plan
NTF	National Task Force
NTI	National Tuberculosis Institute
NTP	National Tuberculosis Programme
NUHM	National Urban Health Mission
OR	Operational Research
OSE	On-Site Evaluation
PATH	Program for Appropriate Technology in Health
PHC	Primary Health Centre
PHI	Peripheral Health Institution
PLHIV	People Living with HIV and AIDS
PP	Private Practitioner
PPM	Public-Private Mix
PSU	Public Sector Unit
PTB	Pulmonary Tuberculosis
PWB	Patient-Wise Box
QA	Quality Assurance
R	Rifampicin
RBRC	Random Blinded Re-Checking
RCH	Reproductive and Child Health
RNTCP	Revised National Tuberculosis Control Programme
S	Streptomycin

SDGs	Sustainable Development Goals
SDS	State Drug Store
SHGs	Self Help Groups
SOP	Standard Operating Procedure
SPR	Slide Positivity Rate
STC	State TB Cell
STDC	State Tuberculosis Training & Demonstration Centre
STF	State Task Force
STLS	Senior TB Laboratory Supervisor
STO	State TB Officer
STS	Senior Treatment Supervisor
TB	Tuberculosis

The Union	International Union Against Tuberculosis and Lung Disease
TU	Tuberculosis Unit
UDST	Universal Drug Susceptibility Test
UHC	Urban Health Coverage
UNOPS	United Nations Office for Project Services
USAID	United States Agency for International Development
WHO	World Health Organization
WVI	World Vision India
XDR-TB	Extensively Drug Resistant TB
Z	Pyrazinamide
ZTF	Zonal Task Force

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EXECUTIVE SUMMARY

This Annual TB Report provides an update on progress of TB control activities, information on newer initiatives, policies and guidelines developed in 2017. Revised National TB Control Programme (RNTCP) is an on-going Centrally Sponsored Scheme, being implemented under the umbrella of National Health Mission. The programme was initiated from 1997, covered entire country in 2006. The programme, since then, has achieved global benchmark of case detection and treatment success and achieved millennium development goals in 2015 of halting and reversing the incidence of TB.

The major initiatives taken in 2017 are expansion of Daily Regimen for treatment of TB across the country; scale up of Bedaquiline; conditional approval of Delamanid; release of guidelines on PMDT in India; National ToT guidelines on PMDT and introduction of MERM boxes.

One of the landmark achievement of 2017 is approval of bold and ambitious National Strategic Plan (NSP) 2017-25 for TB Elimination is a framework to provide guidance for the activities of stakeholders including the National and State Governments, Development Partners, Civil Society Organizations, International Agencies, Research Institutions, Private Sector, and many others whose work is relevant to TB elimination in India. It provides goals and strategies for the country's response to the disease during the period 2017-2025 and aims to direct the attention of all stakeholders to the most important interventions or activities that the RNTCP believes will bring about significant changes in the incidence, prevalence and mortality of TB. These strategies and interventions are in addition to the processes and activities already ongoing in the country.

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. In 2017 India re-estimated its national figures of the burden of Tuberculosis incorporating information from a wider range of sources.

The program has put in a number of patient centric systems such as ICT based adherence monitoring, increasing the breadth of treatment and social support options available to people affected with TB, expanded laboratory capacity and policy for detecting drug resistance. The program is currently scaling up its policy of Universal DST whereby all cases diagnosed with TB will receive a minimum of Rifampicin and Isoniazid resistance testing.

The programme adopted a Direct Benefit Transfer (DBT) mechanism for transfer of monetary support and incentives to patients. This will ensure the funds reach rightful recipients in a timely manner.

The programme is making special efforts for reaching the unreached through Active Case Finding (ACF) campaign, focusing on clinically, socially and occupationally vulnerable populations and shifting from passive to active case finding along with passive case finding in selected populations. For achieving the ambitious targets, the programme has modified its diagnostic approach to drug sensitive and drug resistance TB cases.

TB C&DST laboratories under RNTCP Lab Network are equipped with different diagnostic technologies for DR TB diagnosis, which include Solid/Liquid Culture DST or Line Probe assay.

Currently, there are 74 TB C&DST laboratories which are certified by RNTCP for one or more diagnostic technologies. Out of the 74 TB C&DST laboratories, 45 laboratories are certified for all the three diagnostic technologies. Cumulatively, 48 laboratories are certified for solid culture DST; 45 laboratories for first-line liquid culture DST and 38 laboratories for second-line liquid culture DST; 56 laboratories for first-line LPA technology and 50 laboratories for second-line LPA technology.

For decentralized diagnosis of TB and Rifampicin resistance CBNAAT machines have been provided at district levels. In the year 2017, more than one million CBNAAT tests have been conducted.

In addition to the existing 628 Machines, 507 machines have been procured and deployed to

cover all districts of the entire country. Genome sequencing facilities are being established at six Reference Laboratories, for surveillance of drug resistance, for providing information on transmission dynamics and molecular epidemiology.

First National Drug Resistance Survey results showed the rates of MDR among new TB patients to be 2.84% and that in previously treated to be 11.60 %.

CTD has developed a web based application “Nikshay Aushadhi” for the management of Anti TB Drugs and other commodities under RNTCP.

The subsequent chapters in this report bring out details of implementation status, various initiatives and activities undertaken during the year 2017.





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मुझे खुशी है कि भारत की Health और Family Welfare Ministry, WHO South East Asia Region और Stop TB Partnership मिलकर एशिया, अफ्रीका और दुनिया के अनेक देशों के प्रतिनिधियों को आज एक मंच पर लाए हैं: PM

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January

1. Zonal Task Force Meeting for North East held on 19th -20th January 2017.
2. Active case finding for TB implemented in 50 districts across 18 States from 16th January - 30th January 2017.
3. Tribal TB project launched in Mandla district of Madhya Pradesh on 19th-20th January by Hon'ble MoS Shri Faggan Singh Khulaste.

February

1. ZTF South zone 1 was held in Bangalore on 2nd and 3rd Feb 2017.
2. ZTF North zone was held on 25th and 26th Feb 2017 at Shimla.
3. Stakeholders Consultative Meeting for development of concept note for Global Fund Grant 2018-2020 took place on 9th Feb 2017.
4. 68th CCM Meeting took place on 14th Feb 2017.

March

1. Consultative Workshop for NSP 2017-25 took place on 28th Feb and 1st March 2017.
2. ZTF east zone took place at Ranchi on 4th and 5th March 2017.
3. World TB Day was observed on 24th March 2017.
4. WHO Ministerial Meeting by SEARO, WHO took place on 15th and 16th March 2017 at New Delhi.
5. Nutritional Support Guideline and National

Framework for TB-Diabetes Collaborative activities was released on 24th March 2017

6. Initiated SMS services to support treatment adherence under RNTCP

April

1. Implementation of Daily Regimen for Drug sensitive TB was launched in five States in a phased manner
2. National Task Force Meeting took place at Guwahati on 11th and 12th April 2017.
3. National Training of Trainers (ToT) for expansion of Bedaquiline in the country took place in New Delhi from 18th -20th April 2017.
4. Finalization of National Strategic Plan for TB (2017-25)

May

1. Approval of National Strategic Plan 2017-25 for TB elimination in India by the Hon'ble HFM
2. Proposal for Global Fund Grants for 2017-20 submitted after approval of CCM
3. Supportive supervision visits by Central team to the 5 States implementing Daily Regimen
4. Preliminary discussion on introduction of Delaminid in India under chairmanship of Secy. DHR and DG ICMR at New Delhi on 11th May 2017.

June

1. Monitoring visits by Central teams to Bihar, Himachal Pradesh, Kerala, Maharashtra and

Sikkim to review and assess implementation status of daily regimen.

2. 2nd phase of Active Case Finding started across 26 States/UTs covering 100 priority districts.
3. Feasibility Study for Indigenous Rapid Molecular Diagnostic tool (TrueNat) for TB initiated in 100 designated microscopy centres across 50 districts in the country.

July

1. Central team visits to 11 States to assess the preparedness for the implementation of Daily Regimen.
2. “Centre State Summit for TB Elimination through Effective Partnerships” was organized in Nagpur, Maharashtra. This was attended by policy makers, national and international experts on TB, Program managers, development partners and representatives from private sector, media and community.

August

1. 99 DOTS was rolled out in five States for all patients on daily regimen.
2. 2nd round of Active Case Finding ended on 31st July, over 20 crore population was screened with over 9000 patients diagnosed with TB.
3. Dr Eric Goosby, UN Special Envoy on TB, concluded his five day visit to India commending the Government of India for its bold vision and leadership in combating TB.
4. DO letter regarding implementation of Universal DST in phased manner was

issued to 19 States/UTs identified for the first phase.

5. Pre Drug safety and Monitoring committee meeting for Bedaquiline implementation was held on 17th of August 2017 at Mumbai

September

1. STO Consultant review meeting of RNTCP was held from 12th-14th September at Chandigarh.
2. Global Fund grant making (2018-2021) meeting held from 11th-22nd September. Debriefing meeting was held on 22nd September 2017.
3. Meeting of National Expert Committee on “Regulation of newer anti-TB drugs in India held under chairmanship of Secretary DHR and DG ICMR on 21st September 2017 for introduction of Delamanid, new anti TB drug in India.

October

1. Video Conference with all Principal Secretaries and Mission Directors under NHM was held on 30th October 2017 by Secretary H&FW to review TB control activities by the State/UTs.
2. Daily regimen for all TB patients has been initiated across the country in October 2017.
3. Hon’ble HFM reviewed the RNTCP programme on 10th October 2017.

November

1. Bedaquiline drug introduced in 21 sites in 5 States. Drugs for 1000 more patients received. Trainings of all States completed.

2. Joint Assessment of Laboratory Network under RNTCP was conducted during 30th Oct – 10th November 2017
3. Hon'ble HFM participated in the 1st WHO Global Ministerial Conference at Moscow, Russian Federation during 16-17th November 2017
4. Review on PMDT for North Zone (8 States) held at Shimla during 21st – 23rd November, 2017

December

1. Central Internal Evaluation was conducted for the States of Madhya Pradesh by a team of experts.
2. 3rd phase of ACF organized in 221 districts throughout the country. More than 3000 cases have been diagnosed by the end of 3rd Phase.
3. The Additional 507 CBNAAT Machines were dispatched to the States for installation.



Hon'ble Prime Minister Shri Narendra Modi with Dr Tedros Adhanom Ghebreyesus, Director-General, WHO



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@PMOIndia



मुझे उम्मीद है कि 'Delhi End TB Summit' TB को धरती से हमेशा के लिए खत्म करने की दिशा में एक landmark event के तौर पर जाना जाएगा: PM @narendramodi

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Strengthening Disease surveillance for better measurement of Burden

Disease surveillance in TB is particularly challenging as there is no single reliable method. To be most effective, a multi-pronged approach, combining a number of measures adapted contextually, is required. The government of India has been giving increased emphasis to establishing a strong multi-pronged surveillance system.

Currently the program is attempting to bring all cases of TB disease under its service delivery umbrella, from the point of diagnosis. A number of existing measures were and are being further strengthened. Over the counter sales of Anti-TB drugs, included in the Schedule H1, have been increasingly monitored to facilitate notification. Notification is incentivised with extension of free quality drugs and diagnostics to the patients accessing care from the private sector. A number of additional incentives are also planned in the NSP 2017-25 to improve notification from the private sector.

Surveillance in TB is not only about detecting TB Cases; for being effective surveillance should also include adherence monitoring, surveillance of Drug resistance and surveillance using genomics. This will prevent emergence and spread of resistance, and be able to detect epidemic patterns within localities. The program has put in a number of patient centric systems such as ICT based adherence monitoring, increasing the breadth of treatment and social support options available to people affected with TB, expanded laboratory capacity and policy for detecting drug resistance. The program is currently scaling up

its policy of Universal DST whereby all cases diagnosed with TB will receive a minimum of Rifampicin and Isoniazid resistance testing.

TB Disease Burden

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.

In 2017 India re-estimated its national figures of the burden of Tuberculosis; incorporating information from a wider range of sources and thus is more accurate than previous estimates. The major additional information source is the private sector notification seen throughout the country and in certain project locations with interventions targeted at private sector notification. The following table shows the current statistics of TB and MDR/RR TB incidence, HIV TB Co-morbidity and TB related mortality.

Table: 2.1. Estimates of TB Burden in India and Global, 2016

Indicator	No.	No/ Lakhs	Global statistics
Incidence of TB (including HIV)	27,90,000	211	1,04,00,000
Mortality due to TB (Excluding HIV)	4,23,000	32	13,00,000
Incidence of MDRTB/RR	1,47,000	11	6,01,000
Incidence of HIV-TB	87,000	6.6	10,30,000
Mortality due to HIV-TB co-morbidity	12,000	0.92	3,74,000

Source: Global Tuberculosis Report 2017



Hon'ble Prime Minister Shri Narendra Modi with Dr. Soumya Swaminathan, Deputy Director General, WHO



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भारत में तो वैसे भी किसी भी communicable disease से TB का प्रभाव सबसे ज्यादा है और इसका सबसे ज्यादा शिकार भी गरीब होते हैं। इसलिए TB खत्म करने के लिए उठाया गया हर कदम, सीधे-सीधे गरीबों के जीवन से जुड़ा हुआ है: PM @narendramodi

11:39 AM - Mar 13, 2018

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The NSP 2017-2025 builds on the success and learning's of the last NSP and encapsulates the bold and innovative steps required to eliminate TB in India by the year 2025. It is crafted in line with other health sector strategies and global efforts, such as the draft National Health Policy 2015, World Health Organization's (WHO) End TB Strategy and the Sustainable Development Goals (SDGs) of the United Nations (UN).

This NSP is a framework to provide guidance for the activities of stakeholders including the National and State Governments, Development Partners, Civil Society Organizations, International Agencies, Research Institutions, Private Sector, and many others whose work is relevant to TB elimination in India. The NSP 2017-2025 is a three year costed plan and an eight year strategy document. It provides goals and strategies for the country's response to the disease during the period 2017-2025 and aims to direct the attention of all stakeholders to the most important interventions or activities that the RNTCP believes will bring about significant changes in the incidence, prevalence and mortality of TB. These strategies and interventions are in addition to the processes and activities already ongoing in the country.

As a strategic document, the subsequent operational plans will necessarily follow. The NSP will guide the development of the national project implementation plan (PIP) and state PIPs, as well as district health action plans (DHAP) under the National Health Mission (NHM). This NSP replaces previous strategies, and will inform and guide the updating of technical and operational guidelines and associated programme tools.

The development of this NSP has been a collaborative effort between all the stakeholders including national and state governments, development partners, civil society organizations, and the private sector in India which was and has been led by the Central TB Division, Directorate General of Health Services, Ministry of Health and Family Welfare. Knowledge and insights generated from a series of workshops and consultations with the stakeholders, learnings from the implementation of the past NSP and experiences from the pilots, models and approaches tested during the last NSP period informed the strategies proposed in the current NSP.

Vision, Goals and Targets of NSP

The NSP proposes bold strategies with commensurate resources to rapidly decline TB incidence and mortality in India by 2025, five years ahead of the global End TB targets under Sustainable Development Goals to attain the vision of a TB-free India.

VISION: TB-Free India with zero deaths, disease and poverty due to TB

GOAL: To achieve a rapid decline in burden of TB, morbidity and mortality while working towards elimination of TB in India by 2025.

Objectives:

1. Find all Drug Sensitive TB and Drug Resistant TB cases with an emphasis on reaching TB patients seeking care from private providers and undiagnosed TB in high-risk populations.

2. Initiate and sustain all patients on appropriate anti-TB treatment wherever they seek care, with patient friendly systems and social support.
3. Prevent the emergence of TB in susceptible populations.
4. Build and strengthen enabling policies, empowered institutions, additional human resources with enhanced capacities, and provide adequate financial resources.

Key Strategies:

1. Private sector engagement
2. Active Case finding
3. Drug resistant TB case management
4. Addressing social determinants including nutrition
5. Robust Surveillance system
6. Community engagement & Multi-sectoral approach

Expected Outcome:

The National Strategic Plan is aiming to achieve elimination of TB, by 2025. During plan period, targets for TB are

1. 80% reduction in TB incidence (i.e. reduction from 211 per lakh to 43 per lakh)
2. 90% reduction in TB mortality (i.e. reduction from 32 per lakh to 3 per lakh)
3. 0% patient having catastrophic expenditure due to TB

Below table highlights the core impact, outcome indicators and targets of the NSP that highlights the four priority areas that include private sector engagement, ensuring a seamless, efficient TB care cascade, active TB case-finding among key population (socially vulnerable and clinically high risk) and preventing progression from latent TB infection (LTBI) to active TB in high risk groups.

Table: 3.1 NSP 2017-25 Results Framework

IMPACT INDICATORS	Baseline	Target		
	2015	2020	2023	2025
To reduce estimated TB Incidence rate (per 100,000 population)	217 (112-355)	142 (76-255)	77 (49-185)	44 (36-158)
To reduce estimated TB prevalence (per 100,000 population)	320 (280-380)	170 (159-217)	90 (81-125)	65 (56-93)
To reduce estimated mortality due to TB (per 100,000 population)	32 (29-35)	15 (13-16)	6 (5-7)	3 (3-4)
To ensure no family should suffer catastrophic cost due to TB	35%	0%	0%	0%

OUTCOME INDICATORS	Baseline	Target		
	2015	2020	2023	2025
Total TB patient notification(in millions)	1.74	3.6	2.7	2
Total patient Private providers notification (in millions)	0.19	2	1.5	1.2
MDR/RR TB patients notified	28,096	92,000	69,000	55,000
Proportion of notified TB patients offered DST	25%	80%	98%	100%
Proportion of notified patients initiated on treatment	90%	95%	95%	95%
Treatment success rate among notified DSTB	75%	90%	92%	92%
Treatment success rate among notified DRTB	46%	65%	73%	75%
Proportion of identified targeted key affected population undergoing active case finding	0%	100%	100%	100%
Proportion of notified TB patients receiving financial support through Direct Benefit Transfers (DBT)	0%	80%	90%	90%
Proportion of identified/eligible individuals for preventive therapy / LTBI s - initiated on treatment	10%	60%	90%	95%

Goals of NSP

India has scaled up basic TB services in the public health system, treating more than 19 million TB patients under RNTCP, the rate of TB decline is too slow to meet the 2030 Sustainable Development Goals (SDG) and 2035 End TB targets. Although sufficient insight and expertise exists to inform TB programme decision-making, these resources have often been underutilized in terms of meeting the needs of policy makers for quantitative analysis and improvements in TB control policy and implementation.

Continuation of prior efforts has yielded inadequate declines, and will not accelerate

the progress towards ending TB. New, comprehensively-deployed interventions are required to accelerate the rate of decline of incidence of TB many fold, to more than 10-15% annually. The requirements for moving towards TB elimination have been integrated into the four strategic pillars of “**Detect – Treat – Prevent – Build**” (DTPB).



Table: 3.2. Explaining the 'DTPB' approach of NSP 2017 -2025

DETECT	HOW DO WE DO IT?
<p>Find all DS-TB and DR-TB cases with an emphasis on reaching TB patients seeking care from private providers and undiagnosed TB in high-risk populations.</p>	<ul style="list-style-type: none"> • Scale-up free, high sensitivity diagnostic tests and algorithms • Scale-up effective private provider engagement approaches • Universal testing for drug-resistant TB • Systematic screening of high risk populations
TREAT	HOW DO WE DO IT?
<p>Initiate and sustain all patients on appropriate anti-TB treatment wherever they seek care, with patient friendly systems and social support.</p>	<ul style="list-style-type: none"> • Prevent the loss of TB cases in the cascade of care with support systems • Free TB drugs for all TB cases • Universal daily regimen for TB cases and rapid scale-up of short-course regimens for drug-resistant TB and DST guided treatment approaches. • Patient-friendly adherence monitoring and social support to sustain TB treatment • Elimination of catastrophic costs by linking eligible TB patients with social welfare schemes including nutritional support
PREVENT	HOW DO WE DO IT?
<p>Prevent the emergence of TB in susceptible populations</p>	<ul style="list-style-type: none"> • Scale up air-borne infection control measures at health care facilities • Testing and treatment for latent TB infection in contacts of bacteriologically-confirmed cases and in individuals at high risk of getting TB disease • Address social determinants of TB through intersectoral approach

BUILD	HOW DO WE DO IT?
<p>Build and strengthen enabling policies, empowered institutions, human resources with enhanced capacities, and financial resources to match the plan.</p>	<ul style="list-style-type: none"> • Translate high level political commitment to action through supportive policy and institutional structures: • National TB Elimination Board with revision in the current administrative set up at the national level and matching structures at state level • National TB Policy and Act • Restructure RNTCP management structure and implementation arrangement: Substantially augmented HR and HR reforms and TB surveillance network in the country strengthen • Scale up Technical Assistance at national and state levels • Align and harmonize partners' activities with programme needs to prevent duplication

To summarize, the ultimate impact of this NSP will be transformational improvements in the 'End TB' efforts of India thereby contributing to the health and wellbeing of its population. By taking a Detect – Treat – Prevent – Build approach the national programme can achieve significant positive change and make a real difference in the lives of the many people it serves. The programme is determined to expand coverage, improve quality and reduce out of pocket expenditure to achieve Universal Health Coverage in TB service delivery context.

The NSP 2017-25 for TB Elimination document is available at: <https://tbcindia.gov.in>

3.1 Patient Support Incentives

Majority of TB patients notified are from the

age group of 15-45 years and they are from the lower socio-economic strata of the society. Also, since they are from working group age, TB disease affects the income of the family also while patients are on care. Hence the Ministry of Health and Family Welfare approved incentives for all TB patients notified in NIKSHAY under RNTCP. The financial incentives will support TB patients to prevent catastrophic expenditure, attract notification from private sector and encourage them to complete treatment.

It is proposed that Rs. 500 per month during treatment of TB via Direct Benefit Transfer (DBT) to the patient for nutritional support, reduce out of pocket expenditure (in line with National Health Policy) and incentivize treatment completion for all the projected TB patients and DR-TB patients.

The programme will adopt a DBT mechanism for transfer of monetary support and incentives to patients by linking payment of incentives under RNTCP using Aadhar based DBT (UIDAI), Public Finance Management System (PFMS) and NIKSHAY (online RNTCP MIS).

3.2 Incentives for TB Notification:

Incentives of Rs. 1000 will be provided for notification of TB patients. This will be given at Rs. 500 at notification and Rs. 500 for reporting treatment outcome. The incentives will be provided upon Notification in the TB reporting software i.e. Nikshay through a smooth and transparent manner.

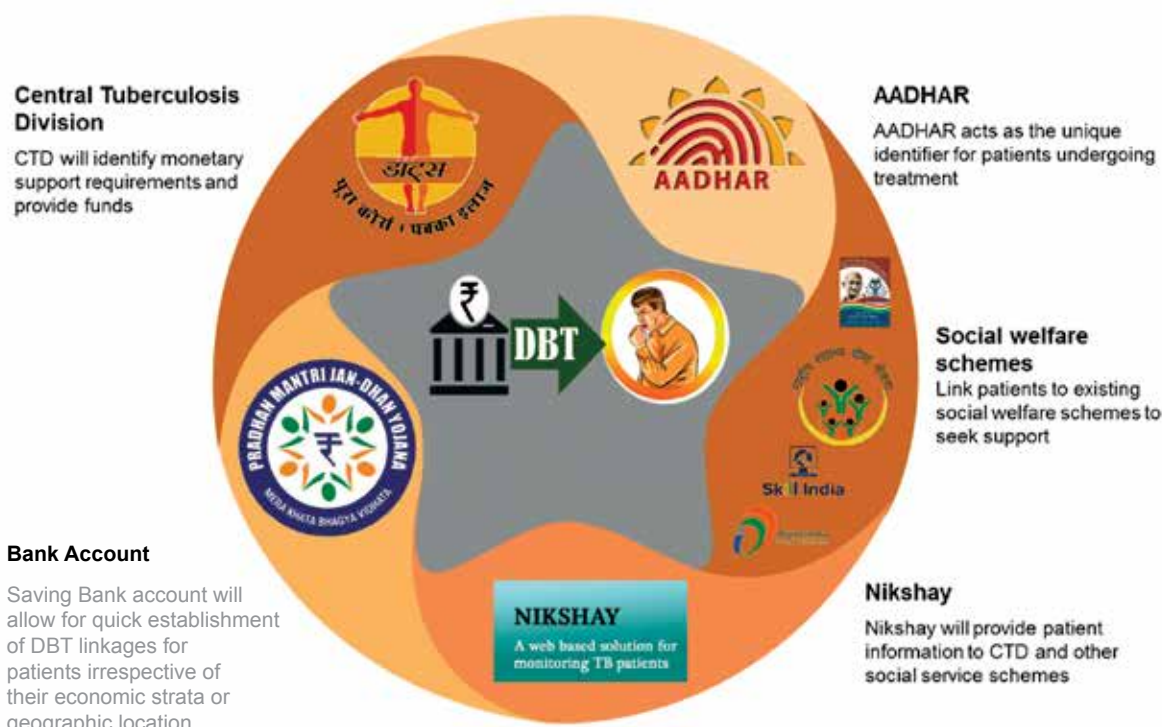
Linkages for provisions of free drugs and diagnostics to private sector patients either through social marketing approach or reimbursements of services.

3.3 Direct Benefit Transfer

Linking Bank Account, AADHAR and NIKSHAY for direct cash benefits to patients:

The programme adopted a DBT mechanism for transfer of monetary support and incentives to patients. This will ensure the funds reach rightful recipients in a timely manner.

Fig: 3.1. Moving towards digital treatment support



The cornerstones of the DBT mechanism will be:

- i. RNTCP** – In addition to providing funds for DBT, programme will also identify and review incentives and treatment supports to be provided to the patients
- ii. Bank Account** – Saving Bank account will allow for quick establishment of DBT linkages for patients irrespective of their economic strata or geographic location.
- iii. NIKSHAY** – As a case based patient identification system, NIKSHAY will allow for a real time tracking of patient eligibility for DBT and ensure quick activation of DBT linkages to patient accounts

- iv. AADHAR** – AADHAR will act as the unique identifier for patients seeking treatment support via DBT mechanism. It is also hoped that in the future the TB number will align with the AADHAAR identifier.

An eligible amount per month will be provided for TB patient notified in NIKSHAY for nutrition support, encourage completing the treatment and covering the catastrophic cost. Linking of bank account, Aadhaar number and Nikshay identification number will be used for this transaction. Local arrangements are being made to provide the financial incentives to needy patients who are yet to have Aadhaar number and bank account due to any reason.



Hon'ble Prime Minister Shri Narendra Modi with Dr. Poonam Khetrapal Singh, RD, SEARO, WHO



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दुनिया भर में TB को खत्म करने के लिए वर्ष 2030 तक का समय तय किया गया है। लेकिन आज मैं ये घोषणा कर रहा हूँ कि भारत ने वर्ष 2030 से 5 साल और पहले, यानि 2025 तक TB को खत्म करने का लक्ष्य अपने लिए तय किया है: PM

11:40 AM - Mar 13, 2018

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4.1 Case Finding & Diagnosis of Tuberculosis

Introduction

N^{SP} 2017-25, advocates 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.

RNTCP achieved complete geographic coverage in March 2006 and since then case notification rates increased till they plateaued and remained stationary. The case notification rates have started decreasing in many parts of the country despite increasing efforts of symptomatic examination in the public sector. The programme is making special efforts for reaching the unreached like active case finding (ACF) campaign, focusing on clinically, socially and occupationally vulnerable populations and shifting from passive to active case finding along with passive case finding in selected populations. For achieving the ambitious targets, the programme has modified its diagnostic approach to DS & DR TB cases.

Since 2007-08, annually, RNTCP screens approximately 20 million symptomatic persons by microscopy for TB and initiates about 1.5 million persons on TB treatment. CBNAAT and Line Probe Assay introduced in 2009 and scaled up from 2012 onwards, have ensured that rapid molecular diagnostics are available throughout the country. In 2017, 7,32,449 patients have been tested using these methods and 38,854 Rifampicin resistant/MDR-TB patients have been diagnosed.

Active Case Finding

Active Case Finding is basically a provider initiated activity with the primary objective of detecting TB cases early by finding symptomatic people in targeted groups and initiating treatment promptly.

Three phases of Active Case Finding in vulnerable population were conducted till December 2017. In third phase, 378 districts covered, around 5.5 crore population screened and 26781 TB cases were diagnosed.



ACF activity being carried out in a State

RNTCP Laboratory Network

TB diagnosis is offered through more than 14,000 designated microscopy centres spread across the country. CBNAAT facilities have been established at District levels for decentralised molecular testing for TB and simultaneous detection of Rifampicin resistance. Reference laboratories have been established at State and National levels which provide Culture and DST services as well as molecular diagnosis. The laboratory network under RNTCP is composed of three tiers for quality assurance of all diagnostic modalities.

Diagnostic algorithm has also undergone revision to accommodate available technologies and optimal use at various levels.

National Policy for diagnosis:

Drug Sensitive TB: Direct sputum smear microscopy by Ziehl-Neelsen acid-fast staining/ Fluorescence Microscopy are the primary case detection tool in RNTCP for patients with infectious tuberculosis presumed to be drug sensitive and is also for monitoring their response to treatment.

Drug Resistant TB: Patients at risk of DR TB as defined by the programme (Multi-Drug Resistant TB- MDR-TB), are diagnosed using WHO endorsed rapid diagnostics (WRD) like Cartridge Based Nucleic Acid Amplification Test (CBNAAT) / Line Probe Assay (LPA). Response to treatment for MDR is monitored by follow up culture on Liquid Culture (MGIT) system (critical follow-ups requiring clinical response) and identification of Mycobacterial species is

performed by commercial Immunochromatic test (ICT).

MDR-TB diagnosis is offered to all patients initiated on re-treatment as well as patients who remain smear positive on any follow up including failures of first line treatment and those at high risk such contacts of MDR-TB cases. CBNAAT is also offered for TB diagnosis in key populations such as PLHIV, Children and EP-TB cases, referrals from the private sector for early diagnosis and initiating appropriate treatment.

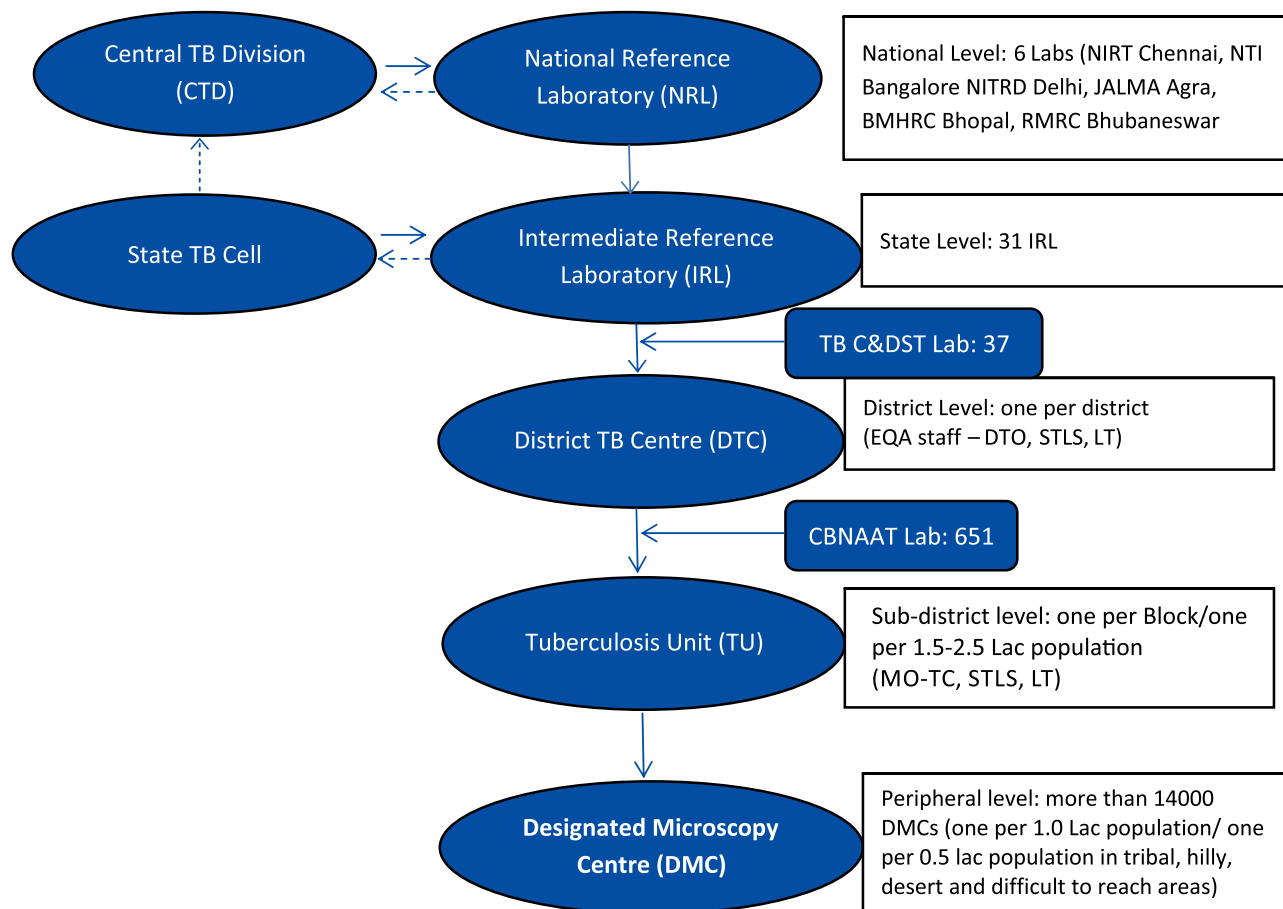
More recently, the diagnostic algorithm has been modified wherein CBNAAT is offered to cases who are Smear negative but have an X ray suggestive of TB, as well as for new TB cases.

Structure and Functions of RNTCP Laboratory network:

The RNTCP laboratory network is composed of a three tier system with National level Reference Laboratories (NRLs), State level Intermediate Reference Laboratories (IRLs), and peripheral level laboratories as Designated Microscopy Centres (DMCs).

C&DST laboratories under RNTCP Lab Network are equipped with different diagnostic technologies for DR TB diagnosis, which include conventional Solid culture and/ or newer rapid TB diagnostic technologies i.e. Line Probe assay- LPA and Liquid Culture. Depending upon the availability of necessary infrastructure and resources, these laboratories are equipped with either all three diagnostic technologies or single or any combination of these technologies.

Fig: 4.1. RNTCP Laboratory Hierarchical Structure



Laboratory Certification status:

48 laboratories have been certified by RNTCP for performing solid C & DST, 45 laboratories for performing DST to First line drugs using liquid culture system. Of these, 38 laboratories have additionally been certified for performing DST to second line anti TB drugs. 56 certified laboratories provide First Line-LPA services.

Five batches of National Level Trainings of Trainers on second line LPA were conducted at NTI, Bangalore in the month of March 2017. Onsite trainings in second line LPA were also conducted successfully in all the IRLs/ TB C&DST labs with support of the NRLs in subsequent months till August 2017. 50 laboratories have been certified for second-line LPA technology.

List of certified C&DST laboratories are placed at Annexure-5c

Table: 4.1. Laboratory testing performance for the year 2017

Table: 4.1. a. CBNAAT testing (2017)

No. of machines	No. of tests performed	No. of Rifampicin-Resistant TB Detected	Tests for private sector patients	EP-TB samples tested out of total test done	HIV +ve out of total tested
628	10,77,377	37,488	93,618	1,31,428	1,90,218

Table: 4.1. b. LPA performed (2017)

No. of test	No of sensitive to H&R	No of resistant to INH	No of resistant to Rifampicin	No of MDR TB
93,989	68,070	7,736	2,243	11,518

Table: 4.2. SLDST performed (2017)

Number of SL DSTs conducted	Number of MDR + FQ resistance detected	Number of MDR + SLI resistance detected	Number of XDR detected
26,832	8,594	826	2,650

Laboratory Network and Quality Assurance:

At present Culture and DST services are provided through 74 RNTCP certified laboratories which include laboratories from Public sector (IRL, Medical College), Private and NGO laboratories. RNTCP also encourages the Laboratories from Medical Colleges, ICMR, Private sector and NGO sector to apply for certification by providing technical assistance and training of the human resources at National Reference Laboratories.

The programme has a very well established quality assurance (QA) mechanism which follows the WHO system of hierarchical control from the highest level of National Reference laboratories to State Intermediate Reference labs (both IRL and CDST), to CBNAAT at the district/sub district level and then designated microscopy centres at the most peripheral level. The QA has all elements of internal quality control, on-site evaluation and external quality assessment.

QA for the National level laboratories is

provided through the WHO supranational reference laboratory (SNRL) network. One of the SNRL for the South East Asia region is NIRT, Chennai which also serves as a NRL. Quality assurance panel for both first and second line drugs to the SNRL and three other NRLs (NTI Bangalore, NITRD Delhi and NJIL&OMD, Agra) is provided by the WHO coordinating lab (Antwerp) of SRL network.

Quality Assurance for Culture & Drug susceptibility testing:

EQA for Culture and DST is ensured by a process of pre-assessment, On-Site Evaluation visit to the facility and the actual certification procedure. Quality is maintained by a process of continuous monitoring by annual proficiency panel testing from NRLs to their respective IRLs or diagnostic laboratories (medical college, NGO or Private). The process of certification was adopted from the standard international guidelines, and has been in place from 2005. Culture and DST labs need to satisfactorily undergo certification for Culture and DST, by their respective NRL, through a rigorous process to achieve and maintain the proficiency. This inter-laboratory culture exchange and testing process involves both NRL (PT) panel cultures testing at IRL, and re-testing (RT) of select cultures at the NRL.

The certification is initially granted for a period of two years and shall be subjected to an on-site evaluation within one year of grant of certification and a re-assessment before the end of two years. Thereafter, re-assessment is carried out every two years. Certified laboratories carry out testing activities within the scope of certification (Solid, liquid and LPA) to meet the needs of RNTCP. All Certified laboratories

regularly participate in the Proficiency Testing programmes/rounds conducted by NRLs. The certified laboratory submits quarterly laboratory performance indicators to the NRLs. The data from the performance indicators are analysed by the NRLs and technical guidance provided for corrective actions.

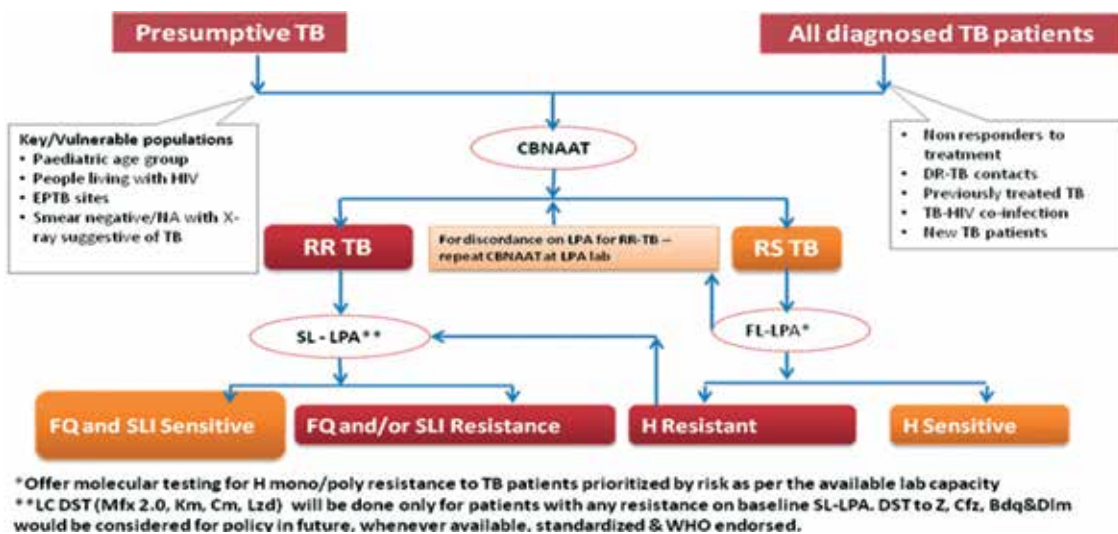
Quality Assurance for CBNAAT:

Until recently quality assurance for CBNAAT had been limited only to instrument guided internal controls. However, in the year 2017, more than one million CBNAAT tests have been conducted. Considering the need of external quality assurance mechanism for CBNAAT, FIND India in collaboration with CDC has initiated projects for Quality assurance of CBNAAT in using dried spot panels, which can be shipped safely and tested at peripheral sites. NTI, Bangalore will be the coordinating National Reference Laboratory for implementation of these projects. Experts from NTI, Bangalore have undergone training in panel manufacture at CDC Atlanta. The panels have been manufactured and validated at NTI. These panels will be used for testing at identified CBNAAT sites in Public as well as private sector in Mumbai. The learning's from the initial implementation will help the programme in developing mechanisms for expansion across the country.

Diagnostic Algorithm:

The diagnostic algorithm is dynamic and has undergone revisions from time to time with the availability of newer technologies and the programme needs. The latest algorithm as included in the revised PMDT guidelines is given below

Fig: 4.2. PMDT diagnostic algorithm



First National Drug Resistance Survey, India

Understanding the epidemiology of drug resistant TB and knowledge on the rates of drug resistant TB is essential for combating the challenge of DR TB. In order to plan, strategize and refine the quality of services for DR TB, it was crucial to have data on the rates of drug resistance at a National level. Towards this goal, India has conducted the survey.

5280 sputum smear positive patients attending diagnostic centres belonging to 120 TUs (selected as clusters for sampling) were recruited for the Survey. This has been the largest survey conducted globally and for the very first time Liquid Culture was used and DST performed for 13 anti TB drugs.

The survey provides a statistically representative national estimate of the prevalence of anti-tuberculosis drug resistance among new and previously treated patients in India, and will

contribute to a more accurate estimate of anti-tuberculosis drug resistance globally.

The results of the survey showed the rates of MDR among new TB patients to be 2.84% and that in previously treated to be 11.60 %.

Augmenting the laboratory capacity

15 laboratories with TB containment facility has been established and the existing laboratory network augmented with 50 GT Blots and 26 Liquid culture systems. Towards Universal testing for Rifampicin resistance as well as diagnosis of TB among vulnerable population, 507 additional CBNAAT machines have also been deployed across the country.

Scale-Up of CBNAAT Facilities:

In addition to the existing 628 Machines, 507 machines have been procured and deployed to cover all districts of the entire country. List of CBNAAT are placed at Annexure 5b.

Second Line LPA Services:

Reference Laboratories have also initiated - Second Line LPA a diagnostic prerequisite for introduction of shorter treatment regimen for Drug resistant TB.

Establishment of Genome Sequencing Facilities

Genome sequencing facilities are being established at six Reference Laboratories, for surveillance of drug resistance, for providing information on transmission dynamics and molecular epidemiology. Of six sites, five sites (NITRD Delhi, NDTB Delhi, NTI Bangalore, JJ Hospital Mumbai, IRL Ahmadabad) are being equipped with whole Genome sequencer and one site (IRL, Guwahati) with Pyro sequencer.

Newer Initiatives:

Joint Assessment of the Tuberculosis Diagnostic Network of India

The first ever Joint International Assessment of the Tuberculosis Diagnostic Network of India was conducted by an experienced group of National and International experts with support of USAID. The key objective of the assessment was to evaluate the current practices and algorithm and propose evidence-based short and medium term interventions to improve access, capacity and quality of the TB diagnostic network to increase detection of TB and MDR-TB in line with NSP targets.

The key focus areas were:

- Overall placement, quantity and utilization of appropriate diagnostic technologies

- Availability and use of correct diagnostic algorithms, guidelines and policies
- Laboratory infrastructure and appropriate bio-safety measures
- Equipment validation and maintenance
- Specimen transport and referral mechanisms
- Management of laboratory commodities and supplies
- Laboratory/diagnostic network information and data management systems
- Laboratory quality management systems
- Adequately trained staff throughout the network
- Supervision, monitoring and quality assurance

Major recommendations

- Develop state-specific performance improvement plans in order to enable well-functioning states to move quickly and lagging states to catch up
- Translate PPM policy into implementable activities by developing and implementing specific guidelines to engage private providers and laboratories, along with monitoring of key indicators to measure process and impact
- Fill-up presently vacant positions and build a sustainable HR strategy with adequate numbers of staff at all levels working under appropriate remuneration and in safe facilities and working conditions
- Strengthening of specimen referral

- systems and fill gaps observed in specimen transportation
- Deploy electronic data systems across all levels to ensure that the system is user-friendly and allows people to do their jobs better and more efficiently
- Build capacity of NRLs and IRLs to be quality champions within the network and re-energize regular supportive supervision and EQA to lower levels with frequent monitoring and evaluation of the effectiveness and impact of supervision.



JIA team with DTO and staff at DTC Mathura during the assessment



Onsite training in SL LPA at JLNMCH Bhagalpur, Bihar



Joint International Assessment Team

Laboratory Information Management System (LIMS)

A Laboratory Information Management System (LIMS) is been developed with support from FIND. Implementing LIMS - will ensure providing accurate & timely information for the patient care, establishing a standardised process of data transmission & recording, integration of the Lab information with the National Information System, streamlining the process of entering data in ICT tools. LIMS will be implemented in Laboratories providing Culture and DST services.

NABL Accreditation

National Accreditation Board for Testing and Calibration Laboratories is an autonomous society providing Accreditation (Recognition) of Technical competence of a Medical laboratory for a specific scope following ISO 15189:2012 Standard.

IRL Lucknow has achieved the NABL accreditation. Ten labs have successfully submitted their applications to NABL for the process of assessments over the next few months before NABL formally provides them accreditation. These labs include SMS Medical College Jaipur, IRL Guwahati, NRL JALMA Agra, NRL BMHRC Bhopal, IRL Nagpur, IRL NDTB Centre Delhi, NRL RMRC Bhubaneswar, IRL Cuttack, NRL NITRD, Delhi and NRL NIRT, Chennai.

TrueNat

TrueNat, a new indigenous diagnostic tool for use in peripheral settings has been validated by

ICMR. The operational feasibility of TrueNat testing was also carried out at 100 Designated Microscopy Centers in 50 districts of the country. The results of the TrueNat validation study and feasibility study were reviewed by the Expert committee on TB diagnostics at ICMR, and have recommended the use of TrueNat MTB and TrueNat MTB Rif under RNTCP.

4.2 Treatment of TB Services

Universal access to free, standard treatment services for all TB patients in the country encompasses an ambit of services in and around each patient's care cascade. Strengthening of these patient centred treatment services in RNTCP with enhanced capacity to rapidly accommodate new drugs and treatment modalities will be the cornerstone of the current NSP.

The technical and operational guidelines-2016 for TB control in India, define the major groups of TB patients who are offered standard treatment regimens. Patients are classified based on drug susceptibility results; the categories are drug-sensitive TB, and mono, poly, multi and extensively drug resistant TB. For drug-sensitive TB patients, the thrice weekly intermittent TB regimen being used since programme inception has been switched to a daily FDC regimen for treatment of all TB patients. The principles of treatment for drug-sensitive TB with a daily regimen is to administer a daily fixed dose combination of first-line anti-TB drugs in appropriate weight bands for pulmonary and extra-pulmonary TB in all age groups.

The major initiatives taken in 2017 are:

- i. Expansion of Daily Regimen for treatment of TB across the country

- ii. Scale up of Bedaquiline
- iii. Conditional Approval of Delamanid
- iv. Release of Guidelines on PMDT in India
- v. National ToT on Guidelines on PMDT
- vi. Introduction of MERM boxes

Expansion of Daily Regimen throughout the country

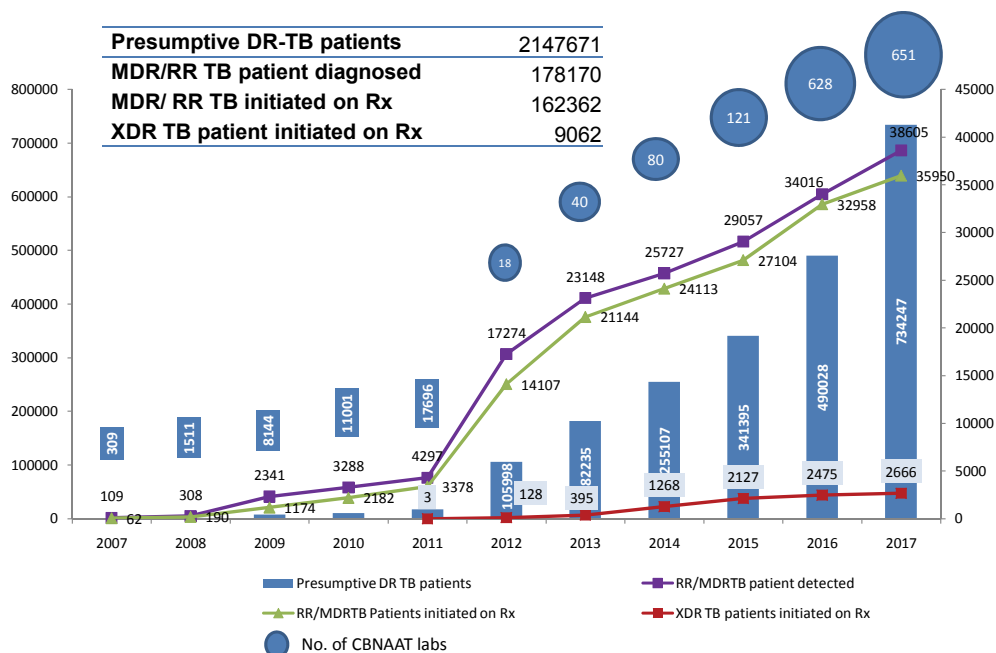
Guidance material on awareness of Daily regimen developed by CTD was shared with the States. ACSM activities taken up in the States included TV campaign in 7 States, Radio Campaign, Digital media campaign in 17 States, Outdoor media campaign in 12 States. All patients diagnosed and put on daily regimen in Public sector since 30th October 2017 throughout the country.

Programmatic Management of Drug Resistant TB Services

Background and framework for effective control of drug-resistant tuberculosis

After successfully establishing RNTCP services across the country in 2006, the PMDT services were introduced in 2007 and complete geographic coverage was achieved by 2013. During 2011-12, there was a massive scale-up of all these facilities with concerted efforts of multiple stakeholders resulting in countrywide coverage by 2013. Later in 2014, baseline second-line DST facilities were established in a few intermediate reference laboratories, which also got scaled-up to the entire country in 2015. The progress of DR-TB treatment coverage is shown in the below graph.

Fig: 4.3. DRTB Finding and Treatment Initiation Effort, 2007-17



To begin with DR-TB services were offered to the subset of TB patients having highest risk to develop drug resistance i.e., treatment failures. This was followed by a horizontal and vertical scale-up. Definite criteria were set to assess the risk and eligibility for the drug susceptibility test (DST). The DST was thus offered to TB patients who remained smear positive during follow-up; to previously treated patients; those who were HIV positive and people who had contact with a known DR-TB patient. This would then lead to universal DST, i.e., DST to all diagnosed and notified TB patients. To conduct this, huge laboratory capacity in terms of geographic coverage, DST technology, trained laboratory personnel, quality assurance and certification are required. The country expanded its diagnostic capacity to a wide network of state and regional level intermediate reference laboratories with solid and liquid culture DST and Line Probe Assay (LPA) and district level network of Cartridge Based Nucleic Acid Tests (CBNAAT).

Providing treatment to diagnosed DR-TB patients is extremely important. To begin with, only MDR-TB patients were offered treatment with a standard second-line regimen. Later, treatment with standard regimen was offered to extensively drug resistant (XDR) TB patients and MDR-TB with additional resistance to fluoroquinolones or second-line injectable. Procurement and supply chain management of second-line drugs is complex, since no standardized patient-wise boxes are manufactured and drugs do need temperature regulated storage and repacking.

Since 2016, new drugs like Bedaquiline (Bdq) are made accessible to DR-TB patients through expanded access under RNTCP. In 2016, with the

release of the Revised Technical and Operational Guidelines, regimens to treat other forms of drug resistance, such as mono and poly resistance to first and second-line drugs were also included and this has been further solidified in the Guidelines on PMDT in India, 2017

Regimen type (with or without newer drugs)

Designing a regimen is the prerogative of the DR-TB Centre Committee. The regimen could be with or without inclusion of newer drugs like BDQ and would be classified into the following types;

1. MDR/RR-TB a) Shorter MDR-TB Regimen b) Conventional MDR- TB Regimen	At the DDR-TB Centre
2. H Mono/Poly Drug-Resistant TB	
3. MDR/RR-TB a) Shorter MDR-TB Regimen b) Conventional MDR- TB Regimen	
4. H Mono/Poly Drug-Resistant TB	
5. MDR/RR-TB with additional resistance to any/all FQ or SLI	
6. XDR-TB	
7. Mixed pattern resistant TB a) with H mono + FQ/SLI/Lzd resistance b) with MDR/RR-TB + FQ/SLI ± Lzd resistance c) Other patients who need careful regimen designing later d) Non tuberculosis mycobacterium (NTM)	At the NDR-TB Centre

Scaling-up of Bedaquiline (BDQ) Services

BDQ has been given approval for use along with the background regimen under conditional access through the Revised National TB Control Programme (RNTCP) PMDT services in India. In absence of a phase III trials, the Apex Committee and DCGI under the Ministry of Health and Family Welfare for supervising clinical trials on new chemical entities approved the use of BDQ under RNTCP through conditional access.

Initially BDQ has been introduced at 6 sites- NITRD, New Delhi, Rajan Babu TB Hospital, New Delhi, BJ Medical College, Ahmedabad, Gujarat, GHTM Tambaram, Chennai, Tamil Nadu, Guwahati Medical College, Guwahati, Assam, GTB Sewree, Mumbai, and Maharashtra. Currently, the drug is being used in the selected six sites to establish the safety profile due to concerns on drug's cardio-toxicity which if not monitored adequately, may prove to be fatal, in addition to the other side effects of the drug. Accordingly, the programme has taken a cautious and systematic approach to first check the safety profile of the drug in a few centres.

900 patients have been initiated on BDQ containing regimen at 21 sites till the end of 2017. The programme will expand the usage of BDQ to all the states as per the preparedness. Capacity building of all the states has been initiated. Cascade trainings of all the health staff involved in BDQ services is under process.

Conditional Approval for Delamanid

Delamanid is a recently approved drug for treatment of TB conditional use under programmatic settings only. The Phase III clinical trial results on safety and effectiveness of the drug is yet to be published. A series of high level meetings and consultations at the level of Secy. (DHR) and DG, ICMR on fast-tracking regulatory approval of Delamanid through Central Drugs Standard Control Organization (CDSCO), the national regulatory body for Indian pharmaceuticals and medical devices headed by Drug Controller General of India (DCGI) as well as its introduction through a dual mechanism i) under programmatic mode through conditional access and ii) under research mode for combination therapy with other newer drugs to further shorten the duration of MDR-TB treatment through Indian Council for Medical Research (ICMR).

In absence of Phase III clinical trial results, following conditional approval by the subject expert committee under CDSCO in June 2017, the DCGI has issued the permission to import finished formulations of Delamanid (50 mg) tablets in August 2017 for use as part of an appropriate combination regimen for pulmonary multi-drug resistant tuberculosis (MDR-TB) in adult patients when an effective treatment regimen cannot otherwise be composed for reasons of resistance or tolerability. In this regard, the programme has prepared the guidelines for use of 400 courses

of Delamanid through donation which will be implemented in 7 states.

ICT Enable Adherence Systems

a) 99DOTS: Improving TB Medication Adherence

If patients discontinue TB treatment before finishing the 6-8 months course, or are non-adherent, not only do they jeopardize their recovery, they also risk the development of drug resistant TB. 99DOTS (www.99dots.org) is an innovation that seeks to address this issue by using basic mobile phones and augmented packaging for medication (patients call toll-free lines which are visible when they dispense pills). Once the 99DOTS platform gets this real-time adherence information it can be used in multiple ways (Web dashboard, mobile application SMSs) and allow staff to do differentiated care of patients.

Key Highlights

- **Universal envelopes** designed (much easier supply chain compared to weight band wise envelopes); specifications approved and sent to states
- Major **technology updates** in web application, mobile app, SMSs for staff and patients, reports based on user feedback. Customized functionalities for all levels of users (PHI, TU, District, State, National) in both mobile app and website.
- **Nikshay integration** (authentication, notification)
- Integration with **MERM pill box** (same platform supports both 99DOTS and MERM)

99DOTS Milestones

ART	<ul style="list-style-type: none"> • Launched across (almost) all ART Centres in India for adult DS TB-HIV Patients 	41218 patients registered in 508 / 535 ART Centres
RNTCP	<ul style="list-style-type: none"> • Mumbai launched in Feb 2017 • 5 states which got FDCs (MH, KL, BI, HP, SK) launched • RNTCP approved the implementation of 99DOTS across the country 	19545 adult DS TB patients registered
Private sector	<ul style="list-style-type: none"> • Deployed in Mumbai (PATH) and Patna (WHP) 	836 patients registered

99DOTS is a collaboration between CTD, NACO, Everwell Health Solutions Pvt. Ltd and has been supported by various donor agencies along with a lot of implementing partners (PATH, WHP etc.)



b) Introduction of Real-Time Medication Event Reminder-Monitor Device (RT-MERM)

The RT-MERM technology (i) is highly accurate, affordable, re-usable, and suitable for TB medications, (ii) provides programmable visual and audible reminders of daily dosing and of

monthly refill, and (iii) compiles and transmits automatically detailed, and patient-specific information regarding medication taking and medication adherence.

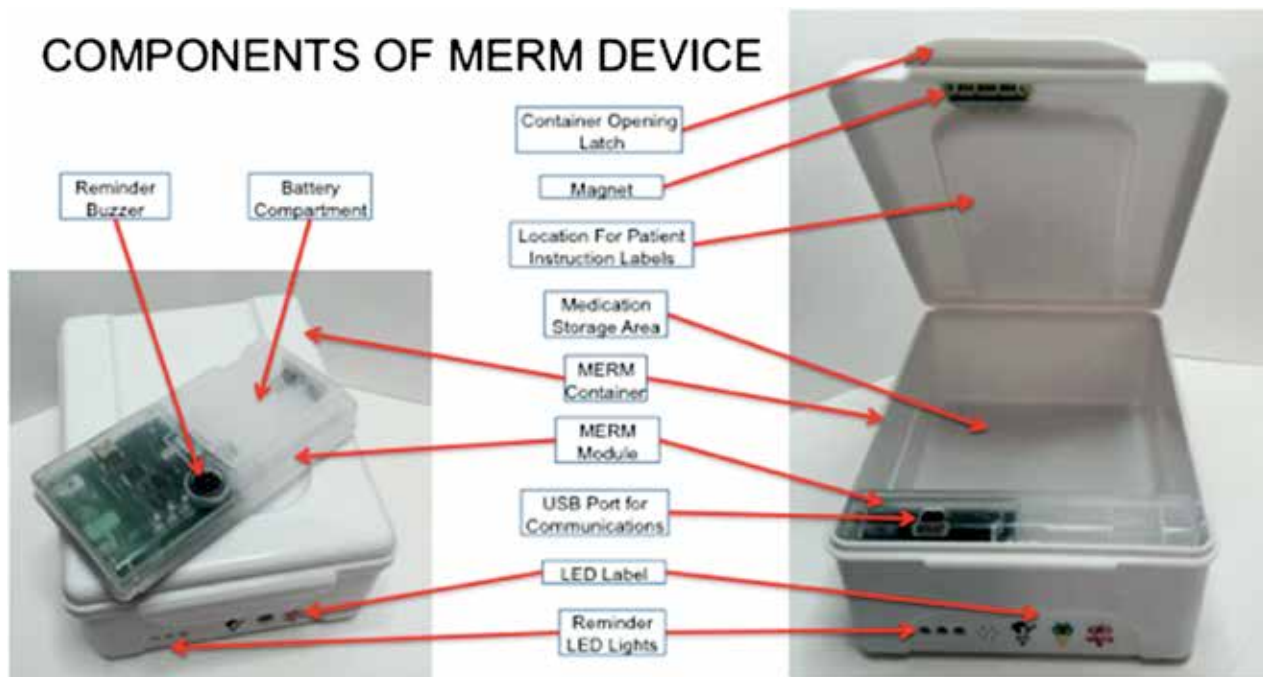
This reminder-monitor utilizes an innovative two-part, consisting of a container (the “Container”) that will hold the patient’s medications and a small electronic module housed within the Container (the “Monitoring Technology”) that will transmit captured information. When the Container is opened, it records the date and time of each such medication taking event, store the date/time data, and automatically transmits (via integrated, affordable 2G data transmission capability) such date/time dosing information for centralized collection, analysis, and use by health care providers via systems such as eNikshay or

99DOTS. The components of the RT-MERM are shown in Figure below:

Patient-centric Care

Successful treatment and care can only result when patient preferences, values and needs are satisfactorily addressed along with PMDT services. These include ensuring that the diagnosis of DR-TB is early, accurate and affordable; and the most effective treatment is delivered early and provided in a manner that is easily accessible to and adhered by the patient, affordable and socially acceptable. At the same time it must ensure that the confidentiality and dignity of the patient is protected. It is the responsibility of the health system to make sure that the patient is treated successfully within the society s/he belongs to, enjoying all support

Fig: 4.4. Components of the RT-MERM



which the community would otherwise provide to its members so that the new chain of infection is arrested at source and the cured member enriches his/her material, social and cultural assets. Prevention, management and mitigation of stigma and discrimination are essential elements of a patient-centred care approach to TB management.

4.3 TB-HIV

Background

Tuberculosis and HIV duo forms the deadly synergy- the patients with these diseases more often will have unfavourable outcomes. HIV infection increases the risk of progression of latent TB infection to active TB disease thus increasing risk of death if not timely treated for both TB and HIV. Correspondingly, TB is the most common opportunistic infection and cause of mortality among people living with HIV (PLHIV), difficult to diagnose and treat owing to challenges related to comorbidity, pill burden, co-toxicity and drug interactions. HIV prevalence among incident TB patients is estimated to be 4.00%. 87,000 HIV-associated TB patients are emerging annually. By numbers India ranks 2nd in the world and accounts for about 10% of the global burden of HIV-associated TB. The mortality in this group is very high and every year 12,000 people die every TB/HIV co-infected patients.

TB-HIV Collaborative Activities:

Revised National Tuberculosis Control Programme (RNTCP) and National AIDS Control Program (NACP) started initially in the year 2001. Since then, TB-HIV activities have evolved time to time in line with updated scientific evidences prevailed. National Framework for joint TB-HIV

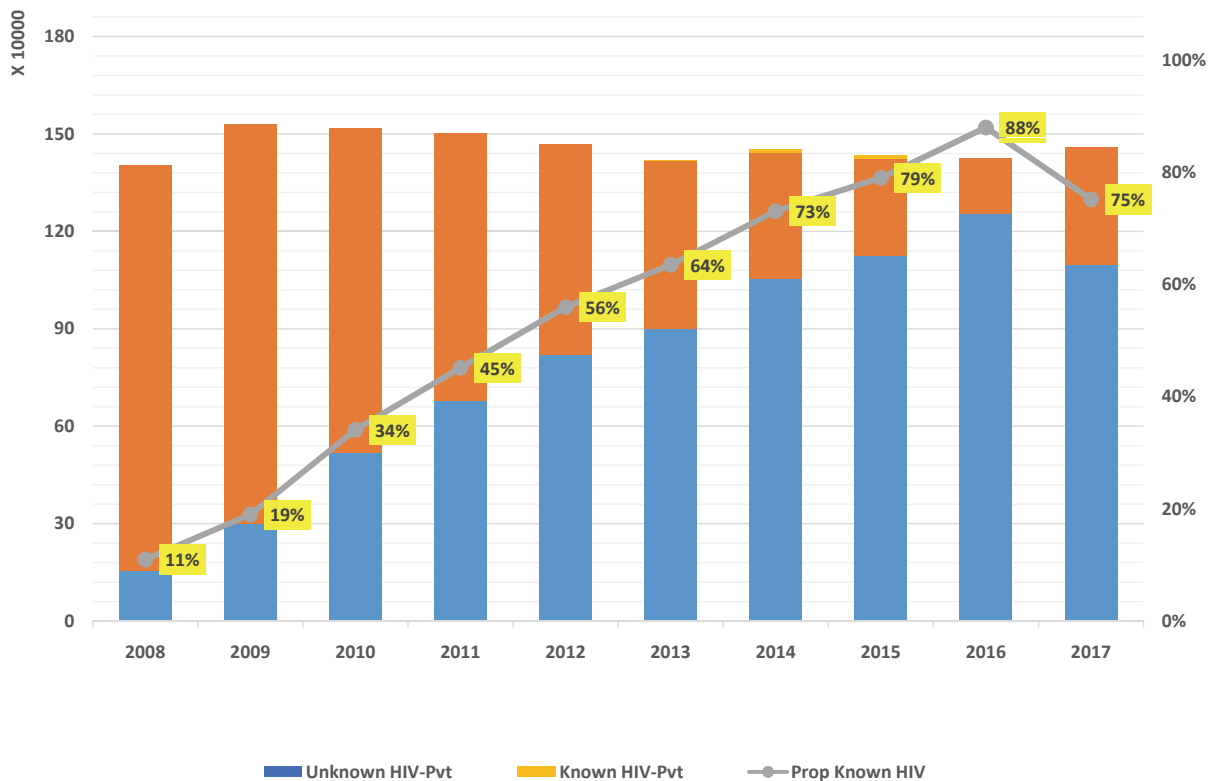
collaborative activities was developed under which National and State TB/HIV coordinating mechanism were put in place. Service delivery level coordination bodies were established at district level. Components such as dedicated human resources, integration of surveillance, joint training, standard recording & reporting, joint monitoring & evaluation, operational research were strategically implemented and nationwide coverage was achieved in July 2012. At the National TB-HIV Coordination Committee (NTCC) and National Technical Working Group (NTWG) regularly monitor and suggest on key policy related to TB/HIV Collaborative activities.

Progress

Interventions to reduce the burden of TB among people living with HIV include the early provision of antiretroviral therapy (ART) for people living with HIV in line with WHO guidelines and the Three I's for HIV/TB: intensified TB case-finding followed by high-quality anti-tuberculosis treatment, isoniazid preventive therapy (IPT) and infection control in HIV care setting. There has been significant improvement on above indicators in recent years. India adopted all recommendations suggested by the World Health Organization recommended TB/HIV collaborative activities.

HIV testing of TB patients is now routine through provider initiated testing and counselling (PITC), implemented in all states. At Country level, as of 4th Quarter (Oct-Dec) 2017, 75% of TB patients knew their HIV status which has increased from 11% in 2008. In 2017, 1097755 TB patients (75% of total TB patients notified) were tested for HIV, 3% among whom were diagnosed as HIV positive and were offered access to HIV care.

Fig. 4.5. Trends in Number (%) of registered TB patients with known HIV status, 2008- 2017, National



The updated WHO TB/HIV policy of 2012 recommended implementation of PITC among presumptive TB cases. Considering the country evidence and global recommendation, the National Technical Working Group on TB/HIV decided to implement PITC among presumptive TB cases in all high HIV prevalent settings in India (A and B category districts) in a phased manner. Routine screening of Presumptive TB cases for HIV is being implemented in phase wise manner throughout the country.

Similarly among HIV-infected TB patients diagnosed in 2016 (100%) were put on (co-

trimoxazole preventive therapy (CPT). The coverage of ART among TB patients who were known to be HIV-positive reached 87% in patients registered in Oct-Dec 2016, up from 49% in 2008.

Intensified TB case finding has been implemented nationwide at all HIV Care centres (at Integrated Counselling and Testing Centres (ICTCs) and ART centres. As of December 2017, 536 ART centres and 1120 link ART centres are operating in the country. Table below shows the trend of intensive case finding at ICTC and ART centres in India.

Table: 4.3. Trend of Intensive case finding at ICTC India

Year	Total clients	Presumptive TB cases referred	Total TB cases Detected	Total Put on DOTS	Proportion referred	Proportion detected TB	Proportion Put on DOTS
2011	9774581	580695	55572	42223	6%	10%	76%
2012	9193113	552350	46863	36842	6%	8%	79%
2013	7264722	620539	64506	45471	9%	10%	71%
2014	8383140	726805	45597	30922	9%	6%	68%
2015	11799964	941285	63134	41725	8%	7%	66%
2016	13773132	1088814	70836	45432	8%	7%	64%
2017	15415049	1152122	69914	44734	7%	6%	64%

In proportion ART and ICTC centres contributes to around 6.3% of case finding of the RNTCP (Table below).

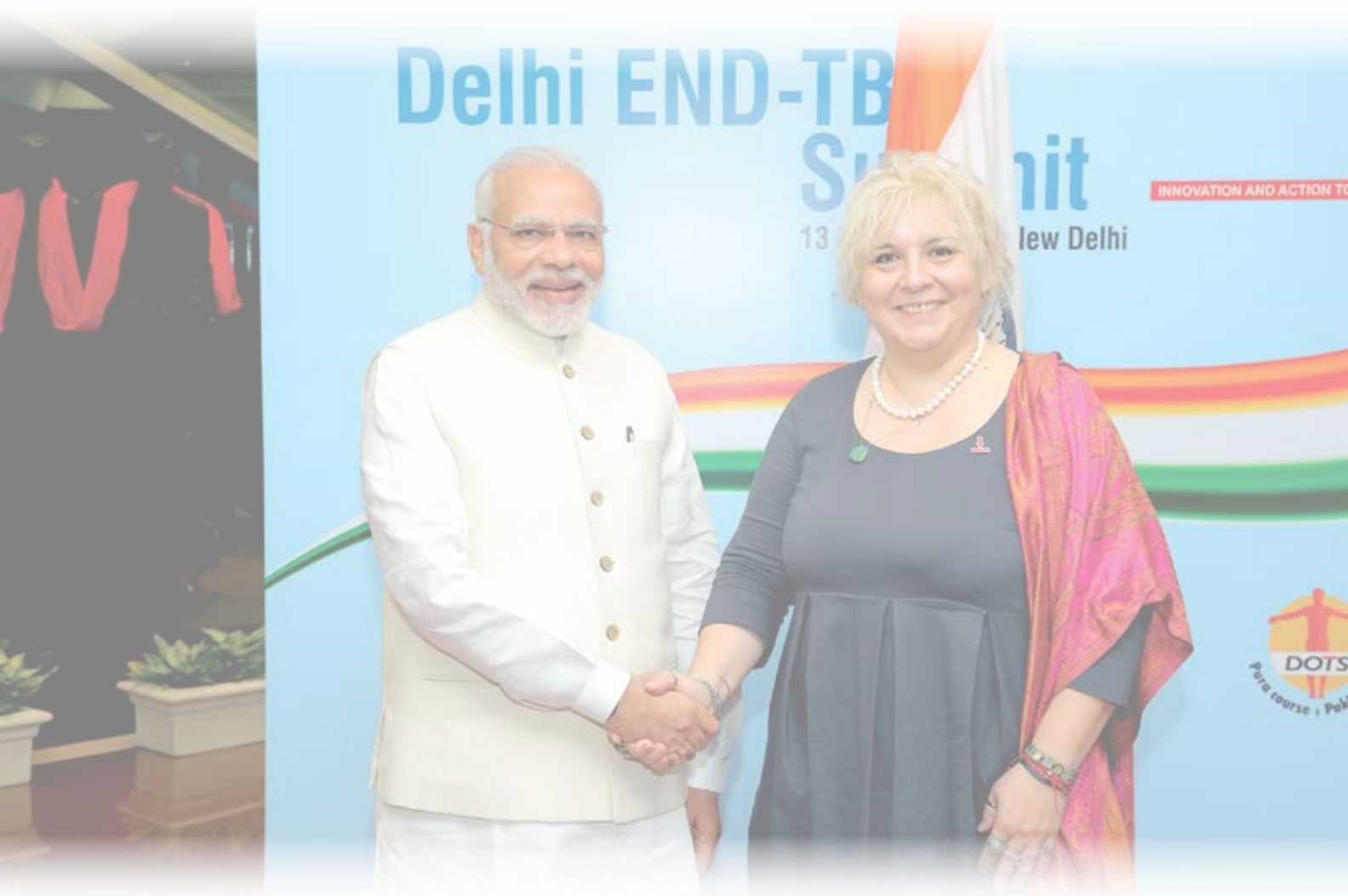
Table: 4.4. Contribution of ICTC and ART centres in TB case detection

Year	Total TB cases Detected (ICF ICTC+ ART)	Total cases Put on DOTS	Total TB cases notified under RNTCP	Percentage Contribution of ICF in TB notification
2010	67323	53503	1521438	3.5%
2011	84007	65996	1515872	4.4%
2012	74875	61252	1467585	4.2%
2013	89420	68595	1410880	4.8%
2014	73298	81742	1443942	5.7%
2015	100044	69239	1423181	4.9%
2016	108696	77158	1424771	5.4%
2017	112205	90947	1444175	6.3%

Table: 4.5. Year-wise treatment outcome of TB HIV co-infected patients 2010-2016

Year	All TB-HIV Total Case Registered	Treatment Success	Died	Failure	Lost to follow up	Transferred out	Treatment regimen changed
2010	43093	77%	13%	1%	6%	2%	0%
2011	47097	78%	11%	5%	4%	1%	0%
2012	34134	77%	13%	1%	7%	1%	0%
2013	45911	77%	13%	1%	7%	1%	0%
2014	44257	76%	13%	1%	6%	2%	1%
2015	38894	77%	14%	1%	6%	2%	1%
2016	39702	77%	14%	1%	6%	1%	1%

Intensified case finding activities in ICTC and ART centre is placed at Annexure-3 A & B



Hon'ble Prime Minister Shri Narendra Modi with Dr. Lucica Ditiu, Executive Director, Stop TB Partnership



PMO India ✓
@PMOIndia



TB के मरीजों की सही पहचान हो, Active Cases के बारे में समय पर पता चले, जो दवाइयां दी जा रही हैं, वो प्रभावी हैं भी या नहीं, drug-resistant TB तो नहीं है, इन विषयों को ध्यान में रखते हुए सरकार द्वारा व्यापक स्तर पर कार्य किया जा रहा है: PM

11:42 AM - Mar 13, 2018

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In recent years, understanding of the role of private providers has increased considerably as a result of patient pathway surveys, standardized patient studies, and analyses of private drug sales. Recent publication from the programme estimating TB patients in private sector based on drug sales in the market gave more insight into the magnitude of the problem in private sector.

Effective engagement of all health care providers (private practitioners, chemists, laboratories, NGOs) at a scale is crucial to achieve Universal Access to TB Care. As majority times, these providers are first contact for care of patients. Since the inception of RNTCP, multiple prior interventions through various strategies have been deployed to engage NGOs and Private Providers for TB control efforts.

National Health Policy 2017 has recognized that social security framework in the health sector cannot be realized without strategically engaging the private sector and recommended the Government to take stewardship role. Effective engagement of the private sector on a scale commensurate with their dominant presence in Indian healthcare is crucial to achieve Universal Access to TB Care.

RNTCP has 22 partnership options to engage with NGOs and Private Practitioners for supporting ACSM, Diagnostic, Treatment and Programme Management activities of RNTCP. The NGOs and private practitioners are engaged through available Partnership options. Through these efforts, ~1900 collaborations with NGOs were made. In general States opt for Designated Microscopy Centre scheme followed by ACSM scheme, specimen collection and transport, C&

DST laboratories, TB units. More than 80 urban slum collaborations were established.

Engagement of NGO's/Private Practitioners through partnership options

1. The Union

a) Project Axshya achievements in 2017

Project Axshya, a unique civil society initiative, has continued its path-breaking work towards improving access to quality TB care and support. The project is working in tandem with the flagship Revised National TB Control Programme (RNTCP). It has played a key role in our goal towards universal health coverage making quality TB diagnostics and treatment available to all.

Working in partnership with 7 sub-recipient partners, over 1000 local NGOs and nearly 15,000 community volunteers The Union through Project Axshya's various innovative interventions has made the following achievements in 2017 (till Sep 2017).

- Reached out to over 17 million people from various vulnerable and marginalised communities.
- Facilitated identification and testing of nearly 220,000 presumptive TB cases. This includes collection and transportation of sputum samples of nearly 190,000 presumptive TB cases.
- Facilitated diagnosis and treatment initiation of nearly 20,000 patients.
- Sensitised and engaged 5000 qualified private practitioners, private hospitals and private laboratories and facilitated notification of over 43,000 patients from the private sector.

- Overall nearly 63,000 TB patients were notified from active case finding and through private sector to RNTCP.
- Sensitised nearly 26,000 TB patients including 9,600 women on their rights and responsibilities through patient charter.

Role of Community Volunteers in improve TB services among tribal populations in India - An experience from Axshya Project

The Union's Project Axshya is addressing the need for better access to quality TB services in India's remote tribal areas. Community volunteers or Axshya Mitras form the backbone of this initiative. Tribals form a high risk group for the national TB control programme.

Vulnerabilities range from poor access to mainstream health systems, combined with poverty, under-nutrition, tobacco and alcohol abuse. This makes management of TB and other communicable diseases a challenge.

In the eastern state of Jharkhand, tribals constitute 28% of the state's population. In Sahibganj district, Axshya Mitras raise community awareness on TB through public meetings with the village health and sanitation committees. They go house to house to help identify people with TB symptoms and encourage them to seek diagnosis and treatment. Axshya Mitras are trusted by the community and are accountable to the health system for promoting better access to TB services.

Key Achievements (Till Sep 2017)

Global Fund Indicators	Target	Achievement	% of achievement
Total number of TB cases notified	59250	62764	106%
Number of TB cases (all forms) notified among key affected populations/high risk groups	45000	48832	109%
Number of TB cases notified through Non-NTP providers - private/non-governmental facilities	38300	43521	113%
Number of Axshya Villages established	6000	8118	135%
Number of prison inmates sensitized about TB and screened for TB symptoms.	37500	37506	100%
Number and percentage of women TB patients of all the TB patients sensitised on their rights and responsibilities	7250 (25%)	9641 (36%)	146%
Number of Axshya kiosks providing flexi-DOT and other services	75	67	89%
Percentage of cases with drug resistant TB (RR-TB and/or MDR-TB) started on treatment for MDR-TB who were lost to follow up at six months	380/3000 (12 %)	167/4202 (4%)	300%



Community Volunteer conducting Active Case Finding in Sahibganj

The district of Sahibganj borders two other states and is within a conflict-ridden area. It has many hard to reach settlements with hilly terrains. High rates of malnutrition and poor living conditions further contribute to people's vulnerability to TB. A majority of the population here are Santhal tribals. Agriculture, stone crushing and daily wage labour is their main source of livelihood.

Axshya Mitra Raphael Hansdak has been working in Pathna block of the district since 2011. He promotes TB awareness through community meetings and does active case finding by going house to house. He encourages those having TB symptoms to get sputum tested. Where people are unable to go, he does sputum collection and transportation to the nearest DMC (Designated Microscopy Centre). Of the 245 sputum collection he has done, nearly 10% patients (22) tested positive. Among these 22 patients, 18 were men and the rest women; 16 have been cured of TB completely and 3 are currently receiving treatment.

Hansdak's relentless work has helped save lives. It has gained him respect of the community and the district TB officer and other health government staff alike. He is responsive to the

community's needs: Sometimes this means accompanying patients to initiate the treatment, or ensure follow up until they complete treatment. His empathetic nature has motivated TB patients to improve their health seeking behaviour. For instance, a TB patient who had an alcohol problem is now fully recovered from TB and has adopted a healthier lifestyle.

The 15,000 Axshya Mitras under the project are playing a crucial role in addressing needs of vulnerable communities such as India's tribal population. From January-December 2016 they conducted over 18,000 community meetings, visited 4 million houses, leading to 200,000 symptomatics examined (including sputum collection and transportation of 166,000). This resulted in diagnosis of 18,000 TB patients who were put on treatment.

Project Axshya is a civil society initiative in India implemented by The Union and seven civil society partners with support from the Global Fund to Fight AIDS, Tuberculosis and Malaria. Project Axshya uses creative solutions to expand access to TB information and services, increase the accountability of service providers and empower communities in 285 districts and 40 urban sites across 19 states in India.



Raising awareness through street play

Challenge TB- India

b) The Union, PATH and FIND

Under the stewardship of Ministry of Health and Family Welfare, Challenge TB(CTB) has increased political will and leadership to tackle TB in India through a high-powered **Call to Action for a TB Free India** initiative, implemented by **International Union of Tuberculosis and Lung Disease (The Union)**.

Challenge TB has made impact through innovative campaigning, and has developed partnerships and sustained engagement with the key stakeholders including members of parliament, representatives of the private health sector, corporations, civil society organizations, media experts, research and academia, and the affected community, for concentrated efforts and collective impact for eliminating TB from India Understanding the need for collective

action through multi-sector engagement for TB elimination, Call to Action for TB-free India has conducted the following key activities:

- Developed a 360-degree mass media campaign featuring Mr. Amitabh Bachchan, a highly revered Actor in Indian Cinema and TB survivor himself
- Launched India TB Caucus a network of elected representatives committed to end TB. The caucus is a part of the Global TB Caucus;
- Partnered with the Global Fund, World Health Organisation and Himachal Pradesh Cricket Association to organize a national summit to build political will and mobilize support from key stakeholders to end TB in India;
- Initiated a partnership with International Labor Organization in India and (ILO) in 2017. Draft workplace policy for TB and



TB-Free India Summit, April 2017

From left to right: Gurpreet Singh Ghuggi, Former Convenor of AAP; Mr. Christoph Benn, Director of External Relations, The Global Fund; Mr. Mark A White, Mission Director, USAID India; Shri. Anurag Thakur, Member of Parliament, Bhartiya Janta Party; Shri. Jagat Prakash Nadda, Union Minister of Health & Family Welfare; Mr. Jose' Luis Castro, Executive Director, The Union; Mr. Anil Kumar Sharma, Minister for Rural Development, Panchayati Raj and Animal Husbandry, Govt. of Himachal Pradesh; Mr Aftab Shivdasani, Actor. Photo Credit: The Union-USEA

HIV has been developed in accordance with National Strategic Plan 2017, to ensure coherence and collective impact.

- Provided technical assistance to the corporate sector and civil society organizations.

Challenge TB is now concentrating its efforts towards Multi-drug resistant TB (MDR-TB) in India. The project intervenes primarily to provide access to rapid diagnosis, capacity building, linkages with the private sector and improving management of DR-TB in the public and the private health sector. It supports the introduction of new drugs (Bedaquiline) and strengthening Programmatic Management of Drug-resistant TB (PMDT) services in the country. All Challenge TB partners including The Union, PATH and FIND, are focused on improving patient-centered treatment and care services. The project supports BDQCAP sites

through technical assistance, human resource, equipment including ECG machines and filling up other critical gaps

FIND with KNCV, under Challenge TB, primarily focuses on expansion of the access to rapid diagnostics through the use of GeneXpert machines (set up in public sector labs) and outreach to key pediatric centers in five major metropolitan areas.

Under CTB-India, **PATH** enables early diagnosis, access to quality diagnostic and treatment modalities as well as adherence to treatment for DR-TB patients in the private sector. PATH plays a crucial role in mapping of the private sector followed by accessing CBNAAT testing in public sector, providing PTE, linking treatment to the public sector, tracking adherence, linking to social schemes linkages as well as community mobilization.

Particular	Performance (till Sep 2017)
TB Stories covered in media	428
ACSM materials developed	113
India TB Caucus	Formed
Private sector partnerships to implement TB program	17
DR TB patients on BDQ containing regimen supported for follow up and ADR management and reporting	698
DR TB patients diagnosed among private sector notified patients	440
DR TB patients among privately notified TB patients linked to public sector treatment	300
DR TB patients among privately notified TB patients linked to social support/welfare schemes	40
HIV-TB services provided to privately notified TB patients	4946
Private providers sensitized for Pediatric TB	4393
Presumptive pediatric TB cases tested	90270
Pediatric TB patients diagnosed	1880

2. Foundation for Innovative New Diagnostics (FIND)

Accelerating access to quality TB care for presumptive paediatric TB cases through improved diagnostic strategies

FIND, in consultation with the RNTCP and with funding support from USAID, began implementing a novel paediatric initiative in April 2014 to improve the diagnosis of TB in children using GeneXpert in four cities namely, Delhi, Kolkata, Chennai, and Hyderabad. In 2016, the project was extended to an additional five cities, namely, Visakhapatnam, Surat, Nagpur, Guwahati and Bangalore. The current project provides a comprehensive diagnostic solution for paediatric TB in the intervention cities. This solution is optimised by additional high-throughput Xpert labs located within the public sector reference labs. Detailed mapping of potential referral institutions (both public and private) was carried out, followed by one to one meetings and Continuing Medical Education (CMEs) for these facilities/providers. Upfront Xpert-based diagnosis was offered to all children with symptoms of pulmonary and extra-pulmonary TB from linked facilities, free of cost, through a hub-and-spoke model. Rapid specimen transport and a reporting mechanism using e-mails and SMSs were established.

The activities at the initial 4 sites had gained significant momentum during the project tenure, with an increasing number of providers getting engaged in each successive quarter. These sites were transitioned, in a phased manner, to the

National TB Program (RNTCP) by the end of March 2017. In addition, in consultation with CTD, the project was extended to cover one additional city, Indore, in August 2017.

Key achievements are listed below:

- A total of 29,369 presumptive pediatric TB and DR TB patients have been tested over the last one year in the intervention cities. Of the total tested, 1,866 (6.4%) children were diagnosed as Xpert-TB positive under the project. Further, out of these diagnosed TB cases, 175 (9.4%) children were diagnosed with rifampicin resistance. Positivity on microscopy, for these children, was only 1.6% - which highlights a fourfold increased detection rate on Xpert over microscopy.
- A total of 4,393 providers were reached through one-to-one meetings and CMEs of which 1245 were engaged under the project. Of these, 745 were from the private sector and the rest from Public sector.
- In spite of the increased workload, the key project performance parameters were maintained. Valid results were provided to 99.7% of the cases by ensuring retesting of initial test failures.
- For 95.4% of the cases enrolled, specimens were tested and results reported to providers within 24 hours of receipt at lab.
- Of the total TB cases diagnosed under the project, information on initiation of treatment is available for 85.3% patients so far.



3. World Health Partners

A. Public Private Interface Agency (PPIA), Patna, Bihar

World Health Partners (WHP) is the implementer of Public Private Interface Agency (PPIA), a project supported by BMGF, covering a population of 6.4 million in the district of Patna, Bihar. The objectives of PPIA are to facilitate early diagnosis and treatment with free diagnostics and anti-TB drugs, increase private sector TB case notifications, and ensure treatment adherence and treatment completion. Notifications are facilitated via a mobile call to a Call Centre and free services provided through an electronic voucher system.



The PPIA program in 2017 engaged a cumulative of 601 formal providers and notified over 19,467

private sector cases, contributing to over 85% of total TB case notifications in the district. The program achieved 61% patient coverage of the private sector, as determined by anti-TB drug sale data collected by a third party agency. The program has integrated with the State with the provision of GoI FDCs to 3,794 privately treated patients through a FDC supply chain model and with substantial increases in the utilization of GoI supported CBNAAT services by private providers. In August 2017, PPIA piloted new adherence technologies of 99DOTS and MERM in order to improve patient adherence management and treatment outcomes and achieve a cost-effective, differentiated care model.

Table: 5.1. Key achievement of the Patna Project

District (s) Covered	Patna
Total Population Covered	6.4 millions
Number of Private Formal MBBS/+ Provider Engaged	601
Number of TB Case Notifications	19,467
Number of Notified Cases Initiated on Free Drugs	18,550
Number of Notified Cases Initiated on GoI FDCs	3,794
Proportion of Pulmonary Cases Microbiologically Confirmed	34%
Proportion of Pulmonary Cases Receiving a DST (CBNAAT)	56%
Number of DR-TB Cases Notified	383

B. Tuberculosis Health Action Learning Initiative (THALI), West Bengal

WHP is the implementer of Tuberculosis Health Action Learning Initiative (THALI) project, in partnership with Child in Need Institute, John Snow, Inc., and Global Health

Strategies. The project is supported by USAID in five districts of West Bengal. The objectives of THALI are to strengthen urban TB control through community outreach and mobilization; private sector engagement; research, evaluation, and knowledge dissemination; and strategic advocacy and media relations in order to create a pathway for the government to integrate successful models.

THALI has engaged 1,072 Formal MBBS+ providers across six districts and notified 7,922 private sector TB cases, facilitated by mobile calls through a Call Centre. Community outreach and sensitization activities have resulted in 1,284 presumptive TB cases registered, out of which 53 TB cases were notified and initiated on treatment. The project also partnered with 8 NGOs to implement a “TOUCH” Agent model, in which key community members serve as change agents to build awareness and generate demand for THALI services, facilitate referrals for diagnostic and treatment services, and manage adherence of high-risk patients. THALI has also established a key partnership with the Kolkata Municipal Corporation’s (KMC) Health department by signing a Memorandum of Understanding (MoU) with the civic body to officially become KMC’s strategic partner in creating a TB-Free Kolkata Mission.

4. REACH: TB Call to Action

In 2017, REACH continued to implement the TB Call to Action project, supported by USAID, in four key states – Bihar, Jharkhand, Assam and Odisha. Through this project, REACH is working to amplify and support India’s response to TB by involving previously unengaged stakeholders

and broadening the conversation around the disease. The project’s objectives are to strengthen and support the community response to TB and to advocate for increased financial, intellectual and other resources for TB.

The key highlights of the Project include:

- The introduction of the REACH pharmacy model in all priority states to increase the engagement of private pharmacists and chemists and strengthen referrals and linkages with the RNTCP
- The formation of a Task Force for Mainstreaming of TB by the Govt. of Jharkhand, which is an outcome of the inter-sectoral coordination meeting organized by REACH.
- The design and rollout of the Employer Led Model for TB Prevention and Care, based on NACO’s ELM initiative, to engage industries for improved access to TB services for employees. REACH is currently implementing the ELM in two districts of Assam.
- The sustained engagement of TB survivors through a series of capacity-building workshops designed to improve their knowledge of TB as well as their advocacy skills. The first workshop brought together 32 survivors from six South-East Asian countries and was held in New Delhi in April 2017.
- Touched by TB, a coalition of people affected by TB with over 100 survivors and affected communities as members. In Bihar, the participants formed their own network -

‘Ummeed – TB Mukteki Ore ek Pahal’ (Hope: a step towards being TB-free).

- The Involvement of celebrities as state TB Ambassadors in priority states including Ms Deepika Kumari, Indian Archer as State Ambassador for Jharkhand; Actor Mr Kuna Tripathy, Sand artist Padma Shri Sudarshan Patnaik and musician Padma Shri Prafulla Kara as State Ambassadors for Odisha; and Actor Mr Rajesh Kumar as State Ambassador for Bihar.

5. The Clinton Health Access Initiative (CHAI)

Aiding RNTCP’s mission to provide timely and quality DR TB diagnosis and treatment to people across the country, Clinton Health Access Initiative (CHAI) supports the program in strategic, operational and analytical aspects at central and state levels, as needed. In the last year, CHAI supported CTD in development of National Strategic Plan, provided data-driven insights in areas such as PMDT scale up, guidelines revision, and sample collection to result delivery processes.

Additionally, CHAI is part of the Technical Support Group (TSG) in Mumbai and has played a critical role in strengthening the private sector activities on behalf of the City TB Office, Municipal Corporation of Greater Mumbai (MCGM). CHAI has been instrumental in strengthening the PPM activities as well as designing the integration of the PATH-PPSA model into the government system. In Chennai, the Greater Chennai Corporation (GCC) under the umbrella TB Free Chennai Initiative leads a broad consortium composed of the National

Institute of Research for Tuberculosis (NIRT), REACH (a Chennai based NGO) and CHAI. In its capacity as the TSG, CHAI is supporting the Greater Chennai Corporation (GCC) in:

- Roll out of the new diagnostic algorithm and universal access to DST- 15 GeneXpert machines have been installed and operational in public health facilities
- Targeted case finding among vulnerable populations through the introduction of Mobile Diagnostic Units (MDUs)
- Strengthening the public- private support agency

In addition to the above, CHAI is also supporting the GCC in directly implementing a private sector lab engagement programme.

6. World Vision India - Project Axshya Update 2017

World Vision India implements project Axshya by a consortium of civil society organizations brought together with an aim of providing significant contribution to eliminate TB from India. Project Axshya (meaning TB free) was launched with the assistance of Global Fund



Round 9 Grant since April 2010 in 74 districts of 8 states (Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Telangana and West Bengal) of India as a 'specialized' TB care and control initiative of the NGO TB-Consortium (NTC).

Project Axshya completed the first phase in March 2013. The second phase concluded in September 2015 and eventually entered into the New Funding Model (NFM) phase with effect from October 2015 which continued till 31 December 17. It is significant that in the first two phases of Axshya project from April 2010 to September 2015, about 240,974 presumptive TB cases were referred by the project; 193,785 persons were tested in Designated Microscopy centres (DMC). A total of 20,728 patients were diagnosed with TB and 19,175 were started on DOTS treatment within seven days of diagnosis.

The NFM or the final phase of Axshya was implemented in 70 districts (65 old districts of the project and 5 new districts) of the same 8 states with World Vision India as the Primary Recipient (PR) and the same six NGO partners as the Sub Recipients SRs.

Key Achievements:

- **Community referral:** Around 4906 TB patients were detected through the referrals of the unqualified private providers whom the project had sensitized.
- **Private sector notification:** The project had sensitized around 5000 private doctors and facilities in 100 cities located in 70 project-districts on TB notification and assisted them

to notify the TB cases. Around 27,476 private TB patients were notified in NIKSHAY System of RNTCP. Of which 4000 TB patients have been notified through the Adherence Care Treatment and Support (ACTS) software developed by WVI team in collaboration with Kavin Corporation

- **INH-prophylaxis:** The project initiated INH-prophylaxis to around 2832 children-contacts of affected TB patients in project districts
- **HIV testing:** The project assisted around 14496 TB patients to utilise the HIV testing services at the ICTC (Integrated Counselling & Testing Centre).
- **Counselling of MDR TB patients:** The project brought around 1423 MDR-TB patients under home-based counselling and food supplementation services.

7. Tata Institute of Social Sciences – Project Saksham Pravaah

Saksham Pravaah, a Tata Institute of Social Sciences project, supported by the Global Fund in partnership with the Central TB Division (CTD), Ministry of Health and Family Welfare, has been providing psychosocial counselling to DR-TB patient and caregivers through Saksham DR-TB counsellors, based on the social structural approach to disease prevention and control in Mumbai, Maharashtra, Gujarat, Karnataka and Rajasthan

Role of Saksham DR TB Counsellors

- Register Drug Resistant (DR) TB patients (New & Existing) for counselling services

and provide regular counselling to ensure treatment adherence.

- Undertake regular home visits to DR-TB patients within the district for providing follow up counselling.
- Provide counselling services to family members of the DR-TB patients and refer them for TB diagnosis if required.
- Liaise with District TB staff to monitor treatment adherence of TB patient at community level
- Link DR-TB patients to social protection schemes and other health services as required.
- Motivate DR-TB Patients for “Follow-up Sputum Test”.
- Refer DR-TB Patients to appropriate Health Services for ADR management.
- Provide counselling for de-addiction or refer to de-addiction services.

In 2017, Saksham DR-TB counsellors have registered 96% of DR-TB patients who were initiated on treatment by RNTCP for counselling services. Understanding the importance of involving caregivers as partners in treatment completion, 89% patient caregivers were also provided counselling. 71% of the patients were given first follow up home visit within the same quarter. The counsellor reinforces the adherence messages and address barriers to adherence during every follow up counselling. Around 80% of priority based follow up visits were done at home, rest were in health posts and other areas like religious places, market etc.

Counsellors identify and provide support to patients who interrupt their treatment. Of the total treatment interruption instances, 81% patients were counseled and were retrieved back on regular treatment. Adverse events due to DR-TB treatment being one of the most important reasons for treatment interruption and the project is focusing on ADR referrals so as to ensure prompt management of ADR's.

As on 31st December 2017, 89% of the Saksham registered DR-TB patients are continuing on treatment. The project intervention adopts a psycho-social approach in addition addressing the social factors through linking patients to various social protection schemes. The Project also provided social protection linkages like helping DR-TB patients acquire Aadhaar card, ration card, bank account etc. Hearing aids were provided to 11 patients who suffered hearing loss due to adverse reaction of DR-TB drugs. Furthermore, project have also provided nutrition linkages to patients in order to help them adhere to the treatment.

Saksham Pravaah has also launched an app named 'Saksham Against TB' (SAT) for registration and follow up of DR-TB patients and their caregivers, recording of loss to follow ups and treatment retrievals, social protection linkages etc. Proposal to sync SAT-App with Nikshay is also being considered in the current phase.

Table: 5.2. No. of DR-TB patients registered for counselling services

State/City*	Registered DR-TB cases under RNTCP	SAKSHAM			%
		Saksham Reg. for follow-up	MDR	XDR	
Mumbai	4145	3926	3574	352	94.7%
Maharashtra	2903	2746	2520	226	94.5%
Gujarat	2358	2356	2050	306	99.9%
Rajasthan	2136	2071	1969	102	96.9%
Karnataka	1028	1007	988	19	97.95
Total	12570	12106	11101	1005	96.3%

*only selected sites

Table: 5.3. No. of patients and Caregivers registered for counselling under Saksham Project

State/City	Saksham patients	Caregivers	%
Mumbai	3926	3237	82.4%
Maharashtra	2746	2510	91.4%
Gujarat	2356	2010	85.3%
Rajasthan	2071	1836	88.6%
Karnataka	1007	945	93.8%
Total	8180	7301	89.2%



Saksham DR-TB counsellor – counselling a patient and caregiver

Table: 5.4. Successful linkages for social protection under Saksham

State/City	No.	Type
Mumbai	105	93-nutrition, 1- education, 10-social security/bank/Aadhaar card, 1-livelihood/income generation
Maharashtra	436	Nutrition Support for 410 patients and Benefits of other govt. schemes for 26 patients
Gujarat	878	[Health=78; Insurance=3; Livelihood=3; Nutrition= 68; Social Protection Scheme: 13; Others; 47 which include help for bank a/c, Aadhaar card, govt. certificates, etc.]
Rajasthan	409	Insurance=62; Nutrition= 200; Livelihood =11, Cough Hygiene = 148, Silicosis = 6, Others; 20 which include help for bank a/c, Aadhaar card, govt. certificates, etc.]
Karnataka	668	364 - Social protection schemes , 258- Nutrition support and 46- helped for open the bank account
Total	2496	

8. Tibetan Voluntary Health Association (TVHA)

Under the Global Fund grant, through a two stage screening, TVHA conducted intensified screening of active TB cases among the Tibetans living the 15 Tibetan settlements in India spread all over India i.e. Karnataka state in South India, Chhattisgarh and Odisha in Central India, Arunachal Pradesh in North East India and Doon Valley (Uttarakhand) & Sirmour region (Himachal Pradesh) of North India. These include people living in congregated settings like schools and monasteries. Also household level visits were carried at each of the 15 settlements.

First stage symptom screening was conducted through a questionnaire by the school nurses or the TVHA outreach staffs at schools and at the household level symptom screening was carried out by the TVHA outreach workers. Then a

TVHA doctor/health facility did the second level examination and investigation. In North India a team from Primary Care hospital based at Deokyling near Dehra Dun travelled to some of the remote schools (from the PHC) in a mobile bus which has sputum smear microscopy and x-ray facility.



TVHA staff conducting Household Line listing

9. Karnataka Health Promotion Trust

Tuberculosis Health Action Learning Initiative

The USAID-funded THALI project is implemented by Karnataka Health Promotion Trust (KHPT) in Karnataka and Telangana. THALI partners include TB Alert India, its implementing partner for Hyderabad and Telangana, and St. John's medical College, Bengaluru, its technical partner. KHPT implements the project directly in Bengaluru and Karnataka. The initiative is a patient and family-centered TB prevention and care program supporting vulnerable people gain access to quality care services from health care providers of the patient's choice. It works in alignment with the national strategic plan for TB control and in collaboration with RNTCP. THALI efforts focused on the two cities of Bengaluru and Hyderabad in 2017 and intends to expand to additional geographies in 2018 and 2019.

Highlights of 2017

A 'TB to Health' campaign was conducted in Bengaluru and Hyderabad from World TB Day (March 24) to World Health Day (April 7).



An awareness program organized by THALI during the 'TB to Health' campaign in Bengaluru



Visit of the Mark A. Green, Administrator, USAID, to STDC, Hyderabad

Intensified awareness activities were carried out in both cities through mid-media and outreach activities. TB kiosks were also set up at medical colleges and private tertiary care hospitals to reach out to health care providers and patients. The Government of Telangana announced its commitment to end TB at the World TB Day event where Ms. Katherine B. Hadda, US Consul General, Hyderabad, released an End TB Brochure, along with other state dignitaries.

The Hon. Mark A. Green, Administrator, USAID, visited the Telangana State Training and Demonstration Center (STDC) on November 30 2017. The event was organized by THALI in collaboration with the Telangana state government and RNTCP, and REACH. Mr. Green witnessed the state-of-the-art TB diagnostic facility at the STDC, met with TB survivors, and interacted with representatives of state and national health administrators and RNTCP program managers, corporate and private health sectors, media and the public. Acknowledging the Indo-US partnership on TB, Mr. Green spoke on USAID's commitment to support India's efforts to eliminate TB by 2025.

10. Indian Council for Medical Research (ICMR)

Targeted Intervention to Expand and Strengthen TB Control among the Tribal Population under RNTCP, India (TIE-TB Project)

A large and deprived tribal population in India estimated at an approximately 104 million (8.6% of the total population) with a huge burden of TB requires services which are, truly & certainly, accessible and available. The extreme remoteness, intense deprivation from even a day's square meal and the harsh and isolated living environments primarily contribute to high vulnerability of and poor access to healthcare by these populations. As such, provision of TB services to the tribal population is not simply an issue of reducing the burden of TB in numbers but is a 'Standard of Care' issue.



The Indian Council of Medical Research (ICMR) under the Department of Health Research/Ministry of Health & Family Welfare/Government of India, in collaboration with Central Tuberculosis Division (CTD)/Department of Health & Family Welfare/MOHFW/GOI has undertaken the TIE-TB project in certain defined hard to reach, tribal areas spread over

the central and western parts of India to improve the convenience of TB services for the tribal population. This project has been funded by the Global Fund for AIDS, TB & Malaria.

The most significant aspect of the project is the deployment of the Mobile TB Diagnostic Van (MTDV) equipped with X-ray facilities and Sputum Microscopy facilities which are offering diagnostic services for Tuberculosis at the doorstep of the patient's home in difficult to reach areas of the tribal populations. This project has been initially undertaken in 5 States and 17 districts. 35 MTDVs, have been fabricated and equipped with sputum microscopy services and X-ray facilities and have been positioned in the 5 states of Madhya Pradesh, Gujarat, Chhattisgarh, Rajasthan and Jharkhand in difficult to reach areas of the tribal belts. The vans have initiated services and accordingly to a defined route plan, they are visiting the difficult to reach tribal areas and providing sputum services and also Chest X-ray services to presumptive TB patients.

The project is being implemented in 5 States and 17 districts covering a total population of approximately 17.65 million. This intervention is expected to improve the 'Standard of Care' among these extremely deprived populations. The efforts are expected to improve early seeking of care, reduction in out of pocket expenditure of individual patients and curbing of the individual patients from being directed to multiple providers for treatment which results in huge economic burden to the patient and his family. The MTDVs have been operationalized at variable points of time and regular reporting of data is being initiated at the time of writing this report.



Hon'ble Prime Minister Shri Narendra Modi with Mr. Peter Sands, Executive Director, The Global Fund



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TB को भारत से मिटाने के लिए राज्य सरकारों की भी बड़ी भूमिका है। Co-operative Federalism की भावना को मजबूत करते हुए, इस मिशन में राज्य सरकारों को अपने साथ लेकर चलने के लिए मैंने खुद देश के सभी मुख्यमंत्रियों को चिट्ठी लिखकर इस अभियान से जुड़ने का आग्रह किया है: PM

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RNTCP is being implemented in line with the National Strategic plan. Under 12th Five Year Plan, NSP 2012-17 for TB control approved for a period of five years has come to an end in 2017. The new NSP 2017-25 for TB elimination is approved for the coming five years. RNTCP is centrally sponsored scheme under NHM to implement the programme activities as envisaged under NSP 2017-25 as per RNTCP guidelines.

The procedures for the financial management are being followed as per the manuals and guidelines available on the program website (Financial Manual for RNTCP). The financial management arrangements to account for and report on program funds, includes both Domestic Budgetary Support (DBS) and External Aided Component (EAC). The arrangements are as follows:

- a. **Institutional arrangements:** Central TB Division (CTD), being a part of the National Health Mission (NHM) holds the overall responsibility of the financial management of the program. Similarly, at the state and district level, the State TB Cell and the District TB Centre are responsible respectively.
- b. **Budget:** Program expenditures are budgeted under the Demand for Grants of the MoHFW

Flexible Pool for Communicable Diseases funding arrangement. These are reflected in two separate budget lines- General Component (GC) and Externally Aided Component (EAC).

- c. **Funds flow and Releases:** The fund flow remains within the existing financial management system of the MoHFW, which operates through the centralized Pay and Accounts office. Release of funds to states is done in instalments through State Treasury.
- d. **Sanctions & Approvals:** All procurements of commodities are processed by the Empowered Procurement Wing (EPW) and approved by the Secretary and Union Minister in line with the delegation of the financial powers. All funds releases for commodity advances for approved contracts are routed through the Integrated Finance Division (IFD) and processed by the Drawing and Disbursing Offices (DDO) and Pay and Accounts Office (PAO). All the program expenditures follow the standard government systems of the PAO and are subject to control as per the General Financial Rules (GFR) of the Government of India. Payments are made through electronic funds transfer through treasury since the financial year 2014-2015.

Table: 6.1. Financial Performance of RNTCP in 12th Five Year Plan:

Description	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-18	Total
Budget requested	700	800	1358	1300	1000.00	2200.00	7358.00
Budgetary estimates/approval	710	710	710.15	640	640.00	1840.00	5250.15
Total Releases to states	224.72	323.52	373.87	483.19	533.17	425.94*	2364.41
Expenditure (Plan)	566.39	527	639.94	639.86	677.78	1324.24*	4375.21

*Till 7th February 2018 #Figures In crores

- e. **Accounting:** The accounting records for all payments are made against approved budget. Budget lines are maintained by the Principal Accounts Officer and compiled by the Controller General of Accounts (CGA). The compiled monthly accounts are reconciled with the CTD record of transactions.
- f. **Financial reporting:** A financial report is submitted by CTD to MoHFW and the donors like The Global Fund and World Bank on periodic intervals based on the compiled monthly accounts and CTD's own record of expenditures,
- g. **External Audit:** The audits are being conducted as per the standard terms of reference. The audit reports are being made available as per the agreement. At state level audits are being done as per state NHM manual and guidance for audit by empanelled chartered accountancy firms of the State. All the states are required to submit the annual audit report to CTD by 30th September.

Donor and External Aided Financing for RNTCP:

The goal of the donor supported funding to the program is in line with the National strategic plan to achieve 'Universal access to quality diagnosis and treatment for all TB patients in the community'. The donor supported funding contributing to the program under NSP 2012-2017 is from The Global Fund and USAID.

The Global Fund

Central TB Division (CTD), MoHFW has been a Principal Recipient (PR) of the Global Fund

Grants since Round 1, 2003. This grant support has substantially increased over the years for the TB control programme under the New Funding Model (NFM) for the implementation period 01st October 2015 to 31st December 2017.

The Grant is supporting in scaling up of program activities across country including establishment of 15 Liquid culture laboratories, 26 units of MGIT equipment set, 4 Units of Genome sequencing equipment, 50 Units of GT Blot, 2560 Units of FL LPA Kits, 45 Mobile Vans for Active Case Finding, 20,000 IT Tablets, Procurement of 35 Mobile Vans for strengthen access to RNTCP services in the tribal population with the use of Mobile Digital X-ray and Sputum Microscopy Vans for Geographically Remote Places (Spatial Targeting), deployment of additional 200 CBNAAT machines, procurement of First line and Second line drugs, strengthening of supply chain management system, Establishment of IT enabled Supply Chain Management System (Nikshay Aushadhi), scale up of Public Financial Management System (PFMS), etc. The sub- recipients under the Global Fund NFM Grant are:

- States of Andhra Pradesh, Bihar, Chhattisgarh, Haryana, Jharkhand, Karnataka, Orissa, Telangana and Uttarakhand
- Indian Council for Medical Research (ICMR)
- World Health Organization (WHO)
- Foundation for Innovative and New Diagnostics (FIND)
- Tata Institute of Social Sciences (TISS)
- Tibetan Voluntary Health Association (TVHA)

Way Forward: The RNTCP Global Fund next funding proposal has been approved by the Global Fund Secretariat for Central TB Division (Principle Recipient) for the period from 1st January, 2018 to 31st March 2021. The grant broadly supports in the areas of Procurement of Second Line Drugs, Newer Drugs, INH & Pyridoxine for IPT, 500 CBNAAT machines, CBNAAT cartridges, Patient Incentive Support, Counselling of DRTB Patients, Technical Support Network, Operational Research Activities, Active Case Finding, Contribution to Green Light Committee (GLC) and strengthening of RNTCP SCM system including up-gradation of GMSD, SSD, DDS & TU.

USAID

RNTCP has rolled out newer drug Bedaquiline in the selected Six sites of Five States in the first instances under Conditional Access Programme (CAP). The 10,000 course of newer drug Badaqualine has been committed by the USAID to the RNTCP Programme as a donation through Global Drug Facility (GDF). Out of which 3500 courses have already been delivered and balance 6500 courses are expected to be complete by Dec 2018.

World Bank Project

Central TB Division is implementing the “*Accelerating Universal Access to Early and Effective Tuberculosis Care*” Project with an IDA Credit. The development objective of the project is to support the aims of India’s National Strategic Plan (NSP) for Tuberculosis Control to expand the provision and utilization of quality diagnosis and treatment services for people suffering from tuberculosis. The project became effective

on June 26, 2014 and considering the viability of the project the closing date has revised from 31-03-2017 to 31-03-2018. While the Credit supports implementation of the National Strategic plan for TB control. The project has three components:

Component 1: New strategies to reach more tuberculosis patients with earlier and more effective care in the public and private sectors

Component 2: Scale-up and improve diagnosis and treatment of drug-resistant tuberculosis.

Component 3: Expand public tuberculosis services integrated with the primary health care system.

The project has been restructured on a hybrid model consisting of Disbursement Linked Indicators (DLI) and Procurement of commodities and services.

Under the current World Bank Project, TB patients have directly benefited from treatment in accordance with the WHO DOTS, meeting the annual target of 4.6 million patients for calendar year 2016.

The project is on track to achieve its Development Objectives by the closing date of March 31, 2018. The project has fully disbursed Credit allocated to procurement of first and second line anti-TB drugs, fixed dose combination of drugs for daily regimen pilot and lab equipment. Of the thirteen disbursements linked indicator results agreed for the project, six results have been achieved in the past and Credit allocated to them disbursed. An additional three results have been assessed as achieved by the independent verification agency and

disbursements towards these have been certified. The project has disbursed over 87.17% of the IDA Credit.

Way Forward: In order to achieve ambitious target of NSP 2017-25 the programme is looking forward World Bank funding support for coming years. The Programme has initiated new World Bank Preliminary Project Proposal on “Moving towards Elimination of Tuberculosis 2018-2022” with an IBRD Loan, through a multi-phased programmatic approach with commitment

for first three years and annual and bi-annual commitment, thereafter. It was developed in consultation with the Bank.

The Global Fund considered this project proposal as quality demand, in light of it being an innovative financing mechanism leveraging substantial additional financial resources. The Global Fund has principally agreed to provide additional grant support as a buy down with World Bank, the potential additional buy down in the subsequent years.



Hon'ble Prime Minister Shri Narendra Modi with Prof. (Dr.) Nila Djuwita F. Moeloek, Hon'ble Health Minister, Indonesia



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इस आयोजन में राज्यों की तरफ से आए मंत्रिगण और संबंधित पदाधिकारियों का इतनी बड़ी संख्या में उपस्थित होना, इस बात का संकेत है कि कैसे हम Team India की तरह अपने देश को TB से मुक्ति दिलाने के लिए दृढ़ संकल्पित हैं: PM

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Ensuring uninterrupted supply of good quality Anti TB Drugs, commodities and diagnostics for the smooth functioning of the Programme and Patient's care is an essential component of DOTS strategy under RNTCP.

Procurement of Anti-TB drugs, equipments and diagnostics is done centrally through a well-defined procurement mechanism using Domestic Budget, The Global Fund & USAID support. To ensure procurement of good quality drugs, procurement is being done by a Central Procurement Agency viz. Central Medical Services Society (CMSS) and The Global Fund through the Global Drug Facility (GDF)/UNOPS by their authorized procurement agent i.e. International Dispensary Association Foundation (IDA). The Procurement and Supply chain management of drugs and other related activities at Central level is administered by an official at the level of Addl. DDG (TB) being supported by consultants.

The programme with regard to Procurement & supply chain management has achieved new initiatives during the last year like implementation of Nikshay Aushadhi application for managing drug inventory, procurement of Tablet computers & Mobile Vans etc.

Summary: Achievements and Activities

- 1) Implementation of Nikshay Aushadhi
- 2) Expansion of Daily Regimen
- 3) Stock of Anti TB Drugs
- 4) Introduction of Shorter Regimen
- 5) Procurement of Tablet Computers
- 6) Procurement of Mobile Vans

- 7) Expansion of Bedaquiline
- 8) Procurement of Delamanid
- 9) Procurement of CB-NBAAT machines
- 10) Quality Assurance of Anti TB Drugs
- 11) Training on Nikshay Aushadhi

Implementation of Nikshay Aushadhi: RNTCP with support of C-DAC has developed a web based application "Nikshay Aushadhi" for the management of Anti TB Drugs and other commodities under RNTCP. The application has been customized as per the needs of Programme and will further strengthen the logistics and supply Chain Management by ensuring real time monitoring, recording and reporting of Anti TB Drugs and commodities at all the levels. The national level Trainings of trainers (ToT) on "Nikshay Aushadhi" were completed in 2017 and application has now been made functional across the country from December'2017. Further, mobile app for Nikshay-Aushadhi on android version is also under development phase and is expected to be available by mid of 2018.

Expansion of Daily Regimen (FDCs): Daily regimen was initially rolled out in five states namely Sikkim, Maharashtra, Kerala, Himachal Pradesh & Bihar in 1Q-2017. However, following the directions of Honorable Supreme Court of India to roll-out daily drug regimen across the country by Oct'2017, programme with support of the central & states authorities has successfully rolled out daily drug regimen within the scheduled time across the country. The drug sensitive TB patients (adult & pediatric) are now being treated across the country with daily

regimen drugs (FDCs). Further, to ensure easier administration and acceptance of daily regimen formulations (FDCs) by pediatric patients, the same is being procured in flavoured dispersible form.

Stock of Anti TB Drugs: As daily regimen has been implemented across the country for adult & pediatric patients, programme is ensuring sufficient supply and procurement of drugs for smooth transition from intermittent regimen phase to daily regimen. Accordingly, stock position of all states is being monitored closely at central Level to ensure availability of drugs at all levels. Further, programme is continuously monitoring the procurement processes being undertaken by CMSS and The Global Drug facility (GDF) to ensure that all the ongoing procurements are materialized in a timeframe manner.

With regard to the treatment of drug resistant TB patients under RNTCP, sufficient 2nd line drugs are being procured through GDF/IDA & CMSS and issued to states as per the requirement. For implementation of Isoniazid Preventative Therapy (IPT), procurement of Tab Isoniazid-100mg & 300mg and Pyridoxine-25 & 50mg have been initiated by the programme through CMSS. The procurement of Tab INH-300mg has already been finalized and supplies are expected to start reaching consignees from 1Q-2018 onwards.

Introduction of Shorter Regimen: Introduction of shorter regimen for MDR TB patients is expected to be rolled out across the country from 1Q-2018 onwards. The supply of requisite drugs for shorter regimen has been started reaching consignees and programme is in the process of

issuing drugs to respective states accordingly. Further, to ensure timely procurement and uninterrupted supply of requisite drugs for shorter regimen, indent has already been submitted to procurement agency in 2017.

Procurement of Tablet Computers: To enhance implementation of Nikshay Aushadhi, Nikshay and other digital innovations under RNTCP, Programme has successfully finalized the procurement of 20K of Tablets Computers in Dec'2017. The supply of Tablet Computers to respective states / consignees has been started and is expected to be completed by 1Q-2018. The Tablet Computers will be delivered to Central, States & GMSDs officials for enhancing various digital activities under RNTCP. The Tablet computers supplied to states will be further distributed to State TB Officer's, State/Districts Pharmacists, Lab technician/s, STS, STLS, DMCs etc. Further, to ensure optimum utilization of Tablet Computers, states have been requested for making provision for arrangement of Sim cards, suitable tariff plans for internet facility.

Procurement of Medical Mobile Vans: To support states for undertaking Active Case Finding for diagnosis of TB Patients and to





fulfill gaps under the diagnostics policy of RNTCP, Programme has successfully procured 45 Medical Mobile Vans. The distribution of medical mobile vans to respective states/ consignees has already been started and supply of Mobile Vans is expected to be delivered by 1Q-2018. The Medical Mobile Vans have been fitted with Cartridge Based Nucleic Acid Amplification Test (CBNAAT Machine) along with other essentials like Gen-set, Refrigerator, UPS, Printer, Air Conditioner etc. These Mobile vans will facilitate in early diagnosis of MDR-TB and TB in high risk population through Active Case Finding.

Expansion of Bedaquiline: Initially Bedaquiline has been introduced at six sites in 5 states under Conditional Access Programme (CAP) in March 2016 and procurement of the same was done accordingly. However, following the recommendations of National Expert Committee on diagnosis and management of TB under RNTCP for expansion of Bedaquiline use, programme has already initiated the procurement of 10,000 Patient courses through USAID. Supply of 3,500 patient courses has already been received by the programme and

based on preparedness / expansion plan of states, BQ is issued to all the states.

Procurement of Delamanid: Delamanid is a recently approved drug for treatment of MDR/ RR-TB patients under Conditional Access Programme (CAP). Initially, procurement for 400 patient courses of Delamanid will be done through donation for use in seven selected states under conditional access programme. The logistics and supply chain management guidelines of Delamanid has been finalized by the programme.

Procurement of CBNBAAT machines: In addition to already installed 638 CB-NAAT machines across the country, procurement of additional 507 CB-NAAT machines was finalized in 2017. The supply & installation of additional CB-NAAT machines have already been started and it is expected that CBNAAT machines will be delivered / installed at respective sites by 1Q-2018. Further, to ensure uninterrupted supply and availability of cartridges, procurement of about 26.0 lakh cartridges were finalized in 2017, with all supplies expected to be completed by 1Q-2018.

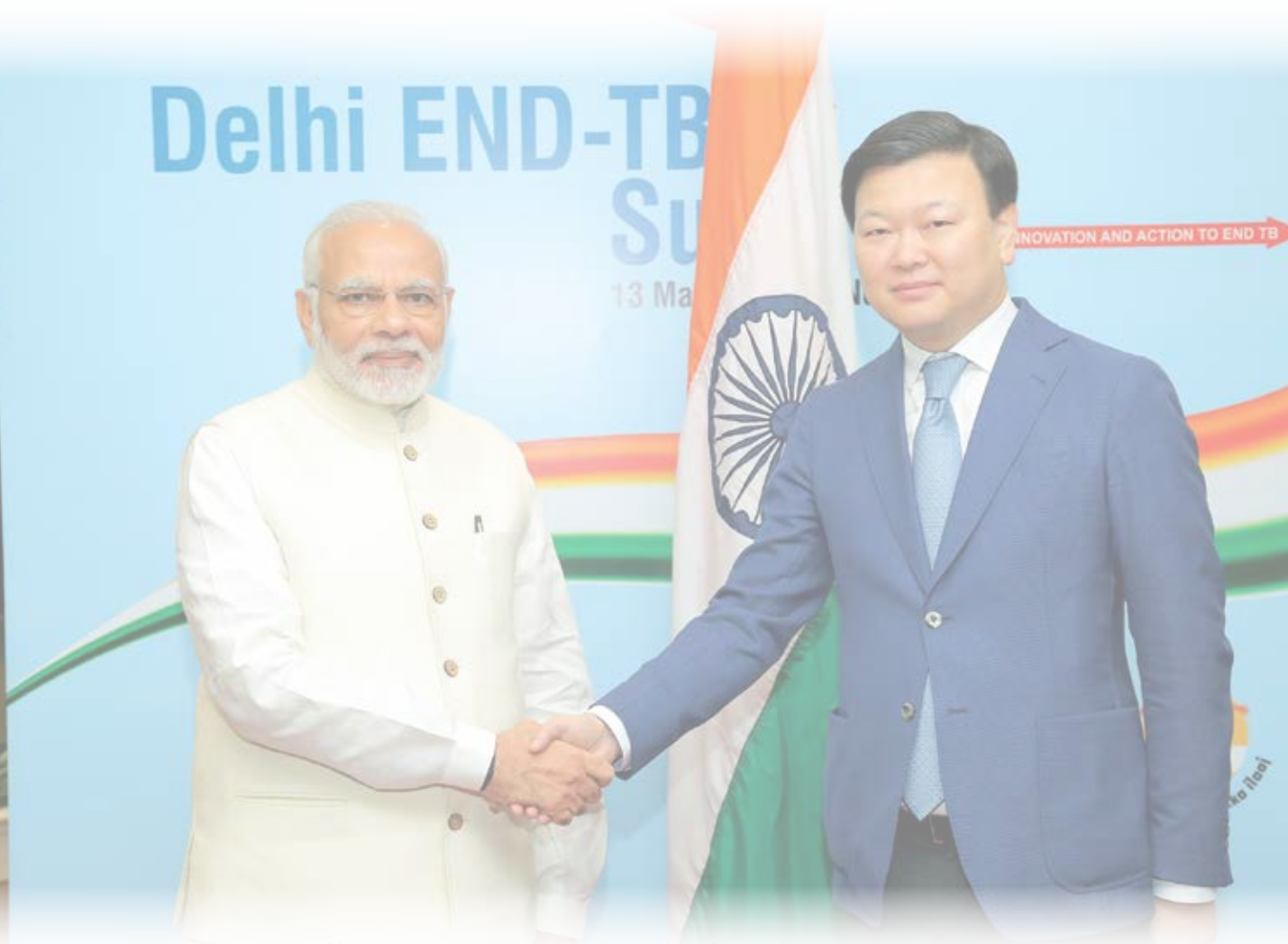
Quality assurance of Anti TB drugs: Ensuring procurement of quality drugs and efficacy of drugs upto the consumption level is one of the main objective of the Programme. Accordingly, procurement of Anti TB drugs (1st line, MDR & XDR) is being done only from WHO Pre-Qualified, WHO GMP & ERP approved suppliers with mandatory pre-dispatch inspection and testing of drugs being supplied to RNTCP consignees by the suppliers. Further, programme has hired an independent lab to ensure the quality and

efficacy of anti TB drugs lying at RNTCP drug stores. Random samples of anti TB drugs lying at different stores are being collected and tested as per the RNTCP quality assurance Protocol.

Training & Capacity Building Workshops on Nikshay Aushadhi: To ensure that states are able to manage drug logistics, inventory and supply chain management smoothly through “Nikshay Aushadhi”, national level trainings for master trainers for all states were conducted

by Central TB Division in 2017. Based on master trainings, further cascade trainings on “Nikshay Aushadhi” were conducted by respective states for concerned officials at different levels to ensure smooth functioning of Nikshay Aushadhi application. As the application is being updated and customized intermittently as per experiences gained and requirements from users, refresher trainings on Nikshay Aushadhi are also under consideration of the programme.





*Hon'ble Prime Minister Shri Narendra Modi with Mr. Alexey Tsoy,
Hon'ble Vice-Minister of Healthcare and Social Development of the Republic of Kazakhstan*



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TB से मुक्ति का ये मिशन भले ही भारत में हो या किसी भी देश में, frontline TB physicians और workers की बड़ी भूमिका होती है। इसके साथ ही हर वो व्यक्ति जो TB से ग्रसित होने के बाद रेग्यूलर दवा लेता है, अपना इलाज कराता है और इस बीमारी को हराकर दम लेता है, वो भी प्रशंसा का पात्र है: PM

11:46 AM - Mar 13, 2018

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Advocacy Communication & Social Mobilization (ACSM) is an important and integral component of RNTCP program as proposed in National Strategic Plan (2017-2025). ACSM refers to a set of interventions that are used to improve tuberculosis (TB) control, particularly with the objectives of improving case detection and treatment adherence and TB-control strategy to ensure long-term, sustained impact.

It creates positive behaviour change, influences decision-makers, and empowers communities to change. Issues that can be addressed through ACSM are delayed detection and treatment, lack of access to TB treatment, difficulty in completing treatment, lack of knowledge and information about TB that can lead to stigma, discrimination & delayed diagnosis and/or treatment.

Media Campaign at National level

World TB Day:

The Ministry of Health & Family Welfare (MoHFW), Government of India in collaboration with WHO Country Office, India organized World TB Day 2017 with the underlying theme of UNITE TO END TB: Leave no one behind.

Speaking on the occasion, Shri J. P. Nadda, Union Minister of Health & Family Welfare said, *“Ensuring affordable and quality healthcare to the population is a priority for the government and we are committed to achieving zero TB deaths and therefore we need to re-strategize, think afresh and have to be aggressive in our approach to end TB by 2025.”*

In his address, Dr Henk Bekedam, WHO Representative to India highlighted, *“The National Strategic Plan for Tuberculosis Elimination 2017-2025 is a major step forward in India’s fight against TB; it is about building partnerships towards ending TB.”*

The following initiatives were launched:

- Annual TB Report 2017
- Guidance document on Nutrition Support for Tuberculosis Patients
- National Framework for Joint TB-Diabetes collaborative activities
- A TB awareness media campaign
- ‘Swasth E-Gurukul’: A digital e-learning platform

Dignitaries were graced the occasion; Mr C. K. Mishra, Secretary Health, MoHFW; Dr Jagdish Prasad, Director General Health Services, MoHFW; Dr Arun Panda, Additional Secretary & Mission Director, National Health Mission, MoHFW; Mr Arun Kumar Jha, Economic Advisor, MoHFW; Dr Sunil Khaparde, Deputy Director General (TB), MoHFW; and other senior officers of the Health Ministry, representatives of WHO, World Bank and other development partners.



i) Audio-Visual Campaign-

TV campaign in Doordarshan was started from September 2017 to January 2018 through Directorate of Advertising and Visual Publicity (DAVP). On 1st Nov. the campaign started in satellite channels with seven regional languages. (Bengali, Gujarati, Kannada, Marathi, Malayalam, Tamil, Telugu). Further one month campaign started from 28th February 2018 to 27th March 2018.

Radio campaign started in September 2017 with All India Radio (AIR) has now reached to FM and community radio catering larger number of audiences. The campaign in T.V and Radio was on as the first phase of audio-visual media campaign till 31st Dec 2017 through Directorate of Advertising and Visual Publicity (DAVP). Further one month campaign started from 28th February 2018 to 27th March 2018.

ii) Digital Media Campaign-

Digital media campaign launched on 7th Nov. 2017 for 28 days in the first round of digital media campaign in 17 states (Arunachal Pradesh, Assam, Bihar, Chandigarh, Delhi, Haryana, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Rajasthan, Punjab, Sikkim, Tripura, Uttar Pradesh) through National Film Development Corporation of India (NFDC). The campaign has been launched with a good number of 3900 theaters in the country with 4 shows each day in each theater.

iii) Outdoor Media Campaign-

Outdoor media campaign launched from 23rd Nov 2017 for 1 month through DAVP in 13 states includes 20 bus queue shelters in every state, Airport hoarding at Mumbai & Delhi Airport,

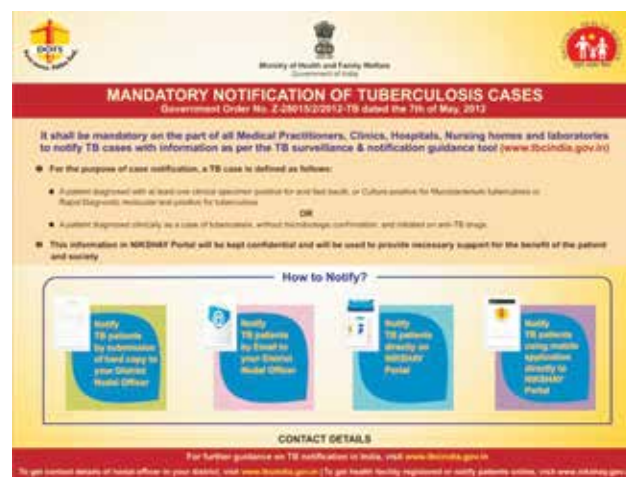
8 Cantilevers in Delhi NCR. The 13 states are Andhra Pradesh, Assam, Delhi, Goa, Jharkhand, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttarakhand, Uttar Pradesh and West Bengal through Directorate of Advertising and Visual Publicity (DAVP). The posters also designed Tamil language for the publicity in Tamil Nadu.



iv) Print Media Campaign-

Advertisement on TB notification went in 252 newspapers including English, Hindi and 167 regional newspapers on 10th September 2017 through DAVP.

News clip



v) Social Media Campaign-

The DDG-TB Twitter handle has been operational from August 2017 for creating mass awareness about tuberculosis through social media.

India's most loved RJ "Khurafaati Nitin" and

“Anand Kumar Super 30” from Bihar has been launched officially from the tweeter handle of DDG - TB.

vi) New IEC Material on Daily Regimen-

New IEC materials such as TVC spot, radio spot, posters, info graphic and a video film on Daily Regimen have been developed and shared with all 36 States/UTs in the month of December 2017.

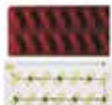
FDC medicines are available free of cost in daily dose for all TB patients under RNTCP

ACCORDING TO BODY WEIGHT

Weight	No. of Tablets
40-45kg	1
46-50kg	2
51-55kg	3
> 55	4


Anti TB medicines as FDC will be given daily according to weight of the patient.

FIXED DOSE COMBINATION




FDC will reduce pill burden and prevents selective intake of individual medicines

CHILD FRIENDLY



Child friendly flavoured, dispersible anti TB medicines are now available



World AIDS Day at Jawarhar Lal Nehru Stadium-

An event was organized on 1st of December, 2017 by NACO in collaboration with Central TB Division and Delhi State TB cell on TB-HIV. More than 2,500 attendees were attended the event at Jawahar Lal Nehru Stadium, New Delhi.

Inauguration of CBNAAT machine & its Cartridge by Hon’ble MoS (Health & Family Welfare) was a historic moment. Hon’ble MoS (Health & Family Welfare) spent some time to understand the efficiency of the machine and cost effectiveness for PLHIV. She also enquired about the displayed guidelines and its availability at state level. New IEC material, various Guidelines, Videos/ TV Spots and standees on

TB-HIV were made available for display and distribution among attendees.



Inauguration of the event by Hon’ble MoS (Health & Family Welfare) and Secretary (Health & Family Welfare)



Inauguration of CBNAAT machine & its Cartridge by Hon’ble MoS (Health & Family Welfare)

“Nikshay Patrika” a Quarterly Newsletter by Central TB Division:

Team of Central TB Division has come up with quarterly NIKSHAY PATRIKA which encapsulates latest development from the field

of TB control in India. The patrika play a catalyst role in disseminating information regarding progress towards TB elimination.

The inaugural issue of “NIKSHAY PATRIKA” newsletter unveiled by Smt. Preeti Sudan,

Secretary (Health & Family Welfare) in the presence of Shri Manoj Jhalani, AS&MD, Shri Arun Kumar Jha, Economic Advisor, and Dr. Sunil Khaparde, DDG-TB during the video conference on 16th January 2018 at Nirman Bhawan.



State level Media Campaign:



World TB Day (2017) celebration Arunachal Pradesh



World TB Day (2017)celebration Arunachal Pradesh



Active Case Finding (Maharashtra)



Active Case Finding (Nagaland)



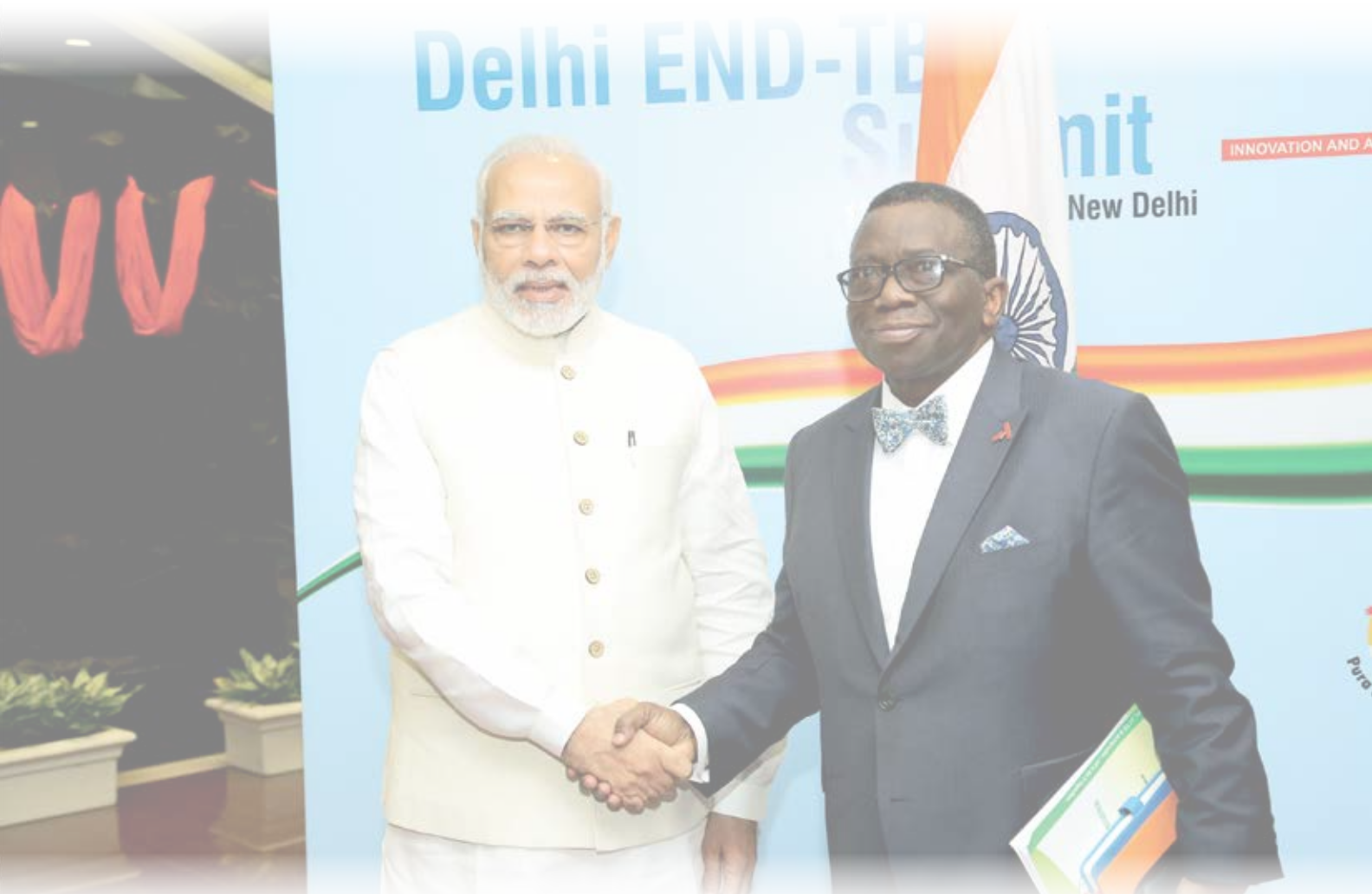
IEC in Tamil language



IEC in Tamil language



Active Case Finding (Uttar Pradesh)



Hon'ble Prime Minister Shri Narendra Modi with Prof. Isaac Adewole, Hon'ble Minister of Health, Nigeria



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TB का मरीज अपनी इच्छाशक्ति से जिस तरह इस बीमारी पर विजय प्राप्त करता है, वो दूसरों के लिए भी प्रेरणा का काम करता है। मेरा दृढ़ विश्वास है कि मरीजों की इच्छाशक्ति और अपने passionate TB workers के सहयोग से भारत के साथ ही दुनिया का हर देश अपने लक्ष्य को प्राप्त करने में सफल होगा: PM

11:48 AM - Mar 13, 2018

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Background

The Revised National Tuberculosis Control Program (RNTCP) has been actively involved in conducting research since inception in the form of Operational Research (OR) which helps the programme to develop in-country evidence to guide the policy decisions from time to time. As new evidence became available, RNTCP has made necessary changes in its policies and programme management practices.

The new National Strategic Plan for TB 2017–2025 aims to accelerate progress towards the goal of ending TB by 2025 and to achieve this goal RNTCP is incorporating innovative and more comprehensive approaches to TB control. An effort of RNTCP to promote OR has resulted in success and most of the studies are linked to the main priorities of TB control. OR aims to improve the quality, effectiveness, efficiency and accessibility (coverage) of the control efforts.

As the programme requires in depth knowledge and sufficient evidence to optimize policies, improve service quality and increase operational efficiency, mechanisms for strengthening operational research have been put in place to leverage the enormous technical expertise and generate evidence sufficient to guide changes in the programme policy.

Structure for operational research under RNTCP

- National OR Committee

- Zonal OR Committee
- State OR Committee
- Medical colleges

Priority Areas of Research includes the following

1. Strengthening surveillance and tuberculosis notification
2. Improvement of TB disease burden estimation
3. Understanding TB transmission and how best to interrupt it
4. Demand generation, prevention, systematic screening of high-risk groups, and early case finding
5. Improving the cascade of care in public and private sector care
6. Socio-economic impact and poverty alleviation
7. Strengthening RNTCP management
8. Integration with State Insurance and UHC initiatives Research Priorities

Status of Operational Research proposals submitted and approved by different levels of OR Committee for FY 2016-17.

Table: 9.1. Summary of Zonal OR Proposals

Activity	East	North East	North	South 1	South 2	West	Total
Number of State OR Committee meetings held	6	12	7	3	7	9	44
Number of OR projects received by the State OR Committee	8	11	40	49	19	42	169
Number of OR proposals approved by the State OR Committee	7	6	34	21	10	23	101
Number of OR proposals reviewed by the State OR Committee and forwarded to the Zonal OR Committee for approval	2	5	1	2	0	0	10
Number of OR proposals approved by the Zonal OR Committee	1	4	0	1	0	0	6
Number of thesis proposals received by the State OR Committee	8	5	23	34	4	44	118
Number of thesis Proposals approved	8	6	20	33	2	31	100
Number of thesis initiated with RNTCP as a topic in the Zone	8	6	24	33	2	30	103

Summary of National Operational Research proposals

National Research committee meets twice in a year and Status of operational Research

proposals submitted and approved by National Operational Research Committee Meeting for FY 2017-18 are as follows.

Date of Meeting	NO. of Proposals presented	No. of proposals Approved	No. of proposals Initiated
23 rd Feb 2017	13	7	1
6th July 2017	7	5	1



North –East Zonal Operational Research Workshop of RNTCP 23-25 October 2017

Consultative Meeting on Operational Research was held on 6th July 2017 at Taj Mahal Hotel, New Delhi in which Zonal Operational Research (ZOR) Workshops have been planned. As per the

plan two ZOR workshops have been conducted in North East from 23 to 25 October 2017 and in West Zone from 10-12 October 2017.



West Zone Operational Research Workshop of RNTCP 10th to 12th Oct 2017

Table: 9.2. Self -Funded studies under RNTCP in FY2017-18

S. No.	Study Title	Principal Investigator
1	Protocol for survey to determine direct and indirect costs due to TB and to estimate proportion of TB-affected households experiencing catastrophic costs due to TB in INDIA-2017	Dr. Srinivas A. Nair
2	Integrated chronic disease management using the primary healthcare infrastructure in India- A feasibility study	Rohina Joshi, Devarsetty Praveen
3	End-line KAP survey about Tuberculosis across 30 districts in India under Project Axshya	Dr. Karuna Sagili, The Union South East Asia Office New Delhi

Table: 9.3. Status of OR projects under RNTCP in FY 2017-18

S. No.	Study Title	PI	Status	Total Duration
1	Multi-centric Cohort Study of recurrence of Tuberculosis among newly diagnosed sputum positive pulmonary Tuberculosis patients treated under RNTCP.	Dr Mohan Natarajan	Completed	3 Yrs
2	Evaluation of gene xpert as compared to conventional methods of genital TB among infertile Women.	Dr J.B. Sharma, AIIMS, Delhi	On going	3 Yrs
3	A Randomized controlled trial of either Discontinuation at 6 months or continuation till 9 months after initial response to RNTCP Category I treatment	Dr. C.S. Yadav, AIIMS, Delhi	Completed	4 yrs
4	Operational Feasibility and performance of TrueNat MTB Rif assays in field settings under the Revised National Tuberculosis Control Program	Dr. Shrikanth Tripathi, NIRT CHENNAI	On going	3 Months
5	Evaluation of gene xpert as compared to conventional methods of genital TB among infertile Women.	Dr Sudha Prasad, MAMC Delhi	On going	3 Yrs

Developments in RNTCP Research

Research Consortium for Tuberculosis: ICMR with the programme division has established a Tuberculosis Research Consortium for streamlining all research related to TB within the country. This will include participation of Department of Biotechnology (DBT), Council of Scientific and Industrial Research (CSIR), Departments of Science and Technology (DST) and other academic/research institutions.

The consortium will drive the development of a pioneer national TB Research Strategy in line with the WHO End-TB Strategy and create a scientific network and develop a country specific prioritized research agenda that will allow India to be a model country for TB research. This forum will have strong financial and technical commitment from all stakeholders, including representatives from the private sector.

National Institutes (NIRT, JALMA, NITRD & NTI) are exclusively focusing on TB research. ICMR & its basic science institutes, Department of Health Research (ICMR), DST, DBT, CSIR and Indian Institute of Science (IISc) India are also leaders in basic, clinical, translational and operational research.

In addition various technical partners like WHO, The Union support in capacity building and implementation of researches under RNTCP. Funding through various institutes could be harnessed to promote integrated research.

National Research Committee provides technical guidance to Central TB Division in identification of priority areas for Operation Research under RNTCP and helps the programme in taking evidence based policy decisions.

TrueNat Study

TrueNat, a new indigenous diagnostic tool for use in peripheral settings that has been validated by ICMR. The aim of the study was to evaluate the operational feasibility and performance of TrueNat MTB Rif assays in field settings under RNTCP. Results of the study was evaluated by Expert Committee and the committee recommended that TrueNat can be used as a point of care test for detection of TB and Rifampicin resistance TB at peripheral centres i.e. DMCs. Also, in the view of the satisfactory performance of the TrueNat in the feasibility study and other factors such as cost effectiveness, ease of performance, transportability, and placement at the peripheral level, it can be used as a part of the diagnostic algorithm for TB at the DMCs.



Hon'ble Prime Minister Shri Narendra Modi with Dr. Aishath Rameela, Hon'ble Minister of State for Health, Maldives



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भारत में immunization 30-35 साल से चल रहा है। बावजूद इसके 2014 तक हम संपूर्ण कवरेज का लक्ष्य प्राप्त नहीं कर पाए थे। जिस रफ्तार से immunization का दायरा बढ़ रहा था, अगर वैसे ही चलता रहता तो भारत को संपूर्ण कवरेज तक पहुंचने में 40 साल और लग जाते: PM

11:51 AM - Mar 13, 2018

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Introduction:

Measuring, monitoring, and evaluating TB outcomes is central to the success of RNTCP programme. Regular central and state programme evaluation will continue as is being done based on new interventions and strategies. One of the key objectives of M&E is to monitor the performance of TB control activities by using available data to inform appropriate interventions to upgrade the districts, state and national TB plans.

Surveillance is another important component in the control and elimination of TB and provides information on the epidemiology of the disease, the evolution of trends and the description of those groups in the population at increased risk of TB and unfavourable prognosis. It is an essential element in monitoring the effectiveness of interventions aimed at elimination of the disease.

The following M&E activities are undertaken at the National level under RNTCP:

- National RNTCP Review meeting with State Tuberculosis Officer from 12th to 14th of September 2017 at Chandigarh.
- Regional PMDT, TB-HIV & PPM review meeting for North zone
- Assessment of Daily Regimen implementation visits to states
- Central Internal Evaluations
- Review of nationwide implementation of FDC by Secretary, AS&MD and JS of HFM
- Regular programme review by CTD officials

through ECHO platform

- Joint international assessment of the tuberculosis diagnostic network of India
- NRL and IRL visits by CTD officials
- National Task Force Meeting
- Zonal Task Force Meeting
- World Bank Mission
- Global Fund Mission

Table: 10.1. List of Monitoring & Evaluation for the FY 2016-17

S. No	Activities	Numbers
1	National Review meeting: 12th to 14th of September 2017 at Chandigarh	1
2	Video Conference	3
3	Daily regimen Preparedness Assessment Visit to states	20
4	Central Internal Evaluations	3
5	Regional PMDT & TB HIV review meeting	1
6	Zonal Task Force meeting	6
7	National Task Force meeting	1
8	Joint Assessment of TB Diagnostic Network of India	1
9	NRL Coordination committee meeting	1

National Review Meeting:

To review the progress, achievements and constraints being faced by the State/UTs in implementation of the Revised National Tuberculosis Control Programme (RNTCP), the Central Tuberculosis Division (CTD), Dte.GHS, MOHFW and the World Health Organization (WHO) organized a National programme review meeting with State Tuberculosis Officer and State RNTCP Consultants. Review meeting was conducted from 12th to 14th September 2017 at Hotel Hyatt Regency in Chandigarh.

Meeting was inaugurated by Mr. Bramha Mohan, Hon'ble Health Minister; Government of Punjab. Meeting was attended Dr Sunil Khaparde DDG TB, Mr Arun Kumar Jha Economic Advisor Ministry of Health and Family Welfare Government of India.

Central Internal Evaluation:

Monitoring and evaluation help an organization to extract relevant information from past and ongoing activities that can be used as the basis for programmatic fine-tuning, reorientation, future planning and advocacy, to ensure universal access to quality care for all TB patients.

As part of the Supervision and Monitoring, the Central level evaluations is to review the programme performance in selected districts of the state and it helps to review and monitor the overall programme performance of the state. The Central Internal Evaluation (CIE) envisages the programmatic challenges and address support actions for improving quality of RNTCP implementation.

To achieve the goal of eliminating TB by 2025, Central TB Division prioritized the central level monitoring and evaluation of the programme. As per the strategy of eliminating TB by 2025, CIE for 3 States i.e. Andhra Pradesh, Karnataka and Madhya Pradesh was conducted in September, October, November 2017 respectively and further evaluation of other states is planned in 2018.

During field visits of CIE in the selected districts and health institutes the salient observations and recommendations of the team members were briefed to the Principal Secretary-Health, NHM officials and District Magistrate of the respective districts for compliance and necessary actions.

Joint International Assessment of the Tuberculosis Diagnostic Network of India

A comprehensive, high-quality TB diagnostic network is essential to accurately and rapidly diagnose TB and link confirmed TB cases to appropriate and timely treatment. Revised National Tuberculosis Control Program (RNTCP) has a vast country wide TB diagnostic network of Designated Microscopy Centres (DMCs), CBNAAT (Xpert) labs, Intermediate Reference Laboratories (IRLs) and National Reference Laboratories (NRLs) equipped with newer rapid TB diagnostics.

National Strategic Plan for TB Elimination (2017-25), envisage for "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". As the program is aiming towards an early and increased case

detection, upfront drug susceptibility testing, extended drug susceptibility testing, tapping into private sector diagnostic capacity, newer drugs and treatment regimens; TB prevalence survey, and surveillance, a Comprehensive Assessment of the TB Diagnostic Network was conducted in October – November 2017

Daily regimen Preparedness Assessment Visit

Revised National TB Control Programme has introduced daily regimen in 5 states in January – February 2017. It was expanded to all states by October 2017. For smooth and timely roll out of daily regimen in all other states, a team comprising CTD Official, representative of National Institutes, state/ district program

managers and WHO Consultants undertook appraisal for preparedness. The team visited randomly selected two districts. On first two days district visit was done and on third day state level institutions were visited. District and state visit concluded with appraisal to DM, Principal Secretaries Health. The visits were conducted between June to September 2017.

ECHO Video Conference:

RNTCP always incorporates latest strategies in program. Last year program first time used the ECHO- Zoom platform to review the program. By using Video conference program can reach program managers with minimal resources and with more efficient use of available time. In year 2017 following meetings were conducted using VC

Table: 10.2. List of VC held by MoHFW & Central TB Division

S. No	Month	Agenda	Meeting chaired by	Participants
1	October 2017	Review of RNTCP and Launch of Daily regimen	Secretary Health & Family welfare	PS Health, MD NHM, STO and RNTCP consultant
2	October 2017	RNTCP review	AS & MD	PS Health, MD NHM,
3	October 2017	Review Daily Regimen Implementation Status	DDG TB	STO's and RNTCP consultant
4	July 2017	Review Active case finding Phase II preparatory activities	DDG TB	STO's and RNTCP consultant
5	May 2017	Review preparatory steps towards implementation of daily regimen	DDG TB	STO's and RNTCP consultant
6	January 2017	Review preparatory steps towards implementation of daily regimen	DDG TB	STO's and RNTCP consultant
7	January 2017	Review Active case finding Phase II preparatory activities	DDG TB	STO's and RNTCP consultant

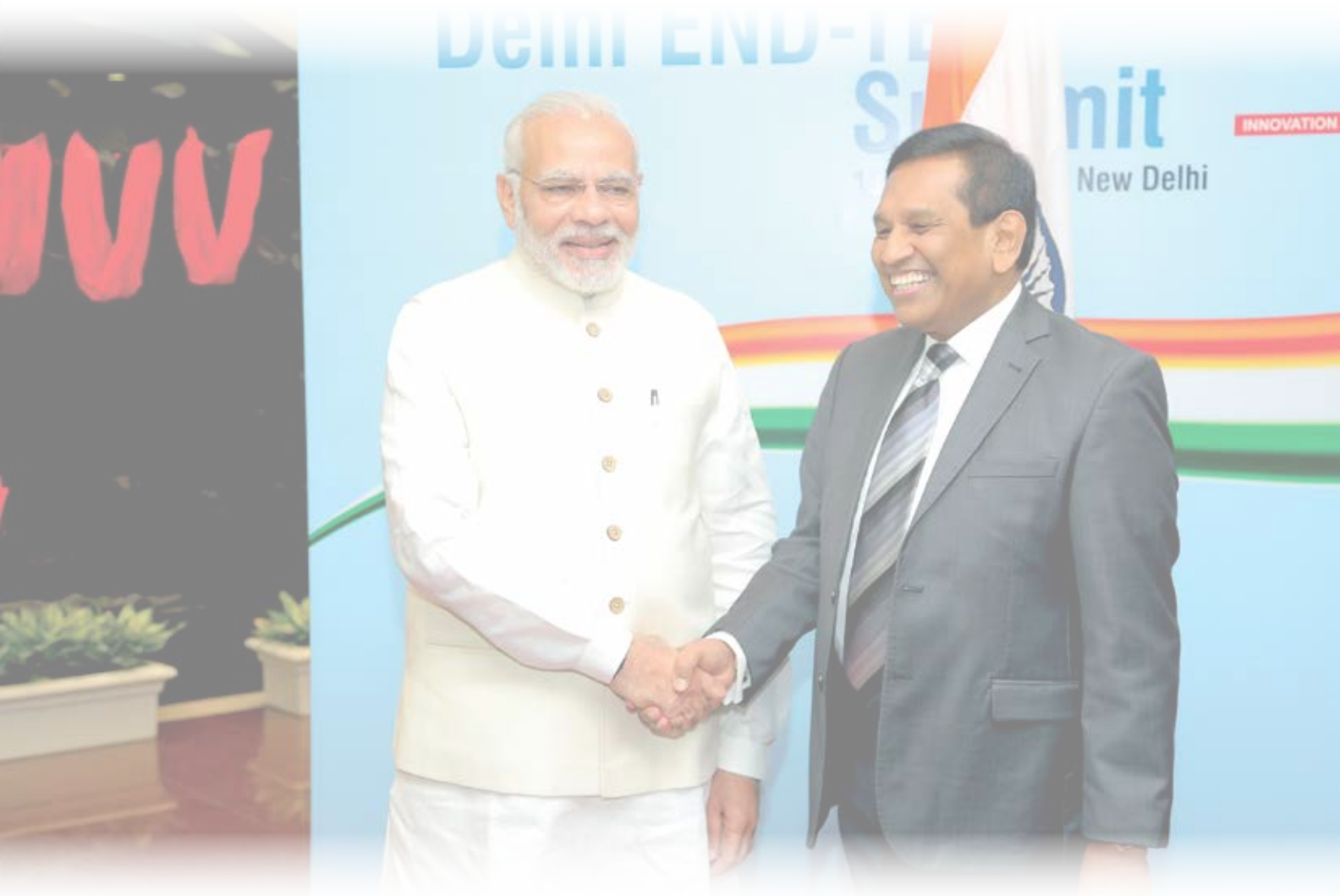
Regional PMDT & TB HIV review meeting

The PMDT meeting was conducted for the North Zone states (Himachal Pradesh, Punjab, Chandigarh, Haryana, Delhi, J&K, Uttrakhand & Uttar Pradesh) at Shimla from 21-23 November 2017 under the Chairpersonship of Dr. S.D. Khaparde, DDG-TB and Dr. V.S. Salhotra, ADDG-TB. Sh. Prabodh Saxena, PS (H), Govt.

of HP graced the inaugural session. Objectives of the meeting was to give update on recent developments in PMDT, sensitize on revised PMDT Guidelines, review the progress and challenges in scaling up of PMDT services, update the status on implementation of universal DST and to review TB-HIV collaborative activities in these states.



Dr. V. S. Salhotra, ADDG-TB, addressing the gathering of review meeting



*Hon'ble Prime Minister Shri Narendra Modi with Dr. Rajitha Senarathne,
Hon'ble Minister of Health and Indigenous Medicine, Sri Lanka*



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साथियों, पहले हमारा immunisation coverage सिर्फ 1% की रफ्तार से बढ़ रहा था। सिर्फ तीन-साढ़े तीन साल में अब ये 6% प्रतिवर्ष से ज्यादा हो गया है और अगले एक वर्ष में हम 90 प्रतिशत immunisation coverage का लक्ष्य हासिल करने जा रहे हैं: PM

11:52 AM - Mar 13, 2018

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Human resource is the backbone of the RNTCP programme. An adequately staffed, trained & motivated health workforce is a prerequisite to achieve the ambitious goal of eliminating TB by 2025. One of the main elements of HR is training which builds adequate workforce to cater to complex and demanding multiple new task for MDR/ XDR TB and comorbidities care. The training programmes need to cover more than 20 lakh trainees which will require a multi layered cascade system of training. This is a huge task and hence will be optimized for reach and quality by developing e-modules using different types of ICT system.

Since the last formal release of training material 2012, RNTCP has undergone a series of changes. These changes have increased the size and complexity of training needs and the base training material is due for a significant update. The size and complexity necessitates a more focused training delivery, relevant to the particular trainee category, without generating multiple versions of the same instruction. New instruction need to integrate easily and penetrate quickly to the periphery, while maintaining quality standards and efficiently utilizing training resources. The development of E-learning methods gives us the opportunity to achieve all the above.

On 24th March 2017, the Union Health Minister launched a first release of the E-learning platform christened Swasth-e-Gurukul. This new e-training system is expected to replace all primary training material in RNTCP using multimedia content. The training may be taken by the participant either in a self-paced manner on the e-learning platform or may further be augmented by using it in groups in classes. It

will also simultaneously incorporate evaluation and assessment of training.

Apart from the e-training modules simultaneously the STDCs are being further strengthened. The STDCs act as resource centers for translating the content to vernacular and adding relevant content as per local needs at the State level. The STDCs will also continue to act as centers for final certification of successful completion of training by interacting with the participants after culmination of e-learning and administering a post test questionnaire, if needed. These steps will not only help in rapidly filling the gap of untrained staff but will also prove to be an effective and sustainable way to keep-up with changing policy guidelines and percolating correct knowledge to every level of staff.

Human resource management and human resource development under RNTCP goes beyond 'training specific personnel for specific tasks'. It includes management of personnel, in addition to maintaining constant, high quality standards of training. Hence, the target is to achieve sustained professional competency in TB control activities that will benefit not just the States, but also the country at large.. Being under the overall umbrella of NHM, the HR policy and practice is mostly governed by the State NHM setup. The Central TB Division supplements this by provisioning contractual staff at strategic positions of the programme network, developing terms of reference for hiring of these staff and formulating standardized training material for creating a uniform knowledge base among workers.

Apart from general health system staff, RNTCP has provisioned dedicated programme staff at various levels. In the past one year, several new components like Daily Regimen, New Technical & Operational Guidelines, Nikshay enhancement, Pharmacovigilance, etc. have been added to RNTCP, creating an increased training need.

RNTCP has managed to meet with the enhanced

training requirements by conducting a series of training sessions in year 2017 to train the trainers on new Technical & Operational Guidelines (TOG). Cumulatively, trainers from across the country were trained at National Tuberculosis Institute, Bangalore and NITRD, New Delhi, who went on to train and sensitize State and District level staff and other stakeholders on the new TOG.



*Hon'ble Prime Minister Shri Narendra Modi with Mr. Zahid Maleque,
Hon'ble State Minister of Health and Family Welfare, Bangladesh*



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ऐसी ही नई अप्रोच के साथ हमारी सरकार स्वच्छ भारत मिशन के लिए भी काम कर रही है। इसी का नतीजा है कि 2014 में देश के ग्रामीण इलाकों में स्वच्छता का जो दायरा लगभग 40% था अब वो बढ़कर लगभग 80% तक पहुंच गया है। इतने कम समय में हमने दोगुनी कवरेज हासिल की है: PM

11:54 AM - Mar 13, 2018

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Assam

1 Efforts to increase monitoring

New forms of media have brought a paradigm shift in the health communication arena. RNTCP in Jorhat, Assam has started innovative way of supervision and monitoring through WhatsApp.

They have created a WhatsApp group for supervision and monitoring named *“Let us fight against TB”*. This group helps the Jorhat District TB Cell feel united to stand against Tuberculosis and also helps them communicate messages regarding field level activities to District Magistrate (Deputy Commissioner), State TB officer and WHO consultants. The supervisory staffs like STS, STLS including LT feels motivated by the words of encouragement from their seniors and administrative heads.

The DTO who is the administrator of the group also asked staff to upload important information as well as photographs so that one can monitor the activities taking place in the field. The district has also been able to start a Random Active Case Detection program in a few high risk tribal villages and Tea Garden area of the district.

The use of WhatsApp groups has made communication much easier in many districts like Sivsagar, Kokrajhar, Lakhimpur etc. During the review meeting, Dr. N.J. Das, STO Assam encouraged all DTOs to use this ICT tool for communicating TB messages for saving lives.

Arunachal Pradesh

2. Success of counselling - Counselling for TB helped in de-addiction too!

A patient Mr. Hangsik Kungkho from Laktong Village, Changlang, Arunachal Pradesh was diagnosed as new sputum positive and put on Cat I. He was a chronic alcoholic and an opium addict. During his treatment he missed few doses. Constant supervision was given by the staffs and ASHA of the village. Follow up sputum samples were negative and after 6 months of treatment he was declared cured. After one year he again started developing signs & symptoms of TB. On being brought to the hospital by our STS, he was found to have relapsed and again suffering from sputum positive tuberculosis. During his treatment counselling was given to him several times for proper adherence to treatment and also for opium & alcohol de-addiction. Our staff, especially STS, took great effort to give regular medication & build the patient’s self-confidence. Today we are

proud to say that he has been declared cured from TB and has been de-addicted from opium after taking it for 20-27 years. This is a result of regular monitoring & supervision and good counselling given to the patient by the staff that today he has developed self-confidence & lives a happy life with his family.



Gujarat

3. Case Finding Efforts in high risk groups

It is well known that tuberculosis can spread rapidly in crowded settings. Prisons are one of such settings where people come in close contact making it a suitable place for spreading TB infection. A lot of prisoners are also undernourished, addicted to drugs and may even be suffering from diseases that may render them immunocompromised, thus, susceptible to developing TB disease. Hence, it is crucial to not only make police staff aware of TB, but also conduct regular screening of prisoners. Junagadh District TB Cell successfully worked alongside the Police Department to conduct ACSM activities to



increase awareness among staff and prisoners, they also conducted screening camps in the prisons and screened 1091 prisoners of which 1 person was diagnosed with microbiologically confirmed TB.

4. Reaching out to the Women

International Woman's Day Celebration

The Junagadh district officials found a great opportunity in the fact that both World TB Day and World Woman's Day are placed in the same month. It was decided that TB awareness should reach all women too, who generally assume the caretaker role in the family. Hence, a combined event was held on 08 March 2017, which provided information about TB among women and HIV-related people. This was supported by the Vihaan project.

Sensitization workshop was also held on March 21, 2017, in Junagadh TU Urban 1, Uma Mahila Mandal. Dr. K.B. Nimavat gave information about tuberculosis and encouraged the ladies to spread the message of TB through their association. The program was organized by



Sensitization of women's group on the occasion of International Women's Day

Junagadh Urban 1 TB Supervisor P.J. Dadhaniya and TBHV Bamrotiya while Thanksgiving was done by DPPMC Ramesh Baku.

Tamil Nadu

5. Private Sector Engagement

Together we can eliminate TB – starting with small changes.

RNTCP is now providing diagnostic and treatment along with patient support services even to patients who seek care in the private sector. After several TB sensitization programmes to medico societies of Salem District, Tamil Nadu, TB notification and CBNAAT referrals from private sector has improved.

AVM Hospital is one of the many private hospitals in Salem where all medical and paramedical staff has been sensitized on TB through RNTCP PPM activities and the hospital regularly notifies TB patients.

Mr. Senthil from Dhadhagapatty was found sputum smear positive at AVM hospital. He was started on ATT in January 2017 and was counselled by the doctor and staff nurse for regular adherence. In spite of the counselling, Senthil stopped visiting the hospital as after two months of treatment when his symptoms had subsided. Even when the staff nurse called him over phone, he did not respond. The Medical Officer at AVM Hospital, Dr. Jayapal, then instructed the nurse to contact RNTCP staff through the PPM Co-ordinator, who in turn arranged a home visit to the patient's house by the STS. Mr. Senthil and his family were counselled for treatment and though very adamant initially, Senthil later understood

the importance of completing the entire course of treatment and agreed to resume his ATT from a nearby Govt. PHI. Throughout his treatment, he was regularly counselled by the RNTCP staff and he successfully completed his treatment on 05/11/2017.

It was only through a good liaison between the public and private sectors in Salem district that a patient, who would have otherwise been lost to follow up and probably developed resistance, was counselled and brought back to treatment.

6. TB- Tobacco

From one awareness to another



Mrs. Shanthi from Kovilpatti, Thoothukudi district, Tamil Nadu runs a grocery store near her home. She was diagnosed with TB and started treatment on 28.08.2017. She was regularly counselled by RNTCP personnel on the various ways in which someone can get infected with TB and how this infection progresses to a serious disease. This awareness about TB compelled her

to make a choice that she might not have taken otherwise. Shanthi decided to stop selling any tobacco products in her grocery store!

Shanthi says, *“Even though I may suffer some losses in my sales, I cannot turn a blind eye to this menace which is tobacco! The loss doesn’t matter to me. Hereafter, I will never sell any tobacco related products for the welfare of General Public.”*

7. CSR Engagement - The Joy of collaboration!

It was raining heavily when on my way home from work in the evening, I (DPPMC) saw a huge crowd, almost blocking the whole road. On enquiring I was told that it was the opening function of a famous jewellery brand in Villupuram (Tamil Nadu).

Seeing that huge crowd I could very well understand how influential this brand’s marketing was in the public. No doubt I had seen their hoardings and advertisements everywhere. This gave me an idea! I could try to contact the brand managers and get a sponsorship for combining their advertisement with RNTCP messages! When I discussed it with my DTO, he encouraged me to follow it through since it was an effective way of making our message reach further into the community. It took us a long while to get an appointment with the branch head of that jewellery branch. When we finally met him after 3 months, we had a sample board ready with messages on TB along with logo of both RNTCP as well as the jewellery brand. The branch head found it impressive and readily agreed to sponsor such boards at every block PHC in Villupuram. The sample board was released by the district Collector. Top officials

of the jewellery company from Trissur also attended the event and pledged their support to RNTCP in the End TB Strategy.



Villuppuram Collector, DTO & Joyalukkas Manager releasing the IEC board.



IEC Board Displayed at Pudukottai PHC by STS/STLS in Villupuram District Tamilnadu

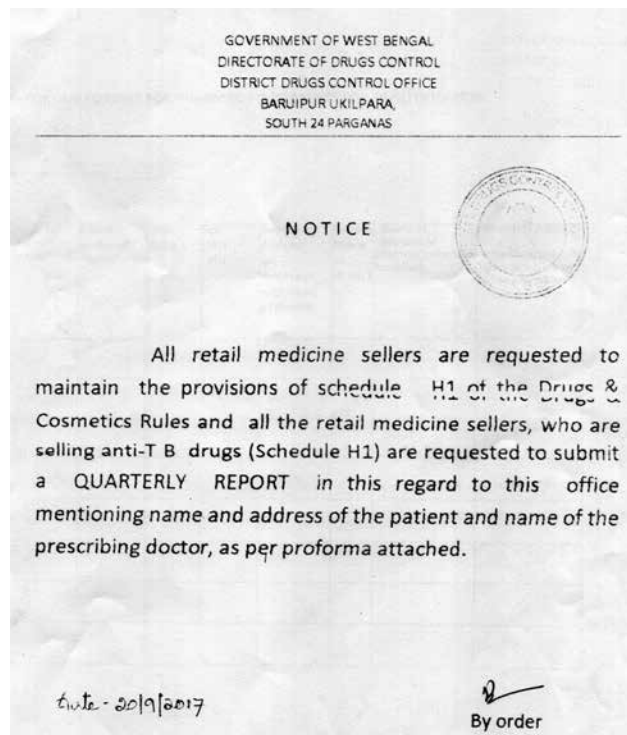
West Bengal

8. Sale of drugs - Regulating sale of anti-tuberculosis medicines

As per a 2015 GOI notification (Schedule H1) TB drugs can be sold in retail only on prescription by a registered medical practitioner and details of the prescriber as well as the patient are to be recorded in a register by the chemists/ pharmacists. With increasing collaboration with the private sector, RNTCP is aiming to provide diagnostic,



treatment and patient support services even to patients in the private sector. To extend public sector services to all such patients, the district officials Bengal of South 24 Parganas (West) contacted the Assistant Director, Directorate of Drug Control to strengthen this implementation and to share details of all listed patients with the TB department. A notice has also been issued to ensure implementation of Schedule H1 and submission of a quarterly report in this regard.



9. Peer support - Encouraging adherence to treatment through peer support

Aminur Islam, a 20 years old orphan, was diagnosed with MDR TB at the age of 17 years and got more than 12 months treatment without fail. Follow up cultures in intensive phase were negative and patient was shifted from IP to CP after 6 months. Follow up cultures in continuation phase was also negative up to 12 months. But unfortunately there was reversion in subsequent follow up cultures in continuation phase. Resistance was detected on 2nd line DST of his samples, and then he was diagnosed as an XDR TB patient. After receiving the recommendation

from DOT Plus site we initiated Category V treatment. At the time of counselling by DTO and other concerned medical officers of Dakshin Dinajpur District Hospital DRTB committee, he never got frustrated but assured that he will continue his full course of treatment. He has now completed 13 months treatment and all the sample results are found negative and his weight is also increasing gradually. Even though his treatment is ongoing, he has started playing an important role in MDR TB patient provider meetings. He is an inspiration to many and encourages his peer group to continue



Aminur Islam talking in a Patient Provider Meeting

their treatment course without missing a single dose. He cites his own journey and hardships and boosts the morale of his friends who may be going through difficulties in adhering to treatment.

10. Community engagement

Even though a large section of society continues to seek care from non-qualified private practitioners (quacks), not sufficient efforts go into increasing their awareness so that they may also contribute by referring patients to RNTCP. Keeping this in mind, Malda district decided to conduct a community meeting to inform and educate them and in turn increase notification of TB patients who can be referred to RNTCP for correct and quality assured diagnostics, treatment and patient support.



Community meeting with Non qualified private practitioners (Quack) at Malda.

Annexures





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बड़े और मुश्किल लक्ष्य हासिल किए जा सकते हैं। उसके लिए पहली आवश्यकता है कि कोई लक्ष्य तय तो किया जाए। जब लक्ष्य ही तय नहीं होगा, तो फिर न रफ्तार रहेगी, न दिशा रहेगी और न ही आप मंजिल तक पहुंच पाएंगे: PM

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Annexure 1a) : State wise TB Case Notification 2017

State Name	Population in Lakhs	TB patients notified from Public sector	Treatment initiated	% Initiated on Treatment	% Pulmonary TB	% Extra Pulmonary TB	% New TB Patients	% Previously Treated TB Patients	% Micro-biologically confirmed	% Clinically Diagnosed	% Paediatric TB	% known HIV status among treated	% HIV Positive among Known Status	Annual Notification Rate (Public)	TB Patients notified from Private Sector	Annual TB Notification Rate Private Sector	Total patients Notified	Annual Total TB Notification Rate (Lakhs/year)
Andaman and Nicobar	4	270	270	100%	66%	34%	87%	13%	48%	52%	5%	82%	1%	70	22	6	292	76
Andhra Pradesh	515	67074	62282	93%	89%	11%	84%	16%	66%	34%	3%	94%	10%	130	16044	31	83118	161
Arunachal Pradesh	16	3139	2468	79%	66%	34%	88%	12%	54%	46%	19%	38%	0%	202	15	1	3154	203
Assam	338	36720	31518	86%	81%	19%	89%	11%	55%	45%	5%	45%	1%	109	3454	10	40174	119
Bihar	1178	54995	39689	72%	93%	7%	90%	10%	65%	35%	8%	41%	1%	47	41494	35	96489	82
Chandigarh	11	5664	2231	39%	61%	39%	88%	12%	52%	48%	9%	63%	2%	500	266	23	5930	523
Chhattisgarh	285	30993	28473	92%	87%	13%	90%	10%	54%	46%	5%	93%	1%	107	10679	37	41272	145
Dadra and Nagar Haveli	4	893	503	56%	64%	36%	91%	9%	45%	55%	6%	91%	0%	209	70	16	963	225
Daman and Diu	3	381	370	97%	84%	16%	90%	10%	34%	66%	6%	92%	0%	126	76	25	457	151
Delhi	183	60772	53027	87%	58%	42%	86%	14%	43%	57%	14%	41%	1%	332	5121	28	65893	360
Goa	15	1563	1115	71%	69%	31%	88%	12%	55%	45%	4%	90%	3%	103	372	25	1935	128
Gujarat	666	109422	92844	85%	84%	16%	81%	19%	62%	38%	6%	92%	3%	164	39639	59	149061	224
Haryana	281	34104	28594	84%	80%	20%	83%	17%	68%	32%	6%	66%	1%	121	6647	24	40751	145
Himachal Pradesh	73	15715	8487	54%	76%	24%	83%	17%	67%	33%	6%	83%	0%	216	736	10	16451	226
Jammu and Kashmir	141	9420	7143	76%	70%	30%	86%	14%	57%	43%	7%	45%	1%	67	1056	8	10476	74
Jharkhand	373	36861	32756	89%	94%	6%	89%	11%	64%	36%	4%	61%	0%	99	7267	19	44128	118
Karnataka	660	69199	39106	57%	84%	16%	85%	15%	64%	36%	5%	76%	8%	105	11988	18	81187	123
Kerala	341	14522	10411	72%	77%	23%	92%	8%	65%	35%	5%	36%	1%	43	8232	24	22754	67
Lakshadweep	1	46	38	83%	71%	29%	97%	3%	58%	42%	17%	0%	0%	70	0	0	46	70
Madhya Pradesh	804	117383	98449	84%	86%	14%	88%	12%	55%	47%	9%	53%	1%	146	16750	21	134333	167
Maharashtra	1213	124900	92131	74%	76%	24%	86%	14%	57%	43%	6%	77%	5%	103	67558	56	192458	159
Manipur	30	1691	1198	71%	78%	22%	87%	13%	64%	36%	4%	47%	5%	57	1114	37	2805	94
Meghalaya	34	3353	2294	68%	71%	29%	90%	10%	54%	46%	7%	55%	1%	98	608	18	3961	116
Mizoram	12	2201	1741	79%	57%	43%	91%	9%	35%	65%	12%	77%	7%	183	44	4	2245	186
Nagaland	20	2284	1967	86%	78%	22%	84%	16%	55%	45%	8%	59%	14%	112	729	36	3013	148
Odisha	449	67162	62968	94%	80%	20%	88%	12%	62%	38%	5%	58%	2%	150	3969	9	71131	159
Puducherry	14	1601	1376	86%	72%	28%	87%	13%	68%	32%	3%	79%	4%	113	3	0	1604	114
Punjab	297	38977	29901	77%	76%	24%	83%	17%	62%	38%	6%	69%	1%	131	6336	21	45313	153
Rajasthan	761	84774	70073	83%	84%	16%	78%	22%	56%	44%	4%	86%	1%	111	21179	28	105953	139
Sikkim	6	1232	754	61%	66%	34%	90%	10%	55%	45%	6%	76%	0%	191	39	6	1271	197
Tamil Nadu	783	74256	52989	71%	83%	17%	85%	15%	66%	34%	3%	71%	5%	95	19071	24	93327	119
Telangana	368	31838	22897	72%	86%	14%	81%	19%	67%	33%	3%	74%	6%	87	7395	20	39223	107
Tripura	39	1685	1396	83%	82%	18%	89%	11%	59%	41%	2%	57%	1%	44	8	0	1693	44
Uttar Pradesh	2215	244074	180082	74%	86%	14%	86%	14%	64%	36%	6%	59%	1%	110	66967	30	311041	140
Uttarakhand	111	13012	11209	86%	80%	20%	78%	22%	56%	44%	5%	47%	0%	117	3748	34	16760	151
West Bengal	971	82209	75105	91%	79%	21%	88%	12%	67%	33%	4%	58%	1%	85	15088	16	97297	100
Grand Total	13215	1444175	1147855	79%	82%	18%	85%	15%	61%	39%	6%	67%	3%	67%	383784	29	1827959	138.33

Annexure 1b) : District wise TB Case Notification 2017

State Name	District Name	Total Population	Public Sector Notification	Treatment Initiated	Treatment Initiated %	Pulmonary TB %	Extra Pulmonary TB %	% New TB Patients	Previously Treated %	Microbiologically Confirmed %	Clinically Diagnosed	Paediatric TB %	HIV Status Known %	HIV Status Positive % (of Known)	Notification Rate (Public)	Private Sector Notification	Private Sector Notification Rate	Total Notification	Annual Total Notification Rate
Andhra Pradesh	Anantapur	4257381	5200	4781	92%	90%	10%	84%	16%	65%	35%	2%	95%	9%	122	1070	25	6270	147
Andhra Pradesh	Chittoor	4348249	4499	4460	99%	88%	12%	85%	15%	81%	19%	2%	97%	8%	103	1796	41	6295	145
Andhra Pradesh	Cuddapah	3007487	4379	4047	92%	90%	10%	83%	17%	76%	24%	3%	87%	9%	146	1726	57	6105	203
Andhra Pradesh	East Godavari	5371152	6193	5775	93%	86%	14%	88%	12%	69%	31%	4%	94%	11%	115	1036	19	7229	135
Andhra Pradesh	Guntur	5097651	7174	6785	95%	86%	14%	84%	16%	68%	32%	3%	89%	12%	141	2166	42	9340	183
Andhra Pradesh	Krishna	4722074	5447	5382	99%	84%	16%	85%	15%	62%	38%	2%	99%	13%	115	1239	26	6686	142
Andhra Pradesh	Kurnool	4219102	6060	5983	99%	90%	10%	85%	15%	63%	37%	5%	96%	8%	144	1921	46	7981	189
Andhra Pradesh	Nellore	3092522	3898	3829	98%	91%	9%	81%	19%	69%	31%	2%	99%	8%	126	737	24	4635	150
Andhra Pradesh	Prakasam	3537393	5586	5399	97%	90%	10%	82%	18%	57%	43%	3%	95%	12%	158	1437	41	7023	199
Andhra Pradesh	Srikakulam	2814545	3133	2982	95%	92%	8%	88%	12%	68%	32%	3%	99%	8%	111	245	9	3378	120
Andhra Pradesh	Visakhapatnam	4470909	5782	4980	86%	79%	21%	88%	12%	64%	36%	5%	96%	8%	129	1629	36	7411	166
Andhra Pradesh	Vizianagaram	2442741	3722	3702	99%	83%	17%	86%	14%	58%	42%	5%	99%	6%	152	325	13	4047	166
Andhra Pradesh	West Godavari	4102516	6001	4177	70%	92%	8%	80%	20%	70%	30%	2%	86%	13%	146	717	17	6718	164
Andaman and Nicobar	Nicobars	107329	95	95	100%	75%	25%	82%	18%	47%	53%	8%	89%	1%	89	0	0	95	89
Andaman and Nicobar	North & Middle Andaman	37444	64	64	100%	60%	40%	89%	11%	40%	60%	3%	79%	0%	171	0	0	64	171
Andaman and Nicobar	South Andaman	241618	111	111	100%	61%	39%	94%	6%	50%	50%	5%	84%	1%	46	22	9	133	55
Arumachal Pradesh	Changlang	166228	138	121	88%	82%	18%	85%	15%	70%	30%	6%	26%	0%	83	0	0	138	83
Arumachal Pradesh	Dibrang Valley	69585	92	72	78%	94%	6%	88%	13%	83%	17%	9%	72%	0%	132	0	0	92	132

State Name	District Name	Total Population	Public Sector Notification	Treatment Initiated	Treatment Initiated %	Pulmonary TB %	Extra Pulmonary TB %	% New TB Patients	Previously Treated %	Microbiologically Confirmed %	Clinically Diagnosed	Paediatric TB %	HIV Status Known %	HIV Status Positive % (of Known)	Notification Rate (Public)	Private Sector Notification	Private Sector Notification Rate	Total Notification	Annual Total Notification Rate
Arunachal Pradesh	East Kameng	88100	380	354	93%	65%	35%	90%	10%	29%	71%	39%	51%	0%	431	0	0	380	431
Arunachal Pradesh	East Siang	111251	203	165	81%	81%	19%	82%	18%	67%	33%	11%	28%	0%	182	0	0	203	182
Arunachal Pradesh	Kurung Kumey	100800	59	58	98%	78%	22%	84%	16%	53%	47%	29%	0%		59	0	0	59	59
Arunachal Pradesh	Lohit	187211	60	43	72%	88%	12%	70%	30%	77%	23%	5%	0%		32	0	0	60	32
Arunachal Pradesh	Lower Subansiri	93072	90	63	70%	63%	37%	92%	8%	56%	44%	21%	48%	0%	97	0	0	90	97
Arunachal Pradesh	Papumpare	198175	1461	1020	70%	60%	40%	88%	12%	51%	49%	17%	31%	0%	737	15	8	1476	745
Arunachal Pradesh	Tawang	56121	42	37	88%	65%	35%	97%	3%	57%	43%	14%	30%	0%	75	0	0	42	75
Arunachal Pradesh	Tirap	125832	310	287	93%	51%	49%	97%	3%	48%	52%	22%	63%	0%	246	0	0	310	246
Arunachal Pradesh	Upper Siang	39648	11	0	0%										28	0	0	11	28
Arunachal Pradesh	Upper Subansiri	93484	72	50	69%	72%	28%	80%	20%	62%	38%	11%	0%		77	0	0	72	77
Arunachal Pradesh	West Kameng	97762	79	75	95%	79%	21%	84%	16%	71%	29%	16%	27%	0%	81	0	0	79	81
Arunachal Pradesh	West Siang	126141	142	123	87%	72%	28%	87%	13%	81%	19%	15%	58%	0%	113	0	0	142	113
Assam	Baksa	1004991	795	315	40%	84%	16%	88%	12%	61%	39%	3%	0%		79	1	0	796	79
Assam	Barpeta	1764727	820	530	65%	92%	8%	79%	21%	76%	24%	3%	0%		46	22	1	842	48
Assam	Bongaigaon	765996	823	633	77%	84%	16%	88%	12%	91%	9%	2%	84%	0%	107	113	15	936	122
Assam	Cachar	1880342	2221	2067	93%	70%	30%	94%	6%	40%	60%	5%	44%	7%	118	71	4	2292	122
Assam	Chirang	533863	377	325	86%	89%	11%	92%	8%	60%	40%	3%	24%	0%	71	42	8	419	78
Assam	Darrang	983451	677	594	88%	82%	18%	90%	10%	50%	50%	3%	88%	0%	69	101	10	778	79
Assam	Dhemaji	745198	800	772	97%	74%	26%	92%	8%	57%	43%	2%	62%	0%	107	106	14	906	122
Assam	Dhubri	2110256	2290	2172	95%	97%	3%	88%	12%	54%	46%	3%	29%	0%	109	17	1	2307	109
Assam	Dibrugarh	1437899	2922	2769	95%	68%	32%	91%	9%	51%	49%	8%	32%	1%	203	377	26	3299	229
Assam	Goalpara	1092682	1275	1217	95%	86%	14%	87%	13%	72%	28%	3%	24%	0%	117	217	20	1492	137
Assam	Golaghat	1146518	1487	1446	97%	78%	22%	94%	6%	44%	56%	5%	61%	0%	130	61	5	1548	135
Assam	Hailakandi	713992	499	457	92%	78%	22%	87%	13%	53%	47%	5%	68%	3%	70	1	0	500	70

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Assam	Jorhat	1181844	1203	1149	96%	75%	25%	90%	10%	48%	52%	7%	83%	0%	102	78	7	1281	108
Assam	Kamrup	1663218	991	334	34%	84%	16%	78%	22%	52%	48%	3%	3%	0%	60	13	1	1004	60
Assam	Kamrup Metro	1358877	1026	587	57%	85%	15%	76%	24%	57%	43%	7%	39%	0%	76	358	26	1384	102
Assam	Karbi Anglong	1045382	1266	1097	87%	95%	5%	90%	10%	56%	44%	3%	5%	4%	121	54	5	1320	126
Assam	Karimganj	1317972	971	920	95%	78%	22%	91%	9%	47%	53%	5%	41%	2%	74	0	0	971	74
Assam	Kokrajhar	975459	1786	1647	92%	87%	13%	91%	9%	45%	55%	3%	66%	1%	183	61	6	1847	189
Assam	Lakhimpur	1126994	1108	1085	98%	81%	19%	87%	13%	53%	47%	4%	43%	0%	98	250	22	1358	120
Assam	Morigaon	1037339	1060	449	42%	92%	8%	84%	16%	49%	51%	3%	16%	0%	102	0	0	1060	102
Assam	Nagaon	3060366	2673	2304	86%	89%	11%	87%	13%	58%	42%	4%	62%	0%	87	394	13	3067	100
Assam	Nalbari	915100	878	833	95%	83%	17%	90%	10%	66%	34%	4%	64%	0%	96	114	12	992	108
Assam	North Cachar Hills	231309	397	360	91%	78%	23%	86%	14%	65%	35%	8%	37%	0%	172	4	2	401	173
Assam	Sibsagar	1245690	1314	1125	86%	75%	25%	88%	12%	50%	50%	6%	36%	0%	105	35	3	1349	108
Assam	Sonitpur	2085721	3369	2995	89%	83%	17%	87%	13%	68%	32%	6%	35%	0%	162	282	14	3651	175
Assam	Tinsukia	1426204	2575	2299	89%	72%	28%	89%	11%	51%	49%	8%	69%	0%	181	658	46	3233	227
Assam	Udalguri	901885	1117	1037	93%	86%	14%	92%	8%	42%	58%	4%	19%	0%	124	24	3	1141	127
Bihar	Araria	3183409	2039	1796	88%	97%	3%	97%	3%	45%	55%	21%	0%		64	1050	33	3089	97
Bihar	Arwal	793598	297	258	87%	97%	3%	90%	10%	60%	40%	7%	75%	0%	37	87	11	384	48
Bihar	Aurangabad-BI	2848804	877	559	64%	99%	1%	77%	23%	93%	7%	4%	64%	1%	31	438	15	1315	46
Bihar	Banka	2302123	994	540	54%	98%	2%	82%	18%	52%	48%	6%	26%	1%	43	64	3	1058	46
Bihar	Begusarai	3351493	1646	1369	83%	92%	8%	89%	11%	52%	48%	11%	71%	1%	49	336	10	1982	59
Bihar	Bhagalpur	3439818	2797	2405	86%	83%	17%	92%	8%	53%	47%	14%	67%	0%	81	1045	30	3842	112
Bihar	Bhojpur	3085798	1173	838	71%	98%	2%	93%	7%	89%	11%	7%	53%	2%	38	787	26	1960	64
Bihar	Buxar	1937184	650	196	30%	98%	2%	79%	21%	96%	4%	5%	0%		34	1	0	651	34
Bihar	Darbhanga	4449162	3760	569	15%	94%	6%	84%	16%	86%	14%	10%	87%	0%	85	897	20	4657	105
Bihar	Gaya	4968060	2977	2824	95%	96%	4%	93%	7%	56%	44%	8%	41%	1%	60	1969	40	4946	100
Bihar	Gopalganj	2901888	1451	1315	91%	92%	8%	92%	8%	67%	33%	7%	88%	0%	50	1274	44	2725	94
Bihar	Jamui	1992130	1404	1152	82%	96%	4%	94%	6%	61%	39%	5%	1%	0%	70	116	6	1520	76
Bihar	Jehanabad	1275288	646	641	99%	95%	5%	91%	9%	66%	34%	8%	7%	2%	51	218	17	864	68
Bihar	Kaimur	1845588	993	934	94%	95%	5%	89%	11%	63%	37%	6%	1%	0%	54	102	6	1095	59
Bihar	Katihar	3480570	2122	1834	86%	96%	4%	88%	12%	84%	16%	6%	77%	2%	61	116	3	2238	64

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Bihar	Khagaria	1880413	794	628	79%	93%	7%	92%	8%	78%	22%	9%	48%	0%	42	536	29	1330	71
Bihar	Kishanganj	1918245	603	160	27%	92%	8%	94%	6%	72%	28%	5%	12%	11%	31	536	28	1139	59
Bihar	Lakhsarai	1135233	493	464	94%	88%	12%	84%	16%	39%	61%	6%	8%	0%	43	140	12	633	56
Bihar	Madhepura	2262735	726	544	75%	97%	3%	82%	18%	84%	16%	5%	56%	0%	32	115	5	841	37
Bihar	Madhubani	5077714	623	149	24%	91%	9%	89%	11%	74%	26%	4%	26%	3%	12	8	0	631	12
Bihar	Munger	1541738	1360	1304	96%	87%	13%	90%	10%	51%	49%	9%	56%	0%	88	165	11	1525	99
Bihar	Muzaffarpur	5420951	1695	1294	76%	94%	6%	93%	7%	63%	37%	6%	67%	0%	31	449	8	2144	40
Bihar	Nalanda	3258648	1209	1143	95%	92%	8%	92%	8%	72%	28%	7%	54%	1%	37	332	10	1541	47
Bihar	Nawada	2514615	1186	962	81%	98%	2%	88%	12%	81%	19%	4%	48%	0%	47	1268	50	2454	98
Bihar	Pashchim Champaran	4450080	1673	264	16%	96%	4%	83%	17%	82%	18%	5%	42%	0%	38	575	13	2248	51
Bihar	Patna	6548784	2222	1110	50%	86%	14%	85%	15%	55%	45%	10%	9%	5%	34	19015	290	21237	324
Bihar	Purba Champaran	5766107	1970	1328	67%	94%	6%	93%	7%	60%	40%	5%	20%	1%	34	1075	19	3045	53
Bihar	Purnia	3713101	2447	2250	92%	94%	6%	95%	5%	70%	30%	7%	23%	0%	66	179	5	2626	71
Bihar	Rohtas	3360825	1499	1328	89%	98%	2%	84%	16%	76%	24%	7%	0%	0%	45	249	7	1748	52
Bihar	Saharsa	2152110	510	431	85%	99%	1%	93%	7%	74%	26%	5%	35%	0%	24	560	26	1070	50
Bihar	Samastipur	4826710	2655	1990	75%	85%	15%	92%	8%	64%	36%	9%	4%	1%	55	1981	41	4636	96
Bihar	Saran	4473129	3050	2211	72%	89%	11%	87%	13%	49%	51%	6%	77%	0%	68	1803	40	4853	108
Bihar	Sheikhpura	720274	280	174	62%	93%	7%	83%	17%	53%	47%	6%	2%	0%	39	221	31	501	70
Bihar	Sheohar	745219	275	230	84%	90%	10%	82%	18%	71%	29%	4%	89%	0%	37	2	0	277	37
Bihar	Sitamarhi	3879288	2212	1517	69%	93%	7%	94%	6%	83%	17%	7%	73%	1%	57	568	15	2780	72
Bihar	Siwan	3764205	2118	1922	91%	96%	4%	83%	17%	64%	36%	5%	14%	1%	56	1881	50	3999	106
Bihar	Supaul	2527938	764	660	86%	97%	3%	91%	9%	73%	27%	5%	60%	0%	30	214	8	978	39
Bihar	Vaishali	3965080	805	396	49%	95%	5%	83%	17%	74%	26%	6%	23%	0%	20	1122	28	1927	49
Chhattisgarh	Chandigarh	1133639	5664	2231	39%	61%	39%	88%	12%	52%	48%	9%	63%	2%	500	266	23	5930	523
Chhattisgarh	Balarampur	798881	988	937	95%	95%	5%	92%	8%	38%	62%	4%	97%	0%	124	25	3	1013	127
Chhattisgarh	Balod	899926	961	937	98%	85%	15%	91%	9%	39%	61%	3%	81%	0%	107	91	10	1052	117
Chhattisgarh	Baloda Bazar	1557466	1679	1605	96%	90%	10%	91%	9%	51%	49%	6%	99%	1%	108	319	20	1998	128
Chhattisgarh	Bastar	908178	1206	898	74%	77%	23%	88%	12%	51%	49%	4%	93%	0%	133	133	15	1339	147
Chhattisgarh	Bemetara	866805	696	695	100%	89%	11%	87%	13%	53%	47%	5%	99%	1%	80	60	7	756	87
Chhattisgarh	Bijapur	263143	1051	1050	100%	90%	10%	86%	14%	53%	47%	6%	88%	13%	399	18	7	1069	406

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Chhattisgarh	Bilaspur-CG	2321989	3276	3186	97%	83%	17%	92%	8%	49%	51%	6%	95%	1%	141	2274	98	5550	239
Chhattisgarh	Dhamtari	842053	921	902	98%	89%	11%	92%	8%	49%	51%	3%	89%	1%	109	520	62	1441	171
Chhattisgarh	Durg	1875683	2089	1813	87%	75%	25%	88%	12%	53%	47%	7%	92%	4%	111	1471	78	3560	190
Chhattisgarh	Gariyaband	713089	1012	1004	99%	94%	6%	88%	12%	53%	47%	5%	98%	0%	142	31	4	1043	146
Chhattisgarh	Janjgir	1805574	1610	1434	89%	86%	14%	91%	9%	46%	54%	4%	85%	0%	89	506	28	2116	117
Chhattisgarh	Jashpur	904163	800	618	77%	95%	5%	92%	8%	44%	56%	3%	93%	0%	88	0	0	800	88
Chhattisgarh	Kabirdham (Kawardha)	1015686	775	757	98%	96%	4%	88%	12%	61%	39%	4%	99%	2%	76	88	9	863	85
Chhattisgarh	Kondagaon	630022	538	458	85%	92%	8%	91%	9%	57%	43%	4%	80%	0%	85	6	1	544	86
Chhattisgarh	Korba	1316447	1262	1166	92%	83%	17%	91%	9%	53%	47%	6%	92%	1%	96	461	35	1723	131
Chhattisgarh	Koriya	690437	709	690	97%	92%	8%	89%	11%	51%	49%	6%	90%	1%	103	164	24	873	126
Chhattisgarh	Mahasamund	1132020	1309	1287	98%	92%	8%	89%	11%	74%	26%	6%	94%	0%	116	224	20	1533	135
Chhattisgarh	Mungeli	830490	791	782	99%	85%	15%	95%	5%	59%	41%	3%	98%	1%	95	109	13	900	108
Chhattisgarh	Narayanpur	152190	201	143	71%	82%	18%	92%	8%	49%	51%	5%	94%	0%	132	0	0	201	132
Chhattisgarh	Raigarh-CG	1618528	2182	2081	95%	92%	8%	91%	9%	58%	42%	5%	95%	0%	135	292	18	2474	153
Chhattisgarh	Raipur	2578242	1962	1784	91%	79%	21%	85%	15%	60%	40%	4%	92%	1%	76	2763	107	4725	183
Chhattisgarh	Rajnandgaon	1682318	1772	1748	99%	84%	16%	88%	12%	71%	29%	4%	95%	3%	105	581	35	2353	140
Chhattisgarh	Sarguja	919028	651	590	91%	95%	5%	88%	12%	43%	57%	5%	77%	0%	71	378	41	1029	112
Chhattisgarh	South Bastar Dantewada	292267	289	289	100%	87%	13%	90%	10%	46%	54%	3%	100%	1%	99	30	10	319	109
Chhattisgarh	Sukma	257913	326	215	66%	89%	11%	83%	17%	56%	44%	6%	97%	0%	126	9	3	335	130
Chhattisgarh	Surajpur	863470	590	517	88%	95%	5%	89%	11%	36%	64%	7%	87%	0%	68	8	1	598	69
Chhattisgarh	Uttar Bastar Kanker	797258	947	887	94%	90%	10%	91%	9%	57%	43%	3%	96%	0%	119	118	15	1065	134
Dadra and Nagar Haveli	Dadra & Nagar Haveli	427881	893	503	56%	64%	36%	91%	9%	45%	55%	6%	91%	0%	209	70	16	963	225
Daman and Diu	Daman	238187	345	337	98%	84%	16%	91%	9%	32%	68%	5%	97%	0%	145	76	32	421	177
Daman and Diu	Diu	64966	36	33	92%	79%	21%	79%	21%	52%	48%	14%	39%	0%	55	0	0	36	55
Delhi	Bijwasan	605962	1616	1416	88%	59%	41%	84%	16%	49%	51%	11%	78%	1%	267	43	7	1659	274
Delhi	BIRM Chest Clinic	605962	1777	1393	78%	65%	35%	87%	13%	61%	39%	14%	48%	1%	293	25	4	1802	297
Delhi	BSA Chest Clinic	706956	2830	2672	94%	56%	44%	87%	13%	38%	62%	12%	57%	1%	400	379	54	3209	454

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Delhi	CD Chest Clinic	706956	2071	1975	95%	61%	39%	85%	15%	45%	55%	14%	55%	1%	293	116	16	2187	309
Delhi	DDU Chest Clinic	1262422	3164	1963	62%	52%	48%	84%	16%	43%	57%	14%	58%	0%	251	150	12	3314	263
Delhi	GTB Chest Clinic	656459	2432	2363	97%	60%	40%	86%	14%	39%	61%	13%	71%	1%	370	30	5	2462	375
Delhi	Gulabi Bagh	353478	903	867	96%	56%	44%	86%	14%	47%	53%	12%	84%	2%	255	47	13	950	269
Delhi	Hedgewar Chest Clinic	302981	857	835	97%	55%	45%	85%	15%	59%	41%	11%	1%	0%	283	19	6	876	289
Delhi	Jhandewalan	403975	1234	1172	95%	58%	42%	79%	21%	48%	52%	14%	77%	1%	305	108	27	1342	332
Delhi	Karawal Nagar	807950	3808	3756	99%	53%	47%	88%	12%	37%	63%	15%	12%	3%	471	445	55	4253	526
Delhi	Kingsway	807950	2187	1865	85%	62%	38%	89%	11%	43%	57%	12%	27%	2%	271	69	9	2256	279
Delhi	LN Chest Clinic	353478	1509	920	61%	58%	42%	80%	20%	49%	51%	12%	69%	2%	427	300	85	1809	512
Delhi	LRS	757453	2734	2208	81%	68%	32%	82%	18%	61%	39%	9%	72%	2%	361	815	108	3549	469
Delhi	MNCH Chest Clinic	757453	2561	2375	93%	61%	39%	87%	13%	46%	54%	12%	56%	1%	338	301	40	2862	378
Delhi	Moti Nagar	1110931	3470	3459	100%	59%	41%	87%	13%	39%	61%	14%	44%	1%	312	311	28	3781	340
Delhi	Narela	706956	2088	2030	97%	66%	34%	88%	12%	47%	53%	12%	84%	1%	295	2	0	2090	296
Delhi	NDMC	1009937	4644	2632	57%	59%	41%	84%	16%	47%	53%	15%	70%	1%	460	177	18	4821	477
Delhi	Nehru Nagar	1514906	5016	4736	94%	56%	44%	87%	13%	36%	64%	14%	1%	2%	331	294	19	5310	351
Delhi	Patparganj	1312918	3859	3335	86%	57%	43%	88%	12%	39%	61%	15%	18%	0%	294	159	12	4018	306
Delhi	RK Mission	353478	605	592	98%	66%	34%	80%	20%	62%	38%	12%	53%	1%	171	911	258	1516	429
Delhi	RTRM Chest Clinic	706956	1943	1841	95%	63%	37%	85%	15%	52%	48%	10%	26%	2%	275	105	15	2048	290
Delhi	SGM Chest Clinic	706956	2432	1777	73%	57%	43%	89%	11%	33%	67%	15%	21%	1%	344	20	3	2452	347
Delhi	Shahadra	605962	2789	2712	97%	57%	43%	85%	15%	36%	64%	14%	0%	0%	460	142	23	2931	484
Delhi	SPM Marg	403975	1002	995	99%	59%	41%	80%	20%	41%	59%	13%	63%	3%	248	36	9	1038	257
Delhi	SPMH Chest Clinic	757453	3241	3138	97%	45%	55%	81%	19%	37%	63%	18%	19%	1%	428	117	15	3358	443
Goa	North Goa	849085	1088	714	66%	67%	33%	88%	12%	53%	47%	4%	92%	4%	128	225	26	1313	155
Goa	South Goa	664476	475	401	84%	72%	28%	88%	12%	59%	41%	4%	86%	2%	71	147	22	622	94
Gujarat	Ahmadabad	1621214	3581	2288	64%	79%	21%	83%	17%	55%	45%	7%	93%	4%	221	771	48	4352	268
Gujarat	Ahmadabad MC	6157606	13889	9935	72%	71%	29%	82%	18%	50%	50%	7%	92%	4%	226	3949	64	17838	290
Gujarat	Amreli	1658844	1466	1309	89%	87%	13%	85%	15%	72%	28%	5%	95%	2%	88	501	30	1967	119

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Gujarat	Anand	2307087	3570	3174	89%	88%	12%	79%	21%	69%	31%	3%	88%	1%	155	1237	54	4807	208
Gujarat	Arvali	1125210	2005	1786	89%	93%	7%	78%	22%	65%	35%	3%	96%	2%	178	899	80	2904	258
Gujarat	Banaskantha	3440113	5486	4331	79%	92%	8%	82%	18%	58%	42%	4%	92%	3%	159	1945	57	7431	216
Gujarat	Bharuch	1709877	2646	2313	87%	86%	14%	83%	17%	69%	31%	4%	97%	2%	155	775	45	3421	200
Gujarat	Bhavnagar	2659228	3455	2878	83%	85%	15%	76%	24%	76%	24%	6%	88%	3%	130	1376	52	4831	182
Gujarat	Botad	711278	612	574	94%	87%	13%	78%	22%	68%	32%	4%	91%	1%	86	196	28	808	114
Gujarat	Chhota Udepur	1181609	1434	1328	93%	97%	3%	79%	21%	87%	13%	2%	87%	1%	121	253	21	1687	143
Gujarat	Dahod	2344945	5748	5139	89%	91%	9%	79%	21%	64%	36%	9%	86%	2%	245	1711	73	7459	318
Gujarat	Devbhumi dwarka	829555	544	531	98%	92%	8%	76%	24%	71%	29%	3%	99%	2%	66	122	15	666	80
Gujarat	Gandhinagar	1524770	2592	2073	80%	79%	21%	84%	16%	50%	50%	6%	93%	6%	170	1262	83	3854	253
Gujarat	Gir Somnath	1334756	1501	1478	98%	88%	12%	81%	19%	66%	34%	5%	96%	0%	112	481	36	1982	148
Gujarat	Jamnagar	1528196	2031	1813	89%	78%	22%	80%	20%	66%	34%	6%	95%	1%	133	494	32	2525	165
Gujarat	Junagadh	1679696	1578	1449	92%	79%	21%	83%	17%	63%	37%	5%	91%	6%	94	647	39	2225	132
Gujarat	Kachchh	2306675	3020	2959	98%	83%	17%	82%	18%	60%	40%	5%	99%	5%	131	1023	44	4043	175
Gujarat	Kheda	2264119	3238	2846	88%	93%	7%	79%	21%	70%	30%	3%	95%	1%	143	1580	70	4818	213
Gujarat	Mahesana	2253026	4740	3966	84%	87%	13%	78%	22%	36%	64%	4%	70%	2%	210	3703	164	8443	375
Gujarat	Mahisagar	1096495	2219	2124	96%	96%	4%	76%	24%	78%	22%	2%	98%	1%	202	914	83	3133	286
Gujarat	Morbi	1064143	927	844	91%	87%	13%	78%	22%	77%	23%	5%	98%	1%	87	900	85	1827	172
Gujarat	Narmada	650756	1055	924	88%	92%	8%	82%	18%	73%	27%	3%	99%	0%	162	634	97	1689	260
Gujarat	Navsari	1465859	1890	1821	96%	78%	22%	82%	18%	62%	38%	4%	98%	2%	129	429	29	2319	158
Gujarat	Panch Mahals	1810471	3702	3536	96%	93%	7%	73%	27%	74%	26%	6%	99%	2%	204	1207	67	4909	271
Gujarat	Patan	1481361	2607	2043	78%	88%	12%	76%	24%	61%	39%	3%	96%	8%	176	1772	120	4379	296
Gujarat	Porbandar	644590	669	648	97%	85%	15%	83%	17%	57%	43%	5%	99%	6%	104	286	44	955	148
Gujarat	Rajkot	3336968	4512	3828	85%	78%	22%	83%	17%	59%	41%	7%	95%	4%	135	2023	61	6535	196
Gujarat	Sabarkantha	1552119	2448	2072	85%	91%	9%	80%	20%	59%	41%	3%	97%	5%	158	1452	94	3900	251
Gujarat	Surat	1778785	4655	4079	88%	79%	21%	83%	17%	63%	37%	5%	94%	5%	262	795	45	5450	306
Gujarat	Surat Municipal Corp	4925395	6547	5822	89%	74%	26%	83%	17%	57%	43%	7%	98%	3%	133	2933	60	9480	192
Gujarat	Surendranagar	1752873	2561	2271	89%	91%	9%	77%	23%	74%	26%	4%	97%	6%	146	901	51	3462	198
Gujarat	The Dangs	251673	318	289	91%	82%	18%	84%	16%	60%	40%	8%	98%	0%	126	0	0	318	126
Gujarat	Vadodara	1478815	4726	3947	84%	86%	14%	87%	13%	56%	44%	8%	86%	2%	320	140	9	4866	329

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Gujarat	Vadodara Corp	1931851	3732	3162	85%	82%	18%	80%	20%	65%	35%	6%	87%	4%	193	1636	85	5368	278
Gujarat	Valsad	1880376	2333	2033	87%	82%	18%	86%	14%	63%	37%	5%	92%	4%	124	631	34	2964	158
Gujarat	Vyara (Surat)	889678	1385	1231	89%	82%	18%	82%	18%	58%	42%	3%	91%	2%	156	61	7	1446	163
Haryana	Ambala	1261609	1997	1426	71%	75%	25%	83%	17%	76%	24%	5%	50%	1%	158	363	29	2360	187
Haryana	Bhiwani	1807995	2045	1255	61%	89%	11%	76%	24%	79%	21%	4%	71%	1%	113	863	48	2908	161
Haryana	Faridabad	1996489	3305	3024	91%	60%	40%	85%	15%	42%	58%	11%	33%	1%	166	1242	62	4547	228
Haryana	Fatehabad	1044907	1264	995	79%	92%	8%	74%	26%	77%	23%	5%	81%	1%	121	191	18	1455	139
Haryana	Gurgaon	1680340	1093	453	41%	79%	21%	86%	14%	56%	44%	7%	68%	0%	65	717	43	1810	108
Haryana	Hisar	1934186	2042	1707	84%	87%	13%	77%	23%	78%	22%	4%	80%	0%	106	451	23	2493	129
Haryana	Jhajjar	1061981	1462	1292	88%	83%	17%	80%	20%	71%	29%	5%	36%	0%	138	27	3	1489	140
Haryana	Jind	1478308	1732	1508	87%	82%	18%	75%	25%	68%	32%	5%	71%	0%	117	296	20	2028	137
Haryana	Kaithal	1190667	1163	1028	88%	88%	12%	80%	20%	78%	22%	4%	69%	1%	98	187	16	1350	113
Haryana	Karnal	1671726	2349	1948	83%	89%	11%	86%	14%	77%	23%	6%	81%	0%	141	357	21	2706	162
Haryana	Kurukshetra	1070109	1350	1122	83%	84%	16%	81%	19%	77%	23%	4%	92%	1%	126	222	21	1572	147
Haryana	Mahendragarh	1022886	1107	1018	92%	87%	13%	81%	19%	68%	32%	4%	84%	3%	108	141	14	1248	122
Haryana	Mewat	1209029	1363	1217	89%	81%	19%	79%	21%	59%	41%	10%	23%	0%	113	13	1	1376	114
Haryana	Palwal	1154745	1273	1174	92%	77%	23%	87%	13%	82%	18%	8%	88%	1%	110	104	9	1377	119
Haryana	Panchkula	620259	1078	983	91%	64%	36%	95%	5%	54%	46%	7%	93%	0%	174	16	3	1094	176
Haryana	Panipat	1334887	2053	1842	90%	85%	15%	90%	10%	76%	24%	9%	84%	1%	154	164	12	2217	166
Haryana	Rewari	994529	871	753	86%	71%	29%	88%	12%	61%	39%	7%	88%	0%	88	244	25	1115	112
Haryana	Rohtak	1174932	1296	1127	87%	79%	21%	81%	19%	77%	23%	6%	82%	1%	110	203	17	1499	128
Haryana	Sirsa	1437325	1659	1383	83%	89%	11%	82%	18%	68%	32%	5%	71%	1%	115	448	31	2107	147
Haryana	Sonapat	1642601	2038	1869	92%	84%	16%	83%	17%	59%	41%	8%	23%	1%	124	255	16	2293	140
Haryana	Yamunanagar	1347484	1564	1470	94%	76%	24%	83%	17%	71%	29%	5%	98%	0%	116	143	11	1707	127
Himachal Pradesh	Bilaspur-HP	405867	578	535	93%	78%	22%	84%	16%	71%	29%	6%	93%	1%	142	15	4	593	146
Himachal Pradesh	Chamba	551179	1230	719	58%	73%	27%	80%	20%	70%	30%	7%	72%	1%	223	5	1	1235	224
Himachal Pradesh	Hamirpur-HP	482605	877	556	63%	78%	22%	81%	19%	74%	26%	2%	95%	1%	182	22	5	899	186
Himachal Pradesh	Kangra	1601156	3967	2467	62%	75%	25%	84%	16%	65%	35%	7%	88%	0%	248	127	8	4094	256

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Himachal Pradesh	Kinnaur	89552	103	73	71%	85%	15%	85%	15%	78%	22%	3%	77%	0%	115	0	0	103	115
Himachal Pradesh	Kullu	464738	714	486	68%	79%	21%	74%	26%	68%	32%	6%	73%	1%	154	189	41	903	194
Himachal Pradesh	Lahul & Spiti	33493	64	64	100%	61%	39%	86%	14%	47%	53%	5%	3%	0%	191	0	0	64	191
Himachal Pradesh	Mandi	1061810	2002	984	49%	70%	30%	80%	20%	59%	41%	5%	78%	0%	189	129	12	2131	201
Himachal Pradesh	Shimla	864076	2777	442	16%	69%	31%	87%	13%	65%	35%	6%	64%	0%	321	44	5	2821	326
Himachal Pradesh	Sirmaur	563205	1131	839	74%	79%	21%	84%	16%	60%	40%	7%	82%	0%	201	8	1	1139	202
Himachal Pradesh	Solan	612609	1519	648	43%	84%	16%	88%	12%	74%	26%	3%	83%	0%	248	188	31	1707	279
Himachal Pradesh	Una	553530	753	674	90%	79%	21%	82%	18%	71%	29%	3%	93%	1%	136	9	2	762	138
Jammu and Kashmir	Anantnag	1675067	680	641	94%	66%	34%	94%	6%	48%	52%	18%	72%	0%	41	27	2	707	42
Jammu and Kashmir	Badgam	825515	220	188	85%	61%	39%	90%	10%	51%	49%	8%	36%	0%	27	3	0	223	27
Jammu and Kashmir	Baramulla	1571475	469	423	90%	76%	24%	94%	6%	73%	27%	11%	72%	0%	30	20	1	489	31
Jammu and Kashmir	Doda	1036645	691	607	88%	62%	38%	89%	11%	54%	46%	10%	0%		67	61	6	752	73
Jammu and Kashmir	Jammu	2070109	2710	1694	63%	78%	22%	79%	21%	60%	40%	5%	52%	2%	131	239	12	2949	142
Jammu and Kashmir	Kargil	160881	132	67	51%	79%	21%	85%	15%	36%	64%	9%	0%		82	0	0	132	82
Jammu and Kashmir	Kathua	690828	629	348	55%	87%	13%	79%	21%	62%	38%	2%	0%		91	17	2	646	94
Jammu and Kashmir	Kupwara	982383	457	430	94%	64%	36%	93%	7%	57%	43%	7%	92%	0%	47	18	2	475	48
Jammu and Kashmir	Leh	165051	218	124	57%	69%	31%	85%	15%	65%	35%	7%	1%	0%	132	1	1	219	133
Jammu and Kashmir	Poonch	938014	379	346	91%	65%	35%	88%	12%	51%	49%	4%	24%	0%	40	3	0	382	41
Jammu and Kashmir	Pulwama	534992	381	342	90%	67%	33%	95%	5%	51%	49%	13%	92%	0%	71	26	5	407	76

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Jammu and Kashmir	Rajouri	694817	511	427	84%	56%	44%	86%	14%	57%	43%	6%	0%		74	0	0	511	74
Jammu and Kashmir	Srinagar	1757898	781	535	69%	57%	43%	93%	7%	49%	51%	9%	16%	0%	44	640	36	1421	81
Jammu and Kashmir	Udhampur	976220	1162	971	84%	75%	25%	80%	20%	63%	37%	2%	64%	0%	119	1	0	1163	119
Jharkhand	Bokaro	2333310	2152	1381	64%	87%	13%	85%	15%	54%	46%	4%	45%	0%	92	1009	43	3161	135
Jharkhand	Chatra	1179493	946	870	92%	98%	2%	87%	13%	57%	43%	3%	60%	0%	80	41	3	987	84
Jharkhand	Deoghar	1688241	1075	990	92%	97%	3%	95%	5%	86%	14%	3%	94%	0%	64	136	8	1211	72
Jharkhand	Dhanbad	3035756	2197	2152	98%	94%	6%	91%	9%	95%	5%	6%	74%	0%	72	571	19	2768	91
Jharkhand	Dumka	1494980	2126	1909	90%	98%	2%	90%	10%	59%	41%	3%	75%	0%	142	501	34	2627	176
Jharkhand	Garhwa	1496441	1437	1256	87%	98%	2%	92%	8%	68%	32%	4%	23%	0%	96	12	1	1449	97
Jharkhand	Giridih	2767043	1962	1842	94%	95%	5%	88%	12%	73%	27%	5%	17%	0%	71	424	15	2386	86
Jharkhand	Godda	1483987	1385	1298	94%	97%	3%	89%	11%	55%	45%	3%	77%	0%	93	172	12	1557	105
Jharkhand	Gumla	1160654	918	897	98%	91%	9%	90%	10%	63%	37%	6%	71%	0%	79	20	2	938	81
Jharkhand	Hazaribagh	1962236	1468	1435	98%	93%	7%	90%	10%	57%	43%	5%	80%	1%	75	149	8	1617	82
Jharkhand	Jamtara	894215	924	878	95%	97%	3%	84%	16%	71%	29%	3%	58%	0%	103	78	9	1002	112
Jharkhand	Khunti	600097	564	548	97%	93%	7%	90%	10%	62%	38%	3%	89%	0%	94	2	0	566	94
Jharkhand	Kodarma	811563	305	284	93%	96%	4%	85%	15%	58%	42%	2%	22%	2%	38	8	1	313	39
Jharkhand	Lathehar	821187	761	756	99%	95%	5%	92%	8%	68%	32%	6%	45%	0%	93	0	0	761	93
Jharkhand	Lohardaga	522512	477	460	96%	89%	11%	91%	9%	74%	26%	6%	12%	0%	91	19	4	496	95
Jharkhand	Pakur	1017554	1642	1525	93%	97%	3%	84%	16%	66%	34%	1%	50%	0%	161	0	0	1642	161
Jharkhand	Palamu	2191179	2425	2251	93%	99%	1%	93%	7%	72%	28%	5%	75%	0%	111	3	0	2428	111
Jharkhand	Pashchimi Singhbhum	1699263	2926	2376	81%	95%	5%	93%	7%	48%	52%	3%	84%	0%	172	42	2	2968	175
Jharkhand	Purbi Singhbhum	2592580	3076	2838	92%	91%	9%	86%	14%	55%	45%	4%	60%	1%	119	592	23	3668	141
Jharkhand	Ramgarh	1074088	757	591	78%	91%	9%	81%	19%	74%	26%	4%	34%	0%	70	111	10	868	81
Jharkhand	Ranchi	3295305	2959	2196	74%	87%	13%	88%	12%	55%	45%	4%	48%	0%	90	2638	80	5597	170
Jharkhand	Sahibganj	1301407	1607	1439	90%	94%	6%	90%	10%	48%	52%	5%	87%	0%	123	706	54	2313	178
Jharkhand	Saraike-la-Kharsawan	1203431	2052	1988	97%	97%	3%	89%	11%	62%	38%	2%	48%	0%	171	31	3	2083	173
Jharkhand	Simdega	678761	720	596	83%	94%	6%	90%	10%	69%	31%	3%	54%	0%	106	2	0	722	106

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Karnataka	Bagalkot	2042890	2243	1708	76%	90%	10%	82%	18%	49%	51%	3%	68%	30%	110	495	24	2738	134
Karnataka	Bangalore City	7977252	7947	2495	31%	73%	27%	82%	18%	66%	34%	5%	54%	4%	100	2414	30	10861	130
Karnataka	Bangalore Rural	1066654	956	505	53%	83%	17%	86%	14%	74%	26%	3%	72%	4%	90	38	4	994	93
Karnataka	Bangalore Urban	2382816	4835	2900	60%	75%	25%	86%	14%	63%	37%	5%	91%	4%	203	660	28	5495	231
Karnataka	Belgaum	5162730	6117	4557	74%	89%	11%	91%	9%	49%	51%	9%	88%	15%	118	558	11	6675	129
Karnataka	Bellary	2736042	3187	1215	38%	84%	16%	82%	18%	67%	33%	4%	75%	9%	116	587	21	3774	138
Karnataka	Bidar	1836737	1835	251	14%	87%	13%	84%	16%	55%	45%	4%	76%	1%	100	253	14	2088	114
Karnataka	Bijapur	2350028	1410	572	41%	91%	9%	94%	6%	70%	30%	7%	77%	6%	60	807	34	2217	94
Karnataka	Chamarajanagar	1103070	1069	773	72%	85%	15%	85%	15%	73%	27%	3%	91%	10%	97	42	4	1111	101
Karnataka	Chikkaballapur	1355256	1978	1522	77%	85%	15%	85%	15%	72%	28%	3%	83%	6%	146	105	8	2083	154
Karnataka	Chikmagalur	1229253	930	751	81%	79%	21%	84%	16%	65%	35%	8%	84%	3%	76	101	8	1031	84
Karnataka	Chitradurga	1793909	2322	1512	65%	89%	11%	86%	14%	68%	32%	3%	83%	7%	129	357	20	2679	149
Karnataka	Dakshina Kannada	2251194	2205	882	40%	86%	14%	84%	16%	70%	30%	4%	78%	3%	98	239	11	2444	109
Karnataka	Davanagere	2103479	2215	898	41%	81%	19%	83%	17%	64%	36%	4%	55%	5%	105	156	7	2371	113
Karnataka	Dharwad	1995532	2140	1440	67%	78%	23%	85%	15%	68%	32%	5%	72%	11%	107	715	36	2855	143
Karnataka	Gadag	1150903	1638	1112	68%	82%	18%	91%	9%	66%	34%	8%	63%	9%	142	345	30	1983	172
Karnataka	Gulbarga	2771165	2081	1522	73%	83%	17%	83%	17%	59%	41%	4%	63%	3%	75	484	17	2565	93
Karnataka	Hassan	1919068	1095	618	56%	80%	20%	81%	19%	77%	23%	3%	83%	6%	57	155	8	1250	65
Karnataka	Haveri	1727061	1758	1356	77%	86%	14%	84%	16%	65%	35%	7%	51%	1%	102	172	10	1930	112
Karnataka	Kodagu	599377	295	120	41%	76%	24%	83%	18%	71%	29%	3%	54%	5%	49	22	4	317	53
Karnataka	Kolar	1664099	1771	1544	87%	80%	20%	89%	11%	68%	32%	3%	74%	6%	106	54	3	1825	110
Karnataka	Koppal	1503182	1675	906	54%	91%	9%	79%	21%	71%	29%	3%	60%	2%	111	261	17	1936	129
Karnataka	Mandya	1954137	1406	889	63%	86%	14%	82%	18%	77%	23%	2%	77%	2%	72	226	12	1632	84
Karnataka	Mysore	3235587	3383	1078	32%	82%	18%	83%	17%	70%	30%	3%	69%	4%	105	219	7	3602	111
Karnataka	Raichur	2079567	3041	1660	55%	94%	6%	81%	19%	70%	30%	5%	77%	11%	146	590	28	3631	175
Karnataka	Ramanagara	1169815	1110	819	74%	81%	19%	80%	20%	74%	26%	3%	77%	5%	95	60	5	1170	100
Karnataka	Shimoga	1896694	1716	858	50%	85%	15%	85%	15%	72%	28%	4%	79%	3%	90	335	18	2051	108
Karnataka	Tumkur	2897096	3096	2124	69%	77%	23%	86%	14%	62%	38%	4%	79%	6%	107	101	3	3197	110
Karnataka	Udupi	1272638	1004	436	43%	85%	15%	78%	22%	73%	27%	2%	87%	11%	79	888	70	1892	149
Karnataka	Uttara Kannada	1552401	958	575	60%	83%	17%	85%	15%	64%	36%	5%	77%	4%	62	165	11	1123	72

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Karnataka	Yadgiri	1267319	1783	1508	85%	90%	10%	81%	19%	66%	34%	5%	95%	11%	141	384	30	2167	171
Kerala	Alappuzha	2166634	1090	844	77%	79%	21%	94%	6%	68%	32%	4%	42%	0%	50	305	14	1395	64
Kerala	Ernakulam	3348998	1496	1310	88%	84%	16%	87%	13%	68%	32%	4%	35%	2%	45	1028	31	2524	75
Kerala	Idukki	1130777	527	437	83%	69%	31%	95%	5%	64%	36%	5%	46%	0%	47	144	13	671	59
Kerala	Kannur	2578830	773	449	58%	69%	31%	94%	6%	53%	47%	6%	45%	0%	30	866	34	1639	64
Kerala	Kasaragod	1330034	852	244	29%	73%	27%	86%	14%	63%	37%	5%	61%	0%	64	365	27	1217	92
Kerala	Kollam	2685088	1567	1025	65%	80%	20%	93%	7%	66%	34%	5%	63%	2%	58	611	23	2178	81
Kerala	Kottayam	2021072	793	564	71%	85%	15%	91%	9%	67%	33%	3%	13%	1%	39	247	12	1040	51
Kerala	Kozhikode	3154613	636	316	50%	68%	32%	94%	6%	56%	44%	7%	11%	0%	20	1061	34	1697	54
Kerala	Malappuram	4197538	936	621	66%	71%	29%	93%	7%	56%	44%	11%	50%	0%	22	338	8	1274	30
Kerala	Palakkad	2870093	1496	1035	69%	75%	25%	93%	7%	65%	35%	5%	53%	2%	52	363	13	1859	65
Kerala	Pathanamthitta	1220717	265	212	80%	87%	13%	90%	10%	68%	32%	4%	34%	0%	22	175	14	440	36
Kerala	Thiruvananthapuram	3376940	1418	1029	73%	76%	24%	92%	8%	64%	36%	3%	31%	1%	42	1167	35	2585	77
Kerala	Thrissur	3175834	2306	2122	92%	75%	25%	93%	7%	67%	33%	6%	16%	1%	73	1232	39	3538	111
Kerala	Wayanad	833756	367	203	55%	82%	18%	96%	4%	69%	31%	9%	24%	0%	44	330	40	697	84
Lakshadweep	Lakshadweep	65659	46	38	83%	71%	29%	97%	3%	58%	42%	17%	0%		70	0	0	46	70
Madhya Pradesh	Agar Malwa	558522	553	19	3%	83%	17%	67%	33%	50%	50%	9%	100%	0%	99	0	0	553	99
Madhya Pradesh	Alirajpur	807315	987	949	96%	90%	10%	88%	12%	68%	32%	7%	78%	0%	122	0	0	987	122
Madhya Pradesh	Anuppur	830409	1085	977	90%	96%	4%	92%	8%	66%	34%	3%	93%	0%	131	0	0	1085	131
Madhya Pradesh	Ashoknagar	936168	1683	1456	87%	97%	3%	97%	3%	49%	51%	6%	21%	0%	180	1	0	1684	180
Madhya Pradesh	Balaghat	1884743	3104	2522	81%	97%	3%	94%	6%	49%	51%	3%	22%	1%	165	397	21	3501	186
Madhya Pradesh	Barwani	1535197	1950	1790	92%	83%	17%	89%	11%	57%	43%	10%	50%	1%	127	559	36	2509	163
Madhya Pradesh	Betul	1745246	2594	2396	92%	82%	18%	92%	8%	39%	61%	8%	57%	1%	149	408	23	3002	172
Madhya Pradesh	Bhind	1887408	2225	1006	45%	91%	9%	86%	14%	46%	54%	9%	4%	0%	118	63	3	2288	121

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Madhya Pradesh	Bhopal	2623712	5376	4418	82%	73%	27%	87%	13%	48%	52%	12%	36%	2%	205	1567	60	6943	265
Madhya Pradesh	Burhanpur	838687	1359	648	48%	89%	11%	97%	3%	55%	45%	9%	68%	2%	162	241	29	1600	191
Madhya Pradesh	Chhatarpur	1953103	2911	2701	93%	96%	4%	89%	11%	65%	35%	7%	38%	0%	149	52	3	2963	152
Madhya Pradesh	Chhindwara	2315889	3633	2964	82%	90%	10%	86%	14%	62%	38%	4%	64%	1%	157	318	14	3951	171
Madhya Pradesh	Damoh	1400080	2979	1622	54%	84%	16%	79%	21%	66%	34%	7%	48%	0%	213	60	4	3039	217
Madhya Pradesh	Datia	871240	1719	1529	89%	85%	15%	81%	19%	44%	56%	14%	28%	0%	197	19	2	1738	199
Madhya Pradesh	Dewas	1731796	2694	2598	96%	81%	19%	91%	9%	46%	54%	13%	64%	2%	156	379	22	3073	177
Madhya Pradesh	Dhar	2420439	3499	3022	86%	90%	10%	93%	7%	45%	55%	11%	61%	2%	145	1498	62	4997	206
Madhya Pradesh	Dindori	780217	1253	1028	82%	96%	4%	91%	9%	63%	37%	8%	50%	1%	161	0	0	1253	161
Madhya Pradesh	Guna	1374859	1503	1044	69%	89%	11%	88%	12%	32%	68%	8%	13%	0%	109	482	35	1985	144
Madhya Pradesh	Gwalior	2249677	5698	4915	86%	84%	16%	82%	18%	59%	41%	8%	68%	0%	253	2390	106	8088	360
Madhya Pradesh	Harda	631848	653	538	82%	90%	10%	95%	5%	49%	51%	15%	73%	1%	103	346	55	999	158
Madhya Pradesh	Hoshangabad	1374900	2081	1882	90%	84%	16%	92%	8%	38%	62%	16%	64%	2%	151	31	2	2112	154
Madhya Pradesh	Indore	3625481	7909	7415	94%	75%	25%	87%	13%	45%	55%	20%	67%	2%	218	1446	40	9355	258
Madhya Pradesh	Jabalpur	2726271	4297	3439	80%	83%	17%	84%	16%	52%	48%	7%	51%	1%	158	504	18	4801	176
Madhya Pradesh	Jhabua	1134610	1362	913	67%	94%	6%	92%	8%	55%	45%	9%	36%	1%	120	0	0	1362	120
Madhya Pradesh	Katni	1431081	1646	1480	90%	95%	5%	91%	9%	48%	52%	6%	67%	0%	115	263	18	1909	133
Madhya Pradesh	Khandwa	1450756	1378	1331	97%	90%	10%	94%	6%	53%	47%	7%	44%	0%	95	206	14	1584	109
Madhya Pradesh	Khargone	2074481	2926	2705	92%	82%	18%	90%	10%	62%	38%	16%	67%	2%	141	592	29	3518	170

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Madhya Pradesh	Mandla	1167217	1970	1830	93%	89%	11%	94%	6%	50%	50%	8%	17%	0%	169	0	0	1970	169
Madhya Pradesh	Mandsaur	1484425	2155	1936	90%	88%	12%	77%	23%	57%	43%	9%	69%	3%	145	553	37	2708	182
Madhya Pradesh	Morena	2177212	2366	1776	75%	90%	10%	81%	19%	71%	29%	5%	39%	1%	109	386	18	2752	126
Madhya Pradesh	Narsinghpur	1210004	1601	1250	78%	82%	18%	80%	20%	62%	38%	5%	73%	1%	132	319	26	1920	159
Madhya Pradesh	Nemuch	915095	1362	1145	84%	89%	11%	83%	17%	56%	44%	6%	82%	3%	149	574	63	1936	212
Madhya Pradesh	Panna	1125677	1602	1523	95%	93%	7%	85%	15%	66%	34%	13%	41%	0%	142	0	0	1602	142
Madhya Pradesh	Raisen	1475414	1575	1430	91%	89%	11%	85%	15%	54%	46%	6%	21%	0%	107	102	7	1677	114
Madhya Pradesh	Rajgarh	1713441	1966	1790	91%	91%	9%	84%	16%	53%	47%	11%	67%	1%	115	85	5	2051	120
Madhya Pradesh	Ratlam	1611449	2170	1944	90%	85%	15%	82%	18%	54%	46%	8%	80%	3%	135	211	13	2381	148
Madhya Pradesh	Rewa	2618837	3665	3115	85%	82%	18%	89%	11%	47%	53%	9%	79%	1%	140	0	0	3665	140
Madhya Pradesh	Sagar	2634958	3399	2866	84%	86%	14%	91%	9%	52%	48%	8%	19%	0%	129	266	10	3665	139
Madhya Pradesh	Satna	2469129	3941	3533	90%	82%	18%	96%	4%	46%	54%	8%	54%	0%	160	375	15	4316	175
Madhya Pradesh	Sehore	1452490	1862	1779	96%	89%	11%	91%	9%	53%	47%	10%	87%	1%	128	195	13	2057	142
Madhya Pradesh	Seoni	1527683	1721	1360	79%	89%	11%	87%	13%	59%	41%	5%	36%	2%	113	98	6	1819	119
Madhya Pradesh	Shahdol	1179922	1165	795	68%	97%	3%	88%	12%	50%	50%	6%	30%	0%	99	351	30	1516	128
Madhya Pradesh	Shajapur	1117043	1358	1158	85%	79%	21%	89%	11%	52%	48%	16%	90%	1%	122	82	7	1440	129
Madhya Pradesh	Sheopur	762195	1394	1337	96%	93%	7%	80%	20%	72%	28%	10%	80%	0%	183	1	0	1395	183
Madhya Pradesh	Shivpuri	1912066	2927	2198	75%	98%	2%	78%	22%	86%	14%	3%	3%	0%	153	122	6	3049	159
Madhya Pradesh	Sidhi	1248087	1498	1198	80%	92%	8%	84%	16%	56%	44%	6%	69%	0%	120	137	11	1635	131

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Madhya Pradesh	Singrauli	1305274	1069	1037	97%	84%	16%	90%	10%	56%	44%	6%	2%	0%	82	62	5	1131	87
Madhya Pradesh	Tikamgarh	1600854	2182	1850	85%	88%	12%	88%	12%	49%	51%	6%	48%	0%	136	75	5	2257	141
Madhya Pradesh	Ujjain	2200988	2682	1537	57%	81%	19%	80%	20%	49%	51%	10%	66%	1%	122	520	24	3202	145
Madhya Pradesh	Umaria	713033	941	915	97%	94%	6%	92%	8%	49%	51%	7%	89%	0%	132	3	0	944	132
Madhya Pradesh	Vidisha	1615580	1955	1840	94%	87%	13%	88%	13%	48%	52%	7%	71%	1%	121	411	25	2366	146
Maharashtra	Ahmadnagar	4550731	4336	3333	77%	83%	17%	91%	9%	58%	42%	4%	95%	3%	95	108	2	4444	98
Maharashtra	Ahmednagar MC	380830	370	197	53%	74%	26%	85%	15%	44%	56%	4%	72%	4%	97	191	50	561	147
Maharashtra	Akola	1510136	1149	1051	91%	81%	19%	85%	15%	70%	30%	5%	79%	4%	76	38	3	1187	79
Maharashtra	Akola MC	452514	372	341	92%	71%	29%	81%	19%	61%	39%	4%	80%	6%	82	783	173	1155	255
Maharashtra	Amravati	2434468	2288	2231	98%	82%	18%	85%	15%	68%	32%	4%	92%	2%	94	463	19	2751	113
Maharashtra	Amravati MC	701960	671	561	84%	69%	31%	83%	17%	54%	46%	5%	94%	2%	96	782	111	1453	207
Maharashtra	Andheri East	916557	1187	898	76%	60%	40%	86%	14%	43%	57%	8%	82%	8%	130	1794	196	2981	325
Maharashtra	Andheri West	789013	1864	1065	57%	66%	34%	88%	12%	55%	45%	10%	87%	2%	236	1643	208	3507	444
Maharashtra	Aurangabad MC	1255630	1191	750	63%	70%	30%	86%	14%	59%	41%	7%	73%	2%	95	649	52	1840	147
Maharashtra	Aurangabad-MH	2646271	1905	1222	64%	86%	14%	85%	15%	72%	28%	4%	74%	4%	72	413	16	2318	88
Maharashtra	Bail Bazar Road	528418	1137	525	46%	59%	41%	78%	22%	21%	79%	10%	67%	3%	215	1362	258	2499	473
Maharashtra	Bandra East	658266	1633	885	54%	70%	30%	80%	20%	33%	67%	12%	46%	3%	248	651	99	2284	347
Maharashtra	Bandra West	381975	391	320	82%	69%	31%	90%	10%	59%	41%	8%	72%	4%	102	513	134	904	237
Maharashtra	Bhandara	1301045	953	821	86%	76%	24%	84%	16%	59%	41%	6%	84%	4%	73	275	21	1228	94
Maharashtra	Bhiwandi-Nizampur	771992	2207	1711	78%	73%	27%	85%	15%	31%	69%	13%	16%	3%	286	8	1	2215	287
Maharashtra	Bid	2795786	1357	962	71%	69%	31%	90%	10%	37%	63%	6%	62%	10%	49	582	21	1939	69
Maharashtra	Borivali	580925	454	430	95%	71%	29%	86%	14%	52%	48%	8%	94%	4%	78	841	145	1295	223
Maharashtra	Buldana	2740193	1642	1531	93%	82%	18%	84%	16%	65%	35%	3%	72%	3%	60	1329	49	2971	108
Maharashtra	Byculla	499440	1012	571	56%	58%	42%	83%	17%	54%	46%	6%	88%	6%	203	1271	254	2283	457
Maharashtra	Centenary	316868	1992	835	42%	64%	36%	78%	22%	53%	47%	10%	51%	2%	629	629	199	2621	827
Maharashtra	Chandrapur	2381391	2246	1949	87%	75%	25%	88%	12%	58%	42%	4%	88%	9%	94	583	24	2829	119
Maharashtra	Chembur	463844	890	483	54%	67%	33%	81%	19%	59%	41%	8%	43%	3%	192	1394	301	2284	492

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Maharashtra	Colaba	444904	855	750	88%	66%	34%	81%	19%	47%	53%	4%	93%	5%	192	939	211	1794	403
Maharashtra	Dadar	671321	1185	750	63%	73%	27%	80%	20%	53%	47%	8%	88%	2%	177	6498	968	7683	1144
Maharashtra	Dahisar	411940	461	447	97%	68%	32%	82%	18%	43%	57%	7%	92%	4%	112	621	151	1082	263
Maharashtra	Dhule	1815335	1943	1676	86%	88%	12%	90%	10%	76%	24%	6%	74%	4%	107	139	8	2082	115
Maharashtra	Dhule MC	404246	1115	496	44%	84%	16%	87%	13%	65%	35%	8%	96%	3%	276	633	157	1748	432
Maharashtra	Gadchiroli	1114514	1420	1100	77%	86%	14%	88%	12%	67%	33%	3%	85%	1%	127	81	7	1501	135
Maharashtra	Ghatkopar	698983	910	625	69%	69%	31%	87%	13%	60%	40%	10%	78%	2%	130	2516	360	3426	490
Maharashtra	Gondiya	1435100	1119	902	81%	81%	19%	86%	14%	66%	34%	3%	87%	3%	78	684	48	1803	126
Maharashtra	Goregaon	496614	783	693	89%	78%	22%	83%	17%	51%	49%	6%	87%	2%	158	562	113	1345	271
Maharashtra	Govandi	447840	1474	768	52%	69%	31%	85%	15%	27%	73%	10%	38%	3%	329	1532	342	3006	671
Maharashtra	Grant Road	425069	254	253	100%	74%	26%	81%	19%	58%	42%	2%	80%	8%	60	1333	314	1587	373
Maharashtra	Hingoli	1279517	876	852	97%	85%	15%	84%	16%	63%	37%	4%	69%	4%	68	256	20	1132	88
Maharashtra	Jalgaon	4084967	2269	1572	69%	89%	11%	86%	14%	66%	34%	3%	54%	9%	56	1904	47	4173	102
Maharashtra	Jalgaon MC	499737	513	471	92%	73%	27%	87%	13%	47%	53%	6%	99%	15%	103	433	87	946	189
Maharashtra	Jalna	2125503	1508	1010	67%	83%	17%	88%	12%	58%	42%	4%	85%	5%	71	605	28	2113	99
Maharashtra	Kalyan Dombivili MC	1353383	1111	793	71%	69%	31%	74%	26%	44%	56%	4%	82%	3%	82	516	38	1627	120
Maharashtra	Kandivali	659210	1220	723	59%	61%	39%	88%	12%	61%	39%	10%	87%	3%	185	651	99	1871	284
Maharashtra	Kolhapur	3608266	2393	2324	97%	81%	19%	89%	11%	68%	32%	4%	99%	9%	66	522	14	2915	81
Maharashtra	Kolhapur MC	596126	639	535	84%	66%	34%	87%	13%	54%	46%	7%	97%	12%	107	1175	197	1814	304
Maharashtra	Kurla	352279	635	325	51%	61%	39%	70%	30%	23%	77%	10%	63%	2%	180	748	212	1383	393
Maharashtra	Latur	2664953	1885	1638	87%	78%	22%	87%	13%	60%	40%	5%	75%	7%	71	695	26	2580	97
Maharashtra	Malad	886549	1939	1689	87%	67%	33%	84%	16%	54%	46%	8%	96%	4%	219	1189	134	3128	353
Maharashtra	Malegaon Corporation	589274	1000	692	69%	69%	31%	95%	5%	51%	49%	14%	75%	4%	170	418	71	1418	241
Maharashtra	Mira Bhayander	884129	1154	983	85%	69%	31%	88%	12%	65%	35%	7%	99%	4%	131	267	30	1421	161
Maharashtra	Mulund	375288	584	529	91%	66%	34%	87%	13%	44%	56%	12%	77%	6%	156	1092	291	1676	447
Maharashtra	Nagpur	2379603	2130	1999	94%	79%	21%	87%	13%	67%	33%	4%	99%	5%	90	395	17	2525	106
Maharashtra	Nagpur MC	2610555	2567	1672	65%	65%	35%	84%	16%	62%	38%	6%	78%	7%	98	2056	79	4623	177
Maharashtra	Nanded	3045298	2853	1799	63%	79%	21%	87%	13%	55%	45%	5%	64%	5%	94	394	13	3247	107
Maharashtra	Nanded Waghela MC	574191	383	261	68%	61%	39%	85%	15%	49%	51%	10%	42%	5%	67	998	174	1381	241

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Maharashtra	Nandurbar	1786563	2372	1886	80%	87%	13%	84%	16%	71%	29%	7%	89%	3%	133	1317	74	3689	206
Maharashtra	Nashik	4458131	2571	1079	42%	85%	15%	90%	10%	74%	26%	6%	81%	2%	58	360	8	2931	66
Maharashtra	Nashik Corp	1613782	2012	1598	79%	81%	19%	91%	9%	50%	50%	7%	92%	5%	0	1159	72	1159	72
Maharashtra	Navi Mumbai	1185830	2303	1362	59%	72%	28%	80%	20%	49%	51%	9%	83%	4%	194	922	78	3225	272
Maharashtra	Osmanabad	1779802	1527	1242	81%	82%	18%	85%	15%	52%	48%	5%	62%	6%	86	231	13	1758	99
Maharashtra	Parbhani	1992267	1521	964	63%	77%	23%	86%	14%	59%	41%	4%	85%	6%	76	400	20	1921	96
Maharashtra	Parel	449692	3874	1413	36%	73%	27%	69%	31%	27%	73%	4%	26%	6%	861	497	111	4371	972
Maharashtra	Pimpri Chinchwad	1853501	1698	1438	85%	64%	36%	84%	16%	56%	44%	6%	76%	3%	92	742	40	2440	132
Maharashtra	Prabhadevi	416351	502	408	81%	68%	32%	79%	21%	59%	41%	6%	91%	3%	121	466	112	968	232
Maharashtra	Pune	4972937	3778	3115	82%	70%	30%	83%	17%	52%	48%	5%	67%	8%	76	1784	36	5562	112
Maharashtra	Pune Rural	3381116	5723	5472	96%	82%	18%	92%	8%	60%	40%	6%	97%	6%	169	2041	60	7764	230
Maharashtra	Raigarh-MH	2860141	3420	3173	93%	81%	19%	82%	18%	58%	42%	4%	73%	3%	120	1079	38	4499	157
Maharashtra	Ratnagiri	1750201	2025	1647	81%	89%	11%	88%	12%	67%	33%	3%	64%	3%	116	355	20	2380	136
Maharashtra	Sangli	2515544	1835	1645	90%	82%	18%	93%	7%	56%	44%	5%	63%	7%	73	958	38	2793	111
Maharashtra	Sangli MC	545567	256	244	95%	69%	31%	84%	16%	63%	37%	4%	87%	10%	47	782	143	1038	190
Maharashtra	Satara	3260098	2343	2097	90%	77%	23%	90%	10%	61%	39%	6%	95%	17%	72	1204	37	3547	109
Maharashtra	Sindhudurg	921260	855	699	82%	82%	18%	92%	8%	63%	37%	4%	97%	3%	93	98	11	953	103
Maharashtra	Sion	598836	1023	906	89%	60%	40%	92%	8%	51%	49%	14%	78%	4%	171	1179	197	2202	368
Maharashtra	Solapur	3589848	2047	1886	92%	81%	19%	88%	12%	63%	37%	3%	49%	11%	57	1521	42	3568	99
Maharashtra	Solapur MC	1032230	995	905	91%	76%	24%	86%	14%	56%	44%	10%	89%	8%	96	500	48	1495	145
Maharashtra	Thane	4023234	5281	2673	51%	79%	21%	85%	15%	54%	46%	7%	66%	2%	131	389	10	5670	141
Maharashtra	Thane MC	1973985	2326	799	34%	69%	31%	83%	17%	40%	60%	10%	74%	1%	118	784	40	3110	158
Maharashtra	Ulhasnagar MC	550169	577	215	37%	80%	20%	84%	16%	75%	25%	6%	87%	4%	105	203	37	780	142
Maharashtra	Vasai Virar	1302522	1762	1123	64%	63%	37%	83%	17%	39%	61%	6%	50%	2%	135	111	9	1873	144
Maharashtra	Vikhroli	756649	919	759	83%	65%	35%	86%	14%	62%	38%	7%	74%	3%	121	1009	133	1928	255
Maharashtra	Wardha	1406693	1172	1062	91%	79%	21%	84%	16%	61%	39%	4%	75%	5%	83	438	31	1610	114
Maharashtra	Washim	1296475	1158	964	83%	84%	16%	80%	20%	65%	35%	4%	79%	6%	89	510	39	1668	129
Maharashtra	Yavatmal	3012149	2612	2370	91%	81%	19%	82%	18%	58%	42%	4%	73%	9%	87	365	12	2977	99
Manipur	Bishnupur	264011	91	60	66%	78%	22%	90%	10%	65%	35%	7%	48%	7%	34	3	1	94	36
Manipur	Chandel	158198	77	73	95%	93%	7%	97%	3%	66%	34%	4%	64%	9%	49	0	0	77	49

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Manipur	Churachandpur	297963	216	190	88%	83%	17%	81%	19%	74%	26%	6%	41%	0%	72	298	100	514	173
Manipur	Imphal East	497196	436	145	33%	77%	23%	90%	10%	66%	34%	3%	71%	13%	88	386	78	822	165
Manipur	Imphal West	565320	344	276	80%	80%	20%	89%	11%	68%	32%	3%	43%	2%	61	376	67	720	127
Manipur	Senapati	389896	189	159	84%	70%	30%	77%	23%	53%	47%	3%	1%	100%	48	0	0	189	48
Manipur	Tamenglong	153931	34	19	56%	89%	11%	89%	11%	74%	26%	0%	0%		22	0	0	34	22
Manipur	Thoubal	461890	171	145	85%	79%	21%	90%	10%	57%	43%	2%	46%	2%	37	24	5	195	42
Manipur	Ukhrul	201131	133	131	98%	66%	34%	89%	11%	56%	44%	7%	92%	7%	66	27	13	160	80
Meghalaya	East Garo Hills	367284	47	20	43%	100%	0%	90%	10%	60%	40%	0%	0%		13	0	0	47	13
Meghalaya	East Khasi Hills	952917	1013	332	33%	65%	35%	86%	14%	40%	60%	6%	49%	1%	106	253	27	1266	133
Meghalaya	Jaintia Hills	454282	657	591	90%	67%	33%	87%	13%	50%	50%	9%	68%	2%	145	263	58	920	203
Meghalaya	Ri Bhoi	298783	298	211	71%	75%	25%	90%	10%	61%	39%	7%	56%	2%	100	15	5	313	105
Meghalaya	South Garo Hills	164868	189	187	99%	90%	10%	91%	9%	71%	29%	6%	5%	0%	115	0	0	189	115
Meghalaya	West Garo Hills	743456	536	401	75%	85%	15%	91%	9%	68%	32%	5%	81%	0%	72	0	0	536	72
Meghalaya	West Khasi Hills	445897	613	552	90%	59%	41%	94%	6%	46%	54%	10%	44%	1%	137	77	17	690	155
Mizoram	Aizawl	446066	1443	1338	93%	54%	46%	92%	8%	31%	69%	14%	80%	8%	323	44	10	1487	333
Mizoram	Champhai	138406	198	28	14%	68%	32%	93%	7%	50%	50%	12%	86%	4%	143	0	0	198	143
Mizoram	Kolasib	91690	108	96	89%	69%	31%	89%	11%	52%	48%	8%	48%	22%	118	0	0	108	118
Mizoram	Lawngtlai	129655	140	104	74%	63%	37%	93%	7%	66%	34%	10%	49%	0%	108	0	0	140	108
Mizoram	Lunglei	170116	136	61	45%	72%	28%	89%	11%	41%	59%	4%	84%	0%	80	0	0	136	80
Mizoram	Mamit	94674	56	49	88%	55%	45%	78%	22%	53%	47%	11%	84%	5%	59	0	0	56	59
Mizoram	Saiha	62227	54	36	67%	50%	50%	89%	11%	17%	83%	9%	69%	0%	87	0	0	54	87
Mizoram	Serchhip	71620	66	29	44%	72%	28%	90%	10%	38%	62%	26%	97%	0%	92	0	0	66	92
Nagaland	Dimapur	391210	967	909	94%	83%	17%	80%	20%	49%	51%	5%	78%	17%	247	574	147	1541	394
Nagaland	Kiphire	76263	118	118	100%	82%	18%	86%	14%	50%	50%	12%	2%	0%	155	0	0	118	155
Nagaland	Kohima	278199	409	375	92%	62%	38%	85%	15%	49%	51%	9%	47%	16%	147	155	56	564	203
Nagaland	Longleng	52117	76	75	99%	76%	24%	84%	16%	71%	29%	11%	65%	0%	146	0	0	76	146
Nagaland	Mokokchung	198990	202	73	36%	78%	22%	88%	12%	81%	19%	7%	3%	0%	102	0	0	202	102
Nagaland	Mon	258223	139	100	72%	83%	17%	87%	13%	50%	50%	12%	0%		54	0	0	139	54
Nagaland	Peren	97814	62	61	98%	80%	20%	93%	7%	61%	39%	8%	72%	14%	63	0	0	62	63
Nagaland	Phek	168213	49	45	92%	93%	7%	89%	11%	89%	11%	6%	29%	0%	29	0	0	49	29
Nagaland	Tuensang	202730	1	0	0%										0	0	0	1	0

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Nagaland	Wokha	171247	115	114	99%	82%	18%	97%	3%	89%	11%	6%	66%	3%	67	0	0	115	67
Nagaland	Zunheboto	145262	146	97	66%	82%	18%	95%	5%	63%	37%	14%	87%	0%	101	0	0	146	101
Odisha	Anugul	1360078	2146	2120	99%	85%	15%	84%	16%	71%	29%	4%	87%	2%	158	57	4	2203	162
Odisha	Balangir	1763139	2012	1959	97%	76%	24%	95%	5%	53%	47%	5%	55%	1%	114	65	4	2077	118
Odisha	Baleswar	2478464	2957	2857	97%	82%	18%	85%	15%	72%	28%	4%	5%	1%	119	108	4	3065	124
Odisha	Bargarh	1581602	1988	1872	94%	73%	27%	91%	9%	54%	46%	3%	58%	2%	126	21	1	2009	127
Odisha	Baudh	470488	507	504	99%	81%	19%	88%	12%	62%	38%	3%	65%	1%	108	0	0	507	108
Odisha	Bhadrak	1611215	1205	910	76%	74%	26%	85%	15%	64%	36%	3%	79%	2%	75	172	11	1377	85
Odisha	Bhubaneswar MC	895954	1394	1288	92%	63%	37%	86%	14%	57%	43%	12%	89%	3%	156	608	68	2002	223
Odisha	Cuttack	2800691	2928	2488	85%	67%	33%	90%	10%	52%	48%	6%	75%	1%	105	455	16	3383	121
Odisha	Debagarh	333857	419	414	99%	94%	6%	90%	10%	83%	17%	6%	55%	0%	126	0	0	419	126
Odisha	Dhenkanal	1275850	1836	1818	99%	80%	20%	87%	13%	76%	24%	4%	27%	0%	144	37	3	1873	147
Odisha	Gajapati	615900	1596	1491	93%	84%	16%	90%	10%	60%	40%	8%	56%	1%	259	99	16	1695	275
Odisha	Ganjam	3764778	6807	6619	97%	72%	28%	87%	13%	57%	43%	6%	70%	4%	181	552	15	7359	195
Odisha	Jagatsinghpur	1215590	801	792	99%	69%	31%	90%	10%	59%	41%	2%	96%	3%	66	44	4	845	70
Odisha	Jajapur	1953189	2516	2392	95%	73%	27%	89%	11%	54%	46%	4%	41%	1%	129	45	2	2561	131
Odisha	Jharsuguda	619770	1019	982	96%	79%	21%	84%	16%	61%	39%	2%	71%	1%	164	0	0	1019	164
Odisha	Kalahandi	1682371	2260	2123	94%	87%	13%	88%	12%	71%	29%	3%	80%	1%	134	138	8	2398	143
Odisha	Kandhamal	782818	1577	1528	97%	76%	24%	91%	9%	62%	38%	7%	68%	0%	201	14	2	1591	203
Odisha	Kendrapara	1539954	1115	1035	93%	81%	19%	89%	11%	71%	29%	3%	51%	1%	72	0	0	1115	72
Odisha	Kendujhar	1928058	3546	3258	92%	86%	14%	86%	14%	68%	32%	4%	47%	0%	184	23	1	3569	185
Odisha	Khordha	1506493	1480	1430	97%	75%	25%	81%	19%	67%	33%	4%	46%	1%	98	210	14	1690	112
Odisha	Koraput	1472622	3050	2913	96%	84%	16%	89%	11%	64%	36%	7%	64%	1%	207	36	2	3086	210
Odisha	Malkangiri	655308	1668	1555	93%	93%	7%	90%	10%	71%	29%	4%	1%	0%	255	0	0	1668	255
Odisha	Mayurbhanj	2688594	6696	6377	95%	86%	14%	92%	8%	59%	41%	3%	74%	1%	249	499	19	7195	268
Odisha	Nabarangapur	1303458	1478	1216	82%	94%	6%	93%	7%	66%	34%	4%	15%	1%	113	96	7	1574	121
Odisha	Nayagarh	1029083	1456	1320	91%	82%	18%	84%	16%	67%	33%	4%	74%	1%	141	0	0	1456	141
Odisha	Nuapada	648637	1097	921	84%	90%	10%	93%	7%	78%	22%	5%	47%	0%	169	26	4	1123	173
Odisha	Puri	1815982	1453	1226	84%	76%	24%	83%	17%	56%	44%	8%	46%	2%	80	181	10	1634	90
Odisha	Rayagada	1028809	2424	2383	98%	88%	12%	90%	10%	66%	34%	7%	48%	1%	236	0	0	2424	236

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Odisha	Sambalpur	1116990	1899	1669	88%	78%	22%	87%	13%	58%	42%	4%	44%	1%	170	275	25	2174	195
Odisha	Sonapur	697424	828	689	83%	77%	23%	90%	10%	52%	48%	3%	87%	0%	119	0	0	828	119
Odisha	Sundargarh	2225256	5004	4819	96%	84%	16%	89%	11%	56%	44%	3%	57%	1%	225	208	9	5212	234
Puducherry	Puducherry	1412191	1601	1376	86%	72%	28%	87%	13%	68%	32%	3%	79%	4%	113	3	0	1604	114
Punjab	Amritsar	2671290	3872	3191	82%	66%	34%	87%	13%	51%	49%	8%	77%	1%	145	828	31	4700	176
Punjab	Barnala	639578	690	647	94%	73%	27%	84%	16%	59%	41%	6%	96%	1%	108	21	3	711	111
Punjab	Bathinda	1489674	1990	1539	77%	80%	20%	81%	19%	71%	29%	6%	75%	1%	134	153	10	2143	144
Punjab	Faridkot	643353	1421	1256	88%	78%	22%	81%	19%	56%	44%	6%	94%	1%	221	39	6	1460	227
Punjab	Fatehgarh Sahib	662867	556	535	96%	72%	28%	85%	15%	67%	33%	5%	82%	1%	84	27	4	583	88
Punjab	Fazilka	1114192	1562	1519	97%	84%	16%	80%	20%	61%	39%	5%	9%	5%	140	49	4	1611	145
Punjab	Ferozpur	1059764	1586	1406	89%	81%	19%	79%	21%	70%	30%	7%	25%	3%	150	80	8	1666	157
Punjab	Gurdaspur	1778685	1635	1587	97%	79%	21%	82%	18%	62%	38%	5%	84%	0%	92	283	16	1918	108
Punjab	Hoshiarpur	1697685	1915	1289	67%	85%	15%	82%	18%	67%	33%	4%	83%	0%	113	624	37	2539	150
Punjab	Jalandhar	2340123	3011	2361	78%	75%	25%	82%	18%	66%	34%	6%	76%	2%	129	1254	54	4265	182
Punjab	Kapurthala	877021	878	497	57%	80%	20%	84%	16%	59%	41%	6%	99%	0%	100	23	3	901	103
Punjab	Ludhiana	3741062	5547	4894	88%	70%	30%	86%	14%	57%	43%	9%	76%	1%	148	1655	44	7202	193
Punjab	Mansa-PN	1064318	969	783	81%	76%	24%	82%	18%	55%	45%	4%	89%	1%	91	84	8	1053	99
Punjab	Moga	1057729	1121	1025	91%	81%	19%	82%	18%	72%	28%	5%	79%	1%	106	97	9	1218	115
Punjab	Mohali	945993	1536	1437	94%	70%	30%	84%	16%	64%	36%	6%	54%	1%	162	408	43	1944	205
Punjab	Muktsar	824615	1057	903	85%	78%	22%	84%	16%	56%	44%	7%	30%	0%	128	92	11	1149	139
Punjab	Nawanshahr	658957	529	395	75%	77%	23%	85%	15%	69%	31%	4%	71%	0%	80	52	8	581	88
Punjab	Pathankot	671443	566	496	88%	87%	13%	86%	14%	70%	30%	5%	60%	0%	84	206	31	772	115
Punjab	Patiala	2029640	4549	1200	26%	76%	24%	80%	20%	65%	36%	4%	50%	1%	224	278	14	4827	238
Punjab	Rupnagar	732952	959	721	75%	78%	22%	82%	18%	63%	37%	4%	71%	2%	131	37	5	996	136
Punjab	Sangrur	1774499	2102	1852	88%	75%	25%	85%	15%	59%	41%	5%	79%	0%	118	45	3	2147	121
Punjab	Tam Taran	1201374	926	368	40%	86%	14%	76%	24%	80%	20%	5%	47%	2%	77	1	0	927	77
Rajasthan	Ajmer	2868271	4014	3680	92%	74%	26%	76%	24%	43%	57%	7%	74%	1%	140	569	20	4583	160
Rajasthan	Alwar	4074524	3458	3037	88%	80%	20%	88%	12%	44%	56%	4%	90%	1%	85	1896	47	5354	131
Rajasthan	Banswara	2036344	3207	2086	65%	94%	6%	84%	16%	75%	25%	3%	96%	1%	157	183	9	3390	166
Rajasthan	Baran	1358087	2075	1907	92%	84%	16%	79%	21%	63%	37%	4%	95%	0%	153	436	32	2511	185
Rajasthan	Barmer	2889953	1756	1629	93%	89%	11%	83%	17%	59%	41%	3%	77%	1%	61	131	5	1887	65

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Rajasthan	Bharatpur	2828556	2390	2292	96%	87%	13%	82%	18%	46%	54%	4%	82%	1%	84	962	34	3352	119
Rajasthan	Bhilwara	2674694	4428	3737	84%	84%	16%	71%	29%	63%	37%	3%	84%	3%	166	1527	57	5955	223
Rajasthan	Bikaner	2627297	3008	1207	40%	73%	27%	75%	25%	56%	44%	4%	89%	1%	114	567	22	3575	136
Rajasthan	Bundi	1235812	1504	1330	88%	88%	12%	77%	23%	50%	50%	2%	79%	1%	122	395	32	1899	154
Rajasthan	Chittaurgarh	1692585	2371	1978	83%	84%	16%	71%	29%	68%	32%	3%	90%	3%	140	269	16	2640	156
Rajasthan	Churu	2264925	2013	1767	88%	82%	18%	73%	27%	65%	35%	4%	88%	0%	89	258	11	2271	100
Rajasthan	Dausa	1816699	1378	1112	81%	87%	13%	77%	23%	42%	58%	4%	61%	1%	76	62	3	1440	79
Rajasthan	Dhaulpur	1339636	2185	1893	87%	89%	11%	76%	24%	59%	41%	4%	96%	1%	163	964	72	3149	235
Rajasthan	Dungarpur	1541158	2515	2119	84%	93%	7%	85%	15%	63%	37%	3%	85%	2%	163	40	3	2555	166
Rajasthan	Ganganagar	2185419	2850	2321	81%	85%	15%	78%	22%	62%	38%	4%	89%	1%	130	838	38	3688	169
Rajasthan	Hanumangarh	1974735	3173	2497	79%	89%	11%	76%	24%	68%	32%	6%	83%	1%	161	358	18	3531	179
Rajasthan	Jaipur	3984225	4994	3723	75%	75%	25%	78%	22%	50%	50%	6%	90%	1%	125	2041	51	7035	177
Rajasthan	Jaipur DTC II	3410251	4818	4424	92%	78%	22%	79%	21%	55%	45%	5%	86%	1%	141	1176	34	5994	176
Rajasthan	Jaisalmer	745674	340	235	69%	87%	13%	76%	24%	65%	35%	4%	87%	1%	46	31	4	371	50
Rajasthan	Jalore	2030772	2146	1662	77%	96%	4%	78%	22%	57%	43%	2%	90%	2%	106	974	48	3120	154
Rajasthan	Jhalawar	1566037	1666	1391	83%	84%	16%	79%	21%	55%	45%	3%	89%	1%	106	182	12	1848	118
Rajasthan	Jhunjhunun	2374207	1396	1112	80%	87%	13%	75%	25%	60%	40%	3%	81%	1%	59	337	14	1733	73
Rajasthan	Jodhpur	4089705	3830	3244	85%	79%	21%	77%	23%	43%	57%	4%	85%	2%	94	694	17	4524	111
Rajasthan	Karauli	1618335	1553	1436	92%	90%	10%	70%	30%	53%	47%	3%	90%	0%	96	218	13	1771	109
Rajasthan	Kota	2164304	2266	1797	79%	72%	28%	79%	21%	45%	55%	5%	90%	1%	105	692	32	2958	137
Rajasthan	Nagaur	3671992	1675	1581	94%	84%	16%	75%	25%	43%	57%	3%	67%	4%	46	732	20	2407	66
Rajasthan	Pali	2261997	2020	1916	95%	88%	12%	78%	22%	55%	45%	2%	98%	2%	89	120	5	2140	95
Rajasthan	Pratapgarh	954207	2475	2276	92%	94%	6%	80%	20%	66%	34%	3%	83%	1%	259	0	0	2475	259
Rajasthan	Rajsamand	1285254	1416	1237	87%	84%	16%	78%	22%	67%	33%	2%	80%	1%	110	315	25	1731	135
Rajasthan	Sawai Madhopur	1484798	1766	1545	87%	84%	16%	77%	23%	58%	42%	4%	78%	0%	119	586	39	2352	158
Rajasthan	Sikar	2971271	2188	1676	77%	83%	17%	76%	24%	62%	38%	3%	85%	2%	74	1521	51	3709	125
Rajasthan	Strohi	1150881	1214	809	67%	89%	11%	76%	24%	67%	33%	4%	86%	2%	105	482	42	1696	147
Rajasthan	Tonk	1577559	1983	1703	86%	85%	15%	78%	22%	58%	42%	3%	62%	0%	126	235	15	2218	141
Rajasthan	Udaipur	3393085	4703	3714	79%	86%	14%	83%	17%	60%	40%	4%	97%	1%	139	1388	41	6091	180
Sikkim	East District	200309	527	160	30%	64%	36%	90%	10%	54%	46%	6%	29%	0%	263	36	18	563	281
Sikkim	North District	45257	81	72	89%	67%	33%	90%	10%	68%	32%	10%	99%	0%	179	0	0	81	179

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Sikkim	Singtam	100970	200	171	86%	75%	25%	85%	15%	50%	50%	6%	78%	0%	198	0	0	200	198
Sikkim	South District	153183	240	182	76%	64%	36%	93%	7%	53%	47%	8%	88%	0%	157	3	2	243	159
Sikkim	West District	144091	184	169	92%	60%	40%	90%	10%	56%	44%	6%	96%	0%	128	0	0	184	128
Tamil Nadu	Central Chennai	3464170	2772	2195	79%	75%	25%	86%	14%	61%	39%	3%	65%	1%	80	940	27	3712	107
Tamil Nadu	Coimbatore	3769541	3096	2589	84%	80%	20%	85%	15%	64%	36%	2%	84%	4%	82	1948	52	5044	134
Tamil Nadu	Cuddalore	2823299	1743	1475	85%	82%	18%	82%	18%	59%	41%	5%	10%	0%	62	78	3	1821	64
Tamil Nadu	Dharmapuri	1631423	1760	1457	83%	82%	18%	84%	16%	62%	38%	3%	94%	9%	108	239	15	1999	123
Tamil Nadu	Dindigul	2346200	3436	2129	62%	86%	14%	88%	12%	63%	37%	4%	60%	5%	146	353	15	3789	161
Tamil Nadu	Erode	2452842	2915	2309	79%	90%	10%	79%	21%	69%	31%	1%	73%	6%	119	403	16	3318	135
Tamil Nadu	Kancheepuram	3681916	3383	1657	49%	76%	24%	80%	20%	60%	40%	3%	83%	2%	92	506	14	3889	106
Tamil Nadu	Kanniyakumari	2022507	1622	848	52%	87%	13%	85%	15%	74%	26%	1%	92%	2%	80	163	8	1785	88
Tamil Nadu	Karur	1168654	1082	759	70%	87%	13%	84%	16%	68%	32%	2%	75%	9%	93	278	24	1360	116
Tamil Nadu	Krishnagiri	2044821	1711	1490	87%	80%	20%	83%	17%	62%	38%	3%	87%	9%	84	545	27	2256	110
Tamil Nadu	Madurai	3301098	4568	2830	62%	85%	15%	82%	18%	68%	32%	3%	59%	6%	138	2067	63	6635	201
Tamil Nadu	Nagapattinam	1752099	2068	1728	84%	88%	12%	85%	15%	76%	24%	4%	85%	3%	118	191	11	2259	129
Tamil Nadu	Namakkal	1868369	1874	1344	72%	89%	11%	86%	14%	75%	25%	2%	88%	7%	100	338	18	2212	118
Tamil Nadu	North Chennai	1832655	1388	1096	79%	75%	25%	84%	16%	58%	42%	4%	77%	2%	76	146	8	1534	84
Tamil Nadu	Perambalur	1429617	942	582	62%	79%	21%	84%	16%	62%	38%	3%	96%	8%	66	63	4	1005	70
Tamil Nadu	Pudukkottai	1757153	1587	939	59%	90%	10%	88%	12%	70%	30%	2%	81%	5%	90	93	5	1680	96
Tamil Nadu	Ramanathapuram	1451944	1186	836	70%	91%	9%	89%	11%	82%	18%	2%	70%	2%	82	396	27	1582	109
Tamil Nadu	Salem	3777607	3723	2639	71%	86%	14%	87%	13%	73%	27%	3%	86%	8%	99	1409	37	5132	136
Tamil Nadu	Sivaganga	1455949	1030	794	77%	85%	15%	86%	14%	68%	32%	3%	46%	7%	71	316	22	1346	92
Tamil Nadu	South Chennai	1992251	937	873	93%	74%	26%	82%	18%	56%	44%	2%	61%	1%	47	1575	79	2512	126
Tamil Nadu	Thanjavur	2608259	1867	1476	79%	87%	13%	83%	17%	61%	39%	5%	80%	5%	72	294	11	2161	83
Tamil Nadu	The Nilgiris	797932	382	295	77%	72%	28%	91%	9%	56%	44%	3%	84%	2%	48	23	3	405	51
Tamil Nadu	Theni	1350040	1745	1023	59%	86%	14%	86%	14%	69%	31%	2%	65%	8%	129	171	13	1916	142
Tamil Nadu	Thiruvallur	2486898	3624	2997	83%	83%	17%	85%	15%	71%	29%	2%	83%	3%	146	83	3	3707	149
Tamil Nadu	Thiruvavur	1376537	1718	1254	73%	89%	11%	81%	19%	78%	22%	3%	79%	2%	125	119	9	1837	133
Tamil Nadu	Thoothukudi	1887036	1929	1554	81%	87%	13%	88%	12%	76%	24%	4%	92%	3%	102	648	34	2577	137
Tamil Nadu	Tiruchirappalli	2945938	2698	2275	84%	80%	20%	89%	11%	67%	33%	3%	34%	8%	92	1133	38	3831	130

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Tamil Nadu	Tirunelveli	3335663	3040	1660	55%	87%	13%	84%	16%	72%	28%	4%	57%	2%	91	1165	35	4205	126
Tamil Nadu	Tiruppur	2682553	2064	1475	71%	88%	12%	84%	16%	61%	39%	2%	65%	3%	77	278	10	2342	87
Tamil Nadu	Tiruvannamalai	2680103	1831	750	41%	81%	19%	85%	15%	65%	35%	1%	96%	3%	68	123	5	1954	73
Tamil Nadu	Vellore	4264025	4535	4227	93%	75%	25%	89%	11%	60%	40%	5%	70%	5%	106	1808	42	6343	149
Tamil Nadu	Viluppuram	3759453	3255	2463	76%	82%	18%	85%	15%	52%	48%	3%	55%	4%	87	434	12	3689	98
Tamil Nadu	Virudhunagar	2109494	2745	971	35%	94%	6%	87%	13%	80%	20%	2%	82%	3%	130	745	35	3490	165
Telangana	Adilabad	697326	1304	885	68%	87%	13%	81%	19%	56%	44%	5%	74%	5%	187	2	0	1306	187
Telangana	Asifabad	524376	438	358	82%	91%	9%	89%	11%	61%	39%	3%	64%	0%	84	5	1	443	84
Telangana	Bhadrachalam	875249	1761	1362	77%	94%	6%	78%	22%	76%	24%	2%	62%	9%	201	598	68	2359	270
Telangana	Gadwal	810546	605	508	84%	83%	17%	84%	16%	58%	42%	3%	72%	5%	75	6	1	611	75
Telangana	Hyderabad	4181189	3771	1593	42%	70%	30%	90%	10%	59%	41%	6%	66%	3%	90	423	10	4194	100
Telangana	Jagityal	1166690	1127	1008	89%	91%	9%	84%	16%	66%	34%	2%	78%	10%	97	19	2	1146	98
Telangana	Janagaon	553875	484	422	87%	94%	6%	69%	31%	67%	33%	1%	76%	5%	87	62	11	546	99
Telangana	Jayashankar	670456	838	671	80%	93%	7%	71%	29%	80%	20%	1%	75%	3%	125	0	0	838	125
Telangana	Kamareddy	988368	733	630	86%	91%	9%	93%	7%	60%	40%	3%	65%	8%	74	104	11	837	85
Telangana	Karimnagar	1234041	659	407	62%	87%	13%	82%	18%	79%	21%	2%	93%	11%	53	305	25	964	78
Telangana	Khammam	2042249	896	370	41%	93%	7%	78%	22%	76%	24%	2%	80%	8%	44	1793	88	2689	132
Telangana	Mahabubabad	732376	575	501	87%	92%	8%	70%	30%	69%	31%	2%	58%	4%	79	0	0	575	79
Telangana	Mahbubnagar	1655752	1024	618	60%	94%	6%	86%	14%	83%	17%	3%	61%	5%	62	46	3	1070	65
Telangana	Mancherial	921596	1127	922	82%	93%	7%	83%	17%	53%	47%	3%	51%	5%	122	15	2	1142	124
Telangana	Medak	811803	161	73	45%	86%	14%	77%	23%	84%	16%	2%	93%	18%	20	3	0	164	20
Telangana	Medchal	2410021	2504	2144	86%	70%	30%	83%	17%	59%	41%	6%	94%	6%	104	19	1	2523	105
Telangana	Nagarkurnool	1035300	865	671	78%	93%	7%	82%	18%	70%	30%	2%	62%	2%	84	7	1	872	84
Telangana	Nalgonda	1665091	918	632	69%	85%	15%	81%	19%	76%	24%	4%	67%	9%	55	1122	67	2040	123
Telangana	Nirmal	711145	696	543	78%	92%	8%	85%	15%	53%	47%	2%	48%	6%	98	0	0	696	98
Telangana	Nizamabad	1672496	873	693	79%	87%	13%	91%	9%	83%	17%	3%	27%	4%	52	1076	64	1949	117
Telangana	Peddapalli	925817	791	729	92%	90%	10%	80%	20%	62%	38%	3%	97%	7%	85	8	1	799	86
Telangana	Rangareddi	2301596	1320	1086	82%	79%	21%	85%	15%	64%	36%	4%	82%	5%	57	166	7	1486	65
Telangana	Siddipet	1065760	851	712	84%	86%	14%	81%	19%	68%	32%	2%	88%	6%	80	0	0	851	80
Telangana	Sircilla	647679	470	440	94%	98%	2%	76%	24%	65%	35%	3%	66%	6%	73	40	6	510	79
Telangana	Sngareddy	1283558	1388	1152	83%	84%	16%	80%	20%	70%	30%	5%	95%	9%	108	9	1	1397	109

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Telangana	Suryapet	1093246	1008	933	93%	92%	8%	80%	20%	68%	32%	3%	83%	9%	92	371	34	1379	126
Telangana	Vikarabad	810557	1062	668	63%	85%	15%	80%	20%	70%	30%	2%	92%	6%	131	0	0	1062	131
Telangana	Wanaparthy	712906	473	258	55%	93%	7%	83%	17%	67%	33%	3%	83%	2%	66	0	0	473	66
Telangana	Warangal(Rural)	676545	627	556	89%	92%	8%	66%	34%	81%	19%	2%	76%	3%	93	186	27	813	120
Telangana	Wrangal(Urban)	1039558	1911	846	44%	85%	15%	70%	30%	70%	30%	3%	68%	7%	184	978	94	2889	278
Telangana	Yadadri	873814	568	506	89%	88%	12%	78%	22%	75%	25%	2%	77%	9%	65	32	4	600	69
Tripura	Dhalai	397882	152	128	84%	91%	9%	87%	13%	38%	62%	3%	21%	0%	38	0	0	152	38
Tripura	Gomati	461524	206	149	72%	82%	18%	90%	10%	74%	26%	2%	26%	0%	45	0	0	206	45
Tripura	Khowai	343039	64	54	84%	76%	24%	91%	9%	43%	57%	0%	2%	0%	19	0	0	64	19
Tripura	North Tripura	436038	303	282	93%	80%	20%	91%	9%	46%	54%	2%	80%	2%	69	0	0	303	69
Tripura	Sepahijala	508054	124	56	45%	73%	27%	91%	9%	63%	38%	2%	64%	0%	24	0	0	124	24
Tripura	South Tripura	459599	273	258	95%	87%	13%	90%	10%	66%	34%	1%	44%	0%	59	1	0	274	60
Tripura	Unakoti	291470	199	191	96%	79%	21%	90%	10%	55%	45%	4%	92%	1%	68	0	0	199	68
Tripura	West Tripura	963899	364	278	76%	81%	19%	85%	15%	74%	26%	2%	65%	2%	38	7	1	371	38
Uttar Pradesh	Agra	4859518	3933	2018	51%	85%	15%	61%	39%	62%	38%	7%	49%	0%	81	1190	24	5123	105
Uttar Pradesh	Aligarh	4073723	6391	4720	74%	85%	15%	88%	12%	67%	33%	7%	50%	0%	157	503	12	6894	169
Uttar Pradesh	Allahabad	6606876	7651	4141	54%	88%	12%	78%	22%	65%	35%	7%	60%	1%	116	1350	20	9001	136
Uttar Pradesh	Ambedkar Nagar	2657226	1755	1609	92%	88%	12%	87%	13%	58%	42%	4%	39%	0%	66	702	26	2457	92
Uttar Pradesh	Amethi	2057541	1179	655	56%	90%	10%	82%	18%	59%	41%	4%	10%	0%	57	379	18	1558	76
Uttar Pradesh	Auraiya	1519892	2029	1905	94%	91%	9%	86%	14%	78%	22%	5%	16%	0%	133	430	28	2459	162
Uttar Pradesh	Azamgarh	5118003	2326	1676	72%	91%	9%	86%	14%	43%	57%	5%	16%	0%	45	206	4	2532	49
Uttar Pradesh	Baghpat	1447516	2328	2117	91%	78%	22%	82%	18%	65%	35%	6%	51%	3%	161	134	9	2462	170
Uttar Pradesh	Bahraich	3856596	1838	645	35%	89%	11%	86%	14%	78%	22%	5%	46%	0%	48	1025	27	2863	74
Uttar Pradesh	Ballia	3577432	1974	1608	81%	90%	10%	88%	12%	48%	52%	5%	64%	0%	55	406	11	2380	67
Uttar Pradesh	Balrampur	2388401	1843	1688	92%	95%	5%	91%	9%	54%	46%	5%	18%	0%	77	249	10	2092	88
Uttar Pradesh	Banda	1995504	1717	1281	75%	85%	15%	74%	26%	78%	22%	6%	89%	0%	86	669	34	2386	120
Uttar Pradesh	Barabanki	3618790	4573	4230	92%	87%	13%	86%	14%	69%	31%	7%	68%	0%	126	622	17	5195	144
Uttar Pradesh	Bareilly	4952572	7422	4331	58%	90%	10%	85%	15%	76%	24%	6%	87%	1%	150	2554	52	9976	201
Uttar Pradesh	Basti	2729601	3081	2785	90%	89%	11%	95%	5%	75%	25%	5%	15%	0%	113	374	14	3455	127
Uttar Pradesh	Bijnor	4084063	1872	889	47%	77%	23%	84%	16%	49%	51%	6%	71%	0%	46	1495	37	3367	82

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Uttar Pradesh	Budaun	3463699	4547	3368	74%	95%	5%	88%	12%	74%	26%	4%	49%	0%	131	481	14	5028	145
Uttar Pradesh	Bulandshahar	3877275	6664	5708	86%	84%	16%	90%	10%	49%	51%	7%	48%	0%	172	1022	26	7686	198
Uttar Pradesh	Chandauli	2171274	1844	1495	81%	92%	8%	88%	12%	70%	30%	4%	12%	0%	85	266	12	2110	97
Uttar Pradesh	Chitrakoot	1095976	1325	1123	85%	89%	11%	81%	19%	74%	26%	6%	61%	0%	121	250	23	1575	144
Uttar Pradesh	Deoria	3432681	1939	1294	67%	92%	8%	82%	18%	66%	34%	4%	39%	2%	56	1103	32	3042	89
Uttar Pradesh	Etah	1954147	2359	2147	91%	89%	11%	88%	12%	63%	37%	7%	67%	0%	121	928	47	3287	168
Uttar Pradesh	Etawah	1747359	3427	2518	73%	81%	19%	84%	16%	68%	32%	7%	77%	1%	196	822	47	4249	243
Uttar Pradesh	Faizabad	2739941	2311	1952	84%	90%	10%	93%	7%	68%	32%	6%	1%	0%	84	504	18	2815	103
Uttar Pradesh	Farrukhabad	2098898	1670	832	50%	91%	9%	87%	13%	65%	35%	5%	43%	0%	80	418	20	2088	99
Uttar Pradesh	Fatehpur	2915711	3542	2999	85%	82%	18%	86%	14%	70%	30%	6%	98%	0%	121	971	33	4513	155
Uttar Pradesh	Firozabad	2770959	3141	2244	71%	79%	21%	74%	26%	54%	46%	13%	47%	0%	113	1093	39	4234	153
Uttar Pradesh	Gautam Budh Nagar	1861092	4462	3715	83%	68%	32%	84%	16%	61%	39%	12%	49%	0%	240	517	28	4979	268
Uttar Pradesh	Ghaziabad	3908293	9120	3581	39%	66%	34%	84%	16%	40%	60%	11%	82%	0%	233	1169	30	10289	263
Uttar Pradesh	Ghaziipur	4022026	1578	1451	92%	92%	8%	94%	6%	49%	51%	5%	54%	3%	39	179	4	1757	44
Uttar Pradesh	Gonda	3804899	3114	2344	75%	89%	11%	89%	11%	56%	44%	7%	42%	0%	82	855	22	3969	104
Uttar Pradesh	Gorakhpur	4921554	5052	3078	61%	85%	15%	84%	16%	59%	41%	6%	77%	1%	103	2393	49	7445	151
Uttar Pradesh	Hamirpur-UP	1220049	1517	1082	71%	91%	9%	87%	13%	66%	34%	5%	64%	0%	124	631	52	2148	176
Uttar Pradesh	Hapur	1447516	2143	1280	60%	78%	22%	91%	9%	49%	51%	8%	55%	0%	148	731	51	2874	199
Uttar Pradesh	Hardoi	4538996	5881	5287	90%	96%	4%	91%	9%	75%	25%	4%	32%	0%	130	533	12	6414	141
Uttar Pradesh	Hathras	1737019	2082	1804	87%	86%	14%	80%	20%	62%	38%	8%	64%	1%	120	628	36	2710	156
Uttar Pradesh	Jalaun	1850753	2181	1786	82%	93%	7%	84%	16%	64%	36%	6%	70%	1%	118	786	42	2967	160
Uttar Pradesh	Jaunpur	4962912	2995	1668	56%	90%	10%	91%	9%	61%	39%	5%	16%	0%	60	188	4	3183	64
Uttar Pradesh	Jhansi	2222971	3112	2197	71%	93%	7%	78%	22%	72%	28%	4%	81%	0%	140	1320	59	4432	199
Uttar Pradesh	Jyotiba Phule Nagar	2036862	1684	1158	69%	92%	8%	88%	12%	70%	30%	4%	59%	0%	83	520	26	2204	108
Uttar Pradesh	Kannauj	1840413	1580	1130	72%	82%	18%	85%	15%	71%	29%	5%	35%	0%	86	42	2	1622	88
Uttar Pradesh	Kanpur Dehat	1995504	2169	1784	82%	93%	7%	77%	23%	89%	11%	4%	76%	0%	109	250	13	2419	121
Uttar Pradesh	Kanpur Nagar	5076645	8758	6414	73%	82%	18%	80%	20%	64%	36%	7%	78%	0%	173	5323	105	14081	277
Uttar Pradesh	Kanshiram Nagar	1592268	1686	1033	61%	88%	12%	85%	15%	65%	35%	5%	30%	0%	106	1134	71	2820	177
Uttar Pradesh	Kaushambi	1768037	2138	1676	78%	93%	7%	91%	9%	68%	32%	6%	77%	0%	121	108	6	2246	127

State Name	District Name	Total Population	Public Sector Notification	Treatment Initiated	Treatment Initiated %	Pulmonary TB %	Extra Pulmonary TB %	% New TB Patients	Previously Treated %	Microbiologically Confirmed %	Clinically Diagnosed	Paediatric TB %	HIV Status Known %	HIV Status Positive % (Of Known)	Notification Rate (Public)	Private Sector Notification	Private Sector Notification Rate	Total Notification	Annual Total Notification Rate
Uttar Pradesh	Kheri	4456281	6008	5290	88%	96%	4%	91%	9%	70%	30%	4%	44%	6%	135	411	9	6419	144
Uttar Pradesh	Kushinagar	3949651	2417	993	41%	91%	9%	89%	11%	48%	52%	6%	17%	2%	61	794	20	3211	81
Uttar Pradesh	Lalitpur	1354461	1376	967	70%	92%	8%	81%	19%	84%	16%	3%	66%	0%	102	708	52	2084	154
Uttar Pradesh	Lucknow	5086985	10561	9027	85%	81%	19%	84%	16%	65%	35%	7%	72%	1%	208	3283	65	13844	272
Uttar Pradesh	Mahariganj	2957068	2086	1811	87%	92%	8%	90%	10%	71%	29%	4%	71%	1%	71	344	12	2430	82
Uttar Pradesh	Mahoba	971904	843	442	52%	94%	6%	84%	16%	90%	10%	3%	6%	0%	87	287	30	1130	116
Uttar Pradesh	Mainpuri	2047201	2292	1935	84%	87%	13%	80%	20%	74%	26%	5%	70%	0%	112	465	23	2757	135
Uttar Pradesh	Mathura	2822656	3960	3643	92%	84%	16%	93%	7%	62%	38%	8%	80%	0%	140	3276	116	7236	256
Uttar Pradesh	Mau	2450438	1541	1373	89%	92%	8%	90%	10%	54%	46%	6%	76%	1%	63	1041	42	2582	105
Uttar Pradesh	Meerut	3825578	6945	4056	58%	76%	24%	86%	14%	55%	45%	7%	61%	1%	182	1792	47	8737	228
Uttar Pradesh	Mirzapur	2770959	3095	1021	33%	97%	3%	81%	19%	59%	41%	5%	39%	1%	112	223	8	3318	120
Uttar Pradesh	Moradabad	3525735	4252	3423	81%	82%	18%	87%	13%	54%	46%	8%	88%	1%	121	3687	105	7939	225
Uttar Pradesh	Muzaffarnagar	3122499	4458	3234	73%	72%	28%	88%	12%	64%	36%	7%	28%	0%	143	665	21	5123	164
Uttar Pradesh	Pilibhit	2264328	2570	1574	61%	91%	9%	85%	15%	70%	30%	5%	49%	1%	113	1067	47	3637	161
Uttar Pradesh	Pratapgarh	3525735	2494	2158	87%	91%	9%	88%	12%	73%	27%	5%	91%	1%	71	634	18	3128	89
Uttar Pradesh	Rae Bareli	3267250	2399	901	38%	91%	9%	86%	14%	61%	39%	6%	23%	0%	73	150	5	2549	78
Uttar Pradesh	Rampur	2595189	4065	2961	73%	87%	13%	90%	10%	69%	31%	6%	93%	0%	157	924	36	4989	192
Uttar Pradesh	Saharanpur	3846257	6302	5489	87%	77%	23%	85%	15%	64%	36%	8%	82%	1%	164	1357	35	7659	199
Uttar Pradesh	Sambhal	2295347	1943	1431	74%	91%	9%	88%	12%	78%	22%	4%	0%	0%	85	691	30	2634	115
Uttar Pradesh	Sant Kabir Nagar	1902450	1471	831	56%	89%	11%	87%	13%	68%	32%	6%	83%	0%	77	377	20	1848	97
Uttar Pradesh	Sant Ravidas Nagar	1726680	1647	1558	95%	87%	13%	86%	14%	50%	50%	8%	96%	2%	95	344	20	1991	115
Uttar Pradesh	Shahjahanpur	3329287	3779	3356	89%	91%	9%	89%	11%	74%	26%	5%	66%	0%	114	2136	64	5915	178
Uttar Pradesh	Shamli	1468195	1482	1431	97%	79%	21%	87%	13%	74%	26%	8%	61%	0%	101	339	23	1821	124
Uttar Pradesh	Shravasti	1240728	1173	999	85%	91%	9%	89%	11%	87%	13%	6%	39%	0%	95	47	4	1220	98
Uttar Pradesh	Siddharthnagar	2832995	921	581	63%	93%	7%	92%	8%	66%	34%	5%	2%	0%	33	496	18	1417	50
Uttar Pradesh	Sitapur	4962912	7031	5908	84%	92%	8%	84%	16%	58%	42%	5%	85%	0%	142	785	16	7816	157
Uttar Pradesh	Sonbhadra	2067880	2037	1842	90%	96%	4%	84%	16%	84%	16%	5%	92%	0%	99	394	19	2431	118
Uttar Pradesh	Sultanpur	2636547	2209	1901	86%	92%	8%	88%	12%	67%	33%	5%	56%	1%	84	419	16	2628	100
Uttar Pradesh	Unnao	3453359	2389	1699	71%	86%	14%	84%	16%	56%	44%	5%	37%	1%	69	612	18	3001	87
Uttar Pradesh	Varanasi	4084063	4395	3801	86%	82%	18%	88%	12%	50%	50%	9%	54%	3%	108	1766	43	6161	151

State Name	District Name	Total Population	Public Sector Notification	Treatment Initiated	Treatment Initiated %	Pulmonary TB %	Extra Pulmonary TB %	% New TB Patients	Previously Treated %	Microbiologically Confirmed %	Clinically Diagnosed	Paediatric TB %	HIV Status Known %	HIV Status Positive % (of Known)	Notification Rate (Public)	Private Sector Notification	Private Sector Notification Rate	Total Notification	Annual Total Notification Rate
Uttarakhand	Almora	683987	498	488	98%	79%	21%	79%	21%	64%	36%	3%	5%	4%	73	0	0	498	73
Uttarakhand	Bageshwar	285769	283	278	98%	76%	24%	75%	25%	65%	35%	3%	77%	0%	99	0	0	283	99
Uttarakhand	Chamoli	430142	208	199	96%	81%	19%	81%	19%	49%	51%	3%	5%	0%	48	0	0	208	48
Uttarakhand	Champawat	285191	191	181	95%	86%	14%	88%	12%	59%	41%	4%	22%	0%	67	0	0	191	67
Uttarakhand	Dehradun	1868054	2633	2346	89%	73%	27%	80%	20%	43%	57%	7%	63%	0%	141	1578	84	4211	225
Uttarakhand	Garhwal	755034	770	708	92%	81%	19%	80%	20%	62%	38%	4%	49%	1%	102	0	0	770	102
Uttarakhand	Hardwar	2119322	3185	3124	98%	83%	17%	79%	21%	60%	40%	6%	45%	0%	150	1321	62	4506	213
Uttarakhand	Nainital	1050438	1385	1172	85%	78%	22%	74%	26%	61%	39%	6%	46%	0%	132	401	38	1786	170
Uttarakhand	Pithoragarh	534489	456	453	99%	88%	12%	73%	27%	80%	20%	3%	72%	1%	85	7	1	463	87
Uttarakhand	Rudrapur	260492	317	305	96%	76%	24%	80%	20%	55%	45%	3%	87%	2%	122	19	7	336	129
Uttarakhand	Tehri Garhwal	677919	506	468	92%	83%	17%	72%	28%	66%	34%	3%	86%	0%	75	4	1	510	75
Uttarakhand	Udhamsingh Nagar	1812853	2199	1114	51%	88%	12%	79%	21%	51%	49%	7%	19%	1%	121	418	23	2617	144
Uttarakhand	Uttarkashi	362584	381	373	98%	75%	25%	75%	25%	55%	45%	4%	2%	0%	105	0	0	381	105
West bengal	Alipore	343370	341	322	94%	68%	32%	90%	10%	64%	36%	7%	67%	1%	99	472	137	813	237
West bengal	Bagbazar	478796	387	371	96%	75%	25%	82%	18%	68%	32%	6%	80%	3%	81	254	53	641	134
West bengal	Bankura	3820920	4066	3995	98%	90%	10%	97%	3%	70%	30%	3%	39%	0%	106	676	18	4742	124
West bengal	Bardhaman	8206092	7573	6912	91%	83%	17%	87%	13%	65%	35%	4%	66%	1%	92	180	2	7753	94
West bengal	Behala	592016	242	218	90%	73%	27%	84%	16%	59%	41%	4%	53%	2%	41	313	53	555	94
West bengal	Birbhum	3721150	4166	4038	97%	86%	14%	88%	12%	74%	26%	3%	52%	1%	112	271	7	4437	119
West bengal	Dakshin Dinajpur	1775299	2552	2413	95%	82%	18%	92%	8%	70%	30%	3%	41%	1%	144	176	10	2728	154
West bengal	Darjiling	1957089	2786	2561	92%	70%	30%	85%	15%	61%	39%	5%	38%	3%	142	611	31	3397	174
West bengal	Haora	5144052	5096	4610	90%	74%	26%	86%	14%	61%	39%	6%	57%	2%	99	2099	41	7195	140
West bengal	Hazi	459718	150	133	89%	62%	38%	88%	12%	56%	44%	10%	70%	3%	33	274	60	424	92
West bengal	Hugli	5865199	4913	4613	94%	77%	23%	87%	13%	62%	38%	3%	70%	1%	84	1022	17	5935	101
West bengal	Jalpaiguri	4111379	6044	5475	91%	79%	21%	87%	13%	69%	31%	4%	84%	1%	147	129	3	6173	150
West bengal	Koch Bihar	2999094	2288	2245	98%	73%	27%	90%	10%	63%	37%	3%	85%	2%	76	323	11	2611	87
West bengal	Maldah	4247688	4958	4738	96%	81%	19%	88%	12%	70%	30%	5%	17%	0%	117	282	7	5240	123
West bengal	Maniktala	460812	626	604	96%	65%	35%	82%	18%	57%	43%	11%	74%	5%	136	713	155	1339	291
West bengal	Manshatala	522660	813	784	96%	71%	29%	85%	15%	56%	44%	10%	59%	4%	156	558	107	1371	262
West bengal	Medinipur East	5412430	2257	1940	86%	79%	21%	88%	12%	68%	32%	2%	59%	1%	42	502	9	2759	51

State Name	District Name	Total Population	Public Sector Notification	Treatment Initiated	Treatment Initiated %	Pulmonary TB %	Extra Pulmonary TB %	% New TB Patients	Previously Treated %	Microbiologically Confirmed %	Clinically Diagnosed	Paediatric TB %	HIV Status Known %	HIV Status Positive % (Of Known)	Notification Rate (Public)	Private Sector Notification	Private Sector Notification Rate	Total Notification	Annual Total Notification Rate
West bengal	Medinipur West	6314525	5485	5190	95%	83%	17%	91%	9%	70%	30%	2%	56%	1%	87	28	0	5513	87
West bengal	MTMTB	509160	150	133	89%	79%	21%	95%	5%	97%	3%	3%	4%	0%	29	810	159	960	189
West bengal	Murshidabad	7546056	6086	4582	75%	79%	21%	89%	11%	70%	30%	4%	31%	0%	81	1024	14	7110	94
West bengal	Nadia	5491317	3919	3719	95%	75%	25%	88%	12%	65%	35%	3%	82%	1%	71	546	10	4465	81
West bengal	North 24 Parganas	10712638	6462	5762	89%	77%	23%	85%	15%	71%	29%	4%	79%	2%	60	1848	17	8310	78
West bengal	Puruliya	3110849	2156	2034	94%	88%	12%	87%	13%	65%	35%	3%	62%	0%	69	121	4	2277	73
West bengal	South 24 Parganas	8662432	5102	4278	84%	76%	24%	89%	11%	68%	32%	4%	52%	1%	59	647	7	5749	66
West bengal	Strand Bank	375685	147	120	82%	74%	26%	81%	19%	78%	23%	5%	68%	9%	39	297	79	444	118
West bengal	Tangra	532018	847	776	92%	69%	31%	79%	21%	61%	39%	11%	78%	2%	159	516	97	1363	256
West bengal	Tollygunge	492687	365	363	99%	72%	28%	86%	14%	65%	35%	4%	63%	3%	74	231	47	596	121
West bengal	Uttar Dinaipur	3188286	2232	2176	97%	82%	18%	87%	13%	71%	29%	5%	55%	2%	70	165	5	2397	75
INDIA		1321476476	1444175	1147855	79%	82%	18%	85%	15%	61%	39%	6%	67%	3%	109	383784	29	1827959	138

Annexure 2(a i): Treatment Outcome of Microbiologically Confirmed New TB patients notified in 2016 from public sector

State	Registered	Treatment Completed	Cured	Treatment Success	Died	Failure	Lost to Follow-up	Treatment Regimen Changed	Not Reported
Andhra Pradesh	48136	5%	84%	89%	4%	1%	3%	1%	2%
Andman and Nicobar	168	2%	82%	84%	5%	2%	2%	4%	4%
Arunachal Pradesh	853	4%	61%	65%	1%	1%	4%	5%	25%
Assam	14925	8%	70%	78%	4%	1%	5%	0%	11%
Bihar	31386	14%	58%	72%	2%	1%	5%	0%	20%
Chandigarh	1134	4%	83%	87%	3%	2%	4%	1%	2%
Chhattisgarh	13131	7%	82%	89%	5%	1%	4%	0%	0%
Dadra and Nagar Haveli	193	5%	84%	90%	3%	2%	1%	3%	3%
Daman and Diu	122	17%	75%	93%	4%	1%	0%	2%	1%
Delhi	14526	2%	83%	85%	3%	3%	6%	2%	2%
Goa	616	6%	80%	85%	3%	3%	5%	1%	2%
Gujarat	41144	2%	86%	88%	5%	2%	4%	1%	1%
Haryana	14797	8%	71%	79%	4%	2%	4%	1%	11%
Himachal Pradesh	5301	8%	81%	89%	4%	2%	3%	1%	1%
Jammu and Kashmir	3480	8%	77%	85%	4%	2%	3%	0%	7%
Jharkhand	16811	7%	84%	92%	3%	1%	4%	0%	0%
Karnataka	27397	3%	77%	80%	6%	2%	5%	1%	7%
Kerala	9948	5%	79%	84%	5%	4%	4%	1%	3%
Lakshadweep	16	38%	56%	94%	6%	0%	0%	0%	0%
Madhya Pradesh	46935	6%	76%	83%	4%	1%	4%	0%	9%
Maharashtra	46167	4%	76%	79%	5%	1%	5%	2%	8%
Manipur	678	7%	73%	79%	3%	3%	6%	1%	7%
Meghalaya	1369	5%	75%	80%	4%	1%	4%	3%	9%
Mizoram	570	6%	67%	74%	4%	2%	3%	1%	18%
Nagaland	1023	4%	63%	68%	1%	3%	2%	0%	26%
Odisha	20888	4%	68%	72%	4%	1%	3%	0%	19%
Puducherry	652	4%	85%	89%	4%	3%	4%	0%	0%
Punjab	14753	9%	77%	86%	5%	2%	5%	0%	1%
Rajasthan	33961	4%	86%	90%	4%	1%	4%	1%	1%
Sikkim	424	2%	64%	66%	2%	3%	1%	19%	8%
Tamil Nadu	37967	4%	72%	76%	5%	1%	5%	0%	12%
Tripura	1265	4%	67%	71%	4%	2%	4%	0%	19%
Uttar Pradesh	118649	6%	58%	64%	3%	1%	4%	1%	27%
Uttarakhand	5096	6%	71%	78%	4%	1%	6%	1%	10%
West bengal	41677	3%	83%	86%	5%	2%	6%	1%	1%
INDIA	616201	5%	74%	79%	4%	1%	4%	1%	10%

Note: For 2016, Telangana state outcome data is included along with Andhra Pradesh state.

Annexure 2(a ii): Treatment Outcome of Microbiologically Confirmed Previously treated TB patients notified in 2016 from public sector

State	Registered	Cure	Treatment Completed	Treatment Success	Died	Failure	Lost to Followup	Treatment Regimen Changed	Not Reported
Andhra Pradesh	13904	69%	7%	76%	8%	3%	7%	4%	3%
Andman and Nicobar	56	75%	4%	79%	4%	4%	7%	4%	4%
Arunachal Pradesh	282	46%	4%	50%	2%	1%	7%	16%	24%
Assam	3385	49%	12%	60%	8%	3%	12%	4%	13%
Bihar	5729	50%	17%	67%	4%	1%	8%	3%	16%
Chandigarh	322	76%	4%	80%	6%	2%	6%	3%	3%
Chhattisgarh	1910	61%	11%	72%	10%	3%	12%	3%	0%
Dadra and Nagar Haveli	69	68%	3%	71%	4%	1%	10%	7%	6%
Daman and Diu	47	66%	15%	81%	6%	2%	0%	11%	0%
Delhi	6582	69%	2%	71%	6%	4%	10%	6%	3%
Goa	154	71%	6%	77%	5%	4%	10%	3%	1%
Gujarat	16439	71%	4%	75%	10%	4%	9%	2%	1%
Haryana	6581	60%	10%	70%	7%	3%	6%	3%	11%
Himachal Pradesh	2187	70%	11%	81%	6%	3%	6%	4%	1%
Jammu and Kashmir	1261	63%	10%	74%	6%	4%	6%	3%	8%
Jharkhand	2478	68%	11%	79%	5%	2%	9%	3%	1%
Karnataka	8436	54%	5%	58%	10%	4%	15%	4%	9%
Kerala	1850	62%	7%	69%	7%	6%	10%	3%	5%
Lakshadweep	1	100%	0%	100%	0%	0%	0%	0%	0%
Madhya Pradesh	10450	58%	10%	68%	7%	3%	9%	4%	9%
Maharashtra	13797	54%	6%	60%	9%	4%	13%	5%	9%
Manipur	184	59%	7%	66%	3%	3%	11%	5%	11%
Meghalaya	312	54%	6%	61%	5%	5%	9%	13%	7%
Mizoram	132	56%	9%	65%	5%	3%	6%	4%	17%
Nagaland	352	55%	9%	64%	4%	3%	5%	1%	22%
Odisha	4036	52%	8%	60%	8%	2%	10%	2%	19%
Puducherry	187	63%	6%	69%	12%	10%	8%	1%	0%
Punjab	5274	63%	12%	76%	8%	3%	8%	3%	2%
Rajasthan	14510	72%	7%	78%	8%	2%	7%	3%	1%
Sikkim	160	68%	1%	69%	3%	4%	2%	14%	9%
Tamil Nadu	10869	53%	5%	59%	8%	4%	12%	3%	14%
Tripura	253	52%	4%	57%	5%	2%	10%	1%	26%
Uttar Pradesh	27941	46%	8%	54%	6%	1%	7%	5%	26%
Uttarakhand	1993	57%	7%	64%	5%	3%	9%	4%	14%
West bengal	9480	65%	4%	69%	8%	4%	12%	5%	2%
INDIA	171615	59%	7%	67%	8%	3%	9%	4%	10%

Note: For 2016, Telangana state outcome data is included along with Andhra Pradesh state.

Annexure 2(b i):Treatment Outcome of Clinically diagnosed New TB patients notified in 2016 from public sector

State	Registered	Treatment Success	Died	Failure	Lost to Followup	Treatment Regimen Changed	Not Reported
Andhra Pradesh	34940	92%	3%	0%	2%	0%	3%
Andman and Nicobar	247	89%	3%	0%	4%	0%	3%
Arunachal Pradesh	1329	73%	1%	1%	3%	1%	22%
Assam	15104	79%	3%	0%	6%	0%	12%
Bihar	20919	74%	2%	0%	5%	0%	19%
Chandigarh	1399	95%	1%	0%	1%	0%	2%
Chhattisgarh	14404	92%	4%	0%	3%	0%	0%
Dadra and Nagar Haveli	219	95%	2%	0%	0%	0%	2%
Daman and Diu	158	94%	3%	1%	0%	1%	2%
Delhi	30825	94%	1%	0%	3%	0%	2%
Goa	712	93%	3%	0%	1%	0%	2%
Gujarat	23246	93%	4%	0%	2%	0%	1%
Haryana	17237	85%	2%	0%	2%	0%	11%
Himachal Pradesh	5924	94%	3%	0%	2%	0%	1%
Jammu and Kashmir	4310	88%	3%	1%	3%	0%	6%
Jharkhand	14088	92%	2%	0%	5%	0%	1%
Karnataka	21491	84%	6%	0%	4%	0%	7%
Kerala	8944	89%	3%	0%	3%	0%	4%
Lakshadweep	22	95%	0%	0%	0%	0%	5%
Madhya Pradesh	51897	86%	2%	0%	3%	0%	9%
Maharashtra	50717	84%	4%	0%	4%	1%	8%
Manipur	780	86%	3%	0%	5%	0%	6%
Meghalaya	2016	82%	4%	0%	4%	1%	9%
Mizoram	1283	80%	2%	0%	2%	0%	16%
Nagaland	1176	65%	2%	0%	2%	0%	31%
Odisha	18746	75%	4%	0%	3%	0%	18%
Puducherry	545	97%	3%	0%	1%	0%	0%
Punjab	16448	93%	3%	0%	3%	0%	1%
Rajasthan	37191	93%	3%	0%	3%	0%	1%
Sikkim	724	88%	4%	1%	1%	3%	5%
Tamil Nadu	29927	80%	4%	0%	2%	0%	14%
Tripura	788	72%	5%	0%	5%	0%	18%
Uttar Pradesh	98754	67%	2%	0%	3%	0%	27%
Uttarakhand	5599	85%	2%	0%	4%	0%	8%
West bengal	30508	90%	5%	0%	4%	0%	2%
INDIA	562661	80%	3%	83%	3%	0%	3%

Note: For 2016, Telangana state outcome data is included along with Andhra Pradesh state.

Annexure 2(b ii): Treatment Outcome of Clinically diagnosed Previously treated TB patients notified in 2016 from public sector

State	Grand Total	Treatment Success	Died	Failure	Lost to Followup	Treatment Regimen Changed	Not Reported
Andhra Pradesh	6375	86%	6%	0%	4%	1%	3%
Andman and Nicobar	30	77%	13%	0%	0%	0%	10%
Arunachal Pradesh	325	65%	3%	0%	6%	2%	24%
Assam	3482	70%	5%	0%	10%	1%	14%
Bihar	4214	73%	3%	0%	7%	0%	17%
Chandigarh	128	93%	2%	0%	3%	0%	2%
Chhattisgarh	1532	86%	5%	1%	8%	0%	0%
Dadra and Nagar Haveli	33	88%	6%	3%	0%	3%	0%
Daman and Diu	43	95%	2%	2%	0%	0%	0%
Delhi	5758	88%	3%	0%	6%	1%	2%
Goa	75	93%	0%	1%	1%	4%	0%
Gujarat	8674	88%	6%	0%	4%	0%	1%
Haryana	2880	77%	5%	0%	4%	1%	14%
Himachal Pradesh	663	85%	7%	0%	5%	1%	2%
Jammu and Kashmir	410	82%	5%	1%	3%	0%	9%
Jharkhand	2947	88%	3%	0%	6%	0%	1%
Karnataka	3727	74%	9%	0%	8%	1%	8%
Kerala	690	82%	5%	1%	7%	1%	4%
Lakshadweep	0	0%	0%	0%	0%	0%	0%
Madhya Pradesh	6468	79%	4%	0%	5%	1%	11%
Maharashtra	12192	73%	7%	1%	8%	2%	10%
Manipur	126	83%	4%	0%	6%	0%	8%
Meghalaya	317	68%	7%	1%	7%	5%	12%
Mizoram	179	80%	2%	0%	7%	0%	12%
Nagaland	187	68%	1%	2%	3%	1%	26%
Odisha	2130	70%	6%	0%	6%	0%	17%
Puducherry	33	94%	6%	0%	0%	0%	0%
Punjab	2027	87%	5%	1%	5%	1%	1%
Rajasthan	5783	86%	6%	1%	6%	1%	1%
Sikkim	126	86%	4%	0%	2%	4%	4%
Tamil Nadu	3502	74%	6%	0%	5%	0%	14%
Tripura	106	61%	8%	0%	7%	0%	25%
Uttar Pradesh	16168	63%	3%	0%	5%	1%	28%
Uttarakhand	833	76%	4%	0%	8%	1%	11%
West bengal	4325	82%	7%	0%	7%	1%	2%
INDIA	96490	3%	74%	77%	5%	0%	6%

Note: For 2016, Telangana state outcome data is included along with Andhra Pradesh state.

Annexure 2(c i): Treatment Outcome of HIV infected New TB cases notified from Public Sector in 2016

State	PLHIV-TB Registered for Treatment	Treatment Outcome reported	Reporting %	Cure %	Treatment Completed %	Treatment Success %	Death %	Failure %	Lost to follow-up %	Treatment Regimen Changed
Andhra Pradesh	4954	4359	88%	37%	47%	84%	11%	1%	4%	1%
Andman and Nicobar	1	1	100%	0%	0%	0%	100%	0%	0%	0%
Arunachal Pradesh	4	2	50%	0%	100%	100%	0%	0%	0%	0%
Assam	121	59	49%	10%	69%	80%	12%	2%	3%	0%
Bihar	710	306	43%	21%	63%	84%	9%	0%	6%	0%
Chandigarh	19	19	100%	40%	40%	80%	5%	0%	10%	0%
Chhattisgarh	362	269	74%	24%	51%	75%	17%	1%	4%	1%
Dadra and Nagar Haveli	9	7	78%	29%	71%	100%	0%	0%	0%	0%
Daman and Diu	6	0	0%							
Delhi	579	238	41%	16%	67%	83%	6%	0%	7%	1%
Goa	62	40	65%	28%	55%	83%	10%	3%	5%	0%
Gujarat	1986	1674	84%	21%	58%	79%	15%	0%	4%	0%
Haryana	369	247	67%	21%	58%	79%	13%	0%	5%	0%
Himachal Pradesh	73	59	81%	22%	58%	80%	15%	2%	2%	2%
Jammu and Kashmir	20	4	20%	50%	0%	50%	25%	0%	0%	0%
Jharkhand	131	62	47%	24%	60%	84%	8%	2%	3%	0%
Karnataka	4988	4207	84%	25%	51%	76%	16%	1%	6%	0%
Kerala	191	108	57%	28%	52%	80%	7%	2%	7%	2%
Lakshadweep	0									
Madhya Pradesh	675	370	55%	22%	61%	83%	9%	1%	5%	0%
Maharashtra	5785	4016	69%	25%	51%	76%	13%	0%	6%	1%
Manipur	65	57	88%	21%	63%	84%	0%	4%	12%	0%
Meghalaya	57	14	25%	14%	57%	71%	14%	0%	14%	0%
Mizoram	156	107	69%	21%	68%	89%	5%	0%	6%	0%
Nagaland	117	93	79%	25%	47%	72%	13%	5%	8%	0%
Odisha	550	215	39%	24%	52%	76%	20%	0%	2%	0%
Puducherry	17	17	100%	32%	53%	84%	5%	5%	5%	0%
Punjab	372	191	51%	22%	55%	77%	14%	1%	5%	1%
Rajasthan	533	444	83%	20%	57%	78%	16%	1%	5%	0%
Sikkim	12	2	17%	50%	50%	100%	0%	0%	0%	0%
Tamil Nadu	3284	2181	66%	26%	52%	78%	15%	1%	5%	1%
Telangana	1905	1447	76%	38%	42%	81%	13%	1%	4%	0%
Tripura	34	18	53%	39%	56%	94%	0%	0%	6%	0%
Uttar Pradesh	1278	430	34%	20%	51%	71%	17%	0%	9%	1%
Uttarakhand	61	29	48%	17%	62%	79%	14%	0%	0%	3%
West bengal	884	567	64%	22%	58%	80%	12%	2%	4%	1%
INDIA	30440	21865	72%	28%	51%	79%	13%	1%	5%	1%

Annexure 2(c ii): Treatment Outcome of HIV infected Previously Treated TB cases notified from Public Sector in 2016

State	PLHIV-TB Registered for Treatment	Treatment Outcome reported	Reporting %	Cure %	Treatment Completed	Treatment Success %	Death %	Failure %	Lost to follow-up %	Treatment Regimen Changed %
Andhra Pradesh	1255	1100	88%	39%	37%	77%	15%	1%	5%	2%
Andman and Nicobar	0									
Arunachal Pradesh	0									
Assam	26	14	54%	0%	57%	57%	29%	0%	14%	0%
Bihar	187	78	42%	29%	54%	83%	10%	0%	4%	0%
Chandigarh	4	4	100%	25%	50%	75%	0%	25%	0%	0%
Chhattisgarh	60	45	75%	18%	42%	60%	22%	2%	16%	0%
Dadra and Nagar Haveli	1	1	100%	0%	100%	100%	0%	0%	0%	0%
Daman and Diu	1	0	0%							
Delhi	278	113	41%	21%	52%	73%	10%	1%	10%	4%
Goa	20	13	65%	23%	46%	69%	23%	0%	8%	0%
Gujarat	981	825	84%	19%	56%	74%	15%	2%	8%	1%
Haryana	112	73	65%	32%	30%	62%	25%	1%	8%	3%
Himachal Pradesh	34	28	82%	32%	43%	75%	21%	0%	4%	0%
Jammu and Kashmir	0									
Jharkhand	51	24	47%	25%	50%	75%	0%	0%	21%	4%
Karnataka	1233	1052	85%	22%	43%	65%	18%	2%	11%	2%
Kerala	56	32	57%	25%	41%	66%	6%	0%	16%	3%
Lakshadweep	0									
Madhya Pradesh	203	112	55%	20%	55%	75%	12%	2%	12%	0%
Maharashtra	2081	1463	70%	20%	48%	68%	15%	2%	9%	3%
Manipur	24	21	88%	29%	52%	81%	5%	0%	10%	5%
Meghalaya	16	3	19%	33%	67%	100%	0%	0%	0%	0%
Mizoram	48	36	75%	14%	75%	89%	3%	0%	6%	3%
Nagaland	32	26	81%	42%	46%	88%	4%	4%	4%	0%
Odisha	135	52	39%	25%	40%	65%	23%	0%	8%	4%
Puducherry	6	6	100%	43%	0%	43%	29%	29%	0%	0%
Punjab	120	62	52%	31%	42%	73%	15%	3%	5%	3%
Rajasthan	208	174	84%	33%	34%	67%	18%	1%	9%	4%
Sikkim	0									
Tamil Nadu	985	646	66%	30%	44%	74%	13%	2%	10%	1%
Telangana	442	336	76%	38%	33%	71%	18%	3%	5%	1%
Tripura	0									
Uttar Pradesh	437	146	33%	15%	49%	64%	22%	1%	8%	3%
Uttarakhand	23	10	43%	10%	60%	70%	10%	0%	10%	0%
West bengal	273	175	64%	23%	39%	63%	23%	2%	9%	2%
INDIA	9262	6672	72%	26%	45%	71%	16%	2%	8%	2%

Annexure (3a) : Intensified TB case finding activities at ICTC

State	ICTC attendees (excl. pregnant women)	Clients referred for TB testing N (%)	Clients diagnosed with TB N (%)	Clients initiate on TB treatment N (%)
Andaman and Nicobar	17099	429 (3%)	2 (0%)	0 (0%)
Andhra Pradesh	846549	77122 (9%)	4896 (6%)	4754 (97%)
Arunachal Pradesh	4654	272 (6%)	112 (41%)	4 (4%)
Assam	128847	9061 (7%)	1030 (11%)	314 (30%)
Bihar	373456	27676 (7%)	5362 (19%)	450 (8%)
Chandigarh	80996	611 (1%)	13 (2%)	3 (23%)
Chhattisgarh	238060	16350 (7%)	1484 (9%)	971 (65%)
Dadar and Nagar Haveli	15066	139 (1%)	18 (13%)	18 (100%)
Daman and Diu	11905	139 (1%)	43 (31%)	23 (53%)
Delhi	355989	11967 (3%)	436 (4%)	339 (78%)
Goa	32748	779 (2%)	18 (2%)	15 (83%)
Gujarat	955968	105350 (11%)	4950 (5%)	4223 (85%)
Haryana	328884	19207 (6%)	1722 (9%)	234 (14%)
Himachal Pradesh	101052	5528 (5%)	606 (11%)	69 (11%)
Jammu and Kashmir	39158	843 (2%)	75 (9%)	4 (5%)
Jharkhand	150442	10921 (7%)	1391 (13%)	275 (20%)
Karnataka	1675878	125023 (7%)	5907 (5%)	5210 (88%)
Kerala	415669	13096 (3%)	188 (1%)	79 (42%)
Lakshadweep		0 (0%)	0 (0%)	0 (0%)
Madhya Pradesh	586290	37061 (6%)	2262 (6%)	1102 (49%)
Maharashtra	2157175	211303 (10%)	13058 (6%)	11272 (86%)
Manipur	62660	3689 (6%)	22 (1%)	11 (50%)
Meghalaya	19461	193 (1%)	32 (17%)	19 (59%)
Mizoram	20180	981 (5%)	58 (6%)	31 (53%)
Nagaland	66003	2910 (4%)	198 (7%)	115 (58%)
Odisha	446589	30879 (7%)	1777 (6%)	1143 (64%)
Pondicherry	43372	1901 (4%)	153 (8%)	31 (20%)
Punjab	342478	13433 (4%)	1186 (9%)	252 (21%)
Rajasthan	585702	43772 (7%)	2051 (5%)	1339 (65%)
Sikkim	9014	107 (1%)	49 (46%)	9 (18%)
Tamil Nadu	2953119	246439 (8%)	6824 (3%)	5545 (81%)
Telangana	498582	42422 (9%)	3423 (8%)	2694 (79%)
Tripura	42265	1129 (3%)	125 (11%)	4 (3%)
Uttar Pradesh	1031708	57963 (6%)	8895 (15%)	3457 (39%)
Uttarakhand	94019	4629 (5%)	304 (7%)	126 (41%)
West Bengal	684012	28798 (4%)	1244 (4%)	599 (48%)
Grand Total	15415049	1152122 (7%)	69914 (6%)	44734 (64%)

Annexure (3b) : Intensified case finding activities in ART centre

State	PLHIV attending ART centre	PLHIV screened for TB N (%)	PLHIV with presumptive TB N (%)	PLHIV referred for TB diagnosis test N (%)	PLHIV tested for TB N (%)	PLHIV diagnosed with TB N (%)	PLHIV micro-biologically confirmed N (%)
Andaman & Nicobar	159	147 (92%)	19 (13%)	19 (100%)	19 (100%)	1 (5%)	1 (100%)
Andhra Pradesh	1551382	1405803 (91%)	63907 (5%)	50603 (79%)	44948 (89%)	5243 (12%)	3591 (68%)
Arunachal Pradesh	346	345 (100%)	22 (6%)	22 (100%)	22 (100%)	0 (0%)	#DIV/0!
Assam	42693	37370 (88%)	1495 (4%)	1230 (82%)	443 (36%)	144 (33%)	42 (29%)
Bihar	366722	259267 (71%)	19010 (7%)	11471 (60%)	6678 (58%)	1407 (21%)	812 (58%)
Chandigarh	34760	32253 (93%)	624 (2%)	461 (74%)	332 (72%)	91 (27%)	28 (31%)
Chhattisgarh	95806	72448 (76%)	5073 (7%)	4859 (96%)	4560 (94%)	318 (7%)	254 (80%)
Delhi	241253	197878 (82%)	9221 (5%)	5374 (58%)	4219 (79%)	1046 (25%)	476 (46%)
Goa	23632	23560 (100%)	1162 (5%)	431 (37%)	153 (35%)	24 (16%)	23 (96%)
Gujarat	580260	548172 (94%)	16426 (3%)	15263 (93%)	14038 (92%)	3116 (22%)	1283 (41%)
Haryana	54362	47999 (88%)	988 (2%)	988 (100%)	700 (71%)	278 (40%)	147 (53%)
Himachal Pradesh	38694	31998 (83%)	657 (2%)	588 (89%)	579 (98%)	76 (13%)	60 (79%)
Jammu & Kashmir	24772	24765 (100%)	537 (2%)	473 (88%)	273 (58%)	82 (30%)	38 (46%)
Jharkhand	89380	74811 (84%)	1897 (3%)	1815 (96%)	1539 (85%)	253 (16%)	156 (62%)
Karnataka	1449138	1291801 (89%)	78119 (6%)	65016 (83%)	58373 (90%)	5156 (9%)	3146 (61%)
Kerala	122475	109532 (89%)	6118 (6%)	2497 (41%)	1966 (79%)	299 (15%)	172 (58%)
Madhya Pradesh	209134	164324 (79%)	13951 (8%)	8824 (63%)	5421 (61%)	1012 (19%)	631 (62%)
Maharashtra	1808177	1639850 (91%)	107244 (7%)	63846 (60%)	54442 (85%)	7838 (14%)	3686 (47%)
Manipur	134611	78065 (58%)	992 (1%)	807 (81%)	760 (94%)	186 (24%)	125 (67%)
Meghalaya	15459	11628 (75%)	611 (5%)	472 (77%)	195 (41%)	138 (71%)	75 (54%)
Mizoram	42409	35243 (83%)	2447 (7%)	1035 (42%)	781 (75%)	230 (29%)	222 (97%)
Nagaland	57160	22701 (40%)	1039 (5%)	639 (62%)	515 (81%)	314 (61%)	225 (72%)
Odisha	148217	117290 (79%)	4968 (4%)	4879 (98%)	4378 (90%)	438 (10%)	340 (78%)
Pondicherry	13258	10673 (81%)	377 (4%)	332 (88%)	332 (100%)	38 (11%)	27 (71%)
Punjab	253208	232989 (92%)	7393 (3%)	3107 (42%)	2791 (90%)	498 (18%)	367 (74%)
Rajasthan	307128	260152 (85%)	13861 (5%)	13269 (96%)	11830 (89%)	1497 (13%)	968 (65%)
Sikkim	1529	1084 (71%)	37 (3%)	31 (84%)	18 (58%)	18 (100%)	18 (100%)
Tamil Nadu	1113586	995295 (89%)	54778 (6%)	47210 (86%)	43032 (91%)	4138 (10%)	2609 (63%)
Telangana	622834	384214 (62%)	73919 (19%)	11766 (16%)	9827 (84%)	2280 (23%)	1796 (79%)
Tripura	9378	9237 (98%)	365 (4%)	357 (98%)	263 (74%)	23 (9%)	17 (74%)
Uttar Pradesh	613053	550736 (90%)	17906 (3%)	11765 (66%)	9431 (80%)	2226 (24%)	1008 (45%)
Uttarakhand	27228	6807 (25%)	1115 (16%)	771 (69%)	379 (49%)	160 (42%)	116 (73%)
West Bengal	295189	234477 (79%)	8324 (4%)	5526 (66%)	3518 (64%)	517 (15%)	356 (69%)
INDIA	10762163	8912914 (83%)	514602 (6%)	335746 (65%)	286755 (85%)	39085 (14%)	22815 (58%)

Annexure (4 a) State wise Notification of DRTB cases in 2017

State	No. of districts implementing Universal DST	Number of DR-TB Centres (Nodal + District) functional	Number of Presumptive DR-TB patient subjected to DST/DRT	Number of MDR/RR-TB patients notified in 2017	Number of MDR/RR-TB patients initiated on treatment in 2017#	Number of XDR TB patients initiated on treatment in 2017#
Andaman & Nicobar	3	1	1326	54	49	0
Andhra Pradesh	0	9	20313	892	738	34
Arunachal Pradesh	14	2	3198	197	196	0
Assam	0	4	7004	410	415	11
Bihar	0	6	35850	1848	1660	165
Chandigarh	1	1	2062	59	48	1
Chhattisgarh	0	4	19334	328	272	0
Dadra & Nagar Haveli	1	1	1401	19	6	4
Daman & Diu	2	0	281	8	2	0
Delhi	0	25	13161	1074	1653	163
Goa	2	1	545	54	40	5
Gujarat*	0	34	42340	2266	1982	179
Haryana	0	2	25944	856	755	9
Himachal Pradesh	10	2	3159	222	239	7
Jammu & Kashmir	14	3	7192	155	127	0
Jharkhand	15	4	17182	595	495	9
Karnataka	0	7	18495	1182	973	17
Kerala*	14	14	8158	236	249	13
Lakshadweep	1	0	14	0	0	0
Madhya Pradesh	0	9	35633	1870	1583	62
Maharashtra	79	17	86560	8465	8396	879
Manipur	9	1	2686	54	46	1
Meghalaya	6	2	3955	200	226	13
Mizoram	8	1	2281	62	57	0
Nagaland	11	2	1761	66	81	0
Odisha	31	3	15472	328	329	17
Puducherry	0	1	457	15	14	0
Punjab	10	3	12279	554	506	21
Rajasthan	0	7	36687	2402	2547	196
Sikkim	5	1	3085	233	262	8
Tamil Nadu	0	6	114708	1492	1139	36
Telangana	0	11	39398	961	854	10
Tripura	8	1	503	30	35	0
Uttar Pradesh	0	16	121842	9138	7837	619
Uttarakhand	13	2	5936	448	306	12
West Bengal	0	19	24045	1832	1833	175
Grand Total	257	222	734247	38605	35950	2666

Notes: * Data from Daman-Diu & Dadra Nagar Haveli is included in Gujarat; Lakshdweep is included in Kerala for 6/12 months interim and treatment outcome report.

These numbers are NOT from the same cohort of patients from which MDR/RR-TB diagnosed are reported, but rather from treatment initiation registers only. The current PMDT information system does not allow for cohort-based reporting of MDR TB patients, hence this should not yet be taken as proportion of MDR/RR-TB diagnosed and used as an indicator for efficiency of initiation on treatment.

\$ This also excludes extra pulmonary patients put on treatment

Annexure (4b) : State wise 12-month Culture conversion of DRTB cases notified between 4Q15 to 3Q16

State	Number of MDR/RR-TB patients initiated on treatment during 4Q15 to 3Q16 (b)	Out of b, No. (%) who are alive, on treatment and culture negative§		Out of b, No. (%) who are alive, on treatment and culture positive		Out of b, No. (%) who are alive, on treatment and culture not known		Out of b, No. (%) who died	Out of b, No. (%) who lost to follow up				
		21	38%	45	6%	1	2%			19	35%	11	20%
Andaman & Nicobar	55	21	38%	45	6%	1	2%	19	35%	11	20%	2	4%
Andhra Pradesh	790	436	55%	45	6%	31	4%	150	19%	150	19%	104	13%
Arunachal Pradesh	183	73	40%	1	1%	63	34%	14	8%	14	8%	34	19%
Assam	380	205	54%	11	3%	38	10%	42	11%	42	11%	55	14%
Bihar	1501	570	38%	74	5%	463	31%	170	11%	170	11%	174	12%
Chandigarh	46	33	72%	0	0%	0	0%	0	0%	3	7%	4	9%
Chhattisgarh	181	88	49%	1	1%	23	13%	30	17%	30	17%	34	19%
Dadra & Nagar Haveli													
Daman & Diu													
Delhi	1138	529	46%	23	2%	144	13%	106	9%	106	9%	192	17%
Goa	44	23	52%	4	9%	5	11%	3	7%	3	7%	4	9%
Gujarat*	2191	938	43%	127	6%	179	8%	314	14%	314	14%	334	15%
Haryana	717	416	58%	2	0%	56	8%	111	15%	111	15%	100	14%
Himachal Pradesh	232	137	59%	8	3%	43	19%	18	8%	18	8%	13	6%
Jammu & Kashmir	109	75	69%	2	2%	12	11%	14	13%	14	13%	7	6%
Jharkhand	322	124	39%	5	2%	101	31%	32	10%	32	10%	44	14%
Karnataka	808	360	45%	38	5%	81	10%	162	20%	162	20%	119	15%
Kerala*	191	106	55%	7	4%	25	13%	31	16%	31	16%	15	8%
Lakshadweep													
Madhya Pradesh	1347	641	48%	90	7%	151	11%	229	17%	229	17%	185	14%
Maharashtra	7205	2651	37%	233	3%	1148	16%	855	12%	855	12%	970	13%
Manipur	55	19	35%	0	0%	2	4%	6	11%	6	11%	8	15%
Meghalaya	249	112	45%	18	7%	48	19%	31	12%	31	12%	26	10%
Mizoram	35	23	66%	1	3%	3	9%	6	17%	6	17%	2	6%
Nagaland	43	11	26%	0	0%	18	42%	4	9%	4	9%	10	23%
Odisha	239	121	51%	15	6%	44	18%	28	12%	28	12%	17	7%
Puducherry	17	8	47%	0	0%	1	6%	1	6%	1	6%	6	35%
Punjab	540	305	56%	36	7%	38	7%	86	16%	86	16%	56	10%
Rajasthan	1991	797	40%	109	5%	340	17%	351	18%	351	18%	249	13%
Sikkim	250	165	66%	4	2%	6	2%	27	11%	27	11%	25	10%
Tamil Nadu	1052	513	49%	59	6%	62	6%	162	15%	162	15%	211	20%
Telangana	647	402	62%	19	3%	36	6%	111	17%	111	17%	59	9%
Tripura	16	9	56%	1	6%	1	6%	2	13%	2	13%	3	19%
Uttar Pradesh	5936	2986	50%	375	6%	579	10%	857	14%	857	14%	752	13%
Uttarakhand	305	147	48%	7	2%	68	22%	29	10%	29	10%	46	15%
West Bengal	1856	1013	55%	83	4%	137	7%	274	15%	274	15%	235	13%
Grand Total	30671	14057	46%	1399	5%	3965	13%	4270	14%	4270	14%	4095	13%

Notes: * Data from Daman-Diu & Dadra Nagar Haveli is included in Gujarat; Lakshadweep is included in Kerala for 6/12 months interim and treatment outcome report.

These numbers are NOT from the same cohort of patients from which MDR/RR-TB diagnosed are reported, but rather from treatment initiation registers only. The current PMDT information system does not allow for cohort-based reporting of MDR TB patients, hence this should not yet be taken as proportion of MDR/RR-TB diagnosed and used as an indicator for efficiency of initiation on treatment.

§ This also excludes extra pulmonary patients put on treatment

Annexure (4c) : State wise Treatment Outcomes of DRTB cases notified between 3Q14 to 2Q15

State	Number of MDR/RR-TB patients initiated on Cat IV during 3Q14 to 2Q15 (c)	Out of c, No. reported as Cured	Out of c, No. reported as Treatment Completed	Out of c, Success Rate	Out of c, No. who died	Out of c, No. (%) who lost to follow up	Out of c, No. (%) who failed treatment	Out of c, No. (%) who were declared with outcome like Switch to XDR regimen, stopped due to ADR, Transferred out etc.,		
Andaman & Nicobar	25	12	3	60%	7	28%	1	4%	1	4%
Andhra Pradesh	573	238	39	48%	139	24%	110	19%	14	2%
Arunachal Pradesh	135	52	30	61%	14	10%	34	25%	0	0%
Assam	352	122	63	53%	61	17%	73	21%	3	1%
Bihar	780	281	156	56%	142	18%	125	16%	26	3%
Chandigarh	97	29	17	47%	8	8%	27	28%	2	2%
Chhattisgarh	164	48	42	55%	38	23%	26	16%	3	2%
Dadra & Nagar Haveli										
Daman & Diu										
Delhi	1302	553	158	55%	178	14%	225	17%	18	1%
Goa	44	13	3	36%	12	27%	6	14%	0	0%
Gujarat*	1838	557	206	42%	373	20%	382	21%	62	3%
Haryana	629	253	90	55%	141	22%	110	17%	3	0%
Himachal Pradesh	223	78	33	50%	28	13%	20	9%	5	2%
Jammu & Kashmir	227	78	36	50%	48	21%	45	20%	3	1%
Jharkhand	209	62	42	50%	38	18%	47	22%	6	3%
Karnataka	618	213	80	47%	143	23%	131	21%	7	1%
Kerala*	200	83	38	61%	27	14%	21	11%	13	7%
Lakshadweep										
Madhya Pradesh	1010	413	93	50%	213	21%	203	20%	36	4%
Maharashtra	5116	1171	752	38%	844	16%	1021	20%	104	2%
Manipur	28	10	7	61%	4	14%	6	21%	0	0%
Meghalaya	120	50	22	60%	20	17%	18	15%	3	3%
Mizoram	98	27	29	57%	17	17%	13	13%	1	1%
Nagaland	73	20	15	48%	8	11%	17	23%	0	0%
Odisha	291	115	30	50%	76	26%	49	17%	1	0%
Puducherry	22	11	0	50%	3	14%	6	27%	1	5%
Punjab	458	172	47	48%	88	19%	107	23%	7	2%
Rajasthan	1669	560	203	46%	390	23%	371	22%	41	2%
Sikkim	198	131	3	68%	29	15%	13	7%	2	1%
Tamil Nadu	1153	358	97	39%	289	25%	325	28%	20	2%
Telangana	673	296	37	49%	170	25%	126	19%	16	2%
Tripura	94	43	6	52%	18	19%	17	18%	2	2%
Uttar Pradesh	4107	1139	898	50%	991	24%	669	16%	77	2%
Uttarakhand	199	48	49	49%	43	22%	38	19%	1	1%
West Bengal	1629	560	239	49%	273	17%	315	19%	84	5%
Grand Total	24354	7796	3563	47%	4873	20%	4697	19%	562	2%
										12%

Notes: * Data from Daman-Diu & Dadra Nagar Haveli is included in Gujarat; Lakshadweep is included in Kerala for 6/12 months interim and treatment outcome report.

These numbers are NOT from the same cohort of patients from which MDR/RR-TB diagnosed are reported, but rather from treatment initiation registers only. The current PMDT information system does not allow for cohort-based reporting of MDR TB patients, hence this should not yet be taken as proportion of MDR/RR-TB diagnosed and used as an indicator for efficiency of initiation on treatment.

\$ This also excludes extra pulmonary patients put on treatment

Annexure (5a) : Human Resources (Part -I)

State	State Level											
	Epidemiologist (APO)		MO – STC		TB-HIV Coordinator		PPM Coordinator		DR TB Coordinator		State IEC Officer	
	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place
1	2	3	4	5	6	7	8	9	10	11	12	13
Andaman & Nicobar	0	0	1	1	1	0	0	0	0	0	1	1
Andhra Pradesh	1	1	1	0	1	1	1	1	1	1	1	1
Arunachal	1	0	1	0	0	0	0	0	0	0	1	1
Assam	0	0	1	1	1	1	0	0	1	0	1	1
Bihar	1	0	1	0	1	0	1	0	1	0	1	1
Chandigarh	0	0	1	1	1	1	0	0	0	0	1	1
Chhattisgarh	1	1	1	1	1	0	1	1	0	0	1	1
Dadra & Haveli	1	0	1	1	0	0	0	0	0	0	1	1
Daman & Diu	1	1	1	1	0	0	0	0	0	0	0	0
Delhi	1	1	1	1	1	0	1	0	1	0	1	1
Goa	1	0	1	0	1	0	0	0	1	0	1	1
Gujarat	1	1	1	1	1	1	1	1	1	1	1	1
Haryana	1	1	0	0	1	0	1	0	1	0	1	1
Himachal Pradesh	1	0	1	0	1	0	1	0	1	0	1	1
Jammu	1	1	1	0	1	1	1	0	1	0	1	1
Kashmir	1	1	1	1	1	0	0	0	0	0	1	1
Jharkhand	1	0	1	0	1	0	1	0	1	0	1	1
Karnataka	1	1	1	0	1	0	1	1	1	0	1	1
Kerala	1	0	1	1	1	1	0	0	1	0	1	1
Lakshadweep	0	0	0	0	0	0	0	0	0	0	1	1
Maharashtra	2	0	1	0	1	1	1	0	1	0	1	1
Manipur	1	1	1	1	1	0	1	1	1	1	1	1
Meghalaya	1	1	1	1	1	1	1	1	1	1	1	0
Mizoram	1	0	1	1	1	1	1	1	1	0	1	1
MP	1	1	1	0	1	0	1	0	1	0	1	0
Nagaland	1	1	1	1	1	1	1	1	1	0	1	1
Odisha	1	1	1	1	1	0	1	0	1	1	1	0
Pondicherry	0	0	1	1	1	1	0	0	0	0	1	1
Punjab	1	0	1	0	1	1	0	0	0	0	1	0
Rajasthan	1	0	1	0	1	0	1	1	1	0	1	1
Sikkim	1	0	1	1	1	0	1	0	1	1	1	0
Telangana	1	0	1	0	1	1	0	0	1	0	1	1
TN	1	1	1	1	1	1	1	1	1	1	1	1
Tripura	1	0	0	1	1	0	0	0	0	0	1	1
UP	2	2	2	0	2	1	2	2	2	0	2	2
Uttarakhand	0	0	1	1	0	0	0	0	0	0	1	1
West Bengal	2	1	1	1	2	1	2	2	2	1	2	2

Annexure (5a) : Human Resources (Part-II)

State	State Level													
	State Accountant		Technical Officer- Proc. and Logistics		DEO-STC		Pharmacist - SDS		Store Assistant - SDS		Director (STDC)			
	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place		
1	14	15	16	17	18	19	20	21	22	23	24	25		
Andaman & Nicobar	1	1	0	0	1	1	1	0	1	1	0	0		
Andhra Pradesh	1	1	1	1	1	1	1	0	1	0	0	0		
Arunachal	1	1	1	0	1	1	1	0	1	1	0	0		
Assam	1	1	1	1	1	1	1	1	1	1	0	0		
Bihar	1	0	1	0	1	1	1	1	1	1	2	2		
Chandigarh	1	1	0	0	1	1	1	1	1	1	0	0		
Chhattisgarh	1	0	0	0	1	1	1	1	1	1	0	0		
Dadra & Haveli	1	1	0	0	1	1	1	1	1	0	0	0		
Daman & Diu	1	1	0	0	1	1	1	1	0	0	0	0		
Delhi	1	1	1	0	1	1	2	1	2	0	1	1		
Goa	1	1	0	0	1	1	1	1	1	1	0	0		
Gujarat	1	1	1	0	1	1	1	1	1	1	1	1		
Haryana	1	1	1	0	1	1	0	1	1	1	1	0		
Himachal Pradesh	1	1	1	0	1	1	1	0	1	1	1	1		
Jammu	1	1	1	0	1	1	1	1	1	1	0	0		
Kashmir	1	1	1	1	1	1	1	1	1	1	0	1		
Jharkhand	2	1	1	0	1	1	1	1	1	1	1	1		
Karnataka	2	2	1	1	2	2	2	2	2	1	1	1		
Kerala	2	1	1	1	1	1	1	1	1	0	1	1		
Lakshdweep	1	0	0	0	1	1	0	0	0	0	0	0		
Maharashtra	3	3	1	0	2	2	6	4	6	4	2	2		
Manipur	1	1	1	0	1	1	1	1	1	1	1	1		
Meghalaya	1	0	1	0	1	1	1	1	1	1	0	0		
Mizoram	1	1	0	0	1	1	1	1	1	1	0	0		
MP	1	1	1	1	2	1	1	1	1	1	1	1		
Nagaland	1	1	1	1	1	1	1	1	1	1	0	0		
Odisha	1	1	0	0	1	1	1	0	1	0	1	1		
Pondicherry	1	1	0	0	1	1	1	1	1	1	1	1		
Punjab	1	1	0	0	1	1	0	0	0	0	1	1		
Rajasthan	1	1	1	1	1	1	2	1	3	1	1	1		
Sikkim	1	1	1	0	1	1	1	1	1	1	1	1		
Telangana	1	0	1	0	1	0	1	1	1	1	1	1		
TN	2	2	1	1	2	2	2	2	3	3	1	1		
Tripura	1	1	1	0	0	0	1	1	1	1	0	0		
UP	2	2	2	0	2	1	4	4	8	2	1	1		
Uttarakhand	1	1	0	0	1	1	2	2	2	2	1	1		
West Bengal	2	2	1	1	1	1	2	2	4	2	1	1		

Annexure (5a) : Human Resources (Part-III)

State	IRL		C&DST											
	Microbiologist (IRL)		Microbiologist (C-DST)			Technical Officer			Senior Lab. Tech.			Lab technicians		
	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place
1	26	27	28	29	30	31	32	33	34	35				
Andaman & Nicobar	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Andhra Pradesh	1	1	0	0	0	0	1	0	0	0	0	1	0	0
Arunachal	1	1	1	1	0	0	1	1	0	0	0	1	0	0
Assam	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Bihar	2	2	4	3	2	1	2	0	8	6				
Chandigarh	0	0	1	1	1	1	0	0	2	2				
Chhattisgarh	1	1	1	0	0	0	0	0	2	0				
Dadra & Haveli	0	0	0	0	0	0	0	0	0	0				
Daman & Diu	0	0	0	0	0	0	0	0	0	0				
Delhi	3	3	4	3	2	0	4	4	4	4				
Goa	1	1	0	0	0	0	0	0	0	0				
Gujarat	1	1	2	2	1	1	1	1	9	8				
Haryana	1	1	0	0	0	0	0	0	0	0				
Himachal Pradesh	1	1	2	1	0	0	0	0	4	0				
Jammu	1	1	0	0	0	0	0	0	0	0				
Kashmir	1	1	0	0	0	0	0	0	0	0				
Jharkhand	1	1	1	0	0	0	1	0	0	0				
Karnataka	1	1	3	3	0	0	1	1	6	1				
Kerala	1	1	0	0	0	0	0	0	0	0				
Lakshdweep	0	0	0	0	0	0	0	0	0	0				
Maharashtra	8	5	7	5	2	1	2	1	4	4				
Manipur	1	1	0	0	0	0	0	0	0	0				
Meghalaya	0	0	0	0	0	0	0	0	0	0				
Mizoram	0	0	0	0	0	0	0	0	0	0				
MP	1	1	2	1	0	0	0	0	2	1				
Nagaland	0	0	0	0	0	0	0	0	0	0				
Odisha	1	1	1	1	1	1	4	0	2	1				
Pondicherry	1	1	1	1	0	0	0	0	4	4				
Punjab	1	0	0	0	0	0	0	0	0	0				
Rajasthan	1	1	3	2	2	2	1	0	15	15				
Sikkim	1	1	1	1	0	0	0	0	0	0				
Telangana	1	0	1	0	0	0	0	0	0	0				
TN	0	0	1	1	0	0	1	1	6	6				
Tripura	0	0	1	1	0	0	1	1	0	0				
UP	4	4	7	2	2	2	5	0	4	2				
Uttarakhand	1	1	0	0	0	0	0	0	0	0				
West Bengal	2	2	2	2	1	0	1	0	6	2				

Annexure (5a) : Human Resources (Part-IV)

State	District level																
	Senior MO – DR TB Centre			Counsellor – DR TB Centre			SA – DR TB Centre			MO – DTC			MO-TC			Senior DR TB – TBHIV supervisor	
	Sanctioned	In Place		Sanctioned	In Place		Sanctioned	In Place		Sanctioned	In Place		Sanctioned	In Place		Sanctioned	In Place
1	36	37		38	39		40	41		42	43		44	45		46	47
Andaman & Nicobar	1	0		1	0		1	1		3	0		3	0		3	3
Andhra Pradesh	9	4		9	4		9	7		5	4		225	225		13	11
Arunachal	2	0		0	0		2	2		14	14		6	6		14	14
Assam	5	3		5	2		5	3		10	0		154	73		27	27
Bihar	6	5		0	0		6	6		38	34		534	508		38	28
Chandigarh	1	1		0	0		1	1		0	0		4	4		1	1
Chhattisgarh	4	3		4	4		4	4		9	4		155	155		27	25
Dadra & Haveli	0	0		0	0		0	0		0	0		0	0		1	1
Daman & Diu	0	0		0	0		0	0		0	0		0	0		2	1
Delhi	4	2		4	0		4	4		25	25		38	14		26	23
Goa	1	0		1	1		1	1		0	0		6	5		2	2
Gujarat	5	5		5	5		5	5		21	20		306	298		38	38
Haryana	0	0		3	1		3	1		0	0		64	64		21	19
Himachal Pradesh	4	1		4	0		4	2		5	1		74	74		12	11
Jammu	1	1		1	0		1	0		7	5		14	14		6	6
Kashmir	2	1		0	0		2	2		2	0		25	25		8	8
Jharkhand	5	0		5	1		5	2		8	1		146	128		24	21
Karnataka	6	3		6	3		6	5		10	5		196	196		33	32
Kerala	2	1		0	0		2	2		14	14		73	73		14	14
Lakshdweep	0	0		0	0		0	0		0	0		0	0		0	0
Maharashtra	19	15		18	4		22	13		138	132		401	383		84	72
Manipur	1	0		2	2		2	2		3	1		11	11		16	7
Meghalaya	2	2		2	2		2	2		1	0		19	18		7	7
Mizoram	1	1		1	1		1	1		12	12		12	7		8	8
MP	9	3		9	3		9	0		22	11		228	183		51	40
Nagaland	2	2		2	2		2	2		2	1		13	13		11	11
Odisha	3	2		3	0		3	3		9	5		269	260		31	29
Pondicherry	1	1		0	0		1	1		3	3		7	6		1	1
Punjab	2	1		0	0		2	1		3	2		134	134		22	19
Rajasthan	7	2		7	5		7	6		36	32		283	263		34	28
Sikkim	1	0		1	0		1	1		0	0		5	2		5	5
Telangana	7	1		7	0		7	3		5	2		171	171		11	11
TN	8	8		13	13		8	8		20	20		137	137		36	36
Tripura	1	1		1	0		1	1		3	1		0	6		8	7
UP	23	19		23	17		23	17		14	2		993	661		89	83
Uttarakhand	2	1		2	2		2	2		16	7		95	95		13	12
West Bengal	9	5		9	6		9	7		7	3		461	414		48	38

Annexure (5a) : Human Resources (Part-V)

State	District Level											
	District PPM Coordinator		Accountant		Senior Treatment Supervisor (STS)		Senior TB Lab Supervisor (STLS)		Lab. Techs. (LT) – RNTCP Contractual		TBHV	
	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place
1	48	49	50	51	52	53	54	55	56	57	58	59
Andaman & Nicobar	0	0	3	2	9	9	4	4	3	3	4	3
Andhra Pradesh	13	2	13	10	225	188	109	104	242	181	147	118
Arunachal	0	0	14	14	20	20	17	17	10	10	0	0
Assam	27	25	27	25	153	146	78	76	95	85	34	32
Bihar	38	0	0	0	534	158	223	145	558	381	95	15
Chandigarh	0	0	0	0	4	4	5	5	13	13	14	14
Chhattisgarh	27	26	27	24	155	146	69	60	140	117	48	46
Dadra & Haveli	0	0	0	0	2	2	1	0	1	1	1	1
Daman & Diu	0	0	0	0	2	1	2	2	2	2	2	2
Delhi	25	0	25	0	72	32	38	32	186	169	240	228
Goa	2	2	0	0	6	5	4	4	5	4	9	7
Gujarat	35	33	36	33	306	299	150	143	189	149	243	236
Haryana	21	0	21	0	119	75	52	49	77	77	98	70
Himachal Pradesh	10	0	12	0	74	68	52	43	101	74	20	0
Jammu	6	0	6	2	49	32	18	18	0	0	7	7
Kashmir	8	0	8	7	34	24	25	25	20	20	21	18
Jharkhand	24	9	24	11	206	67	101	64	169	112	74	46
Karnataka	33	26	31	23	273	194	136	132	181	164	217	192
Kerala	0	0	14	14	73	73	73	73	117	117	45	45
Lakshdweep	0	0	0	0	1	1	1	1	3	3	0	0
Maharashtra	79	46	79	55	460	409	318	287	336	319	527	508
Manipur	9	8	9	8	27	21	19	16	23	20	8	7
Meghalaya	7	0	7	7	19	19	13	13	2	2	12	12
Mizoram	8	8	8	8	12	11	9	9	7	7	4	4
MP	51	0	51	16	253	201	166	141	246	202	205	167
Nagaland	1	1	11	11	48	18	13	13	12	12	7	4
Odisha	31	29	31	15	314	246	109	89	156	90	54	44
Pondicherry	0	0	1	0	7	6	5	5	4	4	9	9
Punjab	0	0	0	0	134	103	59	43	142	106	102	80
Rajasthan	34	29	34	26	283	262	152	92	67	23	90	33
Sikkim	5	4	5	5	5	5	5	5	4	1	1	1
Telangana	31	0	11	0	171	138	96	81	150	135	100	79
TN	37	37	36	36	461	461	143	143	359	359	371	371
Tripura	0	0	8	7	20	17	13	8	13	11	3	3
UP	89	78	75	68	998	830	412	388	978	910	498	450
Uttarakhand	0	0	13	10	95	74	31	30	70	70	28	26
West Bengal	28	19	28	14	462	388	193	162	380	337	373	183

Table (5a) : Human Resources (Part-VI)

State	Medical Colleges							
	TBHV-Medical College Sanctioned	MO – Medical College In Place	LT – Medical College Sanctioned	In Place	Sanctioned	In Place	Sanctioned	In Place
1	60	61	62	63	64	65	65	65
Andaman & Nicobar	1	0	0	0	0	0	0	0
Andhra Pradesh	22	20	22	11	22	18	22	18
Arunachal	0	0	0	0	0	0	0	0
Assam	6	6	6	5	6	6	6	6
Bihar	11	2	11	6	11	6	11	6
Chandigarh	2	2	2	2	2	2	2	2
Chhattisgarh	9	6	9	3	9	5	9	5
Dadra & Haveli	0	0	0	0	0	0	0	0
Daman & Diu	0	0	0	0	0	0	0	0
Delhi	14	7	14	7	14	6	14	6
Goa	1	1	1	0	1	1	1	1
Gujarat	19	18	17	13	26	24	26	24
Haryana	9	3	9	0	0	0	0	0
Himachal Pradesh	1	1	3	2	4	3	4	3
Jammu	2	2	2	2	2	2	2	2
Kashmir	3	3	3	2	3	3	3	3
Jharkhand	3	3	3	1	3	3	3	3
Karnataka	46	44	44	26	44	44	44	44
Kerala	24	24	17	12	25	25	25	25
Lakshdweep	0	0	0	0	0	0	0	0
Maharashtra	0	0	45	23	45	42	45	42
Manipur	2	2	2	1	2	2	2	2
Meghalaya	1	1	1	1	1	1	1	1
Mizoram	0	0	0	0	0	0	0	0
MP	13	12	13	8	13	10	13	10
Nagaland	0	0	0	0	0	0	0	0
Odisha	6	6	6	1	7	5	7	5
Pondicherry	10	9	4	3	9	9	9	9
Punjab	9	8	3	2	9	8	9	8
Rajasthan	8	8	6	2	8	5	8	5
Sikkim	1	1	1	0	1	1	1	1
Telangana	22	12	22	12	22	14	22	14
TN	53	53	41	41	49	49	49	49
Tripura	2	2	2	1	2	2	2	2
UP	36	27	36	17	40	29	40	29
Uttarakhand	4	2	5	0	4	3	4	3
West Bengal	15	13	15	9	15	6	15	6

Annexure (5b) : CBNAAT laboratories

Sl. No	State/UT	Existing CBNAAT Machines	Additional CBNAAT Machines Deployed	Total CBNAAT Machines
1	Andaman & Nicobar	4	0	4
2	Andhra Pradesh	15	28	43
3	Arunachal Pradesh	8	3	11
4	Assam	16	14	30
5	Bihar	37	32	69
6	Chandigarh	1	1	2
7	Chhattisgarh	9	19	28
8	Dadar & Nagar Haveli	1	0	1
9	Daman & Diu	2	0	2
10	Delhi	16	15	31
11	Goa	2	0	2
12	Gujarat	25	35	60
13	Haryana	14	12	26
14	Himachal Pradesh	9	6	15
15	Jammu & Kashmir	12	2	14
16	Jharkhand	21	15	36
17	Karnataka	36	28	64
18	Kerala	14	6	20
19	Lakshadweep	1	0	1
20	Madhya Pradesh	35	36	71
21	Maharashtra	71	42	113
22	Manipur	9	0	9
23	Meghalaya	6	1	7
24	Mizoram	7	1	8
25	Nagaland	6	3	9
26	Orissa	27	13	40
27	Pondicherry	1	0	1
28	Punjab	14	15	29
29	Rajasthan	30	28	58
30	Sikkim	4	3	7
31	Tamil Nadu	31	27	58
32	Telangana	14	15	29
33	Tripura	6	0	6
34	Uttar Pradesh	77	65	142
35	Uttarakhand	9	4	13
36	West Bengal	38	38	76
	INDIA	628	507	1135

Annexure (5c) : Certified C&DST Laboratories

S. No	State	IRL / C-DST Laboratory	NRL/IRL/C&DST/NGO/ MC and PVT labs	LC FLDST	LC SLDST	FL LPA	SL LPA
1	Andaman & Nicobar	RMRC, Port Blair	ICMR TB CDST Laboratory	-	-	-	-
2	Andhra Pradesh	DFIT, Nellore	NGO TB CDST Laboratory	-	-	C	C
3	Andhra Pradesh	SVIMS, Tirupati	Medical College	-	-	-	-
4	Andhra Pradesh	IRL, Visakhapatnam	IRL	C	C	C	C
5	Arunachal Pradesh	IRL-Naharlagun	IRL	-	-	-	-
6	Assam	RMRC, Dibrugarh	ICMR TB CDST Laboratory	-	-	-	-
7	Assam	IRL, Guwahati	IRL	C	C	C	C
8	Bihar	IRL, Patna	IRL	C	-	C	C
9	Bihar	JLNMCH, Bhagalpur	Medical College	C	-	C	C
10	Bihar	DFIT, Darbhanga	NGO TB CDST Laboratory	-	-	C	C
11	Chandigarh	PGIMER Chandigarh	Medical College	C	C	C	C
12	Chhattisgarh	IRL Raipur	IRL	C	C	C	C
13	Delhi	NRL NITRD	NRL	C	C	C	C
14	Delhi	IRL NDTB Delhi	IRL	C	C	C	C
15	Delhi	AIIMS - Medicine	IRL	C	C	C	C
16	Delhi	AIIMS - Laboratory Medicine	Medical College	-	-	C	-
17	Goa	IRL Goa	IRL	-	-	-	-
18	Gujarat	IRL Ahmadabad	IRL	C	C	C	C
19	Gujarat	MPSMS, Jamnagar	Medical College	C	C	C	C
20	Gujarat	Microcare, Surat	Pvt TB CDST Laboratory	-	-	-	-
21	Haryana	IRL Karnal	IRL	-	-	C	C
22	Himachal Pradesh	IRL Dharampur	IRL	-	-	C	C
23	Himachal Pradesh	TB C-DST Laboratory, Tanda	Medical College	-	-	-	-
24	Jammu & Kashmir	IRL Jammu	IRL	-	-	-	-
25	Jammu & Kashmir	IRL Srinagar	IRL	-	-	C	C
26	Jharkhand	IRL Ranchi	IRL	C	-	C	C
27	Karnataka	NRL NTI	NRL	C	C	C	C
28	Karnataka	IRL, Bangalore	IRL	C	C	C	C
29	Karnataka	KIMS, Hubli	Medical College	C	C	C	C
30	Karnataka	GMC, Raichur	Medical College	C	-	C	C
31	Kerala	IRL Thiruvananthapuram	IRL	C	C	C	C
32	Madhya Pradesh	NRL BMHRC	NRL	C	C	C	C
33	Madhya Pradesh	IRL Indore	IRL	C	C	C	C
34	Madhya Pradesh	Choitram Hospital, Indore	Pvt TB CDST Laboratory	-	-	-	-
35	Madhya Pradesh	NIRTH, Jabalpur	ICMR TB CDST Laboratory	-	-	C	-
36	Maharashtra	IRL Nagpur	IRL	C	C	C	C
37	Maharashtra	IRL Pune	IRL	C	C	C	C

S. No	State	IRL / C-DST Laboratory	NRL/IRL/C&DST/NGO/ MC and PVT labs	LC FLDST	LC SLDST	FL LPA	SL LPA
38	Maharashtra	JJ Hospital, Mumbai	Medical College	C	C	C	C
39	Maharashtra	MGIMS, Wardha	Medical College	-	-	-	-
40	Maharashtra	Metropolis, Mumbai	Pvt TB CDST Laboratory	C	-	C	NA
41	Maharashtra	SRL, Mumbai	Pvt TB CDST Laboratory	C	C	-	-
42	Maharashtra	Infexn, Thane	Pvt TB CDST Laboratory	C	C	-	-
43	Maharashtra	PD. Hinduja, Mumbai	Pvt TB CDST Laboratory	C	C	C	C
44	Maharashtra	GTB, Sewree, Mumbai	Govt sector Lab	C	C	C	C
45	Maharashtra	Aurangabad	Meidcal College	-	-	C	C
46	Maharashtra	K. J. Somaiah Hospital, Mumbai	Pvt TB CDST Laboratory	-	-	-	-
47	Maharashtra	BJMC, Pune	Medical Colege	-	-	-	-
48	Meghalaya	Nazerath, Shillong	Pvt TB CDST Laboratory	-	-	C	-
49	Odisha	NRL RMRC	NRL	C	C	C	C
50	Odisha	IRL Cuttack	IRL	C	C	C	C
51	Puducherry	IRL Puducherry	IRL	C	C	C	C
52	Punjab	IRL Patiala	IRL	C	C	C	C
53	Rajasthan	IRL Ajmer	IRL	C	C	C	C
54	Rajasthan	SMS Jaipur	Medical COLlege	C	C	C	C
55	Rajasthan	DMRC, Jodhpur	ICMR TB CDST Laboratory	-	-	-	-
56	Rajasthan	IRL, Jodhpur	IRL	-	-	C	C
57	Sikkim	IRL Gangtok	IRL	-	-	-	-
58	Tamilnadu	NRL NIRT	NRL	C	C	C	C
59	Tamilnadu	IRL Chennai	IRL	C	C	C	C
60	Tamilnadu	CMC, Vellore	Pvt TB CDST Laboratory	-	-	-	-
61	Tamilnadu	Shankar Nethralaya, Chennai	Pvt TB CDST Laboratory	C	-	-	-
62	Tamilnadu	GMC, Madurai	Medical College	C	C	C	C
63	Telangana	IRL Hyderabad	IRL	C	C	C	C
64	Telangana	BPHRC, Hyderabad	NGO TB CDST Laboratory	C	C	C	-
65	Uttar Pradesh	NRL JALMA	NRL	C	C	C	C
66	Uttar Pradesh	IRL Lucknow	IRL	C	C	C	C
67	Uttar Pradesh	BHU, Varanasi	Medical COLlege	C	C	C	C
68	Uttar Pradesh	IRL, Agra	IRL	C	C	C	C
69	Uttar Pradesh	AMU, Aligarh	Medical COLlege	-	-	C	C
70	Uttar Pradesh	Subharti Medical College, Meerut	Pvt TB CDST Laboratory	-	-	C	-
71	Uttarakhand	IRL Dehradun	IRL	-	-	C	-
72	West Bengal	IRL Kolkata	IRL	C	C	C	C
73	West Bengal	SRL,Kolkata	Pvt TB C-DST Laboratory	C	-	-	-
74	West Bengal	NBMC Siliguri	Medical college	-	-	C	C

“C” - Certified