GOVERNMENT OF INDIA

TB INDIA 2012

Revised National TB Control Programme

ANNUAL STATUS REPORT

This Publication can be obtained from

Central TB Division
Directorate General of Health Services
Ministry of Health and Family Welfare
Nirman Bhawan, New Delhi - 110 108
http://www.tbcindia.nic.in
March 2012

Printed by I G Printers Pvt. Ltd. email: igprinter@rediffmail.com

गुलाम नबी आज़ाद
GHULAM NABI AZAD

सत्यमेव जयते

स्वास्थ्य एवं परिवार कल्याण मंत्री
भारत सरकार
निर्माण भवन, नई दिल्ली-110108
Minister of Health & Family Welfare
Government of India
Nirman Bhavan, New Delhi-110108

FOREWORD

Tuberculosis is a disease with devastating social and economic costs. Tuberculosis and the enormous burden on persons afflicted by the disease in India can be seen by the fact that more adults die from TB than any other infectious disease and most of these are avoidable deaths. TB control contributes substantially to the social and economic development of the country by reducing the suffering from TB and averting untimely deaths of lakhs of Indians in their prime years of life. Since 1998, RNTCP has treated more than 14.2 million TB patients and saved 2.6 million additional lives using the DOTS strategy. The Programme has been consistently achieving global benchmark of a treatment success rate of more than 85 % in new smear positive patients and detecting 70 % of such cases consecutively for the last five years.

However with nearly 40% of the Indian population infected with the TB bacillus, this large pool of infected people means that TB will continue to be a major problem in the foreseeable future. Programme activities need to sustain over several years before TB can be controlled. To effectively control TB, the Government of india has now shifted its focus from 70/85 target approach to universal access to quality assured services for TB for all patients.

The Union Government is also conscious of the fact that several new challenges like drug resistant tuberculosis, TB-HIV co-infection and TB-Diabetes co-morbidity have the potential to reverse the gains made by the programme in the last decade. The government has taken proactive steps to respond to these challenges. The services for diagnosis and management of dru resistant TB and TB-HIV co-infected patients are being scaled up for complete geographical coverage by 2012. Active collaboration and cooperation with civil society partners can help achieve the ambitious targets of Universal Access to Quality TB Care in India.

The increase in budgetary allocation for tuberculosis control this year alone is more than 80% of allocation in the previous year. All steps will be taken to ensure to implement the National Strategic Plan for Tuberculosis which will be crucial in achieving a major victory against TB, and will bring the country closer to the vision of a "TB-free India".

(Gulam Nabi Azad)

March 2012

P. K. PRADHAN
Secratary
Department of Health & FW
Tel: 23061863 Fax 23061252
e-mailL: secyhfw@nic.in

सत्यमेव जयते

भारत सरकार
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
निर्माण भवन, नई दिल्ली-110108
Government of India
Ministry of Health & Family Welfare
Nirman Bhavan, New Delhi-110108

MESSAGE

India has the highest burden of Tuberculosis in the world with over two million incident cases amounting to more than fifth of global burden. Tuberculosis has been known to have devastating effects on the socioeconomic development especially in the developing countries due to its association with dreaded disease like HIV/AIDS and malnutrition in the poorest of the poor. Drug resistance, diabetes, smoking and other associated factors complicate TB scenario further making it difficult to control tuberculosis.

Having treated 14.2 million TB cases, saving additional 2.6 million lives, Revised National Tuberculosis Control Programme has moved beyond the objectives of 70% case detection rate and 85% cure rate in new smear positive patients and has set new objective of 'Universal access to TB Care'.

After achieving complete nationwide coverage for implementation of DOTS in 2006, TB-HIV intensified package, for management of TB-HIV co infected cases, has been made available to total population across the country 2011.

While, key focus of the programme is to prevent the emergence of drug resistance by provision of quality DOTS services, the management of Multi Drug Resistant-TB (MDR-TB) patients is now an integral component of RNTCP. 37 Culture and DST laboratories have been accredited nationwide to provide quality diagnostic services for drug resistant TB cases. All 35 States/UTs have introduced Programatic Management of Drug-resistant TB Services (PMDT) services in some districts with variable access and are being scaled up to achieve complete geographical coverage by end of 2012.

Dramatic growth in information communication technology allows unprecedented opportunities to ensure that TB cases are promptly diagnosed and optimally treated. This opportunity builds upon an existing strength of the Programme in rigorous data collection and analysis, a spectrum of ongoing activities. Case based web enabled system for recording and reporting of the TB case is being developed to enable better surveillance and tracking of TB cases.

Rational use of anti-TB drugs by every health care provider needs to be ensured. This responsibility when exercised properly will prevent development of drug resistant Tuberculosis and will accelerate TB Control. The Govt of India is committed for providing requisite resources for fighting both stigma and disease due to TB.

16/3/12

P. K. Pradhan

Dr. Jagdish Prasad
M.S. M.Ch, FIACS
Director General of Health Service

स्वास्थ्य सेवा महानिदेशालय
निर्माण भवन, नई दिल्ली-110108
GOVERNMENT OF INDIA
DIRECTORATE GENERAL OF HEALTH SERVICES
Ministry of Health & Family Welfare
Nirman Bhavan, New Delhi-110108
Tel : 23061063, 23061438 (O)
23061924 (F), 26161026 (SJH)
E-mail : Dghs@nic.in

Universal Access to early quality diagnosis and quality TB care

Revised National TB Control Programme has made historical achievements in the recent past years and the Programme stands at the point where achieving the ambitious goal of Universal Access to TB care is in sight. The programme has been continuously been innovative and progressive in addressing issues related to TB control in the country.

The programme has reached in every corner of the country providing adequate, decentralized quality assured diagnostic and treatment services, operational through the primary health care system. In addition, in rural India, at least one trained 'Community DOT Provider' is in place in every village of the country to provide DOT services.

Newer diagnostic technologies are being piloted and found appropriate will be scaled up for ensuring early diagnosis with greater sensitivity and quality to further reduce the diagnostic delays and cutting the chain of transmission and preventing the drug resistant TB.

Despite all this, due to inadequate infrastructure, and the different health seeking behaviour pattern in urban areas, TB control faces unique challenges. Issues regarding availability and access to preventive, curative and informative TB services in urban areas, especially with migrants and urban poor, needs to be addressed. Targeted intervention are being planned to address TB problems in migrant labourers in the peri-urban areas, prisons and the urban poor in slums. For reaching population groups who are hard-to-reach and difficult-to-access, specific target oriented issues based strategies for demand generation are being processed as Behavioural change communication interventions.

Better involvement of all relevant health-care providers in tuberculosis (TB) care and control through public-private and public-public mix approaches (PPM) will be crucial to achieve the objective of 'Universal Access'. Involvement of private sector is being explored to provide diagnostic interventions to diagnose TB especially drug resistant TB. 'Civil Societies Organizations' will have increasing role in advocacy, communication and social mobilization needed for the programme and partnerships with the CSOs will definitely accelerate the TB control efforts in India in coming years.

The rich technical and managerial capabilities of the programme with the support from all stakeholders aiming towards "Universal Access to TB Care" will ensure that the programme is able to overcome all challenges successfully and will contribute to developing a healthy and economically productive population.

Dr Jagdish Prasad

Dr. Ashok kumar, M.D
Deputy Director General
Head, Central TB Division
Project Director RNTCP

सत्यमेव जयते

Telephone : +91-11-23062980
Telefax : +91-11-23063226
Email: ddgtb@tbcindia.nic.in
website : www.tbcindia.nic.in
भारत सरकार
GOVERNMENT OF INDIA
स्वास्थ्य सेवा महानिदेशालय
DIRECTORATE GENERAL OF HEALTH SERVICES
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
MINISTRY OF HEALTH & FAMILY WELFARE
निर्माण भवन, नई दिल्ली-110108
Nirman Bhavan, New Delhi-110108

Preface

The first edition of the 'Annual Status Report on RNTCP' was published eleven years ago providing an overview of the progress made in TB control efforts in India and has been consistently released every year, since then, on the World TB Day, the 24th March. India has made an enormous progress towards in TB control and the twelfth edition of RNTCP status report "TB India 2012" contains a comprehensive and up-to-date assessment of TB control activities in India and progress made at district, states/UTs and country levels during the calendar year 2011. The state/UT and district wise performance indicators have been presented on various parameters, alongwith their success stories picturing the vital efforts of the health care providers down to most peripheral levels, in taking the TB control services to the doorsteps of the TB patients. The recent advances in the programme have also been presented in this report.

The enormous efforts made by the concerned authorities and functionaries of the 35 States/ UTs, all the RNTCP Consultants as well as various experts towards ensuring the efficient implementation and achieving the objectives of RNTCP in our country, are highly appreciated. The Central TB Division is also thankful for the invaluable contributions and collaboration of the multilateral & bilateral agencies and donors like Global Fund, World Health Organization, World Bank, USAID, BMGF, UNION, World Vision, FIND, PATH to name a few of the many other non-governmental agencies and institutions for their support and expertise in helping RNTCP which is being recognized as one of the best disease control programme not only in the country but also globally.

As in the past years, this Annual Status Report 'TB India 2012' will serve as a National Reference Document on RNTCP. The information contained in this report will prove useful to policy makers, programme implementers, health administrators, researchers and academicians as well as to the community at large for providing better services for universal quality TB care and control of TB in our country.

The Central TB Division thanks the esteemed readers for popularizing this national document and solicits their suggestions and valuable comments for improving the future editions.

We are grateful to all the authorities, officers & staff of the Ministry of Health and Family Welfare and Directorate General Health Services, Govt. of India for their continued support to RNTCP for its efficient and effective implementation.

Personal appreciations are extended to all those who have committedly contributed towards bringing out this edition of 'TB India-2012'.

15/3/12

(Dr.Ashok Kumar)

TB'is fully curable with complete course of DOTS

Abbreviations

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
CBCI	Catholic Bishop's Conference of India
CDC	Centre for Disease Control and Prevention
CDR	Case Detection Rate
CGHS	Central Government Health Scheme
CHAI	Catholic Health Association of India
CHC	Community Health Centre
CII	Confederation of Indian Industries
CMAI	Christian Medical Association of India
CTD	Central TB Division
DALYs	Disability Adjusted Life Years
DDG	Deputy Director General
DFID	Department For International Development
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
DTCS	District TB Control Society
DTO	District Tuberculosis Officer
E	Ethambutol
EPTB	Extra-pulmonary Tuberculosis
EQA	External Quality Assessment
GMSD	Government Medical Store Depot
GoI	Government of India
H	Izoniazid
HBCs	High Burden Countries
HIV	Human Immuno Deficiency Virus
HRD	Human Resource Development
IAC	IEC Advisory Committee
ICB	International Competitive Bidding
ICELT	International Centre for Excellence in Laboratory Training
ICMR	Indian Council of Medical Research
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
ISTC	International Standards for Tuberculosis Care
IUALTD	International Union Against Tuberculosis and Lung Disease
JMM	Joint Monitoring Mission
KAP	Knowledge, Attitude and Practices
LT	Laboratory Technician
MDGs	Millennium Development Goals
MDP	Model Dots Project
MDRTB	Multi Drug Resistant TB
MIFA	Management of Information For Action
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	Naitonal Jalma Institute of Mycobacterial and Other Diseases
NRHM	National Rural Health Mission
NRL	National Reference Laboratory
NSN	New Smear Negative

NSP	New Smear Positive
NTF	National Task Force
NTI	National Tuberculosis Institute
NTP	National Tuberculosis Programme
NUHM	National Urban Health Mission
OR	Operational Research
OSE	On-Site Evaluation
PHC	Primary Health Centre
PHI	Peripheral Health Institution
PI	Protease Inhibitor
PLHIV	People Living with HIV and AIDS
PP	Private Practitioner
PPM	Public-Private Mix
ProMIS	Procurement Management Information System Software
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
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
TRC	Tuberculosis Research Centre
TU	Tuberculosis Unit
UHC	Urban Health Centre
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

Contents

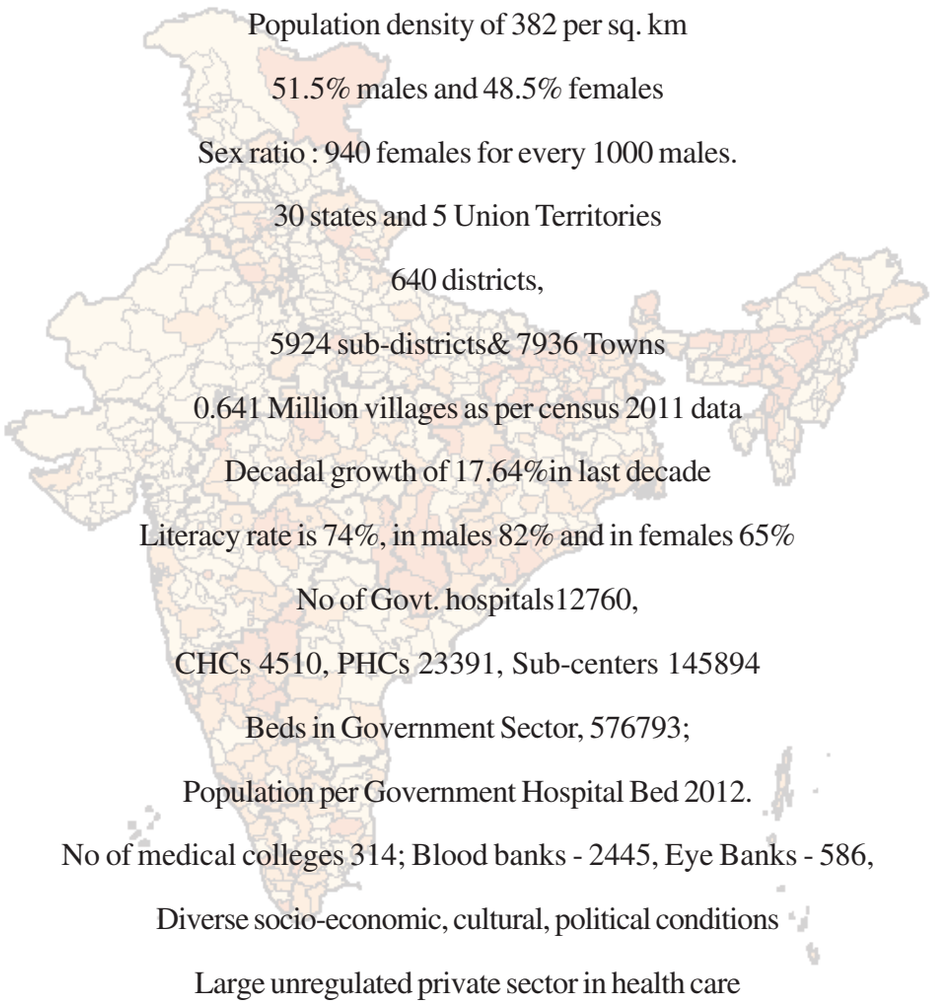
INDIA Profile

North of the equatorbetween 6° 44' and 35° 30' north latitude and

68° 7' and 97° 25' east longitude.

Seventh-largest country by geographical area of 3287263 sq km

Second most populous country in the world with 1210 million people.



Population density of 382 per sq. km

51.5% males and 48.5% females

Sex ratio : 940 females for every 1000 males.

30 states and 5 Union Territories

640 districts,

5924 sub-districts& 7936 Towns

0.641 Million villages as per census 2011 data

Decadal growth of 17.64%in last decade

Literacy rate is 74%, in males 82% and in females 65%

No of Govt. hospitals12760,

CHCs 4510, PHCs 23391, Sub-centers 145894

Beds in Government Sector, 576793;

Population per Government Hospital Bed 2012.

No of medical colleges 314; Blood banks - 2445, Eye Banks - 586,

Diverse socio-economic, cultural, political conditions

Large unregulated private sector in health care

Executive Summary

The Revised National TB Control Programme (RNTCP), based on the internationally recommended Directly Observed Treatment Short-course (DOTS) strategy, was launched in 1997 expanded across the country in a phased manner with support from the World Bank and other development partners.

The objectives of the programme are -

- To achieve and maintain cure rate of at least 85% among New Sputum Positive (NSP) patients
- To achieve and maintain case detection of at least 70% of the estimated NSP cases in the community.

RNTCP has achieved the NSP case detection rate of more than 70% and the treatment success rate of >85% in 2007 and is persistently maintaining these global targets for TB control since then.

Current focus of the programme is on ensuring "universal access" to good quality early diagnosis and treatment for all TB patients from which ever provider they choose to seek care. The program is covering the entire nation since March 2006 reaching over a billion population (1164 million) in 632 districts/reporting units.

Annually more than 1.5 million TB patients are placed on DOTS treatment under RNTCP. In 2011, RNTCP has achieved the NSP CDR of 71% and treatment success rate of 88% which is in line with the global targets for TB control.

Since its inception, the Programme has initiated more than 15 million patients on treatment, thus saving more than 2.5 million additional lives while the rate of TB Suspects examined has increased substantially from 397 per 100000 population per annum to 652 per 100000 population over the last 10 years.

This success of Revised National TB Control Programme is a result of a comprehensive and appropriate strategy, systematic and timely planning, robust systems of quality assurance for diagnosis & treatment, methodological logistics management, well defined HRD strategy including trainings, clear defined technical and operational guidelines and a built in supervision & monitoring mechanism.

Required infrastructure has been developed under the programme over years and in 2011 the number of RNTCP District Units stand at 662 with 2698 functional sub-district Tuberculosis Units for effective & decentralized supervision and over 13,000 Designated Microscopy Centers for quality sputum microscopy for diagnosis of TB. Throughout the country a network of more than 6 lakh trained DOT Providers provide DOT to more than a 1.5 million patients diagnosed as TB each year.

All states are implementing the 'Supervision and Monitoring strategy' - detailing guidelines, tools and indicators for monitoring the performance from the PHI level to the national level. Regular internal and external evaluations ensure quality program implementation. The program is focusing on the reduction in the default rates among all new and retreatment cases and is undertaking steps for the same.

Quality assured, anti-TB drugs for the full course of treatment is provided to the patients through patient wise boxes. Decentralized treatment is provided through a network of more than 6,00,000 DOT providers, to provide treatment to the patients as near to their home as possible.The utilization of Pediatric patient wise boxes is on the increase since its introduction in 2006, under the programme for the treatment of pediatric patients suffering from TB. These boxes are designed according to the dosages used for different weight bands.

The programme had revised its categorization of patients from the earlier 3 categories (Cat I, Cat II and Cat III) to

2 categories (New and Previously treated cases) based on the recommendations of experts and endorsement by National Task Force for Medical colleges.

Comprehensive training materials have been developed for all categories of staff. The training materials are modular in content and a number of them have been recently revised keeping in view the new developments in RNTCP. Modular trainings ensures uniform standard and avoids possible subjectivity and bias in trainings.

To improve access to tribal and other marginalized groups the programme has developed a Tribal action plan which is being implemented with the provision of additional TB Units and DMCs in tribal/difficult areas, provision of TBHVs (peripheral health worker) for urban areas, compensation for transportation of patient & attendant in tribal areas, higher rate of salary to contractual staff posted in tribal areas and enhanced vehicle maintenance and travel allowance in tribal areas Studies to document utilization by marginalized groups

Drug Resistance Surveillance (DRS) of Gujarat, Maharashtra and Andhra Pradesh, estimated the prevalence of Multidrug Resistant TB (MDR-TB) to be about 2-3% in new cases and 12-17% in retreatment cases. These surveys also indicate that the prevalence of MDR-TB is not increasing in the country.

The programme is in the process of establishing a network of accredited Culture and Drug Susceptibility Testing (DST) Intermediate Reference Laboratories (IRLs) across the country in a phased manner for diagnosis and follow up of MDR TB patients. Currently 38 labs are accredited and are functioning across the country.

The RNTCP has initiated evaluation of the Gene-Xpert TB-RIF in line with the global consultation guidelines to gather evidence for use within the country in various settings including non-risk settings.

LAMP (Loop mediated isothermal amplification) is a manual NAAT that can be performed at microscopy level is currently undergoing validation by FIND in IGMS Wardha.

Multi Drug resistant TB (MDR TB): MDR-TB services have been initiated in all states in the country. All 35 States/UTs have introduced PMDT services in some districts with variable access and scaling up. 508 million (43%) population have access to services that varies from states to state as depicted in the figure below. 38287 MDR TB suspects have been examined till the end of 2011, 10267 MDR-TB patients have been diagnosed and 6994 have been put on treatment.

TB/HIV: The "National framework of Joint TB/HIV Collaborative activities" was revised in 2009 which establishes uniform activities at ART centres and ICTCs nationwide for intensified TB case finding and reporting, and set the ground for better monitoring and evaluation jointly by the two programmes with a new monitoring framework and revised reporting formats and mechanisms.

Intensified TB-HIV package has been introduced in the entire country in 2011.In 2011 with close to 7 lakh TB suspects identified and tested for TB in HIV care settings; of them, close to 84,000 TB cases were diagnosed and linked to TB treatment services. Among the 23 states reported in 2011, close to 6 lakh TB patients were ascertained for their HIV status (67% of TB patients registered) and about 44,000 HIV-infected TB patients were diagnosed.

Public Private Mix (PPM): RNTCP has involved over 1971 NGOs and 10,894 Private Practitioners. 150 Corporate Hospitals and 297 Medical Collages are implementing RNTCP. The programme is having successful partnership with IMA, CBCI, PATH, The Union and World Vision India.

Advocacy, communication & social mobilization (ACSM): An effective advocacy, communication & social mobilization (ACSM) strategy is in place. As envisaged under the Stop TB Strategy ACSM plays a major role, in order to maintain high visibility of TB and RNTCP amongst policy makers, opinion leaders and community.Four regional level ACSM capacity building workshops were held by the program, wherein key functionaries in the field (STO, DTO, and implementing NGOs).National and Regional ACSM capacity building workshops were held in year 2011 to streamline the efforts.

Operational research (OR): Second round of zonal ARTI surveys were completed in 2011 and 7 Prevalence Surveys were also completed and the results were discussed and shared in a series of workshops at national level in 2011. These results were used for the TB burden estimation and impact assessment. 72 thesis proposals and 14 OR proposals were approved by various Zonal OR committees in 2011.In addition seven OR studies were approved by National OR Committee of which 2 have been completed and five are ongoing.

Impact of the programme: TB mortality in the country has reduced from over 39 per hundred thousandpopulation in 1990 to 29 hundred thousand population in 2010 as per the WHO Global TB Report 2011. The prevalence of TB in the country has reduced

from 459 per hundred thousandpopulation in 1990 to 256per hundred thousand population by the year 2010 as per the WHO Global TB Report, 2011. The studies on ARTI, suggests estimated decline in the annual risk of infection was estimated at 3.7% per year.

12th Five Year Plan: RNTCP has developed National Strategic Plan to be implemented during 2012-2017, the national 12th Five Year plan period, with following Vision and objectives for RNTCP:

Vision: "TB-free India"

Goal: Universal Access to quality TB diagnosis & treatment for all pulmonary & extra pulmonary TB patients including drug resistant and HIV associated TB.

Objectives:

- To achieve 90% notification rate for all types of TB cases
- To achieve 90% success rate for all new and 85% for re-treatment cases
- To significantly improve the successful outcomes of treatment of Drug Resistant TB
- To achieve decreased morbidity and mortality of HIV associated TB
- To improve outcomes of TB care in the private sector

Central TB Division - Activities in 2011

1. The ninth National Task Force Meeting for the involvement of medical colleges in RNTCP, for the year 2010, was held from 18th to 20th January 2011 in Hyderabad.
2. The 19th National Laboratory Committee Meeting under RNTCP was held on 19th January 2011 in Hyderabad.
3. A preliminary workshop for discussions on the results of the ARTI and the prevalence surveys undertaken in the country and to arrive at estimates for TB prevalence and incidence was held at LRS Institute, New Delhi on 5th-6th April 2011.
4. The meeting of National Technical Working Group on HIV/TB Collaborative Activities was held at New Delhi, on 21st April 2011.
5. The 'TB Epidemiology Course' was held at LRS Institute, New Delhi from 25th April 2011 to 13th May 2011 wherein the STOs, DTOs, STDC Director, RNTCP Consultants etc… had participated.
6. Central Internal Evaluation of the programme performance and implementation status was held in the state of Megahalaya from 25th to 29th April 2011. The districts of East Khasi Hills and Ri Bhoi and the state level activities were evaluated.
7. The Biannual National Review Meeting of State Tuberculosis Officers and RNTCP Consultants was held from 18th to 20th May 2011 in Surajkund, Delhi NCR with the theme of 'National scale up of DOTS plus (PMDT) services under RNTCP in India' and the objectives of 'To review the performance and quality of RNTCP services; To review the progress and challenges in the expansion of DOTS Plus (PMDT) services in the country and To update the STOs and Consultants on newer initiatives, policy changes etc…'
8. The Joint Donor Review Mission was conducted from 31st May to 9th June 2011 coordinated by the Central TB Division (CTD) of the Ministry of Health and Family Welfare (MOHFW) and the World Bank, and included the following development partners: WHO, the Global Fund, DFID, USAID, the Bill and Melinda Gates Foundation and the Clinton Foundation.The major objective of the Review Mission was to provide feedback on the "National Strategic Plan for TB Control in India, 2012-2017.", with a focus on the important challenges to achieving the new more ambitious objectives of RNTCP and also to follow-up on the findings and recommendations of previous missions.

9. The Zonal Task Force Workshop for involvement of Medical Colleges in RNTCP for the medical colleges of four zones - East, South, North and West were held during July to September 2011.

10. Fourteen states were reviewed for their performance in RNTCP on a one to one basis along with their activity plans to improve programme performance in the respective states during July-September 2011.

11. Workshop on TB disease burden estimation for India, 2010 was organized by Central TB Division at LRS Institute of TB and Respiratory Diseases, New Delhi,

    from 7thJuly 2011 to 8th July 2011.

12. Central Internal Evaluation of the programme performance and implementation status was held in the state of Tamil Nadu from 13th July to 18th July 2011. The districts of Kancheepuram and Tiruchirapalli and the state level activities were evaluated.

13. The 20th National Laboratory Committee Meeting under RNTCP was held on 13th July 2011 in Hyderabad.

14. The 7th meeting of the National DOTS Plus Committee was held on 11th - 12th July 2011 at the LRS Institute, New Delhi.

15. The status of DOTS Plus services for Multi-Drug Resistant TB was reviewed in Guwahati in July 2011 for all the North-Eastern states.

16. The National Co-ordination Committee meeting for reviewing Global Fund Round 9 projects in Tuberculosis in India was held on 22nd and 23rd July 2011.

17. Regional ACSM workshop for the state and district level RNTCP staff was held from 8th to 10th September 2011.

18. The 'Leadership and Management Course' for STOs, Deputy STOs and DTOs involved in management of RNTCP was held from 5th to 9th September 2011 at LRS Institute, New Delhi

19. Central Internal Evaluation of the programme performance and implementation status was held in the state of Goa from 21st September to 24th September 2011. The districts of North and South Goa along with the state level activities were evaluated.

20. The meeting of Independent Expert Committee for Review of Estimation of TB Burden was held on 16th September 2011 at New Delhi.

21. The training of trainers in Intensified TB-HIV package for the four UTs of Puducherry, Andaman & Nicobar Islands, Dadar & Nagar Haveli and Daman & Diu was held on 3rd to 4th October 2011.

22. National Stakeholders Meeting for Tuberculosis and Diabetes Mellitus Collaborative activities was held on 11th& 12th October 2011 at Delhi which was attended by Programme Officials from RNTCP & the Non-Communicable Disease Control Programme and State TB Officers.

23. The Biannual National State TB Officers and RNTCP Consultants Review Meeting was held from 3rd to 4th November 2011 and the RNTCP Consultants National Review Meeting was held from 31st October 2011 to 2nd November 2011 at Hotel Emporio Resorts, Dwarka, New Delhi.The theme for the meeting was 'Quality services for universal access under RNTCP' and the objectives were 'To review the performance and quality of RNTCP services (DOTS, DOTS-Plus, TB-HIV, PPM, ACSM); To prepare focused action plan for underperforming areas and To update the STOs and Consultants on newer initiatives, policy changes etc…"

24. The review meeting for all the states implementing DOTS-Plus services for Multi-Drug Resistant TB patients was held on 17th-18th November 2011 at Pune, Maharashtra.

25. The National Advocacy Communication and Social Mobilization (ACSM) Workshop for strengthening ACSM activities in the programme was held from 21st to 23rd November 2011 at New Delhi. The workshop involved all the State TB Officers, State IEC Officers, State RNTCP Consultants and other stakeholders as

participants.

26. An 'Intermediate Reference Laboratories Experience Sharing Workshop' was held on 1st and 2nd December 2011 for State TB Officers, Microbiologists and RNTCP Consultants.

27. Meeting of Human Resource Development Technical Working Group to finalize protocol for study on the Human Resource aspect for Health and TB management Integration was held on 1st December 2011.

28. The tenth National Task Force Meeting for the involvement of medical colleges in RNTCP, for the year 2011, was held on 21st& 22nd December 2011.

29. The National Technical Working Group for TB-HIV collaborative activities was held on 23rd December 2011.

30. The National Standing Committee for Operational Research in RNTCP was held at LRS Institute, New Delhi on 22nd Dec 2011.

Tuberculosis Epidemiology - India

Estimation and regular measurement of TB disease burden is important for reviewing the progress towards the Millennium Development Goals related to TB. STOP TB Partnership targets also are measurable in terms of TB disease burden and its Public health importance.

Global TB disease burden:

As per the WHO Global TB Report 2011, there were an estimated 8.8 million incident cases of TB (range, 8.5 million-9.2 million) globally in 2010, 1.1 million deaths (range, 0.9 million-1.2 million) among HIV-negative cases of TB and an additional 0.35 million deaths (range, 0.32 million-0.39 million) among people who were HIV-positive. In 2009, there were an estimated 9.7 million (range, 8.5-11 million) children who were orphans as a result of parental deaths caused by Tuberculosis.

Globally, the absolute number of incident TB cases per year has been falling since 2006 and the incidence rate (per 100 000 population) has been falling by 1.3% per year since 2002. If these trends are sustained, the MDG target that TB incidence should be falling by 2015 will be achieved.

Global Goals, targets and indicators for TB control

Millennium Development Goals set for 2015

Goal 6: Combat HIV/AIDS, malaria and other diseases

Target 6c: Halt and begin to reverse the incidence of malaria and other major diseases

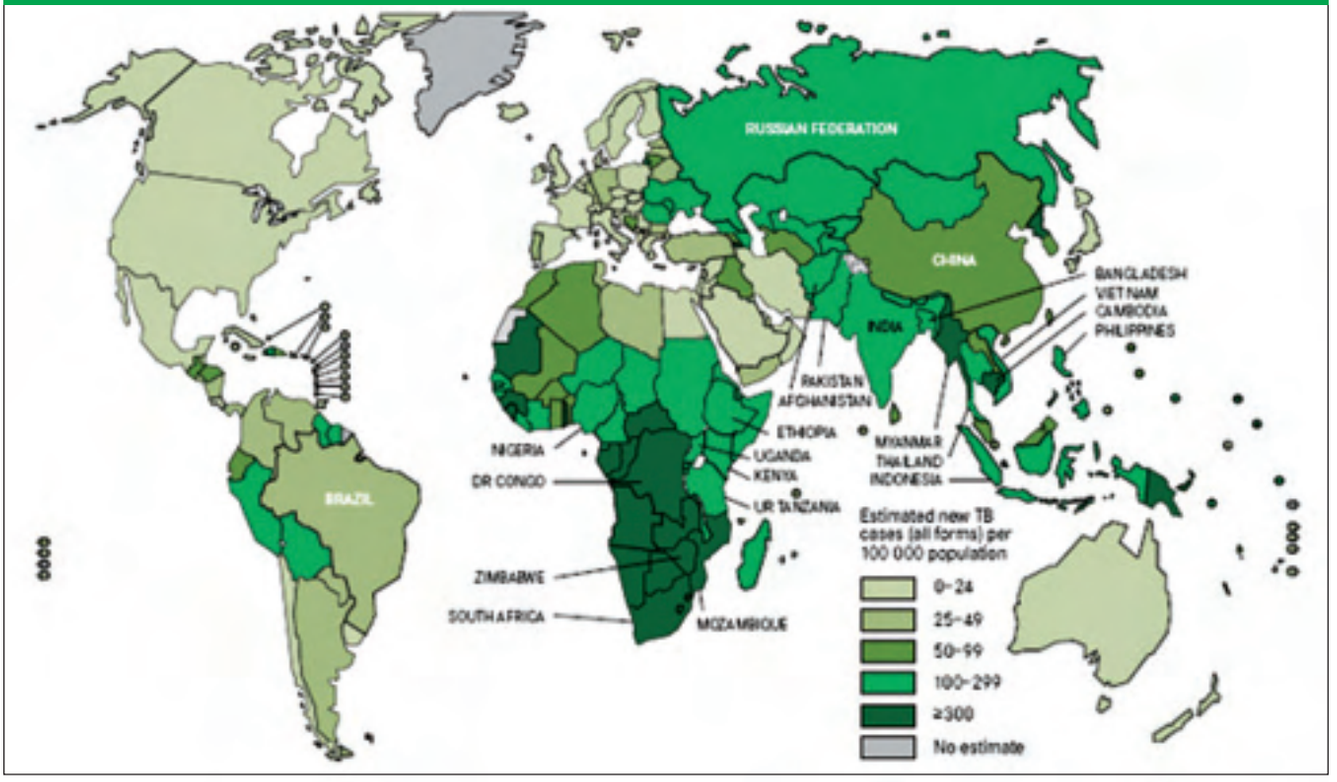
- Indicator 6.9: Incidence, prevalence and death rates associated with TB
- Indicator 6.10: Proportion of TB cases detected and cured under DOTS

Stop TB Partnership targets set for 2015 and 2050

By 2015: Reduce prevalence and death rates by 50%, compared with their levels in 1990

By 2050: Reduce the global incidence of active TB cases to <1 case per 1 million population per year

Estimated tb incidence rates, 2010



TB mortality is falling globally and the Stop TB Partnership target of a 50% reduction by 2015 compared with 1990 will be met if the current trend is sustained. The target could also be achieved in all WHO regions with the exception of the African Region.

Although TB prevalence is falling globally and in all regions, it is unlikely that the Stop TB Partnership target of a 50% reduction by 2015 compared with 1990 will be reached. However, the target has already been achieved in the Region of the Americas and the Western Pacific Region is very close to reaching the target.

Dramatic reductions in TB cases and deaths have been achieved in China. Between 1990 and 2010, prevalence rates were halved, mortality rates were cut by almost 80% and incidence rates fell by 3.4% per year. In addition, methods for measuring trends in disease burden in China provide a model for many other countries.

Between 2009 and 2011, consultations with 96 countries that account for 89% of the world's TB cases have led to a major updating of estimates of TB incidence, mortality and prevalence, particularly for countries in the African Region.

Estimates of TB mortality have substantially improved in the past three years, following increased availability and use of direct measurements from vital registration systems and mortality surveys. In this report, direct measurements of mortality are used for 91 countries (including China and India for the first time).

TB Burden in India

Though India is the second-most populous country in the world, India has more new TB cases annually than any other country. In 2009, out of the estimated global annual incidence of 9.4 million TB cases, 2 million were estimated to have occurred in India, thus contributing to a fifth of the global burden of TB. It is estimated that about 40% of Indian population is infected with TB bacillus. The incidence of TB in India is estimated based on findings of the nationwide

annual risk of tuberculosis infection (ARTI) study conducted in 2000-2003. The national ARTI being 1.5%, the incidence of new smear positive TB cases in the country is estimated as 75 new smear positive cases per 100,000 population. The prevalence of TB has been estimated at 3.8 million bacillary cases for the year 2000, by an expert group of Govt. of India. However the recent estimate by WHO gives a prevalence of 3 million. On a national scale, the high burden of TB in India is illustrated by the estimate that TB accounts for 17.6% of deaths from communicable disease and for 3.5% of all causes of mortality (WHO, 2004). More than 80% of the burden of tuberculosis is due to premature death, as measured in terms of disability-adjusted life years (DALYs) lost. WHO estimated TB mortality in India as 280,000 (23/100,000 population) in 2009. With RNTCP implementation, death due to TB has come down to half in the country. It was estimated that the TB mortality was over 5 million annually at the beginning of the revised national TB control programme (RNTCP). Data from specific surveys, however, suggest that case fatality rates prior to RNTCP were generally greater than 25%. In RNTCP era, case fatality has remained less than 5% for new cases registered under programme.

India's Progress towards Millennium Development Goals (MDGs) with respect to reduction in prevalence and mortality rate

The indicator 23 of the MDGs mentions that between 1990 and 2015 to halve prevalence of TB disease and deaths due to TB. With respect to the progress towards indicator 23, as per the recent WHO estimates, in the year 1990, the prevalence rate of TB in India was 338 per 100,000 populations (best estimates) and the mortality due to TB was 42 per 100,000 populations. In comparison,

Tab le 1: Estimated burden of tuberculosis in India

	Number (Millions) (95%CI)	Rate Per 100,000 Persons (95% CI)
Incidence		
All cases (2009 WHO estimate)	2.0 (1.6-2.4)	168
Period Prevalence (2000 GoI estimate)		
AFB positive	1.7 (1.3-2.1)	165 (126-204)†
Bacillary*	3.8 (2.8-4.7)	369 (272-457)†
Prevalence, all cases (2009 WHO estimate)	3.0 (1.3-5.0)	249

* Defined as a person with at least one AFB smear positive by sputum microscopy, or at least one sputum culture positive for M. tuberculosis.
† Prevalence rate calculated from estimated number of persons with disease in 2000, divided by 2000 population estimate.

in the year 2009, the prevalence of TB in India was estimated to be 249 per 100,000 populations, and the mortality due to TB is 23 per 100,000 populations [WHO Global TB Report, 2010]. These estimate are derived based on mathematical and have its own inherent limitations. Government of India has undertaken nationally representative Annual Risk of TB Infection survey and TB Prevalence surveys in 7 sites of the country. The results of these surveys will be available during the mid 2011 and are expected to provide more realistic population based estimates. As far as the progress towards indicator 24 is concerned, the country has achieved the targets on case detection and treatment outcomes, in the year 2007 onwards (after whole country coverage).

Impact of Other Determinants of TB Burden:

WHO has suggested that the expected effect of improved diagnostic and treatment services may be negated by an increase in the prevalence of risk factors for the progression of latent TB to active disease in segments of the population which may tend to increase incidence despite reductions in transmission achieved under the Stop TB strategy. Broadly described, these risk factors may be biomedical (such as HIV infection, diabetes, tobacco, malnutrition, silicosis, malignancy), environmental (indoor air pollution, ventilation) or socioeconomic (crowding, urbanization, migration, poverty).

The impact of these other determinants on TB epidemiology in India has yet to be fully understood.

The most recent estimates of the global burden of diabetes mellitus (DM) come from the 2011 Diabetes Atlas of the International Diabetes Federation. Diabetes has been shown to be an independent risk factor for tuberculosis in community based study from South India and multiple studies globally. Modeling has suggested that diabetes accounts for 14.8% of all tuberculosis and 20.8% of smear-positive TB. In 2011, there were an estimated 366 million cases of DM globally, and by 2030 it is expected that this number will have risen to 552 million. 80% of people with DM live in low- and middle-income countries and 50% of all people with DM (183 million) are undiagnosed. It is estimated that DM caused 4.6 million deaths in 2011. As a consequence of urbanization as well as social and economic development, there has been a rapidly growing epidemic of diabetes mellitus (DM) in India. Available data suggest that an estimated 11% of urban people and 3% of rural people above the age of 15 years have DM. Among them about half in rural areas and one third in urban areas are unaware that they have DM. Most recent estimates from the International Diabetes Federation put the number of persons with diabetes mellitus at 61.3 million (10% of the adult population), with a further 77 million having impaired glucose tolerance.

While the HIV epidemic in India appears to have peaked, the total number of persons living with HIV/AIDS remains high, and with time the level of immune deficiency and TB vulnerability may increase. Malnutrition remains highly prevalent in India, and will remain a significant factor for years to come. India is urbanizing at a fantastic pace, bringing larger numbers of persons into urban areas with documented higher rates of TB transmission. Tobacco use is highly prevalent in India, and has been suggested to be a potent contributor to TB-related mortality. The confluence of these and other risk factors could well influence the TB epidemiology in India. Some of the factors are described below.

Population Attributable Fraction -risk factors for progression to disease:

	Relative risk for active TB disease	Weighted prevalence (adults 22 HBCs)	Population Attributable Fraction (adults)
HIV infection	20.6/26.7*	0.8%	16%
Malnutrition	3.2**	16.7%	27%
Diabetes	3.1	5.4%	10%
Alcohol use (>40g / d)	2.9	8.1%	13%
Active smoking	2.0	26%	21%
Indoor Air Pollution	1.4	71.2%	22%

PAF = [P*(RR-1)] / [P*(RR-1)+1]

Sources: Lönnroth K, Castro K, Chakaya JM, Chauhan LS, Floyd K, Glaziou P, Raviglione M. Tuberculosis control 2010 -2050: cure, care and social change. Lancet 2010 DOI:10.1016/s0140-6736(10)60483-7.

Drug Resistant Tuberculosis:

Multidrug Drug Resistant Tuberculosis (MDR-TB):

The Global Project on anti-tuberculosis drug resistance surveillance was launched in 1994 with two key objectives: (i) to estimate the magnitude of drug resistance; and (ii) to monitor trends in drug resistance. Since 1994, significant efforts to promote the monitoring of drug resistance through national surveys and continuous surveillance based on diagnostic testing have been made,

with coordination at the global level by WHO. The coverage of data has improved considerably, and about 60% of countries now have at least one direct and representative measurement of the level of drug resistance among their TB patients. For some of these countries, data reported for successive years have allowed the analysis of trends.

Globally there is annual decrease of 0.3% in the best estimate and 14% in the lower estimate of MDR-TB. However, the upper estimate has annual increase of 14.1%, suggesting increasing uncertainties. Global estimation of proportion of New TB cases with MDR-TB is 3.4% (1.9% - 5%) & estimation of proportion of Re-treatment cases with MDR-TB is 20% (14%-25%)

Prevalence of drug resistant TB in India:

The emergence Mycobacteria which are resistant to drugs used to treat tuberculosis has become a significant public health problem world over creating an obstacle to effective TB control. Its presence has been known virtually from the time anti-tuberculosis drugs were introduced for the treatment of TB but Drug resistant tuberculosis is being encountered more frequently in most countries including India. There have been a number of reports on drug resistance TB in India, but most studies were undertaken using non-standardized methodologies with bias and small samples usually from tertiary level care facilities.

Drug Resistance Surveillance (DRS) surveys:

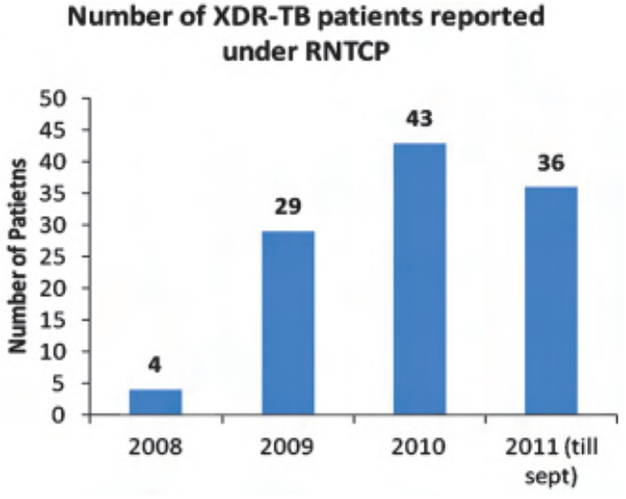
To obtain a more precise estimate of Multi-Drug Resistant TB (MDR-TB) burden in the country, RNTCP carried out drug resistance surveillance (DRS) surveys in accordance with global guidelines in selected states, Gujarat (56 million population) and Maharashtra (107 million) in 2005-2006 and Andhra Pradesh (81 million) in 2007-2008. The results of these surveys indicate prevalence of MDR-TB to be low i.e. less than 3% amongst new cases and 12-17% in re-treatment cases. These surveys also indicate that the prevalence of MDR-TB is stable in the country as the previous studies conducted by TRC, Chennai and NTI, Bangalore have shown a similar prevalence figures. To substantiate the findings of the earlier surveys, two more DRS surveys are presently ongoing in Western UP (85 million) and Tamil Nadu and it is planned in Rajasthan and Madhya Pradesh in the near future. These surveys will be undertaken periodically to monitor and study the trend of prevalence of MDR in the community.

Based on the results of Gujarat, Maharashtra and Andhra Pradesh DRS Survey, Estimated proportion of MDR-TB is 2.1% (1.5% - 2.7%)in New TB cases and 15% (13%-17%) in previously treated cases. As compared to global rates, the proportions of MDR-TB is lesser in India.

As per WHO Global TB Report 2010 and Multidrug and extensively drug-resistant TB (M/XDR-TB) - 2010 Global Report on Surveillance and Response, the estimated MDR TB cases emerging annually in India are reported to be 99,000 among incident total TB cases in India in 2008 (range 79,000 - 1,20,000). As per the WHO Global TB Report 2011, Estimated number of MDR-TB cases out of notified Pulmonary TB cases in India is 64,000 (range 44,000 to 84,000) emerge annually.

Extensively Drug Resistant Tuberculosis (XDR- TB):

Extensively drug resistant TB (XDR-TB), subset of MDR-TB with resistance to second line drugs i.e. any fluoroquinolone and to at least 1 of the 3 second line injectable drugs (capreomycin, kanamycin and amikacin),



has been reported in India. However, the extent and magnitude of this problem is yet to be determined. Results of the second line DST on MDR isolates from Gujarat DRS survey have shown that there is no XDR amongst new cases and the prevalence amongst re-treatment cases is 0.5%. . The extent of fluoroquinolone resistance observed is of great concern, and may compromise MDR TB treatment outcomes. Efforts to expand surveillance to second-line anti-TB drugs are underway.

No separate DRS surveys have been undertaken to estimate the burden of XDR-TB in the country. However, DRS surveys to estimate burden of MDR-TB conducted in Gujarat and Andhra Pradesh reported 14 XDR-TB cases. 112 XDR-TB patients have been diagnosed at National Reference Laboratories as reported by the states from 2008 till Sept 2011. Programme have formulated guidelines for treatment of XDR-TB patients with category V regimen.

Burden of TB-HIV:

TB and HIV act in deadly synergy. HIV infection increases the risk of TB infection on exposure, progression from latent infection to active TB, risk of death if not timely treated for both TB and HIV and risk of recurrence even if successfully treated. 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 co-morbidity, pill burden, co-toxicity and drug interactions. Though only 5% of TB patients are HIV-infected, in absolute terms it ranks 2nd in the world and accounts for about 10% of the global burden of HIV-associated TB. This coupled with heterogenous distribution within country is a challenge for joint delivery of integrated services. National and international studies indicate that an integrated approach to TB and HIV services can be extremely effective in managing the epidemic. A modelling study by Williams et al predicts that that RNTCP should be able to reverse the increase in TB burden due to HIV, but to reduce mortality by 50% or more by 2015, universal access to coordinated TB and HIV care is essential. Studies also indicate that emphasis needs to be on early diagnosis linked to TB and HIV treatment.

Global estimation of burden of HIV positive incident TB cases is 10,00,000 (11,00,000-12,00,000) while the estimates of HIV positive incident TB cases in India is 75,000 (1,10,000 - 1,60,000). As per WHO's Global TB Report of 2011, HIV prevalence amongst incident TB cases is estimated to be 3.3% (5%-7.1%).

Burden of paediatric TB in the country:

The actual burden of pediatric TB is not known due to diagnostic difficulties but has been assumed that 10% of total TB load is found in children. Globally, about 1 million cases of pediatric TB are estimated to occur every year accounting for 10-15% of all TB; with more than 100,000 estimated deaths every year, it is one of the top 10 causes of childhood mortality. Though MDR-TB and XDR-TB is documented among pediatric age group, there are no estimates of overall burden, chiefly because of diagnostic difficulties and exclusion of children in most of the drug resistance surveys.

Socio-economic impact:

Besides the disease burden, TB also causes an enormous socio-economic burden to India. TB primarily affects people in their most productive years of life with important socio-economic consequences for the household and the disease is even more common among the poorest and marginalized sections of the community. Almost 70% of TB patients are aged between the ages of 15 and 54 years of age. While two thirds of the cases are male, TB takes a disproportionately larger toll among young females, with more than 50% of female cases occurring before 34 years of age. The direct and indirect cost of TB to India amounts to an estimated $23.7 billion annually. Studies suggest that on an average 3 to 4 months of work time is lost as result of TB, resulting in an average lost potential earning of 20-30% of the annual household income. This leads to increased debt burden, particularly for the poor and marginalized sections of the population. The vast majority (more than 90%) of the economic burden of TB in India is caused by the loss of life rather than by morbidity. This is due to the fact that TB mortality incurs a greater loss in the number of life-years per event than does TB morbidity - despite the fact that there are many more prevalent cases than deaths. A study on the economic impact of scaling up of RNTCP in India in 2008 shows that on average each TB case incurs an economic burden of around US$ 12,235 and a health burden of around 4.1 DALYs. Similarly, a death from TB in India incurs an average burden of around US$ 67,305 and around 21.3 DALYs. A total of 6.3 million patients have been treated under the RNTCP from 1997-2006. This has led to a total health benefit of 29.2 million DALYs gained including a total of 1.3 million deaths averted. In 2006, the health burden of TB in India would have risen to around 14.4 million DALYs or have been 1.8 times higher in the absence of the programme. The RNTCP has also led to a gain of US$ 88.1 billion in economic wellbeing over the scale-up period. In 2006, the gain in economic wellbeing is estimated at US$ 19.7 billion per annum - equivalent on a population basis to US$ 17.1 per capita. In terms of TB patients, each case treated under DOTS in India results in an average gain to patients of 4.6 DALYs and US$ 13,935 in economic wellbeing.

Evolving strategies of TB Control in India:

India has had a National Tuberculosis Programme (NTP) in place since 1962. However, the treatment success rates were unacceptably low and the death & default rates remained high. Further the HIV-AIDS epidemic and the spread of multi-drug resistance TB were threatening to further worsen the situation. In view of this, in 1992, GOI, with WHO and SIDA reviewed the TB situation and the following were concluded:

- NTP, though technically sound, suffered from managerial weaknesses
- Inadequate funding,
- Over-reliance on x-ray for diagnosis
- Frequent interrupted supplies of drugs
- Low rates of treatment completion

In order to overcome these lacunae, the Government decided to give a new thrust to TB control activities by revitalising the NTP, with assistance from international agencies, in 1993. The Revised National TB Control Programme (RNTCP) thus formulated, adopted the internationally recommended Directly Observed Treatment Short-course (DOTS) strategy, as the most systematic and cost-effective approach to revitalise the TB control programme in India. Political and administrative commitment, to ensure the provision of organised and comprehensive TB control services was obtained. Adoption of smear microscopy for reliable and early diagnosis was introduced in a decentralized manner in the general health services. DOTS was adopted as a strategy for provision of treatment to increase the treatment completion rates. Supply of drugs was also strengthened to provide assured supply of drugs to meet the requirements of the system.

Pilots were conducted between 1993- 1995 to test the operational feasibility in a population of 2.35 million in 5 pilot sites in the states of Delhi, Kerala, Gujarat, Maharashtra and West Bengal. Following on from the success of these pilot sites, the programme was expanded to a population of 13.85 million in 1995 and 20 million in 1996. Large-scale implementation of the RNTCP began in 1997, following the successful negotiation of a World Bank credit of US$ 142 million. Expansion of the Programme was undertaken in a phased manner with rigid appraisals of the districts prior to starting service delivery. The initial 5-year project plan was to implement the RNTCP in 102 districts of the country and strengthen another 203 Short Course Chemotherapy (SCC) districts for introduction of the revised strategy at a later stage. In early 2002, the World Bank assisted TB control project was extended for another 2 years, within the same budgetary provision, to cover a population of 700 million. A further one-year no-cost extension of the project was approved to cover the period from October 2004 to September 2005 before the next phase of the project.

The Government of India took up the massive challenge of nation-wide expansion of the RNTCP and covering the whole country under RNTCP by the year 2005, and to reach the global targets for TB control on case detection and treatment success. The structural arrangements for funds transfer and to account for the resources deployed were developed and thus the formation of the State and District TB Control Societies was undertaken. The systems were further strengthened and the programme was scaled up for national coverage in 2005.

This was followed up with RNTCP phase II, developed based on the lessons learnt from the implementation of the programme over a 12 year period. The design of the RNTCP II remained almost the same as that of RNTCP I but additional requirements of quality assured diagnosis and treatment were built in through schemes to increase the participation of private sector providers and also inclusion of DOTS+ for MDR TB and also offering treatment for XDR TB. Systematic research and evidence building to inform the programme for better design was also included as an important component. The Advocacy, Communication and Social Mobilization were also addressed in the design. The challenges imposed by the structures under NRHM were also taken into account.

India achieved country wide coverage under RNTCP in March 2006.

The RNTCP was built on the infrastructure and systems built through the NTP. Major additions to the RNTCP, over and above the structures established under the NTP, was the establishment of a sub-district supervisory unit, known as a TB Unit, with dedicated RNTCP supervisors posted, and decentralization of both diagnostic and treatment services, with treatment given under the support of DOT (directly observed treatment) providers.

The quality of diagnosis of TB patients under RNTCP has improved by giving the highest priority to the provision of quality assured sputum smear microscopy services. One of the unique innovations under RNTCP has been the development of Patient-Wise Boxes, which contain the full course of treatment for one individual patient, ensuring that treatment of that patient cannot be interrupted due to a lack of drugs. RNTCP has effectively decentralized supervision via the sub-district TB Units, with in-built systems for monitoring and evaluation.

DOTS strategy adopted by Revised National TB Control Programme initially had following five main components:

1. Political will and administrative commitment
2. Diagnosis by quality assured sputum smear microscopy
3. Adequate supply of quality assured Short Course chemotherapy drugs
4. Directly Observed Treatment
5. Systematic monitoring and Accountability

In 2006, STOP TB strategy was announced by WHO and adopted by RNTCP, whose components are as follows -

- Pursuing quality DOTS expansion and enhancement
- Addressing TB/HIV and MDR-TB
- Contributing to health system strengthening
- Engaging all care providers
- Empowering patients and communities
- Enabling and promoting research (diagnosis, treatment, vaccine, OR)

Many of the initiatives like developing and piloting the feasibility of National Airborne Infection Control guidelines, developing and piloting strategy for 'Practical Approach to Lung Health' are the examples of initiatives taken by RNTCP under the comprehensive strategy of STOP TB.

'Universal Access to TB Care': RNTCP has been achieving the global targets of 70% case detection rates and >85% success rates amongst the New Smear Positive TB patients since 2007 onwards and then moving ahead on the path of TB control in India, RNTCP defined newer objectives of 'Universal Access to TB Care' for TB control in India in 2010. Many new areas were addressed with reviewing and creating evidences (e.g. Diabetes Mellitus), greater understanding of these areas was developed amongst the Programme managers at various levels and strategies were piloted for feasibility e.g. offering HIV counseling and voluntary testing to all TB suspects and its impact and feasibility in implementation.

National Strategic Plan (2012-2017):

With progress in achieving objectives in the 11th Five year Plan and defining newer targets of Universal Access to TB care, newer strategies have been developed as a comprehensive National Strategic Plan under the 12th Five Year Plan of Government of India. The following thrust areas were identified:

- Strengthening and improving the quality of basic DOTS services
- Further strengthen and align with health system under NRHM
- Deploying improved rapid diagnosis at the field level
- Expand efforts to engage all care providers
- Strengthen urban TB Control
- Expand diagnosis and treatment of drug resistant TB
- Improve communication and outreach
- Promote research for development and implementation of improved tools and strategies.

The "National Strategic Plan (2012-2017) was prepared through a consultative process involving a wide cross section of the stakeholders and experts in the programme. More than 150 experts from various disciplines and organizations were invited for the deliberations for developing the plan. Innovation and consensus were the highlights of the process adopted for development of the National Strategic Plan.

Strategic vision to move towards universal access: The vision of the Government of India is for a "TB-free India" with reduction of the burden of the disease until it is no longer a major public health problem. To achieve this vision, the programme has now adopted the new objective of Universal Access for quality diagnosis and treatment for all TB patients in the community. This entails sustaining the achievements of the programme to date, and extending the reach and quality of services to all persons diagnosed with TB.

The objectives of the programme proposed in the plan are:

1. To achieve 90% notification rate for all cases
2. To achieve 90% success rate for all new and 85% for re-treatment cases
3. To significantly improve the successful outcomes of treatment of Drug Resistant TB Cases
4. To achieve decreased morbidity and mortality

of HIV associated TB

5. To improve outcomes TB care in the private sector

Proposed strategies in the "National Strategic Plan 2012-2017":

Case finding and Diagnostics:

- Early identification of all infectious TB cases.
- Improved integration with the general health system, and leverage field staff for home-based case finding.
- Improve communication and outreach
- Screening clinically & socially vulnerable risk groups for TB.
- Develop improved sputum collection and transportation systems.
- Deployment of higher-sensitivity diagnostic tests for TB suspects (and incorporate new tests) & decentralized DST services
- Catch patients already diagnosed through notification from all sources, improved referral for treatment mechanisms, and deployment of Laboratory & Private Provider notification

Patient friendly treatment services:

- Promptly and appropriately treating TB, increasingly guided by DST.
- Making DOTS more patient friendly through increased communitization of DOT; pilot incentives/offsets for patient costs to help patients complete treatment and better monitoring through Information Technology.
- Improving partnerships between public and private sector -- Establish 'Indian Standards for TB Care' which can be used to engage providers using existing private treatment and improve care with some public sector support and supervision.
- Research will guide improvements in regimens and delivery systems.
- National Treatment Committee/TWG for regular review of regimens, all treatment related technical guidance

Scale-up of Programmatic Management of Drug Resistance -TB:

- Developing network of C&DST Laboratories & Strengthening of Reference Laboratories
- Decentralized DST at district level for early MDR detection
- Improved information system for PMDT
- Manpower support for additional workload by aligning with NRHM health blocks & rationalization of number of patients per STS
- Improved Drug Management of second-line anti-TB drugs (22% of budget, even at low GOI procurement cost)

Scale -up of Joint TB-HIV Collaborative Activities:

- Activities will aim at early, rapid TB diagnosis with high sensitivity tests for HIV-infected TB suspects & ART for all HIV-infected TB patients, with transport support.

Integration with Health Systems:

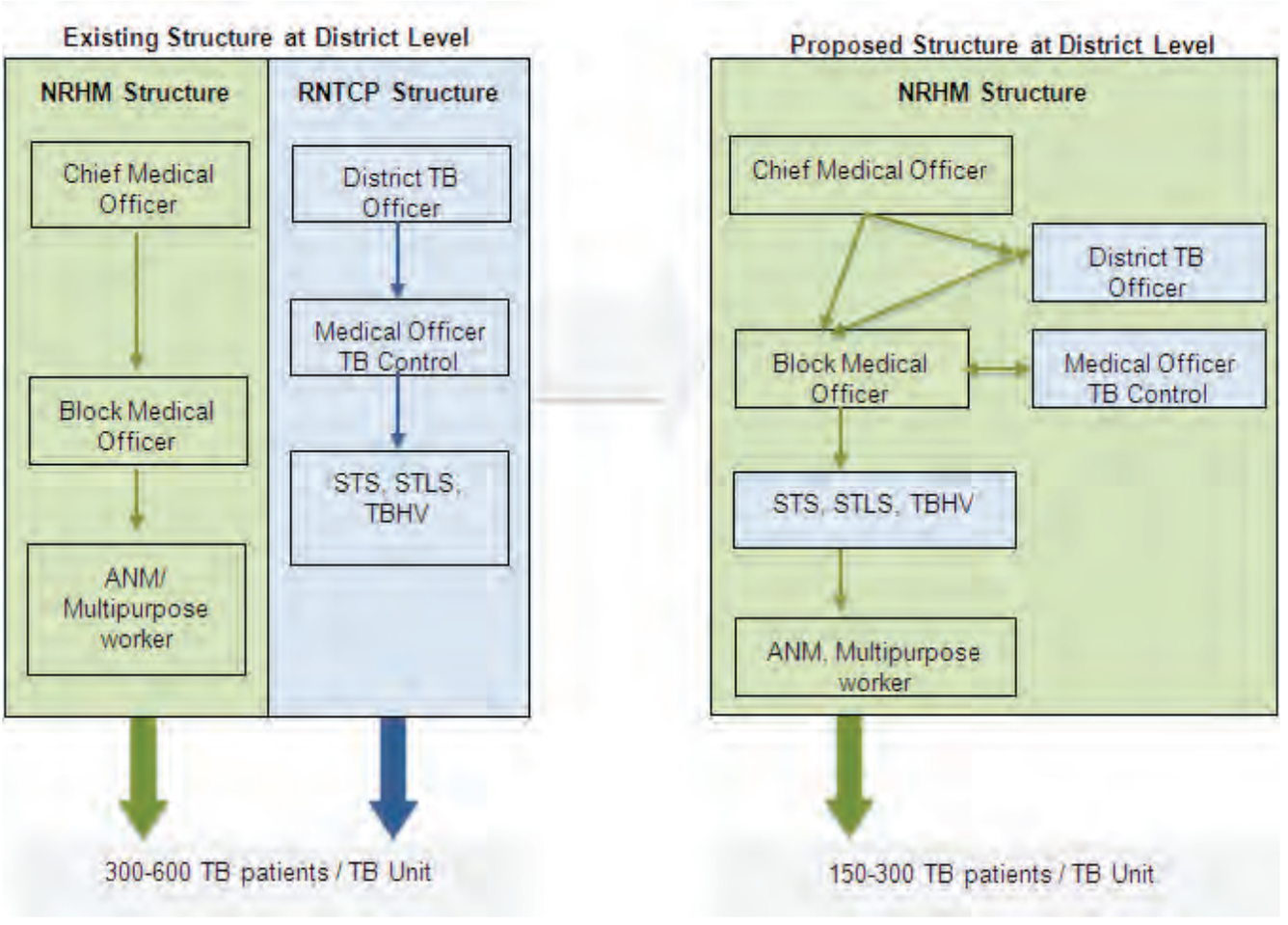
- Integrating the RNTCP with the overall health system will increase effectiveness and efficiencies of TB care and control which has been depicted in the picture.
- In rural areas the RNTCP can focus integration through the National Rural Health Mission.
- In urban areas the RNTCP can integrate through the private sector and the evolving National Urban Health Mission.

Engagement of Private Sector:

- Private sector engagement essential for universal access and early detection
- RNTCP set norms and conduct surveillance while maintaining some flexibility
- Move from sensitization model today to output-based contracting of services through interface/aggregators
- States need to experiment with innovation and scale-up of those models that are successful
- Inclusion of private laboratories and pharmacists to detect patients at earliest points of care
- Technical working group (for guidance, policy advice)
- Technical support unit (for assistance to States for contracting)
- Accreditation and innovative financing

Human Resource Development:

- The goal of RNTCP's HRD strategy is to optimally utilize available health system staff to deliver quality TB services, and to strengthen the supervisory and managerial capacity of programme staffs overseeing these services.
- RNTCP will align more effectively with health system under NRHM to leverage field supervisory staff more effectively, and increase capacity building of staffs to equip them to handle multiple tasks of DOTS, MDR-TB, TB/HIV
- Support cells at States and District levels will be



strengthened to increase administrative and managerial capacity, creating space for local programme managers to focus on supervision and quality of services.

- Web based application will be developed for creating dynamic HRD database to assist better planning and facilitate faster communication

Advocacy, Communication and Social Mobilization:

- Generating demand for earlier diagnosis and treatment.
- Community ownership, participation and involvement are essential for universal access.
- Enhancing the ACSM capacity of service providers to improve the quality of service delivery.
- ACSM can reduce stigma which is critical for universal access.
- Increased coverage can be achieved by focusing on at risk and clinically, socially and occupationally vulnerable populations.

Monitoring and Evaluation, Surveillance and Impact Assessment:

- Case Based Web Based application will be developed for real time data entry to enhance programme management and better decision making.
- Relevant, timely and accurate data collection at each level of programme and the healthcare system.
- Analysis of these data is critical for ensuring continual programmatic improvement.

Research to inform TB Control policy and practice:

- OperationalResearch will be promoted to optimize TB control
- Priority research agenda to be developed.
- Conduct or commission priority research
- Rapidly translate lessons into innovative policy and practice
- Web based application for faster feedback to the Principal Investigators and facilitate monitoring of the process of proposal submission and the decisions of respective committees

Key Interventions:

- Strengthening and improving the quality of basic DOTS services
- Further strengthen and align with health system

under NRHM

- Deploying improved rapid diagnosis at the field level
- Expand efforts to engage all care providers
- Strengthen urban TB Control
- Expand diagnosis and treatment of drug resistant TB
- Improve communication and outreach
- Promote research for development and implementation of improved tools and strategies.

What will NSP achieve?

- Control TB: compared to today's activities, success will :
  - Accelerate decline in incidence & prevent 22 lakh TB cases
  - Reduce TB deaths by 75%, and save 17 lakh lives from TB
  - Contain MDR TB: avert 1 lakh MDR cases and reduce incidence by 50%
- Return on investment: For each additional $1
  - 1$ buys quicker diagnosis of more TB patients, more effective treatment
  - ~14$ gained [ongoing analysis being done here] in future direct economic expenditure on TB cases prevented and
- Leadership for India: Sustain India's global leadership in TB treatment and control.

RNTCP: Implementation status and activities in 2011

RNTCP planning and budgeting for States/UTs and districts

The RNTCP has been implemented in all states and union territories as a Centrally Sponsored Scheme (CSS) whereby the Central Government undertakes to ensure funding for all activities of the programme. Prior to the creation of the NRHM, the RNTCP utilized a system of specially created "societies" whereby the states received CSS funds for TB control via their respective State TB Control Society (STCS). In turn, the STCSs would allocate and disburse funds to districts through District TB Control Societies (DTCS). Under the NRHM, which functions as an umbrella society, the societies for most Centrally Sponsored Schemes including TB control have been merged into integrated "State Health Societies". At present, funds for the RNTCP are maintained in a separate account within these Societies and existing Annual Action Plans have been incorporated into the NRHM framework. As per the current arrangements, the Programme Implementation Plan (PIP) of the RNTCP has been approved by the Government of India over a period of five years from 2006 to 2011.

In terms of the annual planning process, each State submits an "Annual Action Plan" to CTD in the month of October. These plans relate to the State's funding requirements for the next financial year (April-March) and are based on the consolidation of district level Annual Action Plans. The CTD oversees the planning and budgeting of TB control activities for the entire country. The CTD determines a maximum budget for each State based on a review of the Annual Action Plan, previous trends in state expenditure and unutilized funds available. The final budget provision is then allotcated according to the MoHFW's approved annual budget for TB control and on this basis the Finance Division of the MoHFW makes bi-annual fund disbursements to each state.

Financial reporting by districts and states is through a system of quarterly Statement of Expenditure (SoE) in standard format.. The states consolidate the District SoEs and send a consolidated SoE to CTD after including the expenditure incurred at the level of the State TB Cell. The CTD consolidates all these SoEs to account for the expenditure in the country as a whole. Donor-wise expenditure reports are also sent to the Controller of Aid Accounts and Audit (CAAA) - a division of the Department of Economic Affairs, Ministry of Finance - that monitors such reports and funding by external agencies - based on which the donor agencies make reimbursements/further fund disbursements. The financial reporting has been linked to the funds release in minimum two installments, to ensure efficiency in submission and timeliness of the reports. The release of the first installment (April-May) is based on the consolidated SoEs of the state for the January-March quarter. The second installment (October-November) is similarly released on the receipt of consolidated audit report and Utilization certificate for the previous financial year and also the SoE of the latest quarter.

The financial management system of the RNTCP has been decentralized with full powers of allocation and reallocation of disbursements between programme Budget Heads being delegated to the STCs, within the guidelines of the programme. Districts have also been delegated some powers of reallocation between sub-Heads. Generally speaking, this delegation of authority has facilitated better fund flow and optimum utilization of available financial resources.

World Bank support:

World Bank financing has supported RNTCP since it started expending the coverage of DOTS over a decade ago, with first credit of US$ 142 million in between 1997-2005 and second credit of US$ 170 million in between

2006-2012. The closing date of the second credit is March 2012 which is likely to get an extension upto September 2012. Additional financing of US$ 100 million extension for the two years up to March 2014 with the additional financing would support the programme in meeting its ambitious new Universal Access goals, adequately addressing the challenges on drug resistant TB, and introducing and scaling -up innovations and new approaches.

Global Fund support:

Revised National Tuberculosis Control Program (RNTCP), Central TB Division, Ministry of Health & Family Welfare, Govt. of India has been currently implementing two projects as below which are supported by Global Fund,

- Rolling Continuation Channel (RCC) TB Project: RCC is the consolidation of the three grants (two existing GFATM grants R6, R4 TB grants and expiring R2 TB grant). This project has been supporting implementation of Revised National Tuberculosis Control Program (RNTCP) in the states of Haryana, UttaraKhand, Uttar Pradesh (27 districts only), Bihar, Jharkhand, Chhattisgarh, Orissa, Andhra Pradesh (8 states). Moreover, the project has been also supporting the engagement of private healthcare providers and Catholic healthcare facilities with RNTCP through Sub-Recipients like Indian Medical Association (IMA) and Catholic Bishops Confederation of India (CBCI-CARD) respectively in selected number of states.

Principal Recipient: Central TB Division	
Sub-Recipients of RCC	**States being covered**
Indian Medical Association (IMA)	Bihar, Chhattisgarh, Gujarat, Jharkhand, Kerala, Orissa, Rajasthan, Tamil Nadu, Uttaranchal, and West Bengal, Uttar Pradesh, Punjab, Haryana, Maharashtra, Andhra Pradesh and Chandigarh
Catholic Bishops Conference of India (CBCI-CARD)	Andhra Pradesh, Assam, Bihar, Chhattisgarh, Jharkhand, Karnataka, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, and West Bengal, Kerala, Tamil Nadu, Gujarat, Maharashtra, Goa, Meghalaya, Manipur, Nagaland

- Round 9 TB Project: This project has been supporting the scaling up of diagnostic and treatment services of Drug Resistant TB cases in India.
  Title of the project: Scale up diagnosis, care and management of DR-TB (Drug Resistant TB) across India
  Principal Recipient: Central TB Division
  Sub Recipients: WHO, FIND (Foundation for In novative New Diagnostics)

Consolidated Grant: The program division has recently consolidated the above two projects into one single stream funding (SSF) which has been already reviewed and approved by the Country Coordination Mechanism (CCM) of India. The consolidated grant proposal has been sent to Global Fund for their review, consideration and approval.

Year Wise Budget for the 11th Five Year Plan for RNTCP:

(Rs. in crore)

Sl. No.	Year	Allocation as per Planning Commission	Actual Allocation by the MoHFW
1	2007-08	267.00	267.00
2	2008-09	275.00	275.00
3	2009-10	285.00	312.25
4	2010-11	300.00	350.00
5	2011-12	320.00	400.00
		1447.00	1604.25

For the finacial year 2012-13 GOI has approved approximately INR 710.15 crores for the RNTCP.

Case detection through Quality Assured Bacteriology:

A nationwide network of RNTCP quality assured designated sputum smear microscopy laboratories has been established, which provides appropriate, affordable and accessible quality assured diagnostic services for TB suspects and cases. To meet the standards of internationally recommended diagnostic practices for TB, the programme provides the supply of quality reagents and equipment to the laboratory network. An in-built routine system has been designed for sputum microscopy External Quality Assessment (EQA) and for supervision and monitoring of the diagnostic systems by the RNTCP Senior TB Laboratory Supervisor (STLS) locally and by the Intermediate (State level) and National Reference Laboratory network for RNTCP at higher levels. Introduction of LED Fluorescent Microscopy is being phased in at high load centres and will be scaled up as per requirements at all levels.

Quality Assured Laboratory services: RNTCP has established a nationwide laboratory network, encompassing over 13,000 designated sputum Microscopy Centres (DMCs), which are being supervised by Intermediate Reference Laboratories (IRL) at State level, and National Reference Laboratories (NRL) & Central TB division at the National level. RNTCP aims to consolidate the laboratory network into a well-organized one, with a defined hierarchy for carrying out sputum microscopy with external quality assessment (EQA), in line with the new guidance of WHO. RNTCP is gradually phasing in routine surveillance among the previously treated cases in states where PMDT has been initiated. Drug resistance Surveillance (DRS), mycobacterium culture and Drug susceptibility testing (DST) are undertaken only among new cases in specific selected settings.

National Reference Laboratories (NRL): The four NRLs under the programme are Tuberculosis Research Centre [TRC], Chennai, National Tuberculosis Institute [NTI], Bangalore, Lala Ram Swarup Institute of Tuberculosis and Respiratory diseases [LRS], Delhi and JALMA Institute, Agra. The NRLs work closely with the IRLs, monitor and supervise the IRL's activities and also undertake periodic training for the IRL staff in EQA, Culture & DST activities.

Three microbiologists and four laboratory technicians have been provided by the RNTCP on a contractual basis to each NRL for supervision and monitoring of laboratory activities. The NRL microbiologist and laboratory supervisor / technician visits each assigned state at least once a year for 2 to 3 days as a part of on-site evaluation under the RNTCP EQA protocol. Regular supervisory visits are undertaken by the NRL microbiologists to the IRLs to provide technical support for establishing quality assured C&DST services, including facility design for the introduction of newer diagnostic tools (liquid culture and molecular tests) for the rapid diagnosis of MDR TB in consultation with other technical agencies like FIND. NRLs also undertake periodic proficiency testing of the IRLs as part of the accreditation process under RNTCP.

The National RNTCP Laboratory Committee, constituted with microbiologists of the NRLs, CTD and WHO India representatives as members, works as a task force to guide laboratory related activities of the programme. This technical body advice the RNTCP on key policy issues with regard to the laboratory services of the TB Control Programme.

Table 1: States assigned to NRLs for monitoring of laboratory activities (2011)

NRL	States and UnionTerritories (UTs) assigned for EQA	Total nos. of IRLs assigned	Total nos. of states/ UTs assigned
TRC	Andhra Pradesh, Chattisgarh, Goa, Gujarat, Dadra Nagar Haveli, Daman & Diu, Kerala, Lakshadweep, Sikkim, Tamil Nadu, Punjab, Chandigarh Puducherry, Andaman & Nicobar	10	14
LRS	Delhi, Arunachal Pradesh, Haryana, Manipur, Nagaland, Mizoram, Meghalaya, Tripura	4	8

NRL	States and UnionTerritories (UTs) assigned for EQA	Total nos. of IRLs assigned	Total nos. of states/ UTs assigned
NTI	Maharashtra, Orissa, West Bengal, Rajasthan, Karnataka, Bihar, Madhya Pradesh, Jharkhand, Jammu and Kashmir	12	9
JALMA	Uttar Pradesh, Uttarakhand, Himachal Pradesh, Assam	5	4

Intermediate Reference Laboratory (IRL): One IRL has been designated in the STDC / Public Health Laboratory / Medical College of the respective state. The functions of IRL are supervision and monitoring of EQA activities, mycobacterial culture and DST and also drug resistance surveillance (DRS) in selected states. The IRL ensures the proficiency of staff in performing smear microscopy activities by providing technical training to district and sub-district laboratory technicians and STLSs. The IRLs undertake on-site evaluation and panel testing to each district in the state, at least once a year.

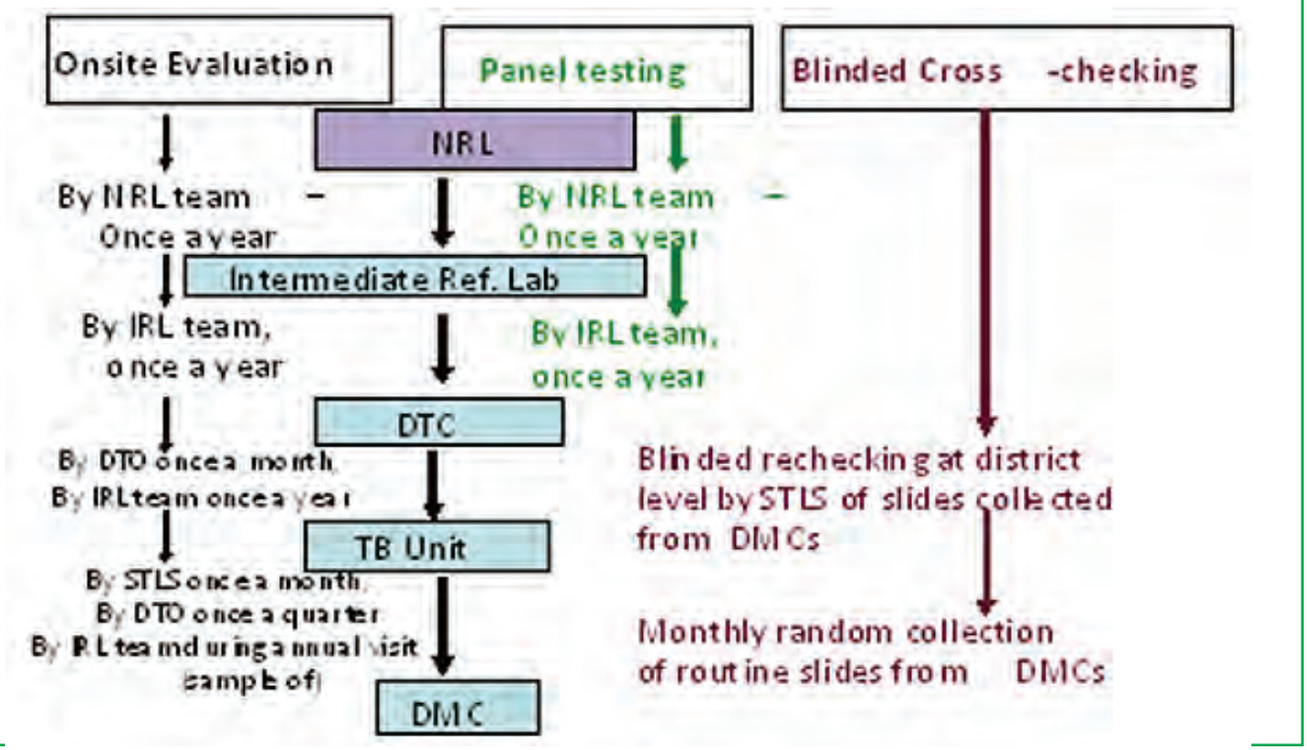
Designated Microscopy Centre (DMC): The most peripheral laboratory under the RNTCP network is the DMC which serves a population of around 100,000 (50,000 in tribal and hilly areas). At present, more than 13,000 DMCs are available for conducting quality assured sputum smear microscopy.

External Quality Assessment for smear microscopy: A process has been established under RNTCP to assess the laboratory performance utilizing the RNTCP External Quality Assessment (EQA) guidelines and currently > 95% of the districts in the country are implementing quality assurance protocol. (Fig 1)

Recommendations of the annual supervisory visits to the states by the NRLs have focused on operational and technical problems of the laboratories and staff in conducting effective OSE visits to districts/diagnostic centres, panel testing of STLSs, operationalization of RBRC procedures and identifying and correcting DMCs with errors.

For capacity building of state level programme managers (STOs and STDC /IRL directors) in EQA, training is imparted to make them aware of their roles and responsibilities with regard to issues such as setting up of IRLs, human resources, conducting effective on site evaluations by the IRL staff to DMC level, bio-medical waste disposal, infection control measures and other operational and technical issues. A separate training, which focuses mainly on technical aspects of EQA protocol, also provided to the microbiologists and lab technicians of IRLs by the NRLs.

Figure 1: External quality assessment activities of RNTCP



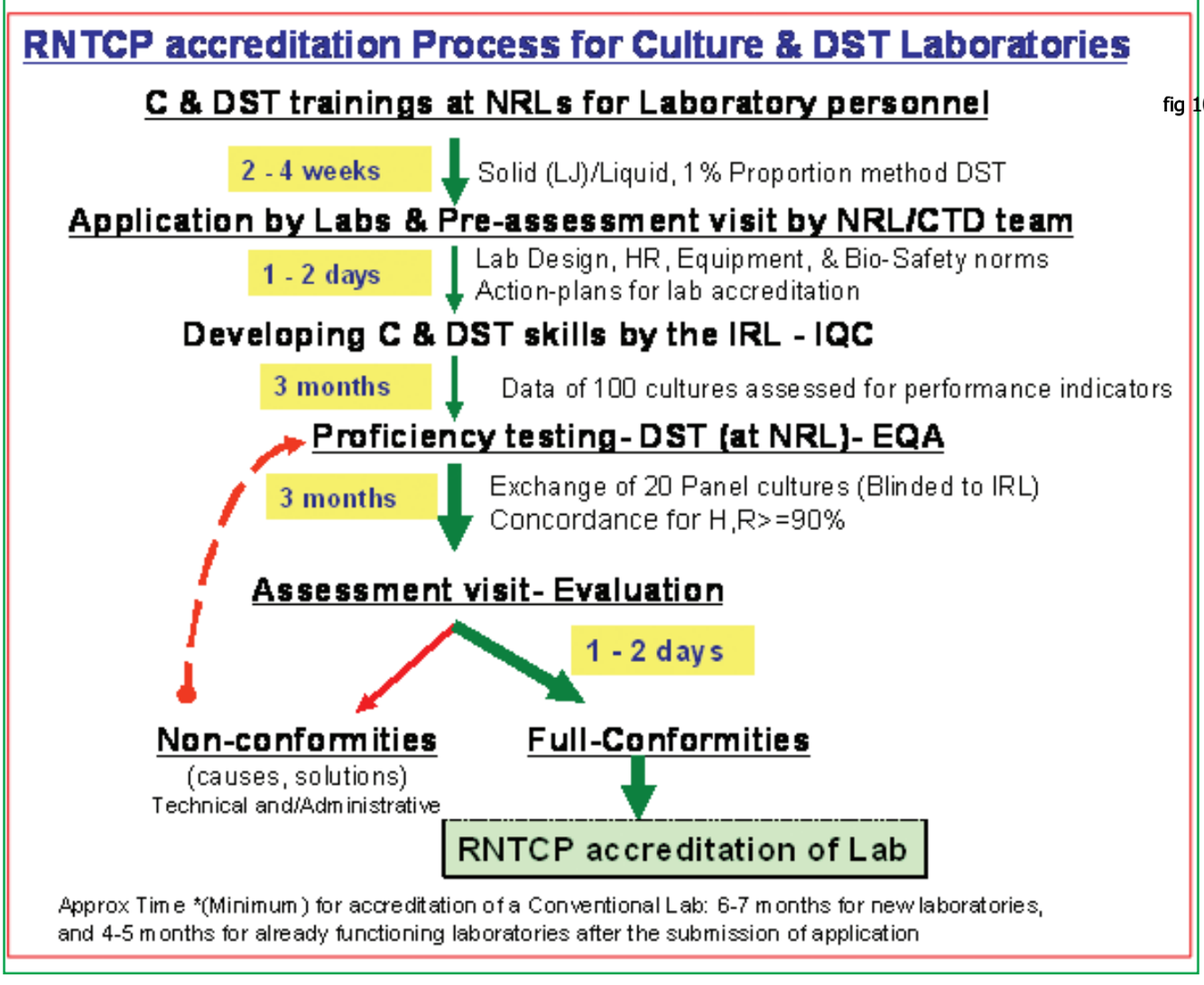
Establishment of accredited C&DST labs: RNTCP has adopted a rigorous C & DST Laboratory accreditation procedure (see Figure 3) to provide accurate and reliable services for MDRTB diagnosis and follow-up of treatment. In order to meet demands of the programme, accreditation of C&DST laboratories both in Public and Private sectors is being pursued vigorously. Overall supervision is entrusted with the NRLs, to maintain uniformity in testing procedures NRLs are conducting 2-4 week Culture and DST trainings to the Microbiologists and Laboratory technicians of laboratories undergoing accreditation. The accreditation process has three main stages.

Stage 1. A pre-assessment visit of 1-2 days to the laboratories by the NRL/CTD team during which a laboratory is assessed for infrastructure facilities, qualified trained personnel, work-load requirements, SOPs (Standard Operating Procedures), technical procedures, bio-safety and infection control measures. Corrective actions recommended in case of deficiencies.

Stage 2. Laboratories are assessed for performance based on first 100 patient samples processed for Culture and DST. The indicators are mainly (a) rate of smear positive and culture negatives, and (b) rate of contamination (c) proficiency for setting-up correctly interpretable DST tests.

Stage 3. NRLs provide external blinded proficiency testing panel of 20 cultures for susceptibility testing for anti-TB drugs namely Isoniazid, Rifampicin, Ethambutol and Streptomycin. NRLs, would also retest 10 selected cultures provided by the IRLs. Accuracy of results is assessed based on sensitivity, specificity, and positive and negative predictive values for resistance and susceptibility. Accreditation is done on obtaining a proficiency of >90% for Isoniazid and Rifampicin. Regular annual proficiency testing is done to maintain the quality standards for DST. Separate proficiency schedule has also been developed for molecular based DST.

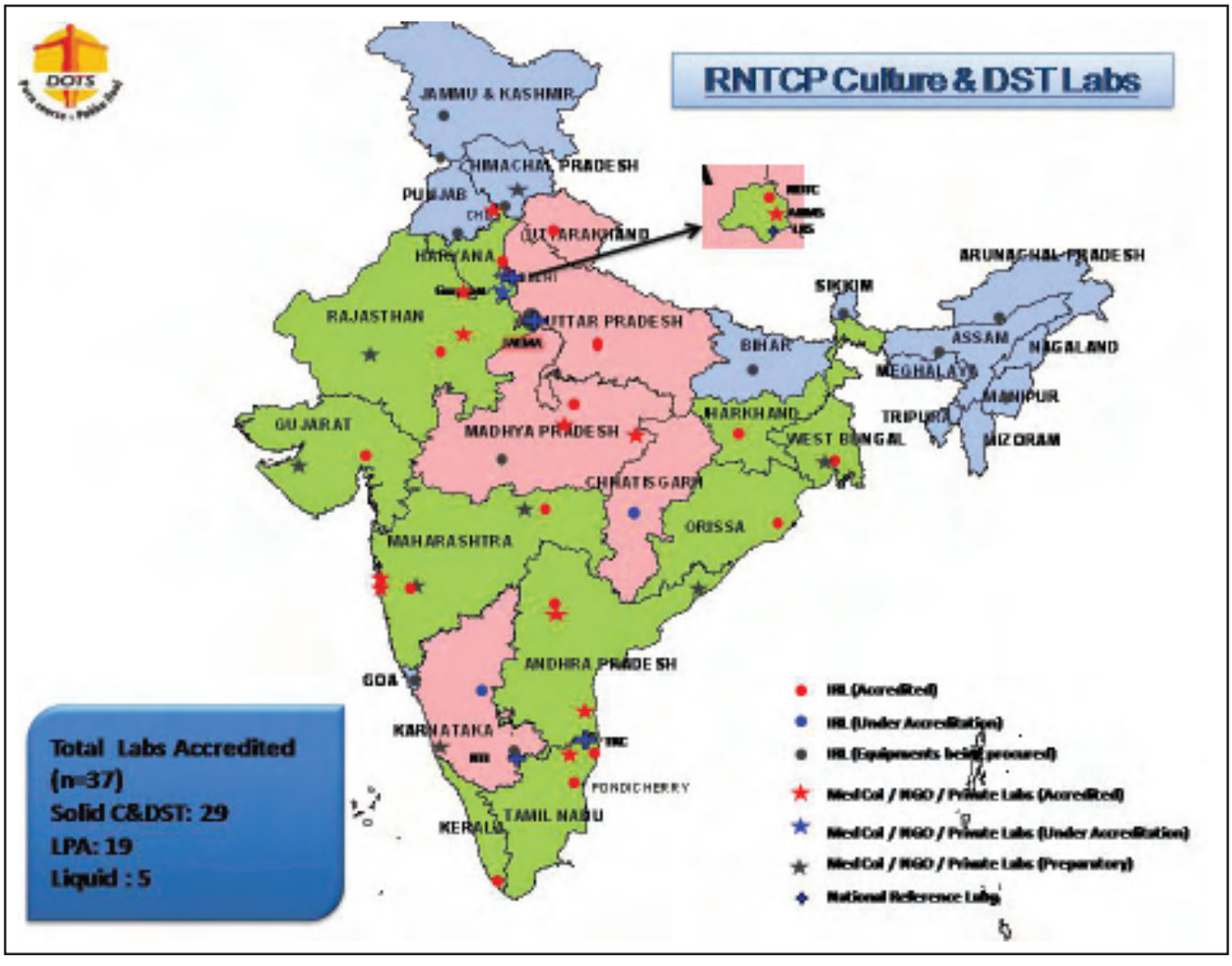
Fig 3: The C&DST laboratory accreditation process



There are 37 accredited Culture and DST laboratories in the country which includes Public, Private and NGO laboratories. Eighteen IRLs [Gujarat, Maharashtra (Pune, Nagpur), Kerala, Andhra Pradesh, Tamil Nadu, Delhi, Rajasthan, Orissa, West Bengal, Jharkhand, Haryana, Madhya Pradesh (BMHRC Bhopal, IRL Indore), Uttar Pradesh (CSMMU Lucknow), Uttarakhand, Puducherry and Chattisgarh] are accredited for first line DST as per the RNTCP accreditation protocol until 2011. The IRL of Assam is in the advanced stages of proficiency testing (Table 3). The rest of the IRLs will be starting the accreditation process and are likely to get accredited by end 2012. The procurement of C&DST equipment for another 11 IRLs (Bihar, Sikkim, Karnataka, Manipur, Arunachal Pradesh, Uttar Pradesh (Agra), Punjab, Himachal Pradesh, Srinagar, Jammu & Goa) has been completed as per World Bank guidelines through UNOPS and installation of the equipments has been completed in most of the IRLs .

Private Medical Colleges, NGOs and Private laboratories are also increasingly providing C & DST services to enhance the programmes capacity for MDR-TB diagnosis which includes Christian Medical College (CMC) Vellore, PD Hinduja Mumbai, Blue Peter Health and Research Centre (BPHRC) Hyderabad, SawaiMaan Singh (SMS) Medical College Jaipur, Regional Medical Research Centre for Tribals (RMRCT ICMR) Choitram hospital (Indore), DFIT Nellore and Super Religare laboratory, Mumbai. The private laboratories of MicrocareSurat, Super Religare, Gurgaon and Kolkata are in advanced stages of accreditation.

Newer and Rapid technologies being introduced globally would enhance the diagnostic capacity for MDR-TB and cut short the turnaround times. Some of these technologies are now endorsed by WHO Strategic and technical advisory group for TB. RNTCP has initiated projects to validate & demonstrate large scale studies of newer TB diagnostic technologies in collaboration with Foundation for Innovative New Diagnostics (FIND), India. Molecular Line probe assay (LPA), Automated Liquid culture systems for C & DST, Capilia TB and LED Fluorescence microscopy are being validated in selected IRLs and NRLs. The results of these projects, specially the rapid MDR-TB test-LPA will guide the na-



tion wide roll out of these technologies for MDR-TB diagnosis.

By 2012, the programme aims to provide universal access to laboratory based quality assured MDR diagnosis for all re-treatment TB cases on entry and new cases who have failed treatment and by 2015, the universal access to MDR diagnosis and treatment will be made available for all smear positive TB cases under RNTCP.

Introduction of Newer Tools:

Line probe Assay: The Line probe Assay is a molecular diagnostic test which can provide the DST results within one day. Line probe Assay has been implemented in the IRLs of Ahmadabad (Gujarat), Hyderabad (Andhra Pradesh), IRL Nagpur (Maharashtra) IRL Trivandrum (Kerala), NDTB centre (Delhi), IRL Kolkata (West Bengal), IRL Cuttack (Orissa), IRL Ajmer (Rajasthan), IRL

Table 2: National Laboratory Scale up plan

Lab unit	2010-11	2011-12	2012-13	Total
Enhanced capacity for solid culture	12	13	18	43
and sputum processing	12	13	18	43
Establish Molecular unit-LPA				
Establish liquid culture systems	13	9	11	33

Microbiologist performing LPA procedure

Raipur (Chattisgarh), IRL Ranchi (Jharkhand), IRL Pune (Maharashtra), IRL Chennai (Tamil Nadu), IRL (Orrissa) and IRL Indore (Madhya Pradesh) for diagnosis of MDR-TB.

The other C&DST laboratories with accredited LPA technologies are AMC Vizag (Andhra Pradesh), DFIT Nellore (Andhra Pradesh), SMS Jaipur (Rajasthan), AIIMS (Delhi), Jamnagar (Gujarat) and JJ Hospital (Mumbai).

The National Training Centre, "International Centre for Excellence in Laboratory Training" is established in the premises of the National Tuberculosis Institute, one of the premier National Reference Laboratories of India. The training centre will cater to the recurrent training needs of the laboratory staff that will man the 43 LPA and 33 liquid culture units to be established by 2014.

Liquid culture: Liquid culture (MGIT 960) technology can diagnose DR-TB within 60 days. The IRL at Hyderabad and Gujarat are accredited for first line liquid culture DST and the other IRLs are in the process of accreditation. Liquid Culture DST is available to the RNTCP through some of the private and corporate providers (NGO PP scheme for C& DST) like Hinduja hospital and SRL Mumbai that is providing services for the State of Maharashtra.

LED FM Microscopy: The Programme is introducing

Liquid culture (MGIT 960)

the LED FM Microscopy services in 200 medical colleges of the country. The services will be made available in these colleges by 2012 after training the LTs and STLS of these Medical Colleges.

Cartridge Based Nucleic Acid Amplification test (Genexpert): The 2nd generation NAAT-based TB diagnostics offer the prospect of very high sensitivity, approaching that of liquid culture - the current gold standard for TB diagnosis. In addition, some versions of the NAAT also provide information on drug susceptibility to rifampicin, which is a surrogate marker in most coun-

tries for identification of patients who are most likely to have MDR-TB, thus allowing the early initiation of standardized 2nd line TB treatment in these patients.

At least one 2nd-generation NAAT-based TB diagnostic is now commercially available, the automated Xpert® MTB/RIF by Cepheid® (Sunnyvale, CA, USA). These tests are based on technology platforms that offer the future prospect for multiple uses (e.g. malaria detection, HIV viral load testing), with minimal operator skill requirements and bio-safety risks, allowing for the first time use of advanced diagnostics outside the reference laboratory environment. The Drug resistance of the suspect can be known in one hour.

RNTCP has expanded programme targets to achieving 'early and complete' detection of all TB cases, with universal access to drug-resistant TB diagnostic and treatment services. The availability of highly-accurate rapid TB diagnostics suitable for sub-district implementation offers the opportunity to make major progress towards these new and more challenging programme targets. The early initiation of treatment and provision of appropriate TB treatment should lead to decreased transmission and spread of both drug-sensitive and drug-resistant TB.

The RNTCP has initiated the evaluation of the Cartridge Based Nucleic Acid Amplification test (GeneXpert TB/RIF) in line with the global consultation guidelines to gather evidence for use within the country in various settings.

Microbiologist performing tests on GeneXpert machine

Loop mediated isothermal amplification (LAMP): Lamp is a manual NAAT that can be performed at microscopy level and is being validated by FIND in IGMS Wardha.

The introduction of all newer diagnostic tools is being supported by the EXPAND TB project (WHO GLI, UNITAID and FIND) and Global Fund Round 9, which is supporting the National Laboratory Scale up plan for 43 LPA and 33 Liquid Culture units to provide an incremental capacity by 2014 of approximately more than 160000 DSTs and more than 220000 follow-up cultures.

S. No	Name of the States	S.No	Name of the Laboratories	Type of DST Technology		
				Solid	LPA	Liquid
1	Andaman & Nicobar	1	RMRC Port Blair	A		
2	Andhra Pradesh	2	IRL Hyderabad	A	A	A
		3	Govt Medical College, Vishakapatnam	P	A	P
		4	BPHRC, Hyderabad	A	P	
		5	DFIT Lab, Nellore	A	A	
		6	SVIMS Medical College, Tirupati	P		
3	Arunachal Pradesh	7	IRL Naharlagun	P		
4	Assam	8	IRL Guwahati (Guwahati Medical College)	P	P	P
		9	RMRC Dibrugarh	P		
5	Bihar	10	IRL Patna	P	P	P
		11	RMRI Patna	P		
		12	DFIT Lab, Darbhanga	P		
		13	Central Diagnostics, Patna	P		
6	Chandigarh	14	PGI Chandigarh	A	A	P
7	Chhattisgarh	15	IRL Raipur	P	A	P
8	Delhi	16	LRS, Delhi	A	A	A
		17	IRL Delhi (New Delhi TB Centre)	A	A	P
		18	AIIMS (Department of Medicine), Delhi	A	A	P
		19	AIIMS (Department of Laboratory Medicine), Delhi	P	A	P
		20	AIIMS (Department of Microbiology), Delhi	P		
9	Goa	21	IRL Goa (GMC, Bambolim)	P		

S. No	Name of the States	S.No	Name of the Laboratories	Type of DST Technology		
				Solid	LPA	Liquid
10	Gujarat	22	IRL Ahmedabad	A	A	A
		23	Govt Medical College, Jamnagar	P	A	
		24	Govt Medical College, Surat	P		
		25	Microcare, Surat	P		
11	Haryana	26	IRL Karnal	A	P	P
		27	Quest Diagnostics, Gurgaon	P		
		28	SRL, Gurgaon			P
12	Himachal Pradesh	29	IRL Dharampur	P	P	
		30	Govt Medical College, Tanda	P	P	P
13	Jammu & Kashmir	31	IRL Jammu (Jammu Medical College)	P		
		32	IRL Srinagar	P	P	
14	Jharkhand	33	IRL Ranchi (Itki TB sanatorium)	A	A	P
15	Karnataka	34	NTI, Bangalore	A	A	A
		35	IRL Bangalore	P	P	P
		36	KIMS, Hubli	P	P	
		37	Manipal Medical College, Mangalore	P		
		38	SRL, Bangalore			P
		39	JSS Medical college, Mysore	P		
		40	SDM Medical college, Hubli	P	P	
16	Kerala	41	IRL Thiruvananthapuram	A	A	P
		42	Calicut Medical College,Calicut	P		
17	Madhya Pradesh	43	IRL Indore	P	A	P
		44	BMHRC (IRL) Bhopal	A	P	
		45	Choitram Hospital Indore	A		
		46	RMRCT, Jabalpur	A		
18	Maharashtra	47	IRL Nagpur	A	A	P
		48	IRL Pune	P	A	P
		49	PD Hinduja Hospital, Mumbai		A	A
		50	Government Medical College, Aurangabad	P	P	
		51	SRL, Mumbai			A
		52	JJ hospital Mumbai	A	A	P
		53	KJ Soumiya Medical college, Mumbai	P		
19	Manipur	54	IRL Imphal, Manipur	P	P	
20	Meghalaya	55	Nazreth Hospital, Shillong	P		
21	Nagaland	56	IRL Nagaland	P		
22	Orissa	57	IRL Cuttack	A	A	P
		58	RMRC Bhubaneswar	P		
23	Puducherry	59	IRL Pondicherry	A	P	P
24	Punjab	60	IRL Patiala (Patiala Government Medical College)	P	P	P
25	Rajasthan	61	IRL Ajmer	A	A	P
		62	SMS Jaipur	A	A	P
		63	SN Medical college, Jodhpur		P	
		64	DMRC Jodhpur	P		
		65	RNT Medical College, Udaipur	P		
		66	Kota Medical College, Kota	P		
26	Sikkim	67	IRL Gangtok, Sikkim	P	P	
27	Tamil Nadu	68	NIRT (TRC) Chennai	A	A	A
		69	IRL Chennai (Institute of Thoracic Medicine)	A	P	P
		70	CMC Vellore	A		
		71	Madurai Medical College, Madurai	P		
		72	PSG Medical College, Coimbatore	P		

S. No	Name of the States	S.No	Name of the Laboratories	Type of DST Technology		
				Solid	LPA	Liquid
		73	Trichy Medical Colleges, Trichy	P		
28	Uttar Pradesh	74	JALMA, Agra	A	A	A
		75	IRL Lucknow (CSMMU, earlier KGMU)	A	A	P
		76	IRL Agra	P	P	
		77	Sri Ram Murti Medical College, Bareilly	P		
		78	IMS,Banaras Health University, Varanasi	P		
		79	MLN Medical College, Allahabad	P		
		80	JN Medical College, Aligarh	P		
29	Uttarakhand	81	IRL Dehradun	A	P	
30	West Bengal	82	IRL Kolkata	A	P	P
		83	SRL Kolkata			P
		84	North Bengal Medical college, Siliguri	P	P	P

(The UT's of D&N Haveli, Daman & Diu,Lakshwadeep and the States of Mizoram and Tripura are linked to their nearest CDST laboratories)

A Accredited Laboratories

P Accreditation in process

Procurement & Drug Logistics:

Central Procurement:-

Procurement, Supply & Logistics Unit at Central TB Division (CTD) is functioning under the supervision of Additional Deputy Director General (TB) who is supported by a Procurement & Supply Management Consultant and an agency outsourced with the assistance from WHO for drug logistics management.

The procurement agency (M/s RITES Ltd.) undertakes procurement of drugs under various Programme Divisions of the MoHFW including RNTCP. The Procurement of 1st Line Anti TB Drugs (through World Bank funding) and procurement of 2nd line Anti-TB Drugs (through World Bank and GLC), Laboratory Equipment and Purified Protein Derivative (PPD) is presently being undertaken at the Central level.

(i) Anti TB Drugs: - An uninterrupted supply of good quality Anti TB Drugs is an essential component of DOTS strategy under RNTCP. Supplies of Procurement for the Year 2010-11 have been completed, except for Inj. Streptomycin supplies which was delayed due to delay in testing of distilled water.

(a) First Line Anti TB Drugs:-With the financial support of DFID coming to an end in 2011, procurement of Drugs for the entire population of the country for both the World Bank and GFATM funded states shall now be done through International Bidding from 'WHO Pre-Qualified suppliers' only by RITES, the procurement agency of MoHFW (Govt. of India), following the World Bank procurement guidelines. As no WHO pre-qualified supplier is available for Injection Streptomycin, the same is continued to be procured through International Competitive Bidding.

(b) Second Line Anti TB Drugs:- The 2nd Line Anti TB Drugs for 3450 patients under DOTS Plus is being procured during the year 2010-11 by M/s RITES Ltd.for World Bank funded states (Assam, Delhi, Goa, H.P, Jammu & Kashmir, Maharashtra, Puducherry, Chandigarh, Punjab) through International Competitive Bidding (ICB). Procurement of 2nd Line Anti TB Drugs for 11,550 pts. i.e.(GF-RCC-1200 pt.courses,GF-Rd-9-5350 pt. courses & UNITAID-5000 pt.courses) patients for GFATM funded states (Andhra Pradesh, Bihar, Uttar Pradesh, Rajasthan, Tamil Nadu, West Bengal, Karnataka, Madhya Pradesh, Gujarat, Kerala, Chhattisgarh, Haryana, Jharkhand, Orissa and Uttrakhand) and 4,850 patients funded by UNITAID was also done through Green Light Committee (GLC) and Global Drug Facility (GDF) which are part of Stop TB Partnership. The supply of drugs procured during the year through GDF is in process.

The procurement of 2nd Line Anti-TB Drugs for 4550 patients under World Bank and for 20,450 for GFATM funded states for the year 2011-12 has been initiated.

Quality Assurance of 1st& 2nd Line Anti-TB Drugs: -

Quality Assurance (QA) of Anti-TB Drugs has been accorded special importance by RNTCP and measures are taken to ensure both pre and post-dispatch inspection of the Anti-TB Drugs.

(a) QA measures at the time of Procurement : -

1st line Anti-TB Drugs - Since 2008-09, procurement of 1st Line Anti-TB Oral Drugs has been limited to 'WHO Pre-Qualified suppliers' and pre-dispatch inspection and testing of all batches is mandatorily done. Injection Streptomycin is procured through International Competitive Bidding (ICB) from WHO-GMP suppliers only, Joint Inspection for verification of WHO-GMP Certificates by a team under DCG(I) is ensured and pre-dispatch inspection of all batches is done.

2nd line Anti-TB Drugs: - Procurement for the World

Bank funded States is done through ICB by the Procurement Agency of Ministry of Health & Family Welfare. For this procurement, WHO-GMP Certification is required, As in case of 1st line Anti-TB Drugs, Joint Inspection for verification of WHO-GMP Certificates by a team under DCG(I) is ensured and pre-dispatch inspection of all batches is done. For GFATM funded states, procurement is done through Green Light Committee (GLC) and Global Drug Facility (GDF) of Stop TB Partnership from "WHO Pre-Qualified suppliers" only.

(b) QA Measures Post Procurement: -

Drugs procured (both 1st & 2nd Line) are tested at an ISO Certified, Independent Quality Assurance Laboratory selected from the list of DCG (I) Accredited testing Laboratories. Every quarter, random samples of Anti-TB Drugs are drawn from one GMSD, one State Drug Store & 5 District Drug Stores and sent for testing to the independent QA Lab. The test reports are presented to a Committee headed by Drug Controller General (India). In addition to this, samples are also picked up randomly from the GMSDs, State Drug Stores & District Drug Stores by various Central and State Drug Inspection Authorities and sent for testing. Based on the test reports, further necessary action is taken by the Programme.

(ii) Laboratory Equipment for Culture & DST for IRLs:-

RNTCP is in the process of establishing 10 more IRLs at Bihar, Goa, Himachal Pradesh, J&K (Jammu), J&K (Srinagar), Manipur, Punjab, Sikkim, Uttar Pradesh and Arunachal Pradesh. The Contracts for all the remaining items of Lab. equipment for solid Culture & Drug Sensitivity Testing (DST) for establishing these IRLs in the country were awarded during the year, delivery of all the equipment has been completed and the installation of most of the equipments has been done.

New Initiatives for Diagnosis of TB

RNTCP is linking development of MDR-TB diagnostic capacity to the expansion of MDR-TB treatment services under DOTS-Plus. During the year, the Programme has utilized the support provided by EXPANDx TB Project funded by UNITAID to accelerate the availability of rapid diagnosis of MDR-TB nationwide. Among the newer TB diagnostics approved by WHO, molecular Line Probe Assay (LPA) and Liquid Culture have already been implemented in STDC, Ahmedabad and STDC, Nagpur. According to the Memorandum of Understanding (MoU) between Ministry of Health & Family Welfare (GoI) and EXPANDx TB for technical assistance, supply of equipment & consumables for setting up of 40 identified LPA labs and 30 Liquid Culture labs. Out of the 40 LPA labs 17 have been accredited, 8 are in the process of accreditation and the remaining yet to initiate process. Out of 30 Liquid Culture labs, 6 LC technologies have been established and the remaining is in process. Based on this MoU and to facilitate training of the laboratory personnel from the identified sites, Foundation for Innovative New Diagnostics (FIND) in coordination with CTD established International Centre for Excellence in Laboratory Training (ICELT) at NTI, Bangalore and supplied equipment & reagents to nine seventeen laboratories and the process of supply of these equipments& consumable items to seven eight more laboratories is underway during the year 2011-12.

(iii) Purified Protein Derivative

Government of India is procuring PPD vials for diagnosis of tuberculosis in pediatric patients in the country through International Competitive Bidding.

For use of PPDs in the programme, a cold chain shall be required to be maintained. As relatively larger quantities of PPDs will require to be maintained primarily at the State and district levels, the States/STOs will need to strengthen the implementation of State / District Cold Chain programme in their respective states/districts. The State Drug Stores (SDS) shall take care of the entire State's Cold Chain programme relating to PPDs in their respective regional areas. Detailed guidelines on the supply chain for PPDs is under finalization at CTD.

The procurement of PPDs has been done centrally by the Procurement Division of the MoHFW, based on requirement calculations and Technical specifications formulated by CTD and the Technical Committee.

(iv) BMs / LED Fluorescence Microscopes

Central TB Division is planning to replace the Binocular Microscopes with LED Microscopes in a phased manner over the next 5 years especially in the high work load settings. 200 LED Microscopes have already been procured by UNION for use in Projects in Medical Colleges. Though LEDs are more expensive than the ordinary BMs, studies have confirmed that the use of LEDs provide much faster diagnosis & more comfortable resulting ultimately in a better yield. Thus, it has been decided to procure LEDs also by CTD. CTD plans to procure 2500 LEDs during the year 2012-13 for high work load settings. Additionally 1500 BMs are also proposed to be procured for low work load settings..

Decentralized procurement:

As part of strengthening decentralized procurement, states have been repeatedly communicated to follow World Bank procurement guidelines strictly and the revised threshold limits for state/district level procurement of Goods / Works have been communicated to them. States are sending information about state/ district level procurement through "Procurement Reporting Format" circulated to them earlier by CTD, at the end of every quarter through the email ID i.e. distprocurement@rntcp.org.

Capacity building for Decentralized Procurement :-

The Bi-annual National STO-RNTCP Consultants Review Meet was held at Surajkund, Faridabad, Haryana in May, 2011 and at Dwarka, Delhi in November 2011. The May Review Meet had a session on "Decentralized Procurement in TB II" which was conducted by the Chief Medical Officer dealing with RNTCP Procurements in CTD. During this Meet, a session on the Roles and Responsibilities of the STOs and the Medical Consultants in drug management was also highlighted. All the participants were also apprised of the general bottlenecks in this area. During the November Review Meet, the topic of procurement and supply chain were covered through a quiz which generated a very good response.

During the year 2010, trainings on "Decentralized Procurement in TB II" were also conducted for State level officials in Punjab, Chandigarh, Maharashtra, Tamil Nadu by concerned officials from Central TB Division. Training on "Decentralized Procurement in TB II" was also conducted by Consultant (Procurement), CTD for the Accountants of all the States in February, 2010 at New Delhi.

Post Procurement Reviews:-

Four Post Procurement Reviews of the Contracts in the States have been undertaken by CTD. Based on the reports of the Post Reviews, follow-up corrective actions are being taken by the concerned States. Post Procurement Review of State/ District level procurements are also being done during Central Internal Evaluation, Annual Financial Audit and visit to the States by officials from Central TB Division.

Procurement Management Information System (ProMIS) Software:-

The web based software (ProMIS) to streamline procurement systems, developed by Empowered Procurement Wing (EPW) of the MOHFW has addressed all the key components of International best practices in procurement and logistics. The various modules of the software include Forecasting, Planning, Bid Processing, Bid Evaluation, Supply Orders, Quality Assurance, Stocks, Inter warehouse transfers, Bills & Invoices etc. Live data entry by RNTCP for the procurement details of 1st line and 2nd line anti TB drugs for the year 2010-11 has been completed.

Drug Logistics Management:

Drug requirements, consumption and stock positions, both at State and district levels are monitored at the Central TB Division (CTD) through the Quarterly Reports submitted by the districts. The 1st Line Anti-TB Drugs procured are stored at the six Government Medical Store Depots (GMSDs) across the country and issued to the States based on the Quarterly District Programme Management Reports and the monthly State Drug Stores (SDS) Reports. The States are required to maintain defined buffer stocks at each levels i.e., at the PHIs, TUs, DTCs & the SDS. The District Quarterly Reports are analyzed in detail at CTD and any discrepancies arising are notified to the concerned districts & States for necessary corrections.

For long-term sustainability of the programme, decentralization of inventory management practices is very important. To ensure that the States are able to manage their drug logistics as per RNTCP guidelines, regular trainings & re-trainings on Drug Logistics Management were conducted by Central TB Division for the State & district level staff during the year. These trainings were imparted to State level officials, District TB Officers (DTOs), State and District level pharmacists alongwith respective RNTCP Medical Consultants. Such trainings were conducted for the officials in Uttar Pradesh, Meghalaya, Mizoram, Manipur, Nagaland, Himachal Pradesh, Chhattisgarh, Bihar, Assam, Arunachal Pradesh, Sikkim and Tripura. About 350 RNTCP officials/ Consultants have been trained during the year on Drug Logistics Management. The DTOs are expected to further train their sub-district level staff involved in drug logistics in their respective districts.

Suggested- place for insertion of 2-3 photos on Drug Stores and Drug Logistics Training

To study the impact of such trainings, CTD is also regularly re-visiting and doing field visits to some of the States already trained. Gujarat, Jharkhand, Andhra Pradesh, Uttar Pradesh, Meghalaya, Chhattisgarh and Assam were visited during the year by teams from CTD. Some improvements have been noticed but the lack of commitment by concerned officials at State and District levels is still seen as a major drawback. Some of the common observations noticed are:-

1) Poor drug storage conditions & lack of infrastructure at the drug store
2) Lack of contracted transportation arrangements from SDS to district drug stores
3) No full time pharmacist / store-keeper at the SDS and no designated officer to monitor drug logistics activities in the states visited.
4) No system of trainings / re-trainings conducted by the states visited for Drug Logistics Management.

Logistics management of 2nd Line drugs is still a challenge under DOTS-Plus in RNTCP. Cycloserine and Ethionamide with a short- shelf life require continuous monitoring & regular Inter-State transfers to ensure maximum utilization and minimum expiry of these drugs. Currently, all 35 States have already implemented the DOTS-Plus programme in their respective States. Training on 2nd line drug logistics is also being imparted during the regular trainings on Drug Logistics Management to State & district level staff. The same has been included in the Standard Operating Procedures (SOP) Manual for both State & District Drug Stores.

New Initiatives undertaken during 2011

1. Government of India is procuring PPD vials for diagnosis of tuberculosis in pediatric patients in the country through International Competitive Bidding. PPD vials are to be stored and transported under cold chain ie.2-8o C. The detailed guideline for storage, transportation, recording and reporting has been finalized at CTD.

2. Revised Guidelines for storage of 2nd line Anti-TB Drugs at SDS, DTC & TU levels were finalized during the year and have been circulated to all the States for their implementation.

3. CTD is in the process of procuring LED Fluorescence Microscopes for high work load settings.

Human Resource Development

The ultimate goal of HRD for comprehensive TB control is to have the right number of people, with the right skills, in the right place, at the right time, who are motivated and supported to provide the right services to the right people.

Vision: A world where every person, everywhere has access to a motivated and supported health worker, who is skilled in TB control.

Goal: Health workers at different levels of the health system have the skills, knowledge, and attitudes (professional competence) necessary to successfully implement and sustain comprehensive TB control services based on the Stop TB Strategy.

A sufficient number of health workers of all categories involved in comprehensive TB control is available at all levels of the health system with the needed support systems to motivate staff to use their competencies to provide quality preventive and curative TB services for the entire population according to their needs.

Committed, qualified and trained health care providers equitably distributed at all levels are the foundation of an effective health system specifically in the context of TB since DOTS is human resource intensive and requires a strong patient-provider bond and extensive supervision and monitoring.

The main thrust of the RNTCP was the provision of diagnostic and treatment facilities at the peripheries of the district and the creation of a sub-district level supervisory unit, which would also provide diagnostic and treatment services. Accordingly, and based on the TB epidemiology of the country, Designated Microscopy Centres (DMC) were set-up for every 100,000 population (for every 50,000 population in tribal and hilly areas) and TB units were set up at every 500,000 population (at every 250,000 population for hilly and tribal areas).

Unprecedented programme expansion in the last five years has outpaced capacity at central, state and district level to ensure quality of services. A workload analysis done by CTD, PATH & Initiatives Inc, highlighted the human resource gaps in many cadres. Members of the staff at state and district levels have to perform multiple functions leading to increased workload and being overburdened. Rapid turnover of officials and staff also necessitates frequent trainings, which is neglected at times.

In addition, enhanced case finding, treatment, MDR, TB-HIV, PPM, and ASCM activities required to achieve Universal Access over the next 5 years necessarily need a better approach to human resource development. Hence, there is an urgent need for national HRD planning that strategically and comprehensively addresses the overall staffing issues related to recruitment, capacity development, performance and retention.

Key strategies for HR for TB control:

- HR needs assessment
- HR policy revisions
- Organize on going in-service training
- Initial training in all aspects of basic DOTS, TB-HIV, MDR-TB, accounts, procurement, ACSM, etc. for existing staff and new hires including private providers in TB control
- Retraining for major performance problems
- On the job training for small performance problems
- Continued education
- Advanced training on management aspects such as health financing, leadership/governance, business planning, organizational development.

- Engage in strategic partnerships for health workforce development with other Training divisions/institutions, in-service training for programmes, Ministry of Education and other relevant ministries, Professional associations, Private sector including NGOs and Bilateral and international organizations
- Monitor and supervise health worker performance to detect performance deficiencies; identify new staff in need of training; identify additional staff needs for current interventions and for new interventions/strategies.
- Quality assessment of Training.

Achievements

The RNTCP structure for capacity building for DOTS implementation has allowed the programme to expand to full coverage and improved programme performance. This structure includes a HRD policy that envisages all times adequate number of staff at different levels of the health system, who have the skills, knowledge and attitude necessary to successfully implement and sustain TB control activities based on the DOTS strategy, including the implementation of new and revised strategies and tools.

HR Approach: HR for DOTS implementation is well reflected in the RNTCP guidelines. The EHR (Epidemiology, Human Resources and Research) division, in the Central TB Division under the charge of an Additional DDG looks after HRD along with a National HR Consultant. Functions of the State TB Cell, State TB Demonstration Centre, and TB Unit team, national and intermediate reference laboratories, the Medical College Task Forces and core committees are well spelled out. The responsibilities of State TB Cell staff, district-level staff and PHI staff are clearly defined. Over years many initiatives has been taken to ensure adequate contractual manpower to support the general health system in managing TB control activities. Remunerations have been revised from time to time and increment policies are implemented. Other incentives like awards on World TB Day, achievements related incentives etc. have created a motivated workforce. Preference for candidates with experience of working in TB Control for recruitment at higher positions has further motivated the peripheral staff giving them progressive career pathways.

Service delivery for TB care has been integrated with General Health System from the beginning. However due to certain aspects of programme like independent financial and supervisory structure of RNTCP has resulted in perception of vertical programme by some. The general health system staffs at times do not take ownership of TB service responsibilities,which results in the burdening of the responsibilities to the insufficient number of contractual supervisory staff.Shifting of the existing TU structure to the block level would ensure effective integration with the general health system. The Block Medical Officer today has the responsibility for effective local implementation of all national disease control programmes and would include TB with the implementation of the proposed shifting of the TU structures. Alignment with NRHM Block Programme Management Units (BPMU) and its supervisory structures has the potential of leading to greater ownership and review of RNTCP by the general health system, and this is the aim of the programme in coming years.

Training

Levels / institutes of training:

1. International: Some of the highly specialized trainings like International trainings on TB epidemiology and operational Research in TB are attended by the RNTCP officials / Consultants at international level from time to time. This aids in keeping pace with the global developments and developing innovative and newer concepts in TB Programme Management.

2. National: Most of the trainings of the national and state master trainers as well as programme managers at state & districts level are conducted by highly experienced and qualified pool of national trainers and facilitators. These trainings are conducted mainly at NTI, Bangalore and LRS Institute of TB & Chest diseases, New Delhi. STDC Ahmedabad, Gujarat has been doing the national level master trainers training in PMDT since last four years. In addition, STDCs of Hyderabad, Andhra Pradesh and Thiruvanantapuram, Kerala also are conducting the national level master trainers training in PMDT since last two years.

3. State level: All 24 STDCs in the country are conducting the state level trainings of MO-TCs, STS, STLS, DTC-LT etc. This includes basic modular trainings, retrainings & update trainings on TB-HIV collaboration, PMDT etc. A pool of trainers trained at the national level including the officials of STDCs, STCs, medical college faculties has been developed over last one decade for this purpose, though this is an ongoing process considering the turnover.

4. Districts level: Medical Officers, LTs, Pharmacists throughout the country in the general health system are trained at the district level. District TB Officers and MO-

TCs are conducting these trainings with the assistance from the state level training teams.

5. Block level: Huge health workforce in the country including the Multi-purpose Workers (ANM/MPWs) and Health Supervisors and ASHAs are trained at the block level by the already trained MO-TCs, Block level Medical Officers etc with assistance from the District Training teams.

6. PHC/institutional level: Most of the community volunteers working as DOT Providers, ASHAs, AWWs and NGO workers are usually trained at the PHC / institutional level by the pool of trainers in the districts.

Training Material: Standardized materials and schedules for initial training in DOTS in RNTCP, EQA, TB/HIV, Culture and DST, and initial training for medical college staff, as well as schedules for retraining, have been developed. Skill development appropriate for the task responsibilities of different cadres of staff has been the central theme while developing training curriculums. There is on-going work to develop training materials for new initiatives including MDR, TBHIV, PPM, and ASCM modules. These training modules have undergone periodic revision based on need to reflect revised policies and recommended practices. RNTCP has been appreciated by several joint-monitoring missions for its attention to creating standardized training modules for each programme component and customized for each category of staff. It's to the credit of RNTCP that several lakh of health care providers in the general health system have been trained in various initiatives.

Training methodology under RNTCP encourages participatory approach, includes reading of Modules, Interactions among participants & facilitators, Exposure to field situations, Module based Presentations, Problem based learning, Group exercises, Individual exercises, Role plays, Practical demonstrations and Presentations

Training Activities: There are three types of training which address as different needs of the staff providing RNTCP services:

1.Initial RNTCP training: This includes all induction trainings in RNTCP of newly placed staff or replacement staff following staff turnover. In addition to the basic modular trainings for Medical Officers, STS, STLS, LTs and MPW, initial training for NGO and private practitioners is also included.

2.Re-training: These trainings would be mainly for individuals who have already received initial RNTCP training, but during supervision have been identified as requiring re-training on basic RNTCP activities.

3. Updates on new activities and initiatives: As the RNTCP introduces new activities and initiatives, it is imperative that the field staff is updated on these areas. These updates are given mainly by utilizing time under routine activities like regular programme review meetings such as the monthly district level meeting of the DTO, MO-TCs, STSs and STLSs and the quarterly state level review meetings.

Details of training is given in Annexure

Training Target

Training needs are assessed on an ongoing basis based on the MIS data, reports from field visits, training requests received etc. Based on this annual calendar is prepared by the national, state, district and TU/Block level officials. The overall training plan includes number of batches, participants per batch, names and number so of trainers.

Training Objectives

1. To impart necessary knowledge to the officials and staff working for TB Control
2. To develop necessary skills required for each cadre of staff
3. To develop huge Human resources required to ensure quality services across the country
4. To update knowledge and improve levels of skills for incremental quality and value addition to the services

Quality assessment of Training

Training quality is assessed before, during and after training. Pre-Test and Post-Test conducted gives the immediate understanding of the knowledge levels before and after the training amongst the participants. It also indirectly measures the effectiveness of the trainers to transfer knowledge to the participants. Anonymous Satisfaction surveys after the trainings help in improving the training environments, methodology, content etc which is conducted routinely after the national and state level trainings.

Competency Framework

Based on the requirements of the jobs and activities to be performed by each of the cadre of officials and staff at all levels in the health system throughout the country, RNTCP has devised the competency framework. Job responsibilities of all cadres of staff have been well defined in the technical and Operational guidelines of RNTCP. Based on the newer initiatives and time to time assessments these Job responsibilities are revised and circulated from time to time through out the country. Training materials and schedule and training methodology for each cadre is standardised with the aim to develop the

necessary knowledge and skills for each staff. This Competency Framework is comprehensive and has aided systematic Human Resource Development under RNTCP.

Trainer Development

Cascade of trainings as mentioned previously ensures the development of trainers starting from the national level trainer till the PHC / institutional level trainers. Training institutions at all levels develops plans in coordination with different levels and this is synchronised annually and reflected in annual PIP. For developing trainers RNTCP has developed partnerships with various agencies.

Training activities in 2011:

Officials & staff trained / re-trained in 2011	Numbers
District TB Officer	319
Second Medical Officer of the DTC	95
Designated Medical Officer (MO-TC) of the TB Unit	517
DOTS Plus & TB-HIV Supervisor	111
Senior Treatment supervisor(STS)	604
Senior Tuberculosis Laboratory Supervisor(STLS)	715
TB Health Visitor	464
Data Entry Operator	164
DMC LT/Microscopist	2747
Medical Officer at BPHC/PHC/ CHC/ District Hospital/other	12732
Paramedical staff including health workers	30506
DOT providers/ Community Volunteers, including ASHAs	64542
Training and re-training in TB-HIV intensified package	
ICTC Counselors	665
District Supervisors	33
ART Medical Officers	58
Medical Officers	957
Paramedical Staff including LT and DOT Providers	15890

25 batches of National PMDT trainings were organized in 2011 by CTD whereapproximatly 800 key officials from state and district level, DOTS Plus site committee members, microbiologists of C-DST labs and RNTCP Consultants were trained in various batches held at the 4 National training Centers at New Delhi, Gujarat, Andhra Pradesh and Kerala.

Partnerships for Health Workforce development:

- RNTCP conducted four specialized training in 2011 in collaboration with 'The Union' on TB Epidemiology, Leadership and Management in MDR-TB services, Operational Research & Integrated Management Development & Planning (IMDP).
- RNTCP conducted Trainings / workshops in collaboration with PATH India TB Project during 2011 including ACSM training for civil society partners, Engineers / Architects training on 'Building Design and Engineering Approaches to Airborne Infection Control', 2 IRL Experience Sharing Workshop, ACSM dissemination workshop,

Innovative capacity building: In addition to routine / special trainings in batches, a lot of capacity and skill development actually happened through experience sharing between peers amongst the Programme Managers, RNTCP Consultants & partners during the workshops, national and regional meetings as well as state and central appraisals for PMDT scale-up.

Way ahead:

To facilitate process of Human Resource development under RNTCP, Central TB Division is in process of developing a web based application for HRD. This will enable better planning, coordination, real-time sharing of information, automated reporting by districts and states etc.

Monitoring and Evaluation System:

Successful implementation of even a perfectly designed programme entirely depends on a well laid out supervision and monitoring mechanism. The RNTCP, at the outset itself, had ensured that supervision and monitoring is an integral part of the programme and is well defined. Over the years, it can be correctly said, that a major reason for the success of the programme has been the effective supervision and monitoring of each programme activity and aspect.

The RNTCP has a comprehensive system for regular supervision and monitoring at all levels - national, state, district and sub district. A robust surveillance structure through a well-defined recording and reporting system forms the lifeline of the RNTCP supervision and monitoring mechanism. The protocols for supervision through supervisory visits, review meetings and other means are clearly laid out in the 'Supervision and Monitoring Strategy'. Various tools to aid supervision and monitoring have also been developed and have been widely circulated for use which include checklists for supervisory visits, checklists for review meetings, and other means are clearly laid out in the 'Supervision and Monitoring Strategy'. Various tools to aid supervision and monitoring have also been developed and have been widely circulated for use which include checklists for supervisory visits, checklists for review meetings, job aids etc…

The various activities and implementation aspects extensively monitored under RNTCP are Political & Administrative commitment; Human Resources including trainings; Physical Infrastructure; Drugs & Logistics; Quality of services; TB-HIV collaborative activities; Involvement of NGOs & Private Practitioners; Advocacy, Communication and Social Mobilization activities; Annual Action Plans for the Districts and the States including the Financial management; Involvement of various institutions; Involvement of Community; Multi-Drug Resistant TB etc…

The main indicators to monitor RNTCP implementation broadly revolve around the number of cases diagnosed and notified, and the percentage of patients who are successfully treated among those notified. However, the programme has further clearly defined indicators for each activity under the programme, defined further for each level of service delivery focusing on just not the outputs but also the inputs and the processes. Regular feedbacks, supervisory visits, series of review meetings and internal evaluations ensure early corrections in the implementation of the programme.

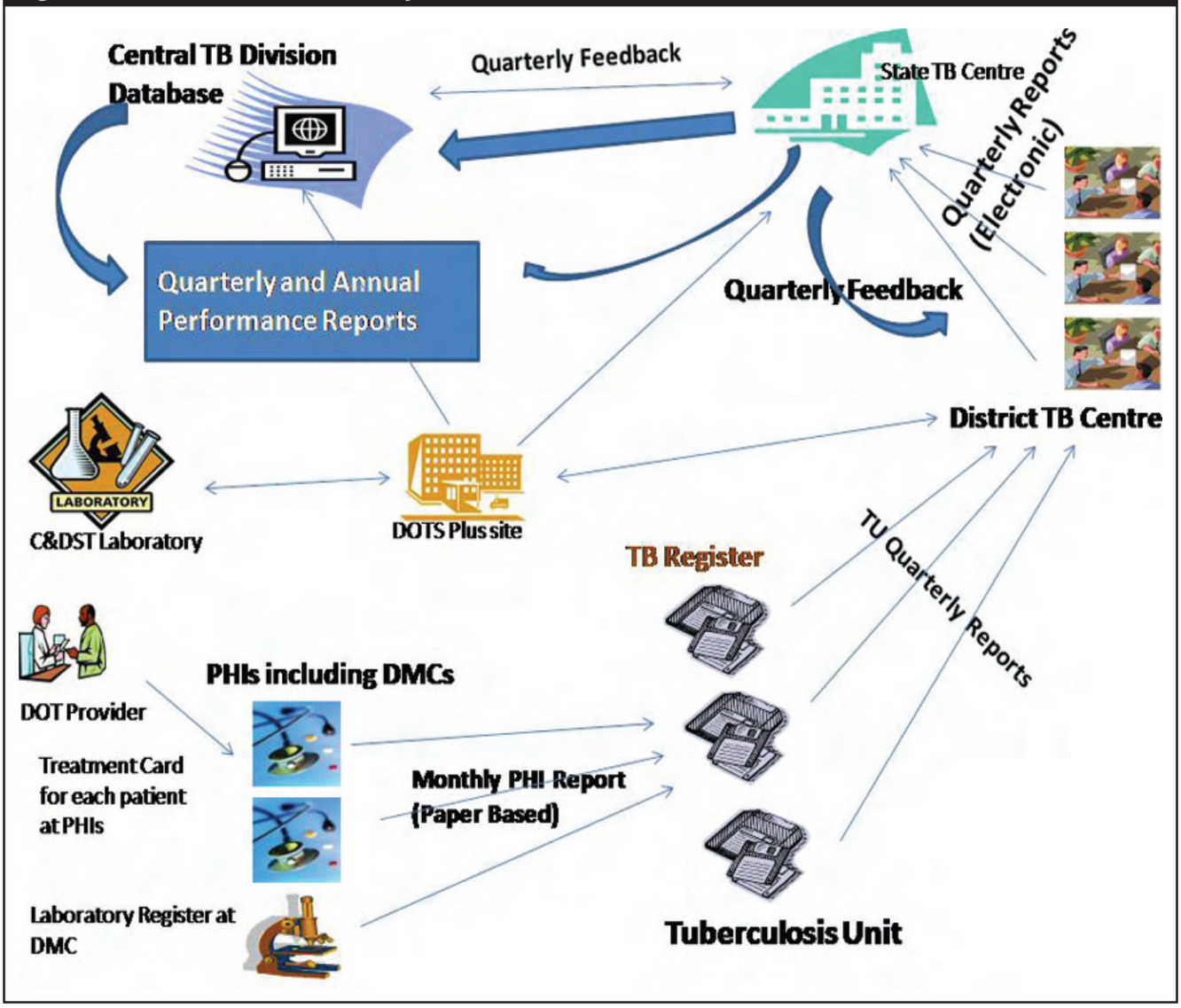
The process of monitoring broadly covers supervisory visits, review meetings at various levels and programme evaluation by different levels of health personnel. Measurable indicators for quality control, programme outcomes and operational effectiveness are the basis for programme monitoring.

Collection, Analysis and Feedback on Routine Surveillance Data: Surveillance data are received through the monthly (till sub-district levels) and quarterly reports (from sub-district levels and upwards). The reporting till district level is paper based and from district onwards the reports are electronically transmitted to the state as well as central levels. An accurately compiled quarterly report provides base level information about the performance of the programme. Central TB Division and the States analyze these quarterly reports received from the States/Districts and feedback is provided to the districts for further analyses and corrective actions. All the states were provided feedback on the quarterly reports in 2011 while more than 60% of the states have provided feedback to the districts for all the quarters in 2011.

RNTCP presently uses 'EPICENTRE' for its data management which includes collection, validation, transmission, analysis and feedback of programme performance electronically. This is presently being used successfully for

reporting of programme data from all the districts in the country. Data for all programme activities including TB-HIV activities is reported through the Epicentre, however, data for Programmatic Management of Drug Resistant TB (PMDT) is not reported through the Epicentre presently.

Figure 1: RNTCP Surveillance System



Supervisory visits and feedback: supervisory visits are the most powerful tools for programme monitoring and ensuring immediate corrective actions. It helps in validation of programme data and provides an opportunity to provide immediate feedback thus increasing the efficiency & motivation of the staff through updation of their knowledge, perfection of their skills and improving their attitudes towards work. RNTCP lays out clear responsibilities to the respective staff at all levels in relation to supervisory visits. The schedules of supervisory visits at different levels are depicted in Table 1.

The supervisory visits made from the National level in the year 2011 are detailed as below:

- More than 90 visits were made to States/UTs from CTD for various purposes.
- More than 60 districts were visited from CTD from wherein visits were made uptoperipheral level till patient's homes.
- For PIP appraisals for the FY 2011-12, fifteen visits were made to states.
- Seven visits were made in various missions such as the World Bank Mission etc…
- More than 20 visits were made to states for various workshops, conferences etc…
- More than 10 visits were made to attend various review meetings and committee meetings.
- More than 10 visits were made for laboratory accreditation and DOTS-plus appraisals.

Photo 1 - District TB Officer, Ranchi, Jharkhand and the Senior Treatment Supervisor visiting patients home during supervisory visits.

Central and State level Internal Evaluations, through a well laid out protocol, serve as important tool for indepth qualitative & quantitative evaluation of the programme; validation of programme data; platform for sharing experiences on implementation practices; garnering political and administrative support etc… The States conduct internal evaluation of 2 districts per quarter. In addition, internal evaluations are conducted by the central level with active participation of the States. The Medical Colleges, NGOs & other partners, NRHM and all other stakeholders are active participants in these evaluations.

During 2011, the states have evaluated an approximately 90 districts using a standardized format which covers the entire gamut of RNTCP services. The reports are disseminated amongst the DTOs to enable corrective actions to issues in their districts. Actions taken on the recommendations are regularly reviewed by the state and the central level. The central level has visited and intensively evaluated 3 states - evaluated 6 districts in addition to reviewing state level issues.

Photo 2 - DTO visiting a TB-HIV patient during supervisory visits

Photo 3 - The Central Internal Evaluation team briefing the Deputy Commissioner, District Dharwad, Karnataka on the findings of the evaluation conducted from 13th to 15th February 2012.

Photo 4 - Additional DDG (TB), CTD, Dte GHS, MOHFW, GOI visiting the DOTS-plus site at Bangalore, Karantaka during the Central Internal Evaluation of Karnataka.

Photo 5 - Patient being interviewed during the Central Internal Evaluation of District Tumkur, Karnataka.

External Evaluation: the World Bank Mission to review the Revised National Tuberculosis Control Program (RNTCP) was undertaken between May 30 and June 9, 2011. The Joint Review Mission, coordinated by the Central Tuberculosis Division (CTD) of the Ministry of Health and Family Welfare (MOHFW) and the World Bank, included representatives of the World Health Organization (WHO), the United States Agency for International Development (USAID), the United States National Institutes of Health (NIH), the United Kingdom Department for International Development (DFID), the Global Fund to Fight AIDS, Tuberculosis and Malaria, the Bill and Melinda Gates Foundation, and the Clinton Health Access Initiative (CHAI). The mission included field visits to Bihar, Madhya Pradesh, Karnataka and Maharashtra.

Photo 6 - World Bank Mission visiting the District TB Centre, Indore, Madhya Pradesh. Review Meeting with the staff of the District TB Centre is underway

Review Meetings: a well laid out protocol for conducting review meetings at all levels ensures continuous interaction with the staff involved in service delivery and provide directions for improvement in programme. This also provides an opportunity to update the staff on various developments in the programme. The protocol for conducting review meetings at various levels and their frequency is detailed in Table 2. The various review meetings conducted by CTD in 2011 have been listed in the Box 'CTD - Activities in 2011'.

Revision of the Supervision and Monitoring Strategy - with continuous evolution, widening priorities and developing challenges such as the Multi-Drug Resistant TB (MDR-TB), Universal Access, TB-HIV co-infection etc… it is necessary that the supervision and monitoring strategy also undergoes revisions appropriately. The focus is now on integrating the supervision mechanisms of the programme with the general health systems and also bringing within its forte the use of newer technologies and addressing issues of MDR-TB and TB-HIV co-infection. Accordingly the new supervision and monitoring strategy has been rolled out addressing these issues with a futuristic vision to also include electronic reporting of individual patient data from the most peripheral levels and also notification of TB from all health care providers. RNTCP policy on maintenance of various records has also been defined. The list of indicators have also been appropriately revised and grouped for different levels of users and purposes.

Photo 7 - Dr. Jagdish Prasad, DGHS, Dte.GHS, MOHFW, GOI addressing the Biannual National STO-RNTCP Consultant Review Meeting, 3rd - 4th November 2011.

Newer Initiatives

Case Based Web Based Reporting: the programme is in the process of developing mechanisms for case based electronic reporting of data and tracking of all cases, including drug resistant and HIV associated TB, in field. It is also envisaged that the mechanism would be extended to support reporting of individual patient-wise data for all TB patients from the most peripheral levels to have information in real time, to the extent possible, thus paving ways for immediate corrective actions even at the patient level.

Composite Indicator: the performance of the Revised National Tuberculosis Control Programme is presently being monitored on the basis of New Smear Positive Treatment Success Rate and New Smear Positive Case Detection Rates. These are purely output indicators and do not measure the overall management processes which are more crucial for the success of the programme. In order to assess the performance comprehensively various input and process indicators are equally important as the output indicators.

Accordingly the programme has devised a composite indicator scored on the basis of a set of indicators covering all aspects of programme management, the input and the output to measure the performance of programme over all thematic areas.

The composite score would be generated for each district in an automated manner through the Epicenter and will be accessible to district at the end of a quarter after uploading of its quarterly reports. It is expected to roll out the scores through Epicenter by April 2012. However, the scores have been manually calculated for the 4th quarter 2011 and included in the Annual Performance Report for 2011.

To encourage broad based analyses of the programme implementation and performance, as a policy matter, it has been decided that the scoring rules for each indicator would not be shared. However the scores for each thematic area affecting the composite score will be available for further necessary action for improving the programme performance.

The composite score would henceforth be used for monitoring of performance along with the present objectives of the programme. The detailed guidelines on the composite score to identify programme performance are available on the website (www.tbcindia.nic.in).

To ensure its effective use it is essential that the districts and the states should analyse the scores at the end of each quarter and identify gaps for corrective actions; the scores be presented to higher officials for garnering support for corrective actions required and ensure its use in all review meetings.

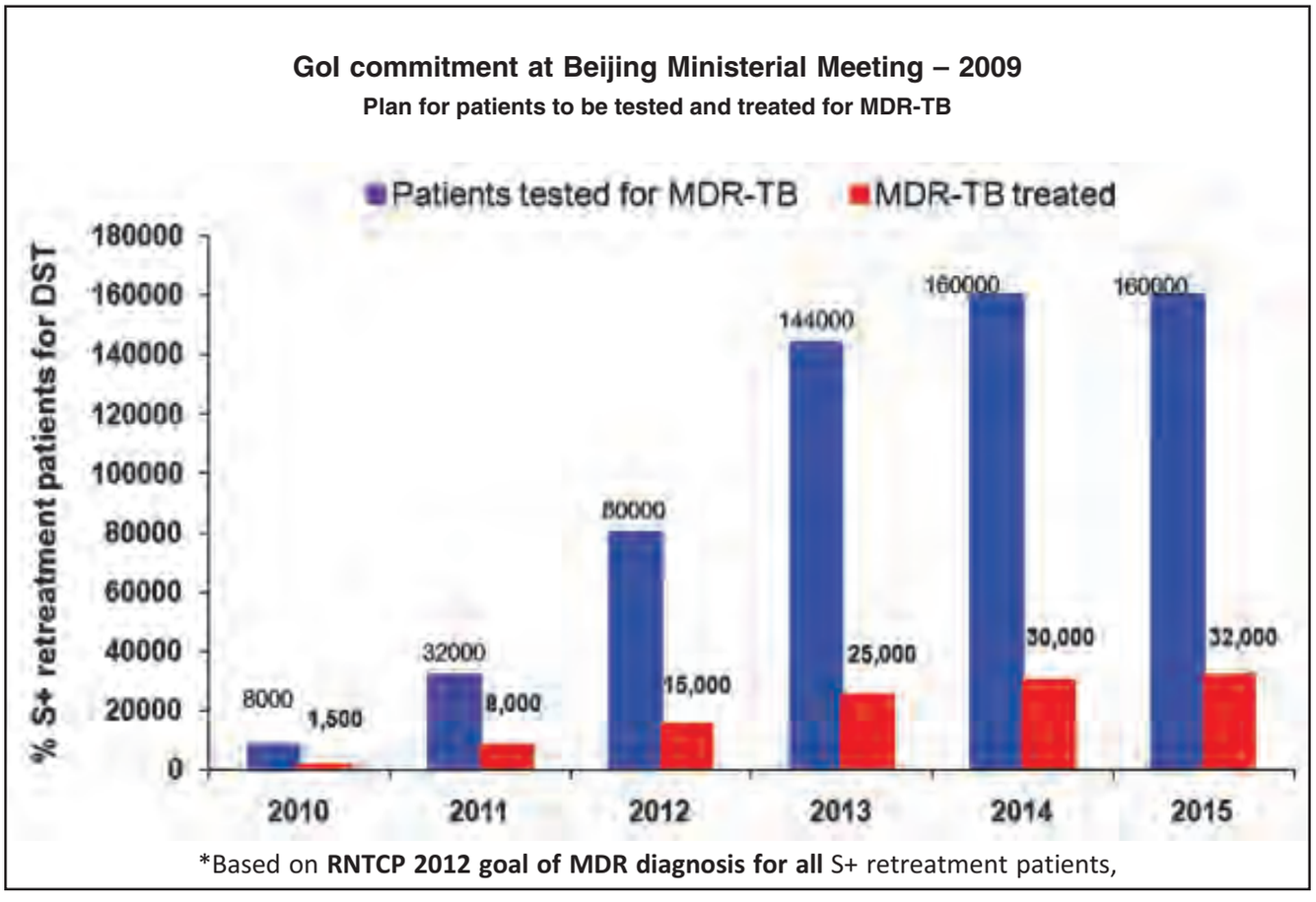
Focused Action Plan for Under-performing districts:

RNTCP is achieving the Global Target of 85% Treatment Success rate and 70% Case detection rate among New Smear Positive cases since 2007 however; there are wide variations across the states and the districts. As per the RNTCP annual data (2010) there are 35 districts with both NSP CDR <50% and NSP TSR <85%; 78 districts with NSP CDR < 50% and 120 districts with NSP TSR <85%. The programme has developed a strategy for all under performing districts with the 35 districts wherein both NSP CDR and TSR are low have being specifically chosen as High focus districts for intensified monitoring & supervision by CTD. The core strategy to improve programme performance in these districts would revolve around broadly four activities

- District specific situational analysis.
- Development of district specific micro-plan,Intensified support to the districts by the concerned state and district authorities
- Capacity Building, Resource Mobilization and Empowerment
- Intensified Monitoring and Supervision for efficient implementation & timely corrective measures.

Programmatic Management of Drug Resistant TB (PMDT):

RNTCP Response to the challenge of drug resistant TB: The programme has developed a multi-faceted response plan to combat the challenge of drug resistant TB. The key focus of RNTCP is to prevent the emergence of drug resistance by providing quality DOTS diagnostic and treatment services, increasing the visibility and reach of the programme services and promoting adherence to International Standards of TB care by all healthcare providers. Indiscriminate and injudicious use of anti-TB drugs, especially outside the programme, is a significant contributor to the emergence of drug resistance TB. The programme has taken concrete steps to promote rational use of anti-TB drugs, these include the development of a guidance document, popularly called "The Chennai Consensus Statement", for healthcare providers on the prevention and management of drug resistance TB outside the programme settings. The programme through the aegis of professional medical associations and Medical Council of India is sensitizing, educating and urging healthcare providers on judicious use of anti-TB drugs. The intervention of drug regulatory authority of the country is being sought to strictly enforce sale of anti-TBdrugs against valid prescription through a special directive. Besides initiating and strengthening measures forprevention of drug resistance, the programme hassimultaneouslyinitiated diagnostic and treatment services for the managementof MDR TB. These services are considered "Standard of Care" and are an integral component of RNTCP to manage M/XDR-TB through the existing programme.



*Based on **RNTCP 2012 goal of MDR diagnosis for all** S+ retreatment patients,

The PMDT services for quality diagnosis and treatment of drug resistant TB cases were initiated in 2007 in Gujarat and Maharashtra. Despite the modest progress from 2007 - 2009, the programme has ambitious plans to rapidly scale up the DOTS Plus services in the country. In 2009, it was envisioned that by the end of 2011 the MDR TB services will be introduced in all the states across the country in a phased manner. By 2012 it is aimed to extend drug susceptibility testing to all smear positive retreatment cases upon diagnosis, and all new cases who are smear-positive after first-line anti-TB treatment. By 2015 drug susceptibility testing will be made available to all smear positive cases registered under the programme. It is intended to be initiating MDR TB treatment at a rate of 30,000 MDR cases annually by the end of 2012. This plan was part of the commitment made by Government of India at the Beijing Ministerial Meeting "Call for Action" of 27 High Burden Countries in 2009. This is further complemented by a nation wide laboratory scale up plan developed by the programme with an ambition to have 43 culture & DST laboratories (Solid & LPA techniques including Liquid Culture in 33 labs) in the public health sectors by 2015

The next five year National Strategic Plan (2012-17) for RNTCP is being developed at the Central TB Division with the objective to provide universal access to quality diagnosis and treatment to all TB cases in the community including TB HIV and Drug Resistance TB cases. As part of this strategic plan, the following key interventions are being proposed for further scaling up towards universal access of PMDT services:

1. Procurement of rapid automated NAAT i.e. the cartridge based rapid molecular test (GenXpert)
2. Procurement of second line anti-TB drugs for management of MDR TB cases scaled up to 38,000 courses annually by 2017 including drugs for management of Extensively Drug Resistant TB (XDR TB)
3. Additional HR - Counsellor at all DR-TB Centres to promote treatment adherence
4. Further enhancement of honorarium to the DOT Providers of M/XDR TB cases

RNTCP services for MDR-TB and plans for scale-up have been the subject of extensive national and international review, including a joint mission of the WHO Green Light Committee (GLC) and Global Lab Initiative (GLI) in April 2010, and the RNTCP joint donor and partner mission of May 2010.

Diagnosis of M/XDR TB:

PMDT under RNTCP follows decentralized diagnostic and treatment services. Diagnosis is based on clinical indication to offer DST to initially all failures of first line regimen, contacts of known MDR TB case. Subsequently, additionally, All Sm +ve re-treatment cases at diagnosis, any Sm+ve follow up case and finally extended to include All Sm -ve re-treatment cases at diagnosis and HIV associated TB cases at diagnosis. For diagnosis of XDR-TB, DST for second-line drugs is extended to patients on MDR TB regimen if Culture +ve at 6 months.

For drug susceptibility testing sputum specimen is transported to accredited reference laboratory. Line Probe Assay (LPA), if available is the preferred DST method for first line drugs. DST for 2nd line drugs is done at 3 National Reference Labs (TRC, NTI, LRS). Capacity building of RNTCP certified labs to conduct 2nd line DST proposed in 2012.

Treatment of M/XDR TB: Treatment of Drug Resistant TB is based on Rifampicin DST results (RIF mono-resistance rare). Initial Hospitalization at DOTS Plus Sites is followed by ambulatory care. Standardized treatment Regimen for MDR TB under daily DOT includes (6-9m) Km Lfx Cs Eto Z Emb / (18m) Lfx Cs EtoEmb. PAS is used as a substitute drug in case of intolerance. Drug supply using 1 monthly patient wise box of different weight bands is in place.

Standardized treatment Regimen for XDR TB under daily DOT includes (6-12m) Cm, PAS, Mfx, High dose?H, Cfz, Lzd, Amx-Clv / (18m) PAS, Mfx, High dose?H, Cfz, Lzd, Amx-Clv. Clr and Thz used as a substitute drug in case of intolerance.

Accomplishments during 2011: The key activities undertaken for enhancements of programmatic management of drug resistant TB under RNTCP in India are summarized below:

National PMDT scale-up plan 2011-12 documented (by consolidating and analyzing the plans of 35 states/UTs) and hosted on www.tbcindia.nic.in as endorsed and recommended at the 7th National PMDT Committee meeting held in July 2011. This plan was presented at various international forums listed below:

- WHO SEARO Meeting of WHO country offices' focal points on Regional Response Plan for PMDT - March '11
- Indo-US International Workshop on Facing the reality of MDR TB: Challenges and Potential Solutions in India - Mar '11
- WHO - GDF meeting with Indian Drug Manufacturers - April '11 & Aug '11
- Joint Donor Review Mission of RNTCP in India

through World Bank in May '11

- The UNION World Lung Conference at Lille, France - Oct '11
- WHO National Tuberculosis Programme Manager's Meeting at Bangkok - Dec'11

- The systematic participatory approach in planning to align national resources like second line drugs, lab capacity, national training and appraisal needs with the timelines of phase wise scale up plans of the state by 2012 was highly appreciated by the international experts and experts from WHO. The Chair of UNION Expert Committee on DR TB commented at the Lille Conference that India has set out an example for other countries of SEAR region and other high burden countries to develop ambitious PMDT rapid scale up plans.

- Guidelines for Programmatic Management of Drug Resistant TB in India revised and hosted on www.tbcindia.nic.in as endorsed and recommended at the 7th & 8th National PMDT Committee meeting held in 2011-12. This revision have lead to a paradigm shift in the guidelines from a clinically oriented to a public health oriented one delineating the pathway for the country to move towards universal access of M/XDR TB diagnosis and management. The revisions broadly include updated RNTCP PMDT Vision & Scale up Plan, decentralized diagnostic approach with newer rapid diagnostics with access to pediatric, EP TB and HIV TB cases, updated mechanisms for lab certification and sample collection transport system, optimized regimen for MDR TB with High Dose Levofloxacin, scope for regimen alteration in MDR TB cases with baseline resistance to Ofloxacin and/or Kanamycin, services for HIV MDR TB co-infection management, revised drug supply management system to monthly PWBs, revised R&R, reconsideration of HR and PPM strategies and introduction of supervision, monitoring and evaluation strategy for PMDT.

- Strategy for Supervision, monitoring, evaluation and job aides for PMDT developed and introduced for states in preparatory as well as implementation stage. Standard monitoring indicators as per international guidelines on access to services, case finding, 6 and 12 months interim reports and treatment outcome on quarterly and annual cohorts evolved and published in RNTCP Annual report (TB India 2011) and Quarterly RNTCP Performance reports since 1st Quarter 2011. These indicators are used for review on PMDT coverage and performance at national and state level meetings. This SME strategy for PMDT is slated to be integrated in the RNTCP Strategy for SME being updated at CTD.

- Focused and periodic intensive PMDT review meetings at regional levels with key state officials introduced to closely monitor the progress made by every state against their respective state PMDT scale up plans to get the momentum of scale up of PMDT services further accelerated as well as organize timely intervention from central and state level, rope in assistance from NRLs and partners like FIND and PATH, to support the states complete pending preparatory activities as per the state plans. The technical review material is based on standard PMDT monitoring indicators analyzed from quarterly reports, appraisal report findings and standard template of key preparatory and quality parameters for every state.

- Six regional PMDT review meetings were conducted in 2011-12. The states have made significant progress in scale of services within their respective states as witnessed during the series of meeting held in February 2012.

- 25 batches of National PMDT trainings organized in 2011 by CTD where ~ 800 key officials from state and district level, DOTS Plus site committee members, microbiologists of C-DST labs and RNTCP Consultants were trained in various batches held at the 4 national training centers at New Delhi, Gujarat, Andhra Pradesh and Kerala.

- Central PMDT Appraisals were conducted in 138 districts across 31 states in 2011 and their action taken reports were reviewed before issuing official approval on behalf of CTD to roll out services. A team of ~ 150 experts to conduct central appraisals through a mentoring approach cascading over every subsequent central appraisal to systematically build capacity of selected experienced officials from state and district level and RNTCP Consultant's network to conduct central appraisals.

- Central Procurement of second Line Anti-TB Drugs: 15,000 MDR TB drug courses have been procured in the year 2011 through support from multiple sources i.e. World Bank, Global Fund,

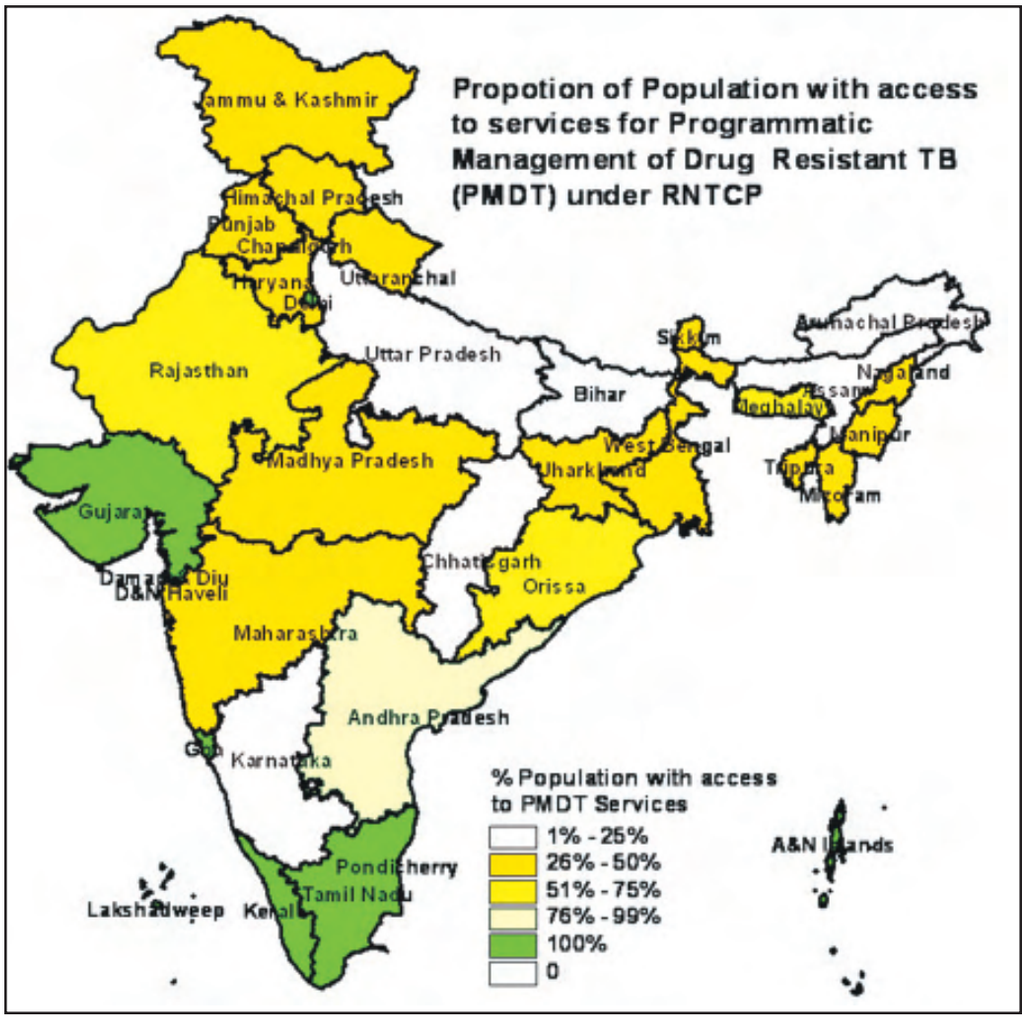
UNIT AID through Green Light Committee and Global Drug Facility. The drugs have started arriving at the state drug stores in tranches.

- Systematic public health response to the Mumbai XDR TB Episode in January 2012: The media in Mumbai published an article on 7th January 2012, on emergence of an incurable form of TB termed as "Totally Drug Resistant" (TDR) TB that created a panic situation in the community. This report was based on a letter to Clinical Infectious Disease Journal in December 2011 described 4 patients from Mumbai, India with extensively drug resistant tuberculosis (XDR TB), erroneously labeled as "TDR-TB" by the authors. Later, 8 more cases were reported by Hinduja Hospital, subsequent to the publication in the journal. Immediate cluster investigations were undertaken and a team of experts and senior officials from the Central TB Division (CTD) visited Mumbai from 16th - 19th January 2012, to guide the local team, administrators and political leaders to develop a response plan and initiate actions. Actions taken and under way to date are as follows:

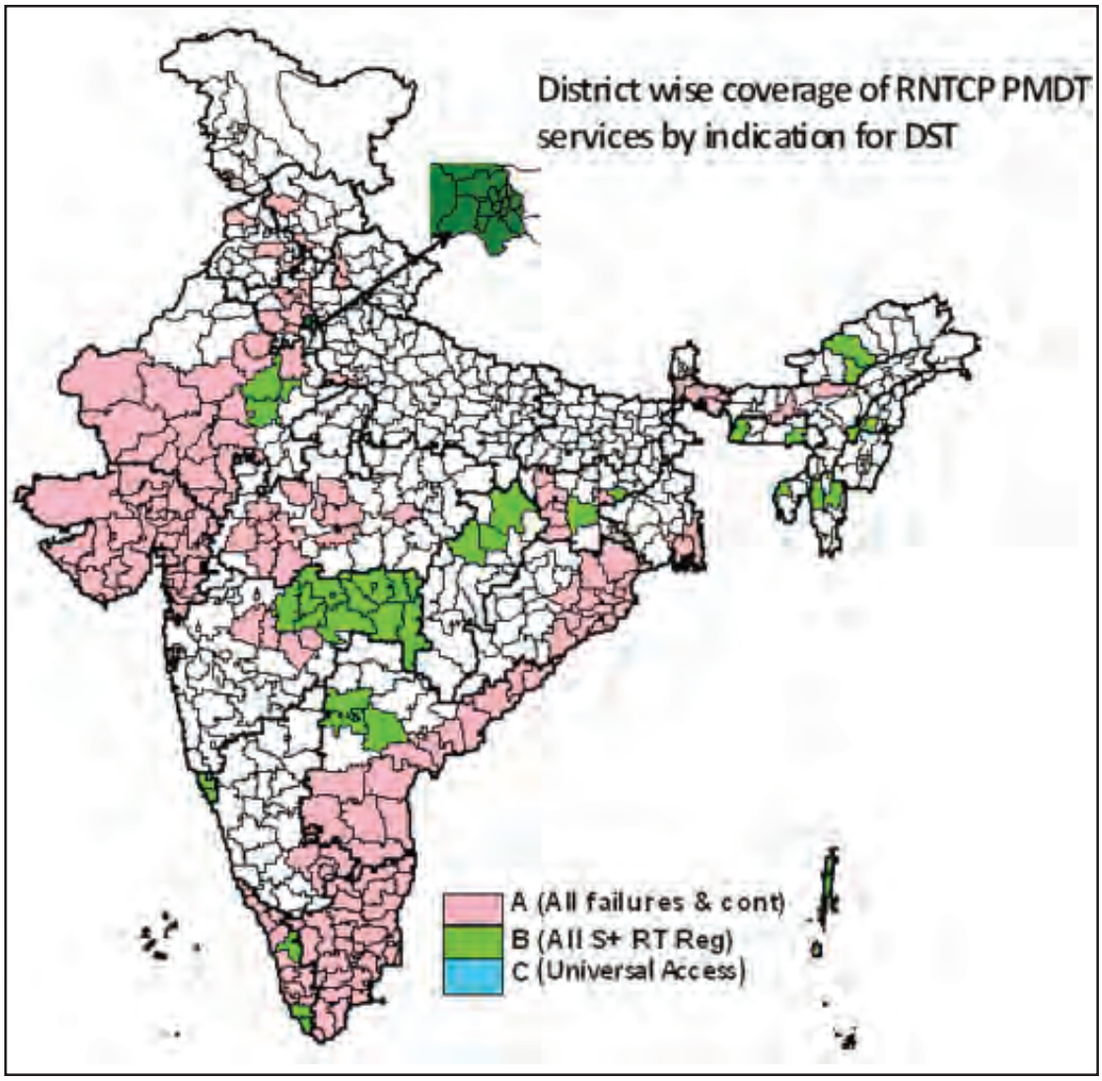
  Respond to the specific cases by re-testing of isolates reported as 'TDR' and cluster investigation, contact tracing, screening and addressing Public fear by Communications through press releases and IEC campaigns.

- Quickly establishing Laboratory surveillance and infection control measures in major private hospitals
- Further strengthening of basic DOTS services by adequate decentralization
- Accelerate the scale-up of DR TB diagnostic and treatment services in Mumbai by increasing the C&DST laboratory capacity and promoting public private partnership
- Extending RNTCP treatment services to patients diagnosed in private laboratories after confirmation.

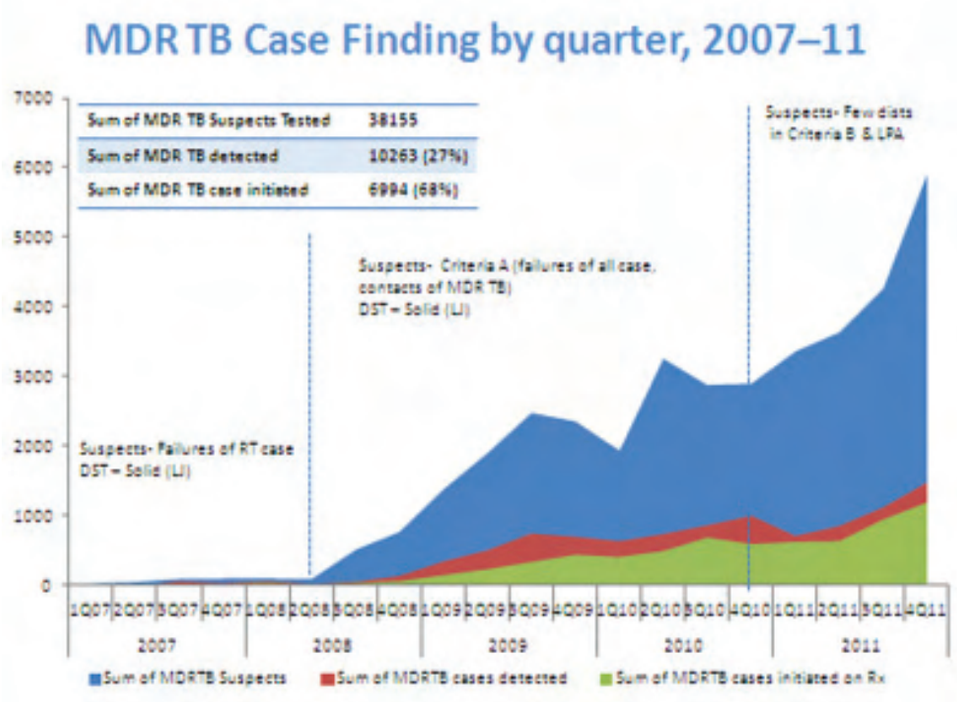
Achievements and Status of RNTCP in enhancements of PMDT services till 2011: India proudly announces the accomplishment of RNTCP PMDT Vision for 2011 by



services in all 35 states by 2011 was achieved on 10th Jan 2012. All 35 States/ UTs have introduced PMDT services in some districts with variable access and scaling up. 508 million (43%) population have access to services that varies from states to state as depicted in the figure below. 11 /35 (31%) States-UTs have achieved 100% complete geographical coverage and are progressing towards achieving universal access.



At the end of the 4th quarter of 2011, the PMDT services have been scaled up to 260/662 (40%) districts. Further 65/662 (10%) districts have advanced to offer DST to all smearpositive re-treatment pulmonary TB cases and to cases with any follow up smear positive during first line treatment. Moreover, treatment initiation and monitoring of cases is undertaken through 50 DOTS Plus Sites across the country.



Indicator	Upto Dec 2010	Upto Dec 2011	Achievement in 2011
C-DST Labs Accredited	19 (4 LPA)	35 (18 LPA)	16 (14 LPA)
Number of States implementing DOTS Plus	12	35	23
Number of Districts implementing DOTS Plus (All failures as MDR TB suspects)	138	260	122
Number of Districts implementing DOTS Plus (All S+ve RT cases as MDR TB suspects)	0	60	60
Population with access to DOTS Plus services	288 million	508 million	220 million
Number of DOTS Plus Site functional	20	50	30
Number of MDR TB suspects	20965	38187	17222
Number of MDR TB cases diagnoses	6046	10267	4221
Number of MDR TB cases put on treatment	3610	6994	3384

Since the inception of PMDT services in India, a cumulative total of 38155 MDR TB Suspects have been examined for diagnosis; 10263 MDR TB cases have been confirmed and 6994 MDR TB cases have been initiated on regimen for MDR TB.

Over the last four decades, there has been a gradual and exponential increase in the number of cases tested for MDR TB and initiated on treatment and the momentum gained in the programme sets the stage for accelerating scale up of services across the country in 2012-13.

The following table summarizes the achievements of PMDT scale up in the year 2011 asompared to 2010:

Regular reporting and analysis of TB treatment outcomes for programme improvement is an ongoing activity in RNTCP, and MDR TB treatment services are no different. The treatment outcomes of MDR TB for the initial states have been reported and presented in the data tables later in the document. These are the first MDR TB treatment outcomes under RNTCP. These patients were generally heavily treatment experienced, chronic cases, and so expectations on treatment outcomes were limited. Substantial improvements in policies and procedures have been implemented to reduce treatment default, affective 1 in 5 registered MDR TB case. Explanatory research is underway to understand the unacceptable failure rates, but early results suggest poor outcomes have been strongly associated with baseline pre-treatment Ofloxacin resistance in this patient cohort. This analysis is being expanded to subsequent sites and cohorts to inform

The challenges faced in implementation of PMDT services and solutions deployed by the programme are summarized in the adjoining table:

Challenges in PMDT & Solutions Deployed

Challenges	Solutions
• Meeting timelines of scale up plan	• M&E strategy developed • Aggressive & regular monitoring by RNTCP
~ 30% attrition from Dx to Rx : • Diagnostic delay with Solid DST (TAT - 3-4 m), • Tracing patients for treatment initiation (deaths, refusals, migration while waiting for diagnosis)	• 5 large experienced states to shift to Criteria B with LPA (TAT - 48-72 hrs) in Dec '11 • Demonstrate feasibility of automated NAAT to offer decentralized same day diagnosis (TAT - 2 hrs)
Low treatment outcomes	• Advance diagnosis early during first line Rx • Optimized regimen with Levofloxacin • Altered regimen for baseline mono-resistance to Ofx and KM with MDR TB developed • Build capacity of all labs for SL DRS • Research for better regimen
Information management	• Develop integrated national on-line electronic recording and reporting system
Future Financing	• GoI committed for greater part of financing in the next 5Y National Strategic Plan 2012-17

ongoing revision of programme policies and procedures.

Initiatives proposed for 2012-13:

- More aggressive monitoring of PMDT Scale up by various states from CTD to achieve nationwide coverage by 2012-13. CTD team visits proposed to states.
- Lab capacity deficit being addressed
- Linkage with NRLs and MoU with SRL reference labs x 4
- GeneXpert (18 TU project + 12 Expandx TB project) and GT Blot machines
- National Consultation to finalize modalities for "Lab and provider Notification of TB" and "Restricting over the counter sale of anti-TB drugs"
- Strengthening Urban TB Control initiatives and further decentralization of TB units
- Revision of PPM Strategy with innovations to partnerships and engagement with major corporate hospitals and laboratories.
- Capacity building of accredited labs to conduct DST on 2nd line anti-TB drugs
- Central procurement of drugs for XDR TB, to be available from 2013 onwards. States to continue local procurements till then

TB/HIV collaboration:

Since the advent of the collaborative efforts in 2001, TB-HIV activities have evolved to cover most of the recommendations as per the latest WHO policy statement issued in 2012. In 2007, the first National Framework for joint TB-HIV collaborative activities was developed which endorsed a differential strategy reflective of the heterogeneity of TB-HIV epidemic. Coordinated TB-HIV interventions were implemented including establishment of a coordinating body at national and state level, dedicated human resources, integration of surveillance, joint monitoring and evaluation, capacity building and operational research. Interventions have focused on improving services for HIV-infected patients, with intensified TB case finding at HIV care settings and linking with TB treatment; and for TB patients with provider initiated HIV testing and counseling, provision of ART and decentralized CPT and nationwide coverage is expected by 2011-12.

Progress

Tremendous progress has been made in the implementation of collaborative TB/HIV activities.

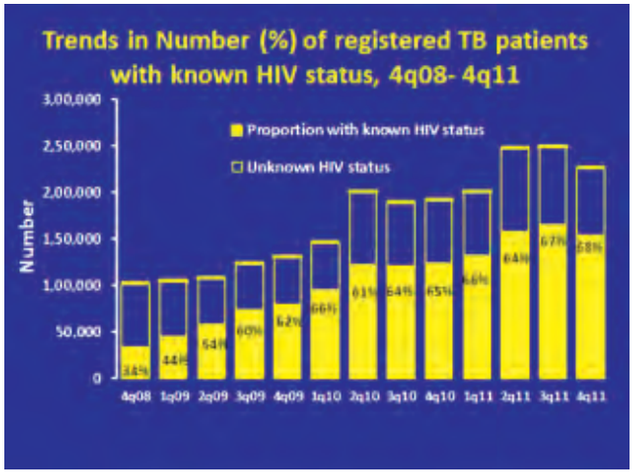
1. Intensified TB case finding has been implemented nationwide at all HIV testing centers (known as integrated counseling and testing centres, or ICTCs) and has now been extended to all ART centres, with better reporting coming from States implementing the intensified TB-HIV package. During 2010, in just the 7 highest-HIV burden States implementing the Intensified TB-HIV package, more than 393,000 TB suspects were referred from ICTCs to RNTCP and of them 35,500 were diagnosed as having TB. This has improved tremendously in 2011 with close to 7 lakh TB suspects identified and tested for TB in HIV care settings; of them, close to 84,000 TB cases were diagnosed and linked to TB treatment services. (Table 1.)

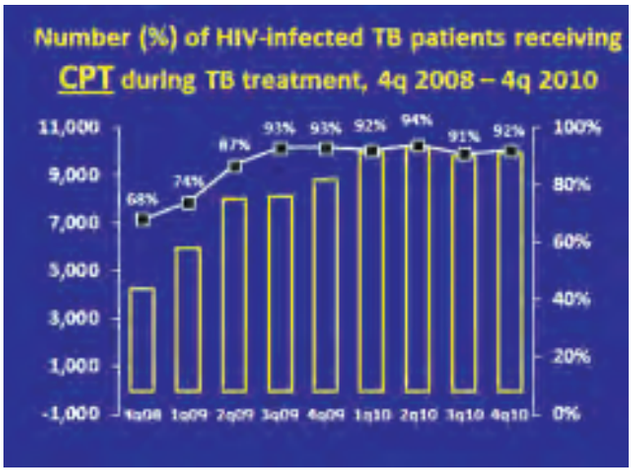
Table (1): Intensified TB Case Finding at ICTC and ART centres, 2011

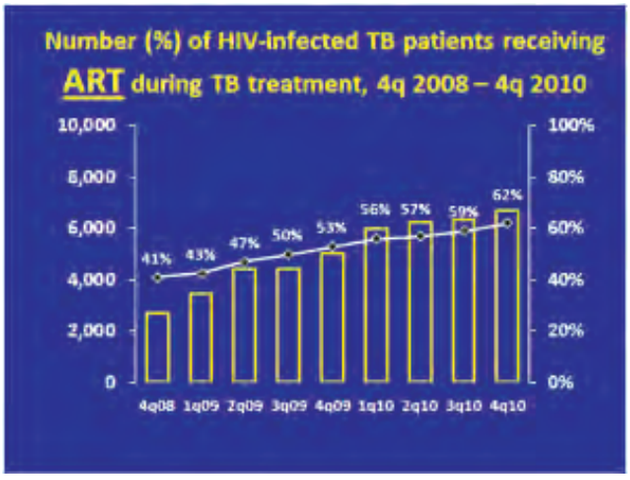
HIV care facility	Number of clients / patients screened for TB diagnosis	Number of TB patients detected
ICTC	580150	55456
ART centre	111509	28431
TOTAL	691659	83887

2. HIV testing of TB patients is now routine through provider initiated testing and counselling (PITC), implemented in all states with the intensified TB-HIV package. In these settings, the density of HIV counselling and testing services is adequate for PITC for TB patients to be effectively implemented. In 2010; 480,752 TB patients (59% of total TB patients registered in the 19 States implementing the intensified TB-HIV package for at least 2 quarters) were tested for HIV; 41,476 (9% of those tested) were diagnosed as HIV positive and were offered access to HIV care. This continues to improve in 2011. Among the 23 states reported in 2011, close to 6 lakh TB patients were ascertained for their HIV status (67% of TB patients registered) and about 44,000 HIV-infected TB patients were diagnosed.

Persons found to be HIV-positive are eligible for free HIV care at a network of antiretroviral treatment (ART) centres. ART centres are located in medical colleges, mainly staffed and operated by the State AIDS Control Societies, and a few are situated within the facilities of private or NGO partners. As of December 2011, more than 300 ART centres were operating in the country, and 550 link-ART centres. Ten Regional Centres of Excellence provide second-line ART services for PLHIV. The number of centres providing second line ART (ART-plus centres) is expected to increase in 2012-13. HIV-infected TB patients who are on protease inhibitor based second line ART are getting rifabutin-based TB treatment in place of







Rifampicin. Among HIV-infected TB patients diagnosed, nearly 91% were started on cotrimoxazole prophylaxis and nearly 60% were started on ART. Though this is an improvement over past performance, this is not sufficient and both programmes are making substantial efforts in 2011 to improve early initiation of ART in HIV-infected TB patients

3. ART guidelines have been revised and ART is now to be initiated among all HIV-infected TB patients irrespective of CD4 count and all PLHIV with CD4 count less than 350/mm3.

4. The TB/HIV scheme under RNTCP has been revised to increase the involvement of community care centers in collaborative activities.

5. Airborne infection control at ART centres and associated HIV care settings (community care centres and "Link" ART centres) has been identified as an area of increasing importance. Studies have shown high rates of exogenous re-infection among HIV-infected persons with recurrent TB, suggesting that these patients have been re-exposed to TB after being cured. National Airborne Infection Control guidelines have been developed, including special recommendations for airborne infection control activities in ART centres. Ten ART centres are included in a pilot project for airborne infection control currently underway in three States.

Challenges

However, several challenges remain. Only about 50% of TB patients know their HIV status and of those identified as HIV positive, only about 60% are linked to ART as the majority are poor and unable to reach centralized ART centres. As compared to TB services, which are mostly decentralized and integrated into the general health system, HIV services remain largely centralized. Thus, this gap between RNTCP and NACP infrastructure results in suboptimal linkages. Sputum smear microscopy is not a sensitive tool to diagnose TB among PLHIV, and access to a culture based diagnosis (or equivalent technology) is lacking. Implementation of airborne infection control measures in health care settings is also limited. The INH preventive therapy is not yet a policy; but is being tested for operational feasibility for further decision. Despite the achievements, the mortality among HIV-infected TB patients continues to be unacceptably high.

Vision: Universal access to TB/HIV care (2012-17)

There may be several reasons for the high mortality among HIV-infected TB patients: these include undiagnosed or late diagnosis of HIV, delayed or missed TB diagnosis among PLHIV, provision of inadequate chemotherapy to drug-resistant TB cases in the context of unavailability of decentralized culture and DST facilities, late presentation by HIV/TB patients (indicated by low CD4 counts at the time of diagnosis), and operational issues like long distances to travel for patients and lack of finances resulting in suboptimal linkages to centralized ART services. Available evidence suggests mortality reduction may be most effectively driven by efficient, early and improved HIV diagnosis, improved

diagnosis of TB among PLHIV and prompt initiation of ART and TB treatment among HIV-infected TB patients. Results from the SAPIT (Starting ART at three points in TB treatment), CAMELIA (Cambodian early versus late initiation of ART) and STRIDE (Strategy immediate) trials have all demonstrated the mortality benefit of early compared to deferred initiation of ART during TB treatment, especially in the subgroup of patients with advanced immunodeficiency. The National AIDS Control Organization's adoption of recent WHO recommendations to treat all HIV-infected TB patients with ART, irrespective of CD4 count, and other measures being put in place to enhance access of HIV-infected TB patients to ART should help enhance survival. Hence, RNTCP and NACP (National AIDS Control Programme) have jointly planned the following interventions in their next strategic plans (2012-17):

1. Given the need to strengthen collaborative efforts, the next five-years would focus on reinforcing mechanisms for ensuring effective implementation and improving service delivery for TB and HIV infected patients.
2. Decentralization of HIV testing facilities and co-location in all TB microscopy centres has been planned to ensure universal coverage of HIV testing among TB patients.
3. Early and improved diagnosis of TB and Rifampicin resistance, through rapid diagnostic technology for PLHIV is envisaged. Field-testing and deployment of improved TB diagnostic tools, such as high-sensitivity cartridge-based nucleic acid amplification tests, for more effective diagnosis of TB and drug-resistant TB among PLHIV is expected to reduce morbidity and mortality.
4. Measures to improve access of HIV-infected TB patients to ART centres by provision of travel support and engagement with the affected community have been planned.
5. Early initiation of ART for all PLHIV with CD4 counts of <350, and for all HIV-infected TB patients irrespective of CD4 count. Early initiation of ART is expected to improve immune competency and prevent the development of TB.
6. Recording and reporting formats have been modified to optimize supervision and monitoring of implementation of TB/HVI collaborative activities.
7. More than half of PLHIV globally and in India do not know their HIV status and are diagnosed late. Initial results of research into the feasibility of "PITC among TB suspects" as a method of achieving early and improved diagnosis of HIV has been promising, and broader surveillance is planned to drive policy decisions. Again, earlier HIV diagnosis can broaden opportunities for HIV care and treatment, including TB prevention.
8. The National Technical Working Group for TB/HIV has approved an operational feasibility cum efficacy study for Isoniazid Preventive treatment among PLHIV. The study will be led by National Institute for research in TB (earlier TRC, Chennai) and conducted in 12 ART centres in the country. The results of this study will guide nationwide scale-up.

Operational Research for TB-HIV:

RNTCP conducted an operational research on provider initiated HIV testing and counseling (PITC) among TB suspects based on recommendation of National Technical Working Group (NTWG). The study was conducted in one district each of Andhra Pradesh and Karnataka (Vizianagaram and Mandya), with an objective to assess if PITC was feasible and effective in finding out "new" HIV cases given that all TB suspects were offered HIV testing. This study showed that HIV prevalence among TB suspects can be as high as that among TB patients ranging between 7%-10%, and also that PITC can be feasibly implemented in settings with decentralized HIV testing facilities. Acknowledging the strong evidence, NTWG recommended the national programmes to implement PITC among TB suspects in high HIV settings; the same would be piloted in 1-2 high prevalence states at all DMC with co-located HIV testing facility for a period of 3-6 months with mechanisms for recording and reporting to finalize the operational guidance before scale-up to other high HIV settings. The NTWG also recommended national programmes to implement similar surveillance activities in moderate and low HIV settings. Accordingly, protocols have been developed and surveillance has been initiated in 10 districts of the country. Evidence generated from these studies will guide scale-up across the country.

Global guidelines for treatment of TB among persons living with HIV: unresolved issues

Revised National TB Control Programme (RNTCP) in India uses a fully intermittent thrice-weekly rifampicin-containing regimen for all TB patients including those who are HIV-infected; whereas, WHO recommends daily TB treatment at least during the intensive phase. The WHO recommendation was based on the results of a meta-analysis demonstrating increased risk of recurrence and failure among HIV-infected TB patients receiving intermittent TB treatment, compared to a daily regimen.

Review of the primary evidence indicates limited, low-quality information on intermittency, mostly from observational studies in the pre-antiretroviral treatment (ART) era. Molecular epidemiology in India indicates that most of the recurrences and many of the failures resulted from exogenous re-infection, suggesting poor infection control and high transmission rather than poor regimen efficacy. Subsequently published studies have shown acceptable TB treatment outcomes among HIV-infected TB patients receiving intermittent anti-TB regimens with concomitant ART. Treatment outcomes among HIV-infected TB patients treated under programmatic conditions show low failure rates but high case-fatality; death has been associated with lack of ART. Hence, the highest priority is to reduce mortality by linking all HIV-infected TB patients to ART. While urgently seeking to reduce death rates among HIV-infected TB patients, given the poor evidence for change and operational advantages of an intermittent regimen, RNTCP intends to collect the necessary evidence to inform national policy decisions through randomized clinical trials.

Childhood Tuberculosis

Background

The actual burden of pediatric TB is not known due to diagnostic difficulties but has been assumed that 10% of total TB load is found in children. Globally, about 1 million cases of pediatric TB are estimated to occur every year accounting for 10-15% of all TB; with more than 100,000 estimated deaths every year, it is one of the top 10 causes of childhood mortality. Though MDR-TB and XDR-TB is documented among pediatric age group, there are no estimates of overall burden, chiefly because of diagnostic difficulties and exclusion of children in most of the drug resistance surveys.

Contrary to traditional national TB programmes pediatric tuberculosis (i.e., TB among the population aged less than 15 years) has always been accorded high priority by RNTCP since the inception of the programme. In order to simplify the management of pediatric TB, RNTCP in association with Indian Academy of Pediatrics (IAP) has described criteria for suspecting TB among children, has separate algorithms for diagnosing pulmonary TB and peripheral TB lymphadenitis and a strategy for treatment and monitoring patients who are on treatment. In brief, TB diagnosis is based on clinical features, smear examination of sputum where this is available, positive family history, tuberculin skin testing, chest radiography and histopathological examination as appropriate. The treatment strategy comprises three key components. First, as in adults, children with TB are classified, categorised, registered and treated with intermittent short-course chemotherapy (thrice-weekly therapy from treatment initiation to completion), given under direct observation of a treatment provider (DOT provider) and the disease status is monitored during the course of treatment. Second, based on their pre- treatment weight, children are assigned to one of pre-treatment weight bands and are treated with good quality anti-TB drugs through "ready-to-use" patient wise boxes containing the patients' complete course of anti-TB drugs are made available to every registered TB patient according to programme guidelines. To be noted that India was the first country to introduce pediatric patient wise boxes.

Progress

1. The number of pediatric TB cases registered under RNTCP has shown an increasing trend in the past five years and for 2011, about 90,000 cases were notified accounting for 7% of all cases. Expectedly, smear negative and EP cases predominate.

2. Treatment for MDR-TB for children is now available under the program and a new weight band (<16kg) has been created.

3. The treatment outcomes of pediatric TB cases, though not reported routinely under the programme, have been studied in operational research settings. Operational research conducted in the states of Delhi, Karnataka and Gujarat reported very high treatment success rates (about 95% among new TB cases) among pediatric TB patients indicating the effectiveness of RNTCP regimens and management guidelines.

Challenges

However, these guidelines were developed in 2004 and since then there have been changes in global and national guidelines in management of pediatric TB. Specifically, novel evidence has become available regarding the correct dosages, schedule of treatment and formulations

of medicines for treating pediatric TB. Following this concerns have been raised over the adequacy of the RNTCP-recommended drug doses, which for some children on a milligrams per kg basis fall below that recommended in 2009, especially those at the higher end of the individual RNTCP pre-treatment weight bands (eg, 9-10 kgs, 16-17 kgs, 24-25 kgs, 29-30 kgs). World Health Organization updated its guidelines in 2009-10, through a series of coordinated efforts to review and synthesize evidence on correct dosages of anti-tuberculosis medicines in children based on systematic reviews, pharmacokinetic simulations and preparation of evidence summaries using GRADE profiles and analysis. WHO has issued a rapid advice in 2010 detailing the key recommendations. The guidelines of the International Union against TB and lung disease have also been revised in 2010. The Indian Academy of pediatrics has also revised its recommendations in 2010. Owing to these changes, there are differences between current RNTCP recommendations and that recommended globally and nationally which need to be reconciled in consensus with the national experts in managing tuberculosis in children.

National consultation on management of childhood tuberculosis in 2012

In order to reconcile between global and national guidelines, to review the evidence base and update the RNTCP guidelines in consensus with Indian academy of paediatrics, a national consultation was organized in January 2012. The above mentioned issues were extensively deliberated and several changes have been recommended in the diagnosis, treatment and prevention of childhood TB. Once approved by the ministry, these will be widely disseminated in 2012.

National Technical Working Group on Pediatric TB, a mechanism for continuing consultation:

It has been decided that a national technical working group of 10-12 experts on pediatric TB would be constituted with clearly defined terms of reference. This would provide a forum for continuing consultations with experts and an opportunity to evolve the guidelines based on evolving evidence.

Research

Impact assessment :

Estimating Tuberculosis disease burden is important for planning, monitoring and evaluation of TB control programme. Progress towards Millenium Development Goals is measured especially with three indicators of TB disease burden viz: prevalence, incidence and mortality with current status in comparison to level in 1990.

In India, TB surveillance especially in private sector is inadequate as TB notification is not mandatory and the incidence rates were estimated based on Annual Risk of TB Infection (ARTI) surveys done in 2002-03. These surveys were repeated between 2008 - 2011 as Nation-wide (zonal) ARTI Survey coordinated by NTI, Bangalore in association with

- New Delhi TB center (North Zone)
- MGIMS, Wardha (West Zone)
- LRS Institute, new Delhi (East zone)
- CMC, Vellaore (South Zone)

For estimation of TB Prevalence in the country TB Prevalence Surveys were undertaken between 2007-2011 by the programme at following seven sites:

- TRC Chennai - MDP Project
- NTI, Bangalore
- MGIMS, Wardha
- PGI, Chandigarh
- AIIMS, New Delhi
- JALMA, Agra
- RMRCT, Jabalpur

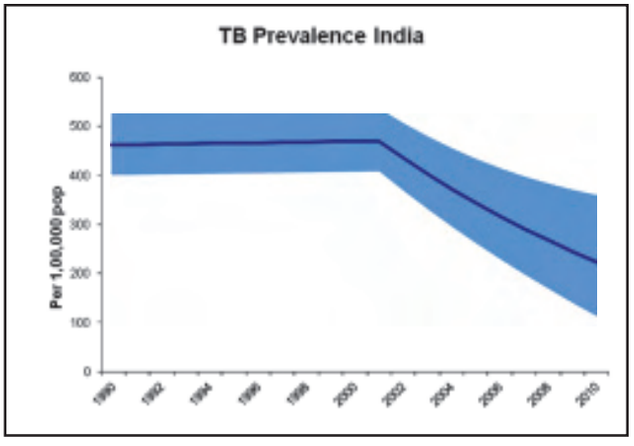
Also TB mortality surveys were conducted by TRC, Chennai in 2005.

TB burden estimation in India were Based on the results of these surveys and the analysis of the TB notification data being collected under the Revised National TB Control Programme.

Estimation of TB Prevalence:

Data after pooling was exposed to higher statistical analysis including data mining (for missing data) & multiple imputations using R software before applying more sophisticated and appropriate analysis for prevalence estimation for reducing the uncertainty.

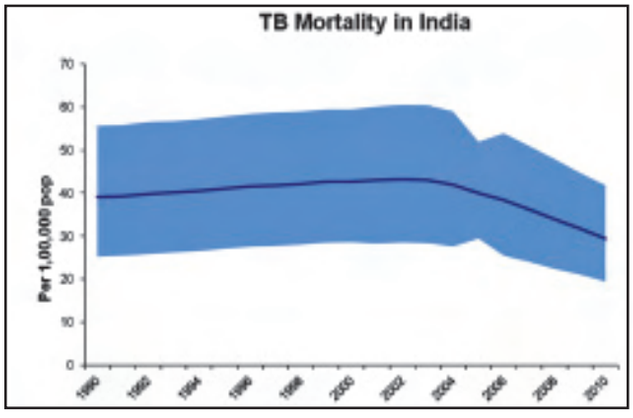
Various adjustments were made to finally estimate the TB prevalence using the known proportions of children, EP TB cases etc. The point estimate of the year 2008 for the TB Prevalence in India was thus made from this pooled analysis. For estimating the trend between 1990 and 2012 the baseline was taken as 1956 National TB Prevalence survey conducted by NTI with assumptions of no significant change till 1990 level. Trend of TB Notification data under the TB Control Programme in the country was used from year 2000 to 2010.



Estimation of TB Mortality:

Both Direct and Indirect method were considered using

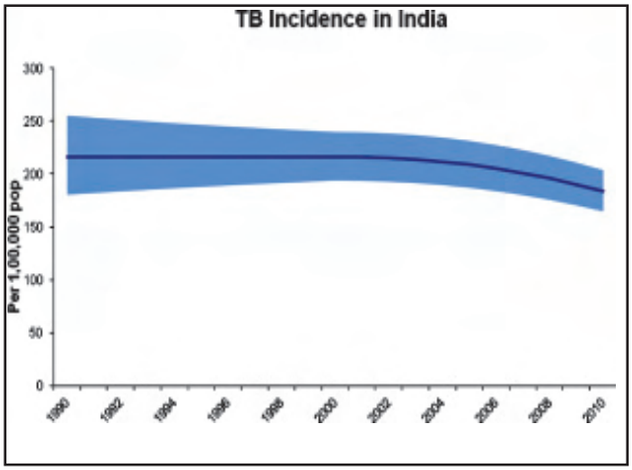
the differential TB mortality under DOTS strategy under the Revised National TB Control Programme and outside the programme for the total estimated TB patients separately for HIV positive and HIV negative for estimating the TB Mortality.



The TB mortality for the year 2005 was estimated based on the TB mortality surveys conducted in year 2005. Forward and backward calculation was based on the estimated TB prevalence trend.

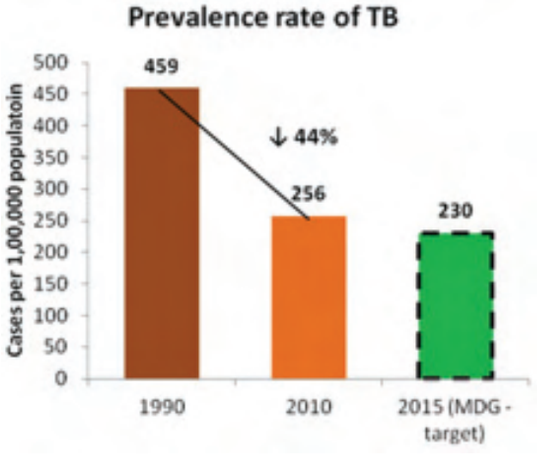
Estimation of TB Incidence: The Annual Risk of TB Infection (ARTI) has decreased from 1.5 in 2002-03 to 1.1% nationally in 2008-10 with the estimated decline of 3.7% per year (95% confidence interval, 2.4-5.1% per year). As an independent marker of trends in TB transmission, it definitely indicates possibility of decreasing TB Incidence in the country. ARTI has limited value in direct estimation of TB Incidence due to various factors challenging the use of fixed Styblo's calculation for this purpose. Internationally following methods are recommended by WHO for estimation of TB incidence:

1. Direct measurement from TB notification data
2. Direct measurement from prospective cohort studies.
3. Indirect estimation using surveys of the annual risk of TB infection.
4. Indirect estimation using studies of the prevalence of TB disease.
5. Indirect estimation using mortality data recorded in vital registration systems.
6. Indirect estimation based on an assessment of the completeness of TB notification data.



Incidence for 2010 was estimated according to the method of Estimating TB incidence from estimates of the proportion of cases detected, including use of results from two sub-national inventory studies. The level of underreporting for 2010 was estimated at 34% within the same uncertainty bounds of 24% - 44%. For estimation of the trends in TB estimation, trend of notification of incident TB cases under the Programme between year 1990 and 2010 was used similar to the estimation of Prevalence

Based on RNTCP's notification data from the programme's own notifications, limited prevalence surveys and limited mortality surveys, estimated disease burden of TB in terms of Incidence, Mortality and Prevalence per 1,00,000 in India as below:



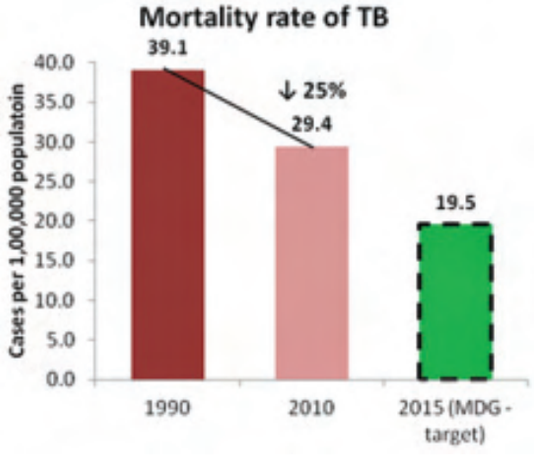


Table 1.

Year	Incidence *			Prevalence			Mortality		
	Best	High	Low	Best	Low	High	Best	High	low
1990	216	255	181	39	56	25	459	515	407
1991	216	254	182	39	56	26	460	516	407
1992	216	252	184	40	57	26	460	516	408
1993	216	250	185	40	57	26	461	517	408
1994	216	248	187	41	57	27	462	518	409
1995	216	247	188	41	58	27	462	519	409
1996	216	245	189	42	58	28	463	519	410
1997	216	244	191	42	59	28	464	520	411
1998	216	243	192	42	59	28	464	521	411
1999	216	241	193	43	60	29	465	521	412
2000	216	240	194	43	60	29	466	522	412
2001	216	240	194	43	60	28	456	510	400
2002	215	239	193	43	61	29	436	498	379
2003	214	237	192	43	61	28	409	475	347
2004	212	235	190	42	59	28	383	454	317
2005	209	232	187	40	52	29	358	436	288
2006	205	228	184	38	54	26	335	419	261
2007	201	223	180	36	51	24	314	405	234
2008	196	217	176	34	48	22	294	393	209
2009	190	211	171	32	45	21	275	382	185
2010	184	204	165	29	42	20	256	373	161

However it may be noted that these are 'best' point estimates that are highly transparent in their uncertainty. The trends of estimated TB prevalence, mortality and incidence in India shows decline in TB burden

The RNTCP is based on global scientific and operational guidelines and evidence, and that evidence has continued to evolve with time. As new evidence became available, RNTCP has made necessary changes in its policies and programme management practices. In addition, with the changing global scenario, RNTCP is incorporating newer and more comprehensive approaches to TB control. To generate the evidence needed to guide policy makers and programme managers, the programme implemented measures to encourage operational research (OR). Efforts of RNTCP to promote OR yielded success and most of the studies has are linked to the main priorities of TB control.

The programme requires more knowledge and evidence of the effectiveness of interventions to optimize policies, improve service quality, and increase operational efficiency. This has led to the realization of the need for a more proactive approach to promoting OR for the benefit of the TB control efforts. Furthermore, the programme seeks to better leverage the enormous technical expertise and resources existing within India both within the Programme, and across the many medical colleges, institutions, and agencies.

Operational research aims to improve the quality, effectiveness, efficiency and accessibility (coverage) of the control efforts. Operational studies promoted are generally:

- of low cost and limited staff time, because they should not deviate excessive resources from service delivery and disease reduction,
- of short duration, because the results should be available rapidly to decide on programme changes if necessary,

Name of the zone	No. of thesis proposals approved (3Q10-2Q11)	No. of OR proposals submitted to Zonal OR committee (3Q10-2Q11	No. of OR proposals approved by the Zonal OR committee (3Q10-2Q11)
North	21	15	2
South	14	15	7
East	5	3	2
West	28	27	2
North East	4	2	1
Total	72	62	14

- based on simple standard protocols, to be repeated in different environments, and
- giving priority to test solutions to identified problems and to develop new implementation methods to improve the programme.

Following is the summary of number of Operational Research proposals and status of approval by the mechanism of State OR Committees, Zonal OR Committees and National Standing OR Committee.

At the national level 6 OR proposals were received in 2011, of which three were considered and none was approved.

At the national level currently five research studies are ongoing:

- Evaluation of the efficacy of trice weekly DOTS regimen in TB Pleural effusion at 6 months
- Assessment of RNTCP Strategy of FNAC diagnosis and duration of treatment for peripheral Lymphadenitis
- Study on the treatment of abdominal Tuberculosis: A randomized controlled trial to compare the 6 months of cat-I treatment with 9 months of Cat-I treatment (extension for 3 months) in abdominal TB under RNTCP
- ARTI Survey in urban slum of Delhi
- Sputum smear conversion and treatment outcomes of New Smear Positive tuberculosis patients with co-existing diabetes mellitus put on Category I RNTCP treatment

Following two research studies are completed:

- Socioeconomic implications and incidence of default amongst patients on DOTS, Himachal Pradesh 2008-2010
- Treatment of Genital Tuberculosis: A Randomized controlled trial of either Discontinuation at 6 months or continuation till 9 months after initial response to RNTCP Category I treatment.

OR Capacity Development under RNTCP:

Central TB Division conducted first round of Operational Research course in collaboration with The Union, WHO, CDC and NTI in 2011. In this series of three workshops, the participants identified 16 important research questions, developed protocols and in between did the review of literature, sought Ethics Committee and administrative approvals, collected data &analysed data and ultimately came up with international quality research papers. The facilitators from the partnering agencies / institutions and the Programme built the capacity of the participants to conduct fruitful, relevant operational research under RNTCP.

Following important research questions were answered in this process of capacity development.

- What proportion of TB patients would have been additionally diagnosed to have DM, if all TB patients are actively screened for DM?
- What is the HIV Sero-prevalence among TB suspects (aged 18 years or more) examined for diagnostic smear microscopy at Designated Microscopy Centres (DMCs) in two districts of South India?
- Does watching a video of a narrative of cured tuberculosis patients (photo-voice) increase adherence to TB medications among new tuberculosis patients?
- Among pulmonary TB suspects examined for smear microscopy in a DMC, is there an increase

in yield of sputum positive cases when the sputum is concentrated by 'overnight bleach sedimentation' technique as compared to direct microscopy?

- What is the additional yield of TB suspects and s+TB cases by ICF among household contacts of TB cases?
- Among all smear positive patients registered in 3Q10 what are the factors for delay in initiation of RNTCP treatment after diagnosis in 1 district (Bardhaman) of W.Bengal and 1 district (Nalgonda) of AP?
- What is the impact of single sputum sample examination during follow ups on management of pulmonary TB patients in RNTCP?
- Do private practitioners (PP) who are exposed to RNTCP involvement efforts report better diagnostic and treatment practices for TB than practitioners who are not exposed with regards to International Standards of TB Care?
- Are there any differences in TB management practices by PP in VSK as compared to ISTC
- Among TB patients registered under RNTCP what are the patient and provider related factors associated with non-testing for HIV?
- What is the duration between onset of symptoms and diagnosis in a cohort of smear positive TB patients diagnosed in the district of Patna by Revised National Tuberculosis Control Programme (RNTCP) and what factors are associated with delay in diagnosis?
- Wat are KAP among providers of alt systems of medicine regarding diagnosis, treatment and management of patients with cough as well as chest symptomatic
- What is the prevalence of Ofloxacin resistance among MDR TB samples detected during anti-TB drug resistance surveillance in Andhra Pradesh?
- What are the risk factors for death and default among NSP cases in Karnataka?
- What proportion of the diagnosed TB patients in Medical Colleges of West Bengal and Meghalaya, are availing RNTCP treatment services?
- What is the usefulness of the result of mid CP

Over years, RNTCP has made progress in not only promoting Operational Research in TB control but has also created environment to support the research initiatives by collaborations and use the scientific evidences created for policy changes. Examples of research studies conducted under RNTCP in India that led to impact on Programme policy and practice.

Study title	Impact	Reference #
HIV sero-prevalence among tuberculosis patients in India, 2006-2007.	This study was conducted by Central TB Division. This study showed that The burden of HIV among tuberculosis patients varies widely in India ranging from 1% to 13%. Programme efforts to implement comprehensive TB-HIV services should be targeted to areas with the highest HIV burden. The study highlighted the need for surveillance through routine reporting or special surveys are necessary to detect areas requiring intensification of TB-HIV collaborative activities.	PLoSOne. 2008 Aug 20; 3(8):e2970.
Initial default among diagnosed sputum smear-positive pulmonary tuberculosis patients in Andhra Pradesh, India.	This research study was conducted by the State TB Cell of Andhra Pradesh. The study showed that the reported initial default rates are very high and actual rates are nearly half of what is reported due to problems with recording and reporting patient treatment initiation status. The study also showed that pre-diagnostic counseling of patients, and better address recording in laboratory registers of DMCs may help in patient tracing.	International Journal of Tuberculosis and Lung Disease (2008) 12: 1055-1058.

Study title	Impact	Reference #
Linking HIV-infected TB patients to cotrimoxazole prophylaxis and antiretroviral treatment in India	This study undertaken from Central TB Division showed that among HIV-infected TB patients in India death was common despite the availability of free cotrimoxazole locally and ART from referral centres. Death was strongly associated with the absence of ART during TB treatment. To minimize death, programmes should promote high levels of ART uptake and closely monitor progress in implementation.	PLoS One. 2009 Jun 22;4(6):e5999
Surveillance of drug-resistant tuberculosis in the state of Gujarat, India.	This study was commissioned by Central TB Division to assess the prevalence of MDR TB amongst TB Cases. The study showed that the prevalence of MDR-TB among new cases is 2.4% (95%CI 1.6-3.1) and among re-treatment cases it is 17.4% (95%CI 15.0-19.7%). MDR-TB prevalence remains low among new TB patients in Gujarat, but is more common among previously treated patients. Among MDR-TB isolates, the alarmingly high prevalence of OFX resistance may threaten the success of the expanding efforts to treat and control MDR-TB.	International Journal of Tubercculosis Lung Diseases. 2009 Sep;13(9):1154-60.
Risk factors for treatment default among re-treatment tuberculosis patients in India, 2006.	This operations research study was conducted by Central TB Division. This study showed that amongst the large number of re-treatment patients in India, default occurs early and often. Improved pretreatmentcounseling and community-based treatment provision may reduce default rates. Efforts to retrieve treatment interrupters prior to default require strengthening.	PLoS One (2010) 5: e8873. 10.1371/journal.pone.0008873 [doi].
Characteristics and programme-defined treatment outcomes among childhood tuberculosis (TB) patients under the national TB programme in Delhi.	This operations research study was conducted by Central TB Division. The study showed that the RNTCP strategy of treating children using pediatric patient wise boxes is effective in achieving programme defined treatment success rate.	PLoS One (2010) 5: e13338 10.1371/journal.pone.0013338 [doi].
Tuberculosis 'retreatment others': profile and treatment outcomes in the state of Andhra Pradesh, India.	In response to the raising notification rates of re-treatment TB cases across the country, particularly that of the 'retreatment others', this operations research study was conducted by Central TB Division in co-ordination with the State TB Cell of Andhra Pradesh. The notification of 'Re-treatment others'. 'Retreatment others' were predominantly sputum smear-negative TB, with significantly better treatment outcomes than among smear-positive retreatment patients.	INT J TUBERC LUNG DIS (2011) 15(1):105-109

Study title	Impact	Reference #
Source of Previous Treatment for Re-Treatment TB Cases Registered under the National TB Control Programme, India, 2010.	This operations research study was conducted by Central TB Division, to understand the implications of rising numbers of re-treatment tuberculosis cases across the country. The study showed that nearly half of the re-treatment cases registered with the national programme were most recently treated outside the programme setting. Enhanced efforts towards extending treatment support and supervision to patients treated by private sector treatment providers are needed to improve the quality of treatment and reduce the numbers of patients with recurrent disease. In addition, the study recommended that reasons for the large number of recurrent TB cases from those already treated by the national programme require urgent detailed investigation.	PLoS One (2011) 6: e22061. 10.1371/journal.pone.0022061 [doi];PONE-D-11-07281 [pii].
Will Adoption of the 2010 WHO ART Guidelines for HIV Infected TB Patients Increase the Demand for ART Services in India?	This operations research study was undertaken from Central TB Division, to understand the resource implications of adopting the 2010 WHO ART guidelines. This study showed that in Karnataka, India, about nine out of ten HIV-infected TB patients were eligible for ART according to 2006 WHO ART guidelines. The efficiency of HIV case finding, ART evaluation, and ART initiation was relatively high, with 78% of eligible HIV-infected patients actually initiated on ART, and 80% within 8 weeks of diagnosis. This study recommended that ART could be extended to all HIV infected TB patients irrespective of CD4 count with relatively little additional burden on the national ART programme.	PLoS ONE (2011) 6(9): e24297. doi:10.1371/journal.pone.0024297

follow-up sputum smear examinations in declaring outcomes and guiding further management of smear positive TB patients under RNTCP?

The second round of this OR capacity building workshops will soon start in April 2012.

Similar course is organized in collaboration with MSF, in addition to the OR courses being organized in the leadership of NTI, Bangalore with support of WHO.

RNTCP also has promoted participation by sites in India for international research. One of the studies on MDR-TB regimen for this is being piloted internationally including sites from India under STREAM study.

Steps ahead:

- NIRT Chennai will be soon start a multi-centric study for estimating the proportion of Relapse and reactivation amongst the successfully treated NSP TB patients under the Programme.
- Operational feasibility of GeneXpert technology will be studied for consideration of this newer diagnostic tool in the programme for implementation as a policy.
- Programe has planned OR dissemination workshop with assistance of WHO in 2012 for ensuring better utilization of the results by the people of interest.
- Programme is in process to develop web-based application for streamlining Operational Research to facilitate transparent and accountable system ensuring timely feedback and decisions of the respective OR committees to the applicant Principal Investigators.

Piloting Joint TB-DM collaborative activities:

Background

The most recent estimates of the global burden of diabetes mellitus (DM) come from the 2011 Diabetes Atlas of the International Diabetes Federation. In 2011, there were an estimated 366 million cases of DM globally, and by 2030 it is expected that this number will have risen to 552 million. 80% of people with DM live in low- and middle-income countries and 50% of all people with DM (183 million) are undiagnosed. It is estimated that DM caused 4.6 million deaths in 2011. As a consequence of urbanization as well as social and economic development, there has been a rapidly growing epidemic of diabetes mellitus (DM) in India. Available data suggest that an estimated 11% of urban people and 3% of rural people above the age of 15 years have DM. Among them about half in rural areas and one third in urban areas are unaware that they have DM. Most recent estimates from the International Diabetes Federation put the number of persons with diabetes mellitus at 61.3 million (10% of the adult population), with a further 77 million having impaired glucose tolerance.

TB-DM interactions

The recent medical literature on the interactions between Tuberculosis and Diabetes has shown that:-

- People with a weak immune system, as a result of chronic diseases such as diabetes, are at a higher risk of progressing from latent to active TB. Hence, people with diabetes have a 2-3 times higher risk of TB compared to people without diabetes
- About 10% of TB cases globally are linked to diabetes
- A large proportion of people with diabetes as well as TB is not diagnosed, or is diagnosed too late. Early detection can help improve care and control of both
- DM can lengthen the time to sputum culture conversion and theoretically this could lead to the development of drug resistance if a 4-drug regimen in the intensive phase of therapy is changed after 2 months to a 2-drug regimen in the presence of culture-positive TB.
- People with diabetes who are diagnosed with TB have a higher risk of death during TB treatment and of TB relapse after treatment.
- DM is complicated by the presence of infectious diseases, including TB. It is important that proper care for diabetes is provided to patients suffering from TB/DM.
- It has been argued that good glycemic control in TB patients can improve treatment outcomes.

However the precise mechanisms by which the interactions take place are still not clear. Epidemiological surveys and studies have been completed and published or are currently being conducted in India on the association between DM and TB. Epidemiological models using 2000 data in India have shown that DM accounts for 20% of smear-positive pulmonary TB and recent analyses have indicated that the increase in DM prevalence in India has been an important obstacle to reducing TB incidence in the country. In Tamil Nadu, crude prevalence rates of diabetes and pre-diabetes in TB patients were found to be 25% and 24% respectively with rates in the general population being 10% diabetes and 8% pre-diabetes. A comparison of different methods of screening for diabetes (fasting blood glucose, oral glucose tolerance test and HBA1C) showed the fasting blood glucose to be the more cost-efficient. In a study from the state of Kerala, 44% of the TB patients were found to have diabetes (as compared to a prevalence of 16%-20% diabetes in the general population) - 23% of the TB patients had self-reported diabetes, and 21% were newly diagnosed to have diabetes on measurement of HBA1C (> 6.5%).

These works suggests high levels of DM in patients with TB in the states of Tamil Nadu and Kerala. This may have an important effect on TB treatment outcomes by lengthening the time to sputum culture conversion, increasing death rates and increasing the risk of recurrent TB after successful completion of TB treatment. This association may also theoretically lead to the development of multi-drug resistant TB (TB resistant to rifampicin and isoniazid). The epidemiological and clinical interactions between TB and DM are similar to that between TB and HIV. The impact of these interactions, though different in magnitude at individual level may even out at population level due to higher prevalence of DM in the population. The similarity of interactions provides an opportunity for application of lessons learnt in TB-HIV collaboration to TB-DM collaboration as well.

Global response

An important step in the fight against DM and TB has been the development of a WHO-Union Framework for Collaborative activities to guide policy makers and implementers in reducing the dual burden of DM and TB (Table). This was developed through a 2-year consultative process, with WHO giving clearance to

develop a Framework rather than Guidelines due to lack of strong evidence to support some of the suggested interventions. The Framework was released in August 2011,and will serve as a guide to help policy makers and implementers to move forward to combat the looming epidemic. It will be important to ensure that interventions are delivered within the context of general health systems and take account of other chronic non-communicable diseases, and that engagement is sought both with and from civil society.

Specific objectives of the pilot project are:-

a) To actively screen TB patients for DM

b) To refer those suspected or diagnosed with DM to appropriate diabetes care

c) To actively screen DM patients attending specialized clinics for Tuberculosis and link those diagnosed as TB to RNTCP.

d) To record and report on the screening data.

Table: Collaborative activities to reduce the dual burden of TB and DM

A. Establish the mechanisms for collaboration
A.1. Set up means of coordinating DM and TB activities
A.2. Conduct surveillance of TB disease prevalence in DM patients in medium and high-TB burden settings
A.3. Conduct surveillance of DM prevalence in TB patients in all countries
A.4. Conduct monitoring and evaluation of collaborative DM and TB activities
B. Detect and manage TB in patients with DM
B.1. Intensify detection of TB disease among DM patients
B.2. Ensure TB infection control in health care settings where DM is managed
B.3. Ensure high quality TB treatment and management in people with DM
C. Detect and manage DM in patients with TB
C.1. Screen TB patients for DM
C.2. Ensure high quality DM management among TB patients

TB = tuberculosis; DM = diabetes mellitus

One of the important activities of the Collaborative Framework is the routine implementation of bi-directional screening of the two diseases. The ways of screening, recording and reporting for the two diseases in routine health care settings are not well determined, and these knowledge gaps need to be addressed.

National response - Applying lessons from TBHIV collaborative activities

A national stakeholders meeting was held in Delhi, India, (October 2011) between The Union, WHO, World Diabetes Foundation (WDF), RNTCP and NPCDCS (National programme for prevention and control of Cardiovascular diseases, Diabetes mellitus, Cancer and Stroke) authorities to review and discuss linkages between diabetes mellitus (DM) and tuberculosis (TB), the need for bi-directional screening and the WHO-Union Collaborative Framework. At the national stakeholders' meeting it was agreed that the feasibility of bi-directional screening should be assessed as pilot projects within routine health care services. The aim of the pilot project is to assess the feasibility and results of screening tuberculosis (TB) patients for diabetes mellitus (DM) and vice versa within the routine health care settings.

A training module has been developed by Central TB Division to assist in capacity building of the field staffs implementing the project. The pilot is being conducted in 14 sites across the country and the results will be available by the end of October 2012. The results will be presented to all the stakeholders including the national programme authorities for decisions on nationwide scale-up.

Synergies and convergence with NRHM:

The National Rural Health Mission (NRHM) is providing accessible, affordable and accountable quality Health services even to the poorest households in the remotest rural regions. NRHM aims to carry out the necessary architectural correction in the basic health care delivery system of the country by increasing public expenditure on health, reducing regional imbalances in health infrastructure, pooling resources, integration of organizational structures, optimization of health manpower, decentralization of district management of health programmes, community participation and ownership of assets, and the induction of management and financial personnel into district health system. These large scale initiatives to strengthen the health system as a whole, shifting the focus from sector wide approach to much more integrated approach, resulted in positive impact in health indicators including Tuberculosis.

RNTCP, is an integral part of the NRHM and would continue to deliver its services through State/District Health society created under the umbrella of NRHM. As RNTCP is being implemented through the general health system, NRHM would further help in strengthening delivery of DOTS services and increasing accountability of general health system.

NRHM is providing persistent supervision and monitoring in addition to the administrative, financial, operational support to the programme. A quarterly review meeting at state and District level, with greater focus and priority to RNTCP during the review of National Disease Control Programs, might be an option to strengthen implementation at the block level.

To further decentralize to improve accessibility of services, the sputum collection centres have been established at the identified Primary Health Centres (PHCs), sub-centres, private practitioners, private hospitals, anganwadis, schools, pharmacies and any other location as decided by the programme. Trained ASHA workers can facilitate sputum collection and transportation from the community.

TB/MDR-TB patients below poverty line may be linked to social welfare scheme available with the Block Development Officer on regular basis. This will enable these patients to receive additional nutrition through additional ration above the basic eligibilities.

Similarly linkages may be developed with the IDSP where IT enabled services are available at the PHI level.

In the rural areas, this will be focused on convergence with NRHM and leveraging on the structures and systems that have been established but In the urban areas the programme will focus on linking of appropriate field level structures for Implementation of the programme with flexibility to integrate with the urban health systems both in public and private sector.

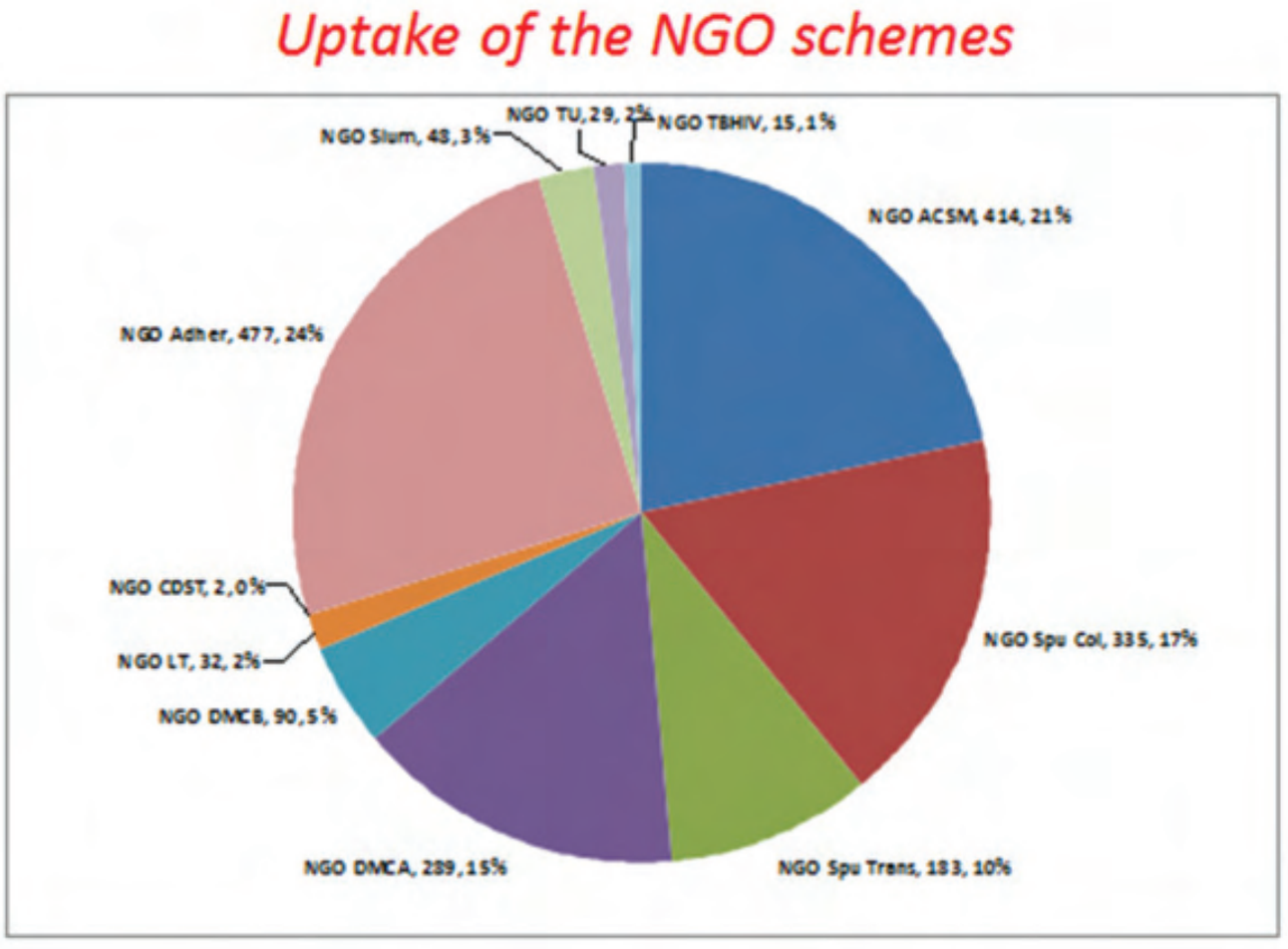
The vision of the TB programme for the next five years is to strengthen the decentralized programme structure and ensure integration with mainstream public health systems. To address the issues at sub-district level, the programme has planned to align the TU to the block level administrative structure of NRHM. The existing TU for a population of 500,000 is planned to cover a reduced population of 200,000 when aligned with the block administrative structure of NRHM. The block level medical officer will function as medical officer -TB control supported by a STS. However, the STLS will cover a population of 500,000.

A project under "Practical Approach to Lung Health (PAL)" is being piloted with the General Health System for management of chest symptomatic patients who are found to be symptomatic even after the antibiotic trial.

Partnership

The programme achieved an engagement of all relevant health-care providers in tuberculosis (TB) care and control through public-private and public-public mix approaches (PPM). However despite various successful PPM models, it has been estimated through various studies that 30-40% of all TB cases are still not notified under the programme. To achieve the objective of "Universal access" it is mandated that these missing cases are brought under the umbrella of RNTCP.

The central government departments like railways, steel, ports, coal and mines have their own health care facilities spread across the country. Usually these facilities cater to a "captive population" who receive subsidized or free services from said facilities. The health facilities outside Ministry of Health (Other sectors), like Employees' State Insurance (ESI), Railways and Central Government Health Services (CGHS), as well as the Ministries of Defence, Steel, Coal, Mines, Petroleum and Natural Gas, Shipping, Power, Chemicals and Fertilizers, have been roped in the programme and directives have been issued to their respective health facilities to adopt the 'DOTS Strat-



egy'.

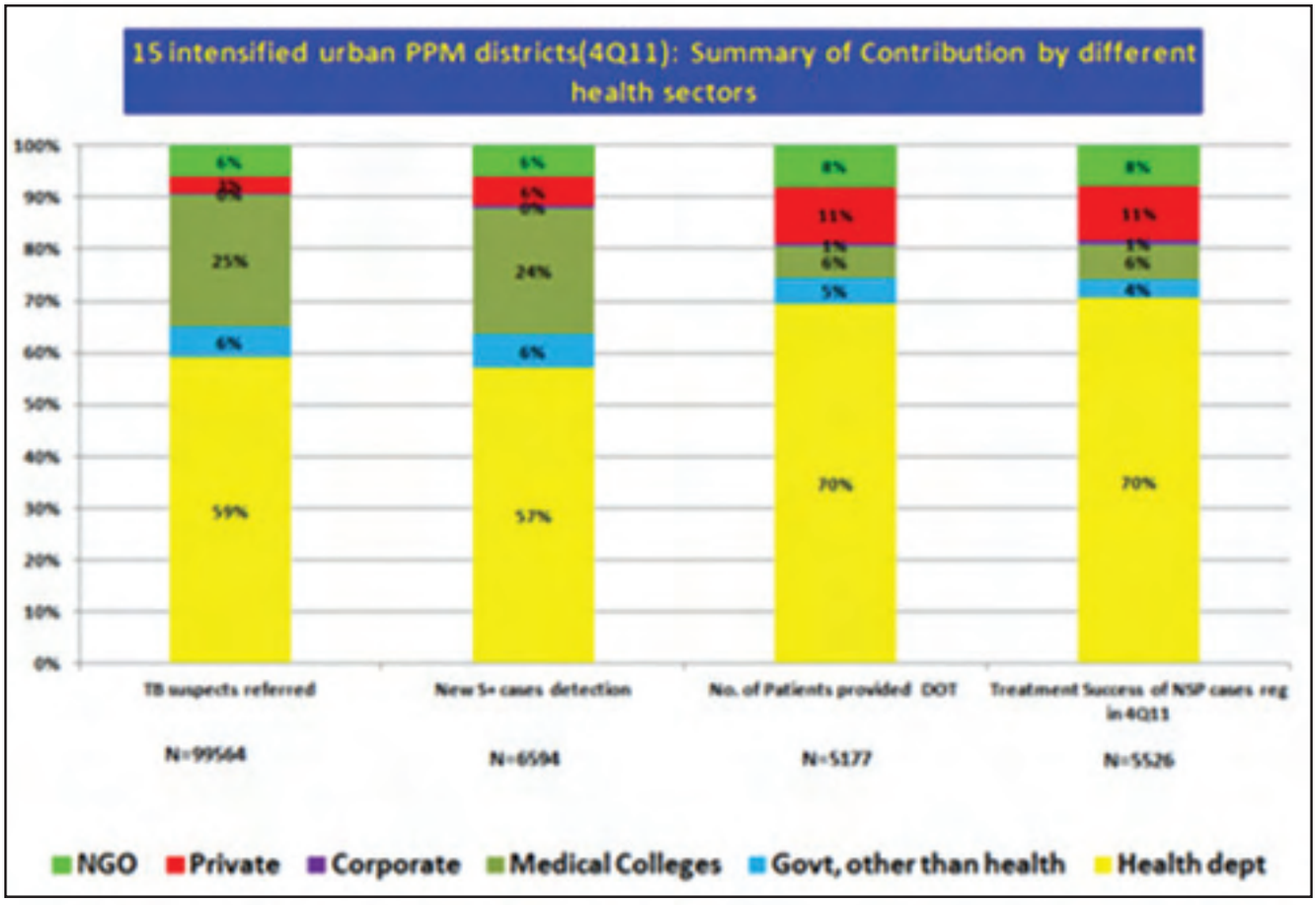
The Central TB Division (CTD) published guidelines for the participation of the NGOs (2001) and private practitioners (2002). The schemes were made more flexible and new schemes like Culture and DST in private labs, sputum collection and pick-up, slum scheme and TB HIV scheme were introduced, as recommended by a National Consultation in January 2008 . The schemes were rolled out in October 2008. Till date over 1900 NGOs and over 10,000 Private practitioners are involved in the revised schemes.

Intensified PPM project

The Central TB Division runs the Intensified PPM Project in fourteen urban areas in the country to systematically undertake intensified PPM activities and to document the contribution of major categories of health providers to case detection and treatment under RNTCP.

The 14 sites are large urban areas in 14 different states: Thiruvananthapuram (Kerala), Chennai (Tamilnadu), Bangalore (Karnataka), Bhopal (Madhya Pradesh), Bhubaneswar (Orissa), Ranchi (Jharkhand), Patna (Bihar), Kolkata (West Bengal), Pune-Mumbai (Maharashtra), Ahmedabad (Gujarat), Jaipur (Rajasthan), Lucknow (Uttar Pradesh), Chandigarh and New Delhi. The reporting focuses on the following four areas:

1. Referral of TB suspects
2. New smear positive case detection
3. DOT provision to TB patients and,
4. Their treatment outcome.



Involvement of Medical Colleges in RNTCP

Involvement of medical colleges in the RNTCP is a high priority. Under RNTCP Medical Colleges play important roles in service delivery, advocacy, training and operational research. Systematic involvement of medical colleges under RNTCP has been a huge success story.RNTCP is supporting Medical Colleges with additional human resources, logistics for microscopy, funds to conduct sensitizations, trainings and research in RNTCP priority areas. Medical colleges have contributed in a major way in finding more TB cases, especially smear negative and extra - pulmonary cases. The involvement of Medical Colleges in RNTCP completed 10 years.

Evolution of Medical College involvement in RNTCP Keeping in view of increasing participation of Medical colleges in the Programme as tuberculosis units,

microscopy centers, treatment observation centres, etc., medical colleges were divided in five zones North, East, West, South and North-East which is being increased to seven zones this year to ensure maximum representation and proper involvement of Medical Colleges.

Medical College Core Committee: A Medical College Core committee is formed in each Medical college including least 4 members, with representatives from department of medicine, chest medicine, microbiology and community medicine. The Core Committee functions to establish quality assured sputum smear microscopy facility in the medical college as well as treatment and referral services to all kind of TB patients. Furthermore it Organize sensitization / workshops / trainings for faculty members / PGs / UGs / Interns / paramedical staff, etc and also undertake Operational Research for RNTCP.

Each Medical College is provided with a Medical Officer, Lab technician and a TB Health Visitor to facilitate the RNTCP activities through the respective District Health Societies. The logistics for the laboratory and all the reporting formats are provided by RNTCP.

State Task Force (STF): Composed of a Chairman who is an elected representative from the medical college in the State, STO of the State is the member secretary. Members of STF include representatives of each of the Medical colleges of the State, on rotation basis if required. The main task of STF is to provide leadership and advocacy, coordination, undertake monitoring, lead operational research and support policy development on issues related to effective involvement of medical colleges in RNTCP at State level and to Ensure establishment of DMC cum DOT centers in all Medical Colleges.

Zonal Task Force (ZTF): Composed of a Chairman who is an elected representative from STF chairpersons in the respective Zone with two years tenure. Member secretary of ZTF will be the STO of the State where Medical College of ZTF Chairman is situated. Members of ZTF are representatives of the State Task forces within the zone. . In addition to Ensuring constitution of State Task Force (STF) in all States under the Zone, the main task of ZTF is to provide leadership and advocacy, coordination, undertake monitoring, lead operational research and support policy development on issues related to effective involvement of medical colleges in RNTCP at Zonal level. The annual Zonal Task Force (ZTF) CMEs cum Workshops are held every year. The Medical college Zonal task force workshop is an opportunity for reviewing the performance of medical colleges and advocating the guidelines of RNTCP.

ZTF workshops were held as follows during 2011:

ZTF workshops East Zone 2011

ZTF workshops 2011

Sr No	Zone	Venue and STF	Dates
1	East	Ranchi, Jharkhand	4th-5th Aug '11
2	South	Hyderabad, Andhra Pradesh	11th -12th Aug '11
3	North-East	Sikkim	19th - 20th Sep '11
4	North	New Delhi	14th- 15th September'11
5	West	Ahmedabad,Gujarat	29th - 30th Sep '11

National Task Force (NTF): The NTF comprises of representatives from seven nodal medical colleges, CTD, TRC, NTI, LRS and WHO. It has a Chairman who is selected on rotational basis from amongst the 7 nodal medical colleges. DDG (TB) is the member-secretary of the NTF. The main task of NTF is to provide leadership and advocacy, coordination, undertake monitoring, lead operational research and support policy development on issues related to effective involvement of medical colleges in RNTCP at National level.

Some of the major contributions of National Task Force Workshop in the past are under:

- RNTCP strategy for DRS/DOTS-plus, role of medical colleges in the management of MDR TB patients (2004, 2006)
- Strategy for TB-HIV co-ordination at medical colleges (2004, 2006)
- Recommendations for generation of evidence on effectiveness of RNTCP regimens in extra-pulmonary TB by developing generic operational research protocols on pleural effusion, lymph-node(2005, 2006)
- Statement on rational use of second line anti-TB drugs (2006)
- Adoption and endorsement of "International Standards for Tuberculosis care" (2006)
- Contribution to the development of RNTCP DOTS Plus guidelines (2008)
- Contribution to the development of National Airborne Infection Control Guidelines (2008)
- Revision of the RNTCP Operational Research Agenda and Guidelines (2008)
- Endorsed and contributed to implementation of revised diagnostic criteria of 2 weeks cough to suspect TB and 2 samples examination for diagnosis
- Endorsement of proposed revision of RNTCP treatment regimen and nomenclature (2009)
- Rolling out pilot of National Guidelines on Air-borne Infection Control in health care and other settings in India (2009)
- Promoting involvement of Medical Colleges for implementing MDR TB diagnostic and treat-ment services under RNTCP (2009)
- Streamlining reporting from Medical Colleges (2009)
- Endorsing the RNTCP response to WHO treat-ment guidelines (2010)

National Task Force Workshop 2011 was held at LRS Institute New Delhi in December 2011, under the Chair-manship of Prof Dr D Behera. The Summary of deci-sions of National Task force 2011 is as follows:

1. Constitution of a separate cell with a full time dedicated Nodal Person in CTD.

2. Representation of CTD during State Task Force meeting,

3. Constitution of one more Zone, by redistribut-ing the number of Medical Colleges.

4. STF Vice Chair in States with large number of Medical Colleges

5. Inclusion of DNB Institutions under the um-brella task force

6. Establish Task Force review missions for Evalu-ation of Zonal Task Force Mechanisms.

7. Medical College should devise mechanisms to notify all forms of diagnosed in all departments to the Medical College RNTCP single window

8. Proposal to MCI for incorporating RNTCP in Curriculum and MCI recognition norm.

Status of Medical college involvement: Contributions made by 291 out of 321 medical colleges In India, is as under:

	2009-10	2010-11
Total Number of Medical Colleges involved	282/307	291/321
TB suspects examined for diagnosis	611683	689342
Smear positive TB cases were diagnosed	92071	95272
Sputum Smear+ ve TB cases (put on treatment and refereed)	84015	87271
Initial Defaulters	8056 (9%)	8001 (8%)
Sputum Smear -ve TB cases (put on treatment and refereed)	49788	49031

Above 600 Medical College faculties are trained as trainers, these trained human resource available in the medical colleges are supporting program beyond the academics and participating in the National as well as local training as facilitators and also participating in Internal Evaluations and appraisals.

Pharmacists fight against Tuberculosis

Indian Pharmaceutical Association (IPA) slowly started engaging pharmacies in DOTS services since year 2006. After small successful pilots during 2006-09, a scaled up collaborative public-private programme "DOTS TB Pharmacists Project" was launched. It is International Pharmaceutical Federation (FIP, SEAR Pharm Forum- & IPA project with Maharashtra State Chemist and Druggists Association (MSCDA) & District/City TB authorities. This project is supported by the Lilly MDR TB Partnership.

Pharmacists are trained for following role:

- Detecting chest symptomatic cases & referral to ,nearby Designated Microscopy centres
- Patient counselling & education,
- Community awareness about TB & Drug Resistant TB
- DOT medicine administration
- Attempt to convert private sector patient to DOTS
- Rational use of antibiotics

IPA sought the State TB officer's permission for the project, and the Food and Drug Administration was informed and necessary permission was obtained for DOT provision in pharmacies. The District/City TB Officer, WHO RNTCP Consultants along with IPA trained pharmacists, and IPA is currently working with Navi Mumbai, Mumbai, Bhivandi and Kalyan- Dombivli corporations. Local chemist association selects the willing pharmacists for participation.

Project Progress at a glance: Presently, 70 pharmacists are delivering DOT services and more than 224 patients have got benefits of these services. Pharmacists are actively referring the TB suspects to nearby designated microscopy centres. Case detection rate among the referred cases is about 16% to 30%. RNTCP field staff regularly visits the DOTS pharmacies & pharmacists have developed excellent working relationship with them. Pharmacists have expressed a high level of socio-professional satisfaction. All pharmacists are distributing the TB literature to the patients. Patient feedback also indicates the convenience of treatment & comfort of

Pharmacist with patient

DOT at pharmacies due to friendly relations with pharmacy & proximity to the house.

In the last 2 months, 120 more pharmacists from Ulhasnagar, Badlapur, Ambernath and Nagpur have been trained for DOTS, and are about to start their activity.

Appropriately trained community pharmacists can contribute to TB control in India. Considering the fact that there are approximately 500,000 pharmacists in India, this initiative, if scaled up nationally has huge potential to make significant impact on TB Control. Organizers have

been working towards this national scale up of the work and pursuing the matter with Ministry of Health, Government of India.

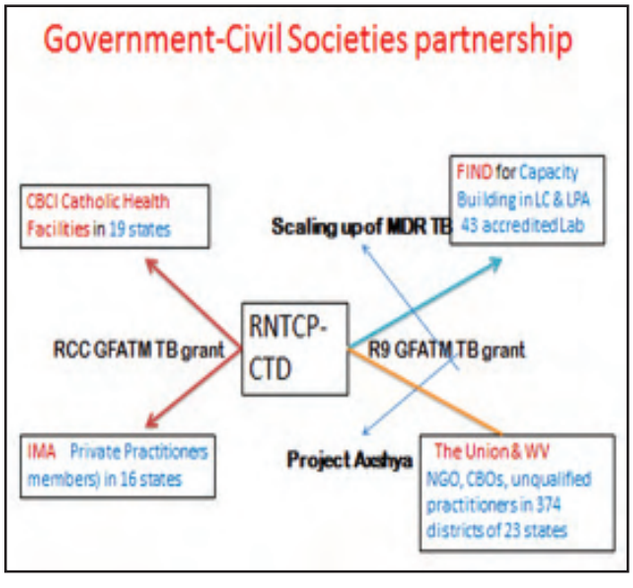
Partnership of Civil Society Organizations in RNTCP

CSOs are operationally defined as non-profit organizations that do not belong to the state or the "private for profit sector" This includes nongovernmental faith-based organisation, community-based non-profit NGO, patient-based organizations, professional associations like IMA. If well planned, Civil Societies will expand TB prevention, care and control beyond health facilities and in settings that cannot be easily reached by any national programmes.

Key activities of CSOs are Provision and demand generation for TB prevention, Quality diagnosis and treatment services; Improve TB case notification; Improve treatment adherence and outcomes; Health promotion; Research; Advocacy; Empowerment ,Social welfare & support and help to the most vulnerable and underprivileged.

Civil Society Partnership for Tuberculosis Control and Care in India:

"Partnership for Tuberculosis Care and Control in India" (the Partnership) brings together civil society across the country on a common platform to support and strengthen India's national TB control efforts. It seeks to harness the strengths and expertise of partners in various technical and implementation areas, and to empower affected communities, in TB care and control. The Partnership consists of technical agencies, non-governmental organizations, community-based organizations, affected communities, the corporate sector, professional bodies and academia



In 2011-12, the partnership held 2 steering committee meetings, 3 regional meetings, 1 working group meeting. 40 new organizations have joined the partnership in its fight against TB making the list to 95.The Partnership has published and circulated 3 issues of the "Partners speak" quarterly newsletter in 2011. The website of the Partnership (www.tbpartnershipindia.org) is being regularly upgraded. The Partnership has been extended to social network sites of 'Facebook' and 'Twitter'. The Partnership was also represented in the Lille World Lung Conference'11


(CSO consultation on RNTCP III planning process)


(Training of traditional healers of Theni, TN on RNTCP)

Project Axshya:

Project Axshya is a initiative to Strengthen Civil Society Involvement in TB Care and Control in India under the GFATM round 9. Project Axshya aims to improve access to quality TB care and control through a partnership between government and civil society. It will support India's Revised National TB Control Programme (RNTCP) to expand its reach, visibility and effectiveness, and engage community-based providers to improve TB services, especially for women, children, marginalized, vulnerable and TB-HIV co-infected populations. Advocacy, Communication and Social Mobilization (ACSM) is the major focus under this project. The project

is being implemented in 374 Districts across 23 States covering almost 750 million populations of which 300district are with The Union and remaining 74 are with World Vision.

- Goal :
  - To decrease morbidity and mortality due to drug resistant TB (DR-TB) in India and improve access to quality TB care and control services through enhanced civil society participation
- Objectives for the Civil Society:
  - Improve the reach, visibility and effectiveness of RNTCP through civil society support in 374 districts across 23 states by 2015.
  - Engage communities and community-based care providers in 374 districts across 23 states by 2015 to improve TB care and control, especially for marginalized and vulnerable populations including TB-HIV patients.

The Union is implementing the Project Akhya in 300 districts across 21 States covering a total population of 570 million, including 174 million women and 199 million children and consist of around 250 million Population living in poor & backward districts, 50 million Tribal population and 40 million Population living in Urban slums.

Achievement of The Union: The collective achievements of The Union and its partners against targets are summarized below:

- Training: The project supported building technical capacity in Operations Research, Clinical Management of MDR-TB, TB Epidemiology and Leadership and Management for TB control. Trainings were coordinated with CTD for state and district programme managers and nodal officers.
- Annual Maintenance Contract (AMC) of microscopes: Microscope maintenance in Uttar Pradesh, Bihar and Rajasthan was supported. The AMC covered 3600 microscopes, and guidelines on minimum standard care of microscopes were developed and displayed in RNTCP labs.

- Technical Assistance Mission: An external mission during 12-20 April 2011 reviewed project activities, analysed plan effectiveness and estimated synergies across interventions.
- AxReal: This real-time web-based software with a dashboard feature was developed by USEA, and is now fully functional.
- Website: The Project Axshya website www.axshya-theunion.org was set up and launched. It is fully operational.
- Advocacy meetings were held with the Indian Medical Parliamentarian Forum on 23 March 2011 and with eight medical colleges and secondary/tertiary level non-government hospitals in Maharashtra and Bihar.
- The illustrated version of the Patient Charter for TB Care was developed by The Union with inputs from all partners. This is available in 19

languages and is being disseminated through TB forums and community meetings.

- Union consultants provided expert support to RNTCP in Monitoring and Evaluation, Operational Research, ACSM and Public-Private Mix. The Union Consultants at the state level are providing technical assistance on ACSM to the NTP in six large states- Maharashtra, Madhya Pradesh, Punjab, Uttar Pradesh, Karnataka and Uttarakhand since August 2011.
- The 42nd World Union Conference on Lung Health at Lille, France, was attended where a separate Project Axshya booth showcased the project and disseminated information. The Union also facilitated participation of project partners and key RNTCP officials at the national and state levels.
- A baseline Knowledge, Attitudes and Practices (KAP) survey on TB, covering communities, healthcare providers, patients and opinion leaders, across a sample of 30 project districts was completed.
- A Monitoring and Evaluation plan was developed in consultation with WVI and CTD as a reference document to monitor implementation and effectiveness of reaching targets, and for all partners to monitor their activities.

The Second National Coordination Committee Meeting was organised by The Union in Chennai, 22-23 July 2011. So far, NCC met in Delhi, Chennai, Bhopal and Kolkata to review the progress of R9 TB projects.

Recently NCC has constituted an independent group of experts in the name of MEGA (Monitoring & Evaluation Group of Axshya) with the following objectives:

- To conduct monitoring and evaluation of Project Axshya to know the impact of the project
- To report to Central TB Division and NCC about their observation of monitoring and evaluation of Project Axshya with recommendation
- To help to improve coordination between RNTCP and Project Axshya

National Coordination Committee Meeting

World Vision, the other Civil Society PR, has been implementing Project Axshya in 74 districts of 7 states with 6 Sub Recipients (SRs).

Achievement of World vision

- Around 8611 health workers have been trained till date on Soft skills across Madhya Pradesh, Odisha, Andhra Pradesh, Bihar, West Bengal, Chhattisgarh and Jharkhand. Most Participants realized that TB patients require special attention,

(RHP training by Axshya)

(Visit to TB patient's home)

(Community meeting of Axshya)

a noticeable change is now, and they talk more often and much closer to TB patients.

- As of September 2011, a total of 6,289 RHCPs were trained under the Axshya India Project. Indeed, RHCPs have been instrumental in limiting the financial toll of TB and TB care, especially to poor populations, by reaching to them as early as possible, referring them to the appropriate public health facility, providing free TB treatment, and even becoming their treatment partners.

- To increase political commitment and resources for TB, WV India had been engaging state politicians and members of legislative assemblies (MLAs) through sensitizing activities, wherein they were updated with TB information and shown the TB situation of their respective areas. To date, a total of 420 MLAs are sensitized on TB in Odisha, Madhya Pradesh and West Bengal.

- 74 District level TB forums (support groups in the community) have been formed comprising of former TB patients, health workers and key persons in the community. TB forums have been actively involved in improving social support for patients, and female patients in particular, who seemed to receive less social support from their families than men did. In some districts in the state of Odisha, Chhattisgarh and Jharkhand the TB Forum made an agreement to conduct regular house-to-house visits to TB patients who have not completed their treatment. 856 community based organizations (CBOs) have been trained on various aspects of TB in 74 Districts of India during this phase. They were trained on how to correctly identify, screen, and refer TB patients for diagnosis and treatment, and how to act as treatment partners.

Indian Red Cross Society

Indian Red Cross Society (IRCS), an international humanitarian organization spread over 700 branches with strength of 12 million volunteers across the country carried out the pilot TB project funded by USAID in 8 districts of three states, Punjab, Uttar Pradesh, gujarat and Karnataka. Through this pilot project, IRCS, through its network of volunteers has reached more than 400 retreatment category-II TB patients during the year 2010-11 to provide care and support services in the form of assistance to the patients to access the treatment (Travel support and some small refreshment), monitoring the adherence to treatment through supportive supervision and motivation, educating and informing the family members of the patient regarding the importance of treatment adherence

PATH

PATH is an international nonprofit organization which specializes in several key health areas in India including: tuberculosis, immunization, HIV/AIDS, injection safety and Operation Research.

Some key achievements of PATH in 2011-12:

Advocacy, Communication, and Social Mobilization (ACSM): PATH, with USAID support, continued providing technical assistance on ACSM in five states: Andhra Pradesh, Madhya Pradesh, Maharashtra, Uttarakhand and Uttar Pradesh. PATH's approach towards developing comprehensive ACSM interventions is focused on a targeted approach at district level. PATH, in consultation with State TB Offices, will provide technical assistance for targeted intervention for two districts in each of the five states. During 2011, capacity of 262 RNTCP staff was built through a series of ACSM workshops. The 'Cough to Cure Pathway' planning tool was adopted during the ACSM workshops to identify barriers and challenges in RNTCP. The identified challenges were used to develop a draft micro plan.

PATH organized an ACSM workshop in September 2011 where representatives from five states and civil society partners working in TB participated to share their experience and future plans in ACSM. The workshop identified the key challenges in ACSM and discussed possible solutions.

Laboratory strengthening: PATH, with USAID support, undertook a variety of laboratory strengthening activities, which included upgrades to Biosafety Level 3 (BSL-3), upgrades for Line Probe Assay (LPA), procurement and/or installation of essential diagnostic equipments, and training for laboratory staff. PATH has

also provided technical assistance to laboratories to support accreditation. These laboratories with upgraded LPA facilities can now diagnose multidrug-resistant TB (MDR-TB) in two days instead of three to four months.

USAID supported 'IRL experience sharing workshop by PATH: As per the recommendations of the National Laboratory committee, two IRL experience sharing workshops for microbiologists and RNTCP consultants were held on 30 June - 1 July, 2011 and 1-2 December, 2011 in New Delhi. Participants from across the country shared their experience and challenges in the presence of NRLs, CTD, WHO, FIND and PATH. The workshop helped the participants to discuss the challenges and solutions for several important issues such as the supply of reagents and chemicals, external quality assessment, human resources and training, maintenance of equipment (AMC), recording & reporting and the process of accreditation.

Airborne Infection Control: CTD has developed provisional 'National guidelines on airborne infection control in healthcare and other settings'. Three states - Andhra Pradesh, Gujarat and West Bengal - were identified to conduct pilot testing of the operational feasibility and effectiveness of the guidelines. USAID has provided technical support through WHO and PATH to support the implementation of the pilot in the three states

Gujarat state AIC review meeting

USAID supported lab up gradation at Blue Peter Public Health & Research Center (BPHRC) by PATH: With USAID support PATH upgraded the Blue Peter Public Health and Research Center (BPHRC) laboratory to biosafety level-3(BSL-3), and also equipped the facility for Line Probe Assay (LPA). The laboratory has the distinction of being the first private sector accredited TB laboratory in the country with a BSL-3 facility. Currently, this laboratory is providing diagnostic services for programmatic management of multidrug-resistant tuberculosis (PMDT) to four districts of Andhra Pradesh.

USAID supported MDR-experience sharing workshops: PATH organized two back-to-back one-day MDR-TB experience-sharing workshops on February 17-18, 2011, to share lessons learned in DOTS-Plus implementing sites. A total of 66 participants from Gujarat, Haryana, Jharkhand, Kerala, Maharashtra, Orissa, Andhra Pradesh, Daman and Diu, New Delhi, Rajasthan, Tamil Nadu, and West Bengal, as well as participants from CTD, FIND, SAMS, PATH and USAID, met to exchange ideas and stimulate group problem-solving around challenges pertaining to PMDT scale-up. The experiences shared during the workshop were used by the states and DOTS Plus sites that plan to expand PMDT services.


BSL-3 upgrades at BPHRC, Hyderabad.

CATHOLIC BISHOP'S CONFERENCE OF INDIA (CBCI)

Under Global Fund RCC Project, CBCI CARD as sub recipient of Central TB Division is implementing RNTCP through the Catholic Health Facilities (CHF) in 19 states by reaching out to the community. Out of 5000 CHFs spread over across the country, NGO/PP Schemes under RNTCP are operational in selected 109 (CHFs). The CHFs are mostly located in rural India which are hard to reach and caring to tribal and vulnerable population groups. State TB Project Coordinators are present in all 19 states and they are participating in various state and central level meeting, workshops and evaluation under RNTCP.

Presently, CHFs have signed more than 200 MOUs under 11 NGO schemes of which 88 are DMCs. In 2011, 86 sensitization workshops covering 6853 personnel were undertaken. CBCI CARD has referred 65,602 patients to DMCs for treatment and care. In addition, CBCI CARD supported various state level activities like Observing World TD Day, signature campaigns, messages at railway stations, exhibitions and competitions for school

children and teachers, review meetings, State level workshop on RNTCP, NGO-PP Schemes

Success stories of CBCI-CARD: Rajasthan (DOTS-the health booster & contributing factor in match-making for Nilofer)

Nilofer is a young & vivacious girl living in a slum area in Ajmer, Rajasthan. When the project team of CBCI-CARD visited her at her home to get information regarding the quality of treatment received by her at the DOT Centre of St. Francis Hospital, the team members were pleasantly surprised to find a hale & hearty, rather plump girl. She happily shared that she used to be a skinny

(MoU signed for NGO Scheme by CHFs, Kollam District)

& sickly person at the time when she was diagnosed with tuberculosis. During the course of her treatment she regained her health as well as put on some weight. The

staff at the St Francis DOT Centre supported her & motivated her to complete the treatment. The weight gain was also a motivational factor for her. She is completely cured now & staunchly believes that DOT has not only cured her but also improved her looks. According to her, DOT has been instrumental in her getting engaged quickly to a handsome boy whom she will be marrying soon.

RNTCP PPM IMA Project

RNTCP PPM IMA project started as a sub-recipient to the Central TB Division's Global Fund Round-six in Apr'08 in five states and one Union Territory of India, namely, Uttar Pradesh, Punjab, Haryana, Maharashtra, Andhra Pradesh and Chandigarh overing 167 districts. Later on, Ten more States viz Bihar, Chhattisgarh, Gujarat, Jharkhand, Kerala, Orissa, Rajasthan, Tamil Nadu, Uttaranchal, and West Bengal were added to promote RNTCP and PPM-DOTS under GFATM RCC.

The objective of this project was to improve access to the diagnostic and treatment services of DOTS and thereby improve the quality of care for patients suffering from Tuberculosis in through involvement of IMA leaders and members in RNTCP.

Key activities of the project includes state/district level workshops, publication of quarterly TB/RNTCP newsletter, publication in JIMA, conduct district level CMEs of all IMA branches in the target states, produce IEC materials, assist DTOs in training of private providersetc.

During 2011-12: Two new DMCs were established through IMA branches in Andhra Pradesh at Amalapuram in East Godavri district and Tanuku,West Godavari district. 24 sputum positive TB cases were reported by these two DMCs.

- Achievement of RNTCP PPM IMA Project Number of Review cum workshop held at National and state Level: 41
- Number Private Medical Practitioners reached through CME: 20672
- No. of Private providers trained in DOTS using RNTCP Module and International Standard of

Amalapuram DMC

Care Guidelines: 5569

- No. of DOTs centers created:- 3396
- No. of DMCs created:- 64
- Number of Review cum workshop held at National and state Level:23:

The way forward:-

Involving DNB Training and PG Institutes in RNTCP: The success of involving Medical Colleges in the form of task force mechanism encourages the program to extend the task force mechanism to Institutes offering Diplomat of National Board (DNB) training and also exclusive PG institutes both in Public and Private.

Involving Corporate Hospitals in RNTCP:

There has been a steady growth in the corporate hospitals throughout the country to meet the rising demand for healthcare from domestic and international patients along with economic growth of India especially in urban healthcare industry where already public health infrastructure is suboptimal.

RNTCP will constitute a National task force for involvement of corporate sector & Private sector, which will be the highest policy making body in RNTCP for engaging corporate Hospitals.

National Technical Working Group (NTWG)-PPM:

RNTCP would establish a National Technical Working Group on fostering engagement with the private sector. The purpose of this group would be to provide a forum for dialogue, to ensure sustained attention on the issue, and guide innovation and learning. The group will provide guidance on technical aspects such as the inclusion of all internationally accepted regimens, guidance on the scope and geographic distribution of initial projects, and policy requirements for improved PPM.

PPM Technical Support Group (PPM-TSG) at the state Level:

A state level entity with the requisite skills and mandate to systematically improve and scale-up contracting of intermediaries to engage the private sector will be created. This PPM-TSG will be outsourced to a suitable qualified agency but designed to report and work on behalf of RNTCP.

Private Sector Agglomerating Agencies (PSAA):

These agencies will comprise of state-level entities designed and monitored by the PPM-TSG. The responsibilities of the aggregating agencies will focus on notification of TB cases by the private sector, verification of adherence to ISTC-compliant regimens, and deployment of innovative mechanisms to realign provider incentives.

ACSM in TB control

The key objective of ACSM in RNTCP is to generate demand for quality diagnosis and treatment for TB including Multi Drug Resistant and HIV co-infected TB in the community, this increases the case detection rate and ensures treatment adherence and completion of all diagnosed TB cases in the program. Within the context of RNTCP, ACSM refers to health communication in TB care and control.

The goal of ACSM is to support TB control efforts for:

- Improving case detection and treatment adherence
- Widening the reach of services
- Combating stigma and discrimination
- Empowering people affected by TB and the community at large.
- Mobilizing political commitment and resources for TB.

ACSM activities aim at:

1. Creating awareness among people about the disease (signs and symptoms), diagnosis, and treatment in order to increase accessibility and utilization of services
2. Motivating all care providers to provide standardized diagnostic and treatment services to all TB patients in a patient-friendly environment as per their convenience.
3. Mobilize communities to engage in TB care, and to increase the ownership of the program by the community
4. Advocacy to influence policy changes and sustain political and financial commitment

RNTCP has well defined communication strategy which clearly defines communication needs (objectives), communication players (target audiences) and communication channels, and activities (communication tools), roles and responsibilities at each level, i.e. Centre, State and District level. The program encourages need based ACSM strategy planning and implementation.

The program will be taking a paradigm shift in the next five years' strategic plan in the form of reaching the targets of universal access, that is to detect at least 90% of

estimated all type of the TB cases of the community and ensuring successful treatment of at least 90% new cases and at least 85% previously treated cases.

The primary target of ACSM activities is to prevent the emergence of MDR TB by ensuring good adherence to the DOTS regime through effective and motivational communication with TB patients. Advocacy with the care providers for promoting rational use of first and second line anti TB drugs is also an important area of the programme

The program has also felt the growing need of strengthening the monitoring and supervision of the ACSM activities with measurement of its impact in terms of improving the case detection and case holding in the program. The program has also identified the need of strengthening communication skill development of the RNTCP staff that is key to implement ACSM activities effectively to achieve the desired result.

ACSM in newer initiatives like MDR-TB; TB/HIV and TB/Diabetes:

Role of ACSM is more challenging in newer initiatives in the programme such as MDR TB and TB HIV. These patients have to undergo treatment for a longer duration with more toxic drugs including injectable. Moreover, most of these patients have a previous history of default which can result in lack of motivation to complete treatment. Added to these is the stigma and discrimination by the family and society.

MDR-TB: ACSM activities for MDR TB are based on the fact that The communication initiatives, additionally, aim to increase awareness on availability and utilization of DOTS Plus services of RNTCP. Motivational counseling of the patients and family members and education on cough hygiene and disposal of sputum are equally crucial to ensure treatment adherence and further prevention of airborne transmission.

HIV co-infected TB: The revised National TB/HIV frame work envisages RNTCP and NACP IEC materials, specifically, pictorial IEC on symptoms of TB and cough hygiene are displayed at all the HIV and TB care settings for providing education, care and support to PLHIV and TB patients. The scope for strengthening this collaboration has been identified in the ACSM strategy.

Important ACSM activities during the year

National ACSM Capacity Building Workshop:
The State TB Officers, State IEC Officers of RNTCP, RNTCP WHO ACSM Consultants & ACSM Consultants of the states and Communication Facilitators of 35 states and UTs participated in this residential workshop. The other notable participants were CMO (NFSG) from CHEB, MO (TB) and NPO (TB) of WHO and Civil Society Partners of RNTCP like PATH, The Union, World Vision and PSI. Chief Media of IEC Division, MoH& FW also participated and shared his thoughts and experiences in ACSM in this workshop on day 1. The facilitators for the workshop were drawn from academic institutions (IIMC), civil society ACSM experts from PSI, The Union, World Vision & PATH. The workshop was also facilitated by DDG (TB), Sr CMO (TB), CTD Consultants and officials of the media agency of CTD.

The workshop focussed chiefly on strengthening the programmatic aspects of ACSM in the perspective of achieving the targets of Universal Access that has been planned in the next 5 years strategy (2012 - 2017) of RNTCP.

Through participatory methodologies and technical plenary sessions the workshop gave the participants a clear idea about identifying the barriers and their feasible solutions in ACSM, developing strategic situation-specific and need based ACSM action plan for the districts, roles and responsibilities of the state and district level RNTCP officials in ACSM and monitoring, supervision and impact measurement of the ACSM activities.

National ACSM Capacity Building Workshop

As the key next steps the program will concentrate on intensifying technical and operational assistance in ACSM at the state level with a mechanism in place to know the impact of the ACSM activities to reach the targets of the RNTCP. The report of the workshop is under preparation and would be submitted in a few days.

Regional ACSM Capacity Building Workshops:
Central TB Division conducted two regional ACSM training workshops:

The participants of the workshops were State TB Officers, District TB Officers, IEC Officers, Communication

Dates of the workshop	Venue of the workshop	States covered
12th May to 14th May, 2011	Jaipur, Rajasthan	Rajasthan, Gujarat, Goa, Daman & Diu, Haryana
8th Sept - 10th Sept, 2011	Nalagarh, Himachal Pradesh	Himachal Pradesh, Uttarakhand, Punjab, Chandigarh, Jammu & Kashmir, Delhi.

Facilitators, WHO RNTCP Consultants and representative of CSO partners. The workshops were conducted through lectures, group exercises, role plays and games. etc. for the team-building exercise. Selected feature films that have good lessons for advocacy and social mobilization were screened followed by Question Answers sessions with an objective to relate Advocacy and Social Mobilization and provide them with clues to translate the communication into the work methodologies. The teams used video-documentation, digital photography and a de-briefing session to document the learning from the workshop.

ACSM workshop of PATH in collaboration with CTD: PATH in collaboration with Central TB Division conducted ACSM capacity building workshop in Delhi (16th Sept - 17th Sept'11) for the STOs, selected DTOs, State IEC Officers, Communication Facilitators and RNTCP and ACSM Consultants for the states of Andhra Pradesh, Maharashtra, Uttarkhand, Uttar Pradesh, Karnataka, and Madhya Pradesh. PATH provides technical assistance to support these selected states in implementing ACSM activities as part of the RNTCP strategy.

World TB Day observation (24th Mar'2011)

For the World TB Dayevent 2011, CTD conceptualised the Theme "TB Mukti Mashaal" in conjunction with the World Health Organisation's Global plan to STOP TB theme "On the move against Tuberculosis; transforming the fight towards elimination". The mass-movement approach is to inspire and motivate everyone to come to together for the elimination of TB. It also tells that we must come together for a common cause despite any religious or cultural differences.

CTD, with the assistance of its media agency M/s RK Swamy BBDO developed a rolled-out plan for the World TB Day into the three stages Pre-Event, Event & Post-Event. The World TB Day event had van activity for 4 days and used print ad to build the momentum. The Mashaal was picked up from different TB Clinics in Delhi. The 5 Clinics from each zone represented pan India (North, South, East, West and North-East). The torch was collected from all the 5 TB Clinics (which was lighted by the various stake holders from that zone) symbolizing the unity of the torches 'TB Mukti Mashaal'.

Banner

Development of TV and radio spots: CTD has launched two small films as TV spots thatcan be telecasted as mass media campaign and can be also screened in the outreach activities and seminars and workshops.

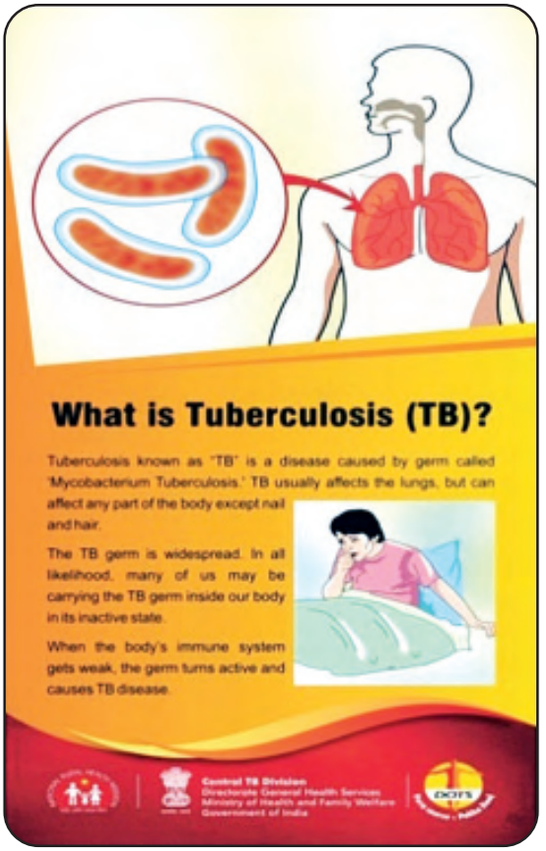
The first film (named Atoot Dor) is based on a factory worker with prolong and distressing cough, who, after being diagnosed with TB in the government hospital, went back to his village, received TB treatment from a local private doctor for some time but after much economic constrains was registered again under RNTCP for treatment. He received treatment and felt much better, went back to his workplace, stopped medication in the mid way and his cough and fever relapsed. He went to the government hospital with the suspicion of MDR-TB, put under treatment and vowed not the stop the medicines in the mid-way.

The second film (named Chaar Kahaniya) is actually combination of four stories of four TB patients (a school-going boy, office-going women, an old man, and a young girl) who faced stigma and discrimination under different circumstances and how the stigma factor was subsequently removed to make their life easy and smooth.

Besides, CTD has developed short TV and Radio spots named Nayi Bahub, Do Kahaniyan, Adhoori Hajaamatd and Adhoori Mehndi

TV and radio spots have been also developed on the imaginary comical character of Balgam Bhai, through collaboration between CTD, Project Axshya and BBC Trust and Population Service International (PSI). The character will ask any individual who is coughing in a funny way if the cough is for more than two weeks. At the end he will advise people with cough for more than 2 weeks to visit Designated Microscopy Centres (DMCs) of RNTCP for sputum microscopy.

Development of RNTCP exhibit materials: CTD has developed 23 exhibit materials on TB and all the program components of RNTCP like DOTS, DR-TB, TB/HIV, TB-Diabetes andothers which can utilized to disseminate key messages on TB and the program among the general population.

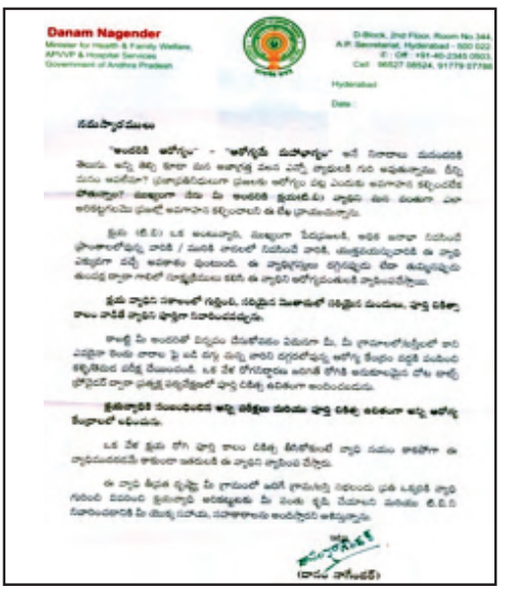


RNTCP exhibit material

ACSM in states

Andhra Pradesh

(Hon'ble Minister for Labor Administering Oath on World TB Day 2011)



(Letter of Hon'ble Health Minister requesting elected and community leaders to promote DOTS)

(Signature campaign on TB Principal Secretary penning down his commitment and support for TB control during the Signature Campaign on World Health Day, 7th Apr'11)

(Aarogya Padha Yatra: Ralley of cured TB patients)

Assam

(Documentary film on DOTS: Joint Director (Kamrup Metro) inaugurating the DOTS documentary at District TB Centre, Kamrup Assam in presence of Superident of LGB Chest Hospital, DTO Kamrup, WHO Consultant, State IEC Officer, Assam and other Medical Officer and staff of DTC)

(ASHADEEP, a Data Base Management system (ASHADEEP) has been developed by the District TB Centre, Jorhat to record all necessary information related to TB patients and DOT Providers of the district)

(State level ACSM training for the BCG technicians)

Gujarat

School Based IEC Activity at Bandibar
TU Limkheda (Dist. Dahod)

Patient Provider meeting at phc Ved TU.
Dhanpur (Dist. Dahod)

Community Meeting at sub centre Umaria (PHI Agaswani)
TU Dhanpur Dist. Dahod

Patient Visit By DTO Dahod in Remote Area of Village-
Vagela TU Jhalod (Dist. Dahod)

Jharkhand

(Felicitation of a community DOT Provider by H'ble
Health Minister-Govt. Of Jharkhand)

(Felicitation of DOT Provider-Rickshaw Puller)

Maharashtra

(Pharmacist's training in Nagpur, Maharashtra)

Meghalay

(Street play on TB)

(After street play suspected person came to interact with the MOTC)

Mizorum

(Participation in the 2012 Republic Day Parade with RNTCP tableau)

(TV show on DOTS Plus services of RNTCP)

Punjab

(School students creating awareness on TB in a Rally)

Tamil Nadu

(Medical health camps in Upper Kodaikanal hills)

(TB awareness meeting with cement factory workers of Dindigul district)

(TB awareness in Gram Sabha on the Independence Day 2011 in N.Panjampatty village)

(TB motorbike rally on World TB Day 2011)

Annexure-1

Training guidelines under RNTCP

Initial RNTCP training

Category	Duration (working days)	Batch Size	Training Material	Venue
STO/STDC staff/District TB Officer/ TB-HIV coordinator/ DR-TB co-ordinator/ PPM co-ordinator	14	20	RNTCP MO Modules 1-9, STCS/ DTCS guidelines, Financial Management manual, Procurement + SDS Manual, Monitoring strategy	Central Institute
MO-TC or BPMU programme officer	12	20	RNTCP MO Modules 1-9	STDC
MO	5	20	RNTCP MO Modules 1-4	District
STS (2+6)	8	12	MPW Module, then STS Module	STDC
STLS (10+5)	15	6	LT Module, then STLS Module	STDC
LT	10	8	LT Module	District
State Drug Store Staff / Pharmacist in RNTCP	2	25	MPW Module/ Manual on Std. Operating Procedures for State Drug Store	District/TU
MPHS	3	25	MPW Module, sections of STS Module	District/TU
TB Health Visitor etc.	2	25	MPW Module	TU/PHI
MPW/HA etc.	2	25	MPW Module	TU/PHI
Anganwadi Worker/ Midwives/ Community Volunteers, etc.	2	25	DOT Provider Module	TU/PHI
Community based DOT providers, ASHA	1	25	DOT Provider Module	TU/PHI
Private/NGO/ other sector Medical Practitioners	6 hrs	20	Training Module for Medical Practitioners	DTC/IMA
TO / SA	6	12	STS Module	STDC/District
IEC Officer	6	Need based	IEC Module + MPW module	Central level
Data entry operator	2+2	12	MPW module, then Epicentre training	MPW module & Epicentre at state level
Accountants for district	1	Need based	Manual on Financial Management and Guidelines	State level
Accountant - state level	3	Need based	Manual on Financial Management and Guidelines, DTCS/ STCS guidelines	Central TB Division

Initial Training on EQA

Category	Duration (days)	Batch Size	Training Material	Venue
EQA (Master Trainers / Microbiologist)	5	10	EQA Manual	Central Institute
EQA IRL LTs	5	6	EQA Manual	Central Institute
EQA STDC Dir/ STO	2	15	EQA Manual	Central Institute
EQA DTO/MOTC	2	25	Sections from EQA Manual	State Level
EQA STLS	2	6	Sections from EQA Manual	District Level
EQA LTs	1	25	Sections from EQA Manual	District Level

Initial RNTCP training on TB/HIV

Category	Duration (days)	Batch Size	Training Material	Venue
TB-HIV Master Trainers	5	10	TB HIV Modules	State level
STO/ DTO/ MO-DTC/ MOTC	2	10	Module for MOs on TB/HIV	State level
MO	1	30	Module for MOs on TB/HIV	District
STS/STLS	2	10	Module for STS STLS on TB/HIV	District
DOT Provider	1	30	Module for Health Workers on TB/HIV	TU/PHI

Initial RNTCP training on DOTS Plus

Category	Duration (days)	Batch Size	Training Material	Venue
STO/ DTO/ DOTS Plus site faculty/ STDC/ IRL	5	25	DOTS Plus guidelines/ Module	Central level
MO-DTC/ MOTC/MO	3	20	Module for MOs on DOTS Plus	State level
STS/STLS/ Paramedical staff	3	10	Module for Paramedical workers on DOTS Plus	District
DOT Provider	1	30	Module for DOT Providers on DOTS Plus	TU/PHI

Initial RNTCP training for Medical College staff

Category of staff to be trained	Type of training	Place of training	Trainers	Training material	Duration (in days)
Medical Staff					
STF Chairperson	Concise modular	National institute	Central institute staff	RNTCP -Key facts and concepts	1*
Faculty in charge of RNTCP	MO-TC modular	State-level	STC/STDC staff	1-9 modules	12
TOT's	MO-TC modular	National/ State -level	Central Institute/ STC/STDC staff	1-9 modules	12
HODs and Senior staff	Concise modular	State-level	STC/STDC staff	RNTCP -Key facts and concepts	1
Other faculty members (interested)	MO modules	Medical college	Faculty in charge of RNTCP	1-4 modules	5
PG students/ Residents/ Interns /UG's	Part of Curriculum + Sensitization	Medical College	Faculty in charge of RNTCP	Curriculum	2-3 hrs**
Paramedical staff					
Nurses	MPW training	Medical College	Faculty in charge of RNTCP	MPW module	2
Pharmacists	MPW training	Medical College	Faculty in charge of RNTCP	MPW module	2
Other param-edical staff	MPW training	Medical College	Faculty in charge of RNTCP	MPW module	2

Category of staff to be trained	Type of training	Place of training	Trainers	Training material	Duration (in days)
Paramedical staff					
Other paramedical staff	MPW training	Medical College	Faculty in charge of RNTCP	MPW module	2

* 5 days or 12 days modular training for those interested

** Consists of theory classes. Practical training will be imparted during posting to the Chest or Medicine Departments and the DOTS Cell.

Retraining schedules

Category	Maximum duration (days)	Venue
STO/STDC	5	Central Institute
DTO/ MO-TC	3	STDC
STS	2	STDC
STLS	3	STDC
LT	2	District
MO/TO/ SA/ IEC Officer	2	District
Pharmacist/ Staff Drug Management (State/ District/ TU)	1	District/TU
MPHS	1	District/TU
TB Health Visitor etc.	1	TU/PHI
MPW/HA etc.	1	TU/PHI
Anganwadi Worker/ Midwives/ Community Volunteers, etc	1	TU/PHI
Community based DOT providers	1	TU/PHI
Accountant	1	State/District
EQA (Master Trs./ Microbiologist)	2	Central Institute
EQA-IRL LT	2	Central Institute
EQA (STDC Dir/ STO)	1	Central Institute
EQA (DTO/MOTC)	1	STDC
EQA (STLS)	1	District
TB-HIV(DTO/ MOTC)	1	STDC
TB-HIV (MO)	1	District
TB-HIV (STS/STLS)	1	District
DOTS Plus (STO/STDC)	2	Central level
DOTS Plus (DTO/MO-TC)	1	STDC
DOTS Plus (STS/STLS/Paramedical staff)	1	District

Annexure-2

Supervision, Monitoring, and Evaluation activities under RNTCP

S.No.	Levels	Category of Supervisor	Field visits (No. of days/month)	Objective	Facilities to be visited	Patients visits *
1.	National	Officials from Ministry of Health and Family Welfare, GoI.	RNTCP inclusive as a supervisory agenda in their routine field visits for supervision.	Supervision of Programme.	State TB Cell, DTC, TUs, DMCs, PHIs, DOT Centre, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre	As required.
2.	National	DDG (TB) and other officials from Central TB Division.	10 days/month (1-2 days per visit)	Supervision of Programme.	State TB Cell, DTC, TUs, DMCs, PHIs, DOT Centre, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre	As required.
3.	National	Central Internal Evaluation	One per month	Evaluation of Programme Performance including all aspects such as data validation etc…	State TB Cell, DTC, TUs, DMCs, PHIs, DOT Centre, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre	As per protocol
4.	National	National Reference Laboratory	All states assigned to be visited at least once in a year.	Supervision and Evaluation of External Quality Assurance activities	IRL, One district and a few DMCs. State TB Cell, SACS	As required.
5.	National	NACO and CTD	One state per quarter	Supervision of TB-HIV collaborative activities	Office, DTC, TUs, DMCs, PHIs, DOT Centre, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre	At least 3 patients per visit

S.No.	Levels	Category of Supervisor	Field visits (No. of days/month)	Objective	Facilities to be visited	Patients visits *
6.	State	Officials from Ministry of Health and Family Welfare, State and State Health Society.	RNTCP inclusive as a supervisory agenda in their routine field visits for supervision.	Supervision of Programme.	DTC, TUs, DMCs, PHIs, DOT Centre, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre	As required.
7.	State	STO (Including visits by STC/STDC officers)	12-16 days/month (1-2 days per visit)	Supervision of Programme Performance. Cover all districts in the state every 6 month	DTC, TUs, DMCs, PHIs, DOT Centre, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre	At least 3 patients per visit
8.	State	State Internal Evaluation	Upto 30 million - 2 districts per quarter; 30-100 million - 3 districts per quarter; >100 million - 3-4 districts per quarter. Aim to cover all districts at least once in 3-4 years.	Evaluation of Programme Performance including all aspects such as data validation etc…	DTC, TUs, DMCs, PHIs, DOT Centre, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre	As per protocol
9.	State	Intermediate Reference Laboratory	All districts to be visited at least once a year	Supervision and Evaluation of External Quality Assurance activities	DTC and a few DMCs.	Not applicable.
10.	State	Joint visit by SACS and STC officials	One district per quarter	Supervision of TB-HIV collaborative activities	District AIDS Control office, DTC, TUs, DMCs, PHIs, DOT Centre, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre	At least 3 patients per visit
11.	District	District Health Society Members (District Magistrate, CMHO and other District Officials).	RNTCP inclusive as a supervisory agenda in their routine field visits for supervision.	Supervision of Programme.	DTC, TUs, DMCs, PHIs, DOT Centre, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre	As required.
12.	District	DTO (including visits by MO-DTC)	20 days	Supervision of Programme, Cover all TU every month and all DMC every Quarter.	DOT Centre, DMC, PHI, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre, NGO and PP health facilities	At least 3 patients per visit
13.	Sub-district	Block Medical Officer/MOTC	RNTCP inclusive as a supervisory agenda in their routine field visits for supervision; at least 7 days per month	Supervision of Programme, Cover all DMC every month all PHI every quarter	DOT Centre, DMC, Drug Store, DOTS Plus Site, ICTC Centre, CCC, ART Centre	At least 3 patients per visit

S.No.	Levels	Category of Supervisor	Field visits (No. of days/month)	Objective	Facilities to be visited	Patients visits *
14.	PHC level	MO-PHI	RNTCP inclusive as a supervisory agenda in their routine field visits for supervision.	Supervision of Programme, Cover all sub-centre every month	DMC, DOT Centre	At least 3 patients per visit
15.	District	Senior DOTS Plus- TB HIV Coordinator	18-20 days per month	Supervision of Programme, Visit DOTS Plus site in the district every week (if present) Cover all MDR - treatment centres / providers every quarterpreferable monthly. Cover all ICTC in a quarters, cover all ART centres and link ART centres every month, Cover all CCC/ DIC / NGO facilities every quarter	DOTS Plus Centre, ICTC Centre, CCC / DIC/NGO	2-3 patients every visits (co-infected or MDR-TB patient)
16.	Sub-District	STS	18-20 days per month	Supervision of Programme, Cover all PHI at least every month, all DOT centres every quarter	DMC, Non-DMC PHI, ART centre (if present in TU) ICTC, DOT Centres, NGO and PP	All patients to be visited within one month o f initiation o f treatment; all patients interrupting treatment; all Category IV patients every month in IP and every quarter in CP
17.	Sub-District	STLS	18-20 days per month 5-7 days	Supervision of Programme, Cover	DMC; All sputum collection centres; all	All patients

S.No.	Levels	Category of Supervisor	Field visits (No. of days/month)	Objective	Facilities to be visited	Patients visits *
				all DMC at least twice a month	diagnostic centres	with contaminated samples or invalid results.
18.	PHC level	PHI level supervisors (MPHS)	5-7 days	Supervision of Programme, Cover all sub-centre every month	DOT Centre	2-3 patients per visit
19.	PHC level	MPW/ANM		Supervision of Programme, Cover all DOT providers every month	DOT Centre	All patients on treatment during themonth.

* MDR, paediatric, co-infected patients should be prioritized for interview

Table 8: Schedule of Review Meetings in RNTCP

Level	Type of Review	Chairperson	Participants	Frequency
National	RNTCP performance review	DDG (TB)	STOs	Biannual
	Medical College performance review	DDG (TB)	ZTF members	Annual
	TB-HIV collaborative activities	DDG-TB	Members of National Working Group for TB-HIV collaborative activities	Quarterly
	Laboratory Committee	Chairperson Laboratory Committee / DDG (TB)	Members of Laboratory Committee	Biannual
	National DOTS-Plus Committee	Chairperson National DOTS- Plus Committee/ DDG (TB)	Members of National DOTS-Plus Committee	Biannual
	National Technical Working Group (NTWG) for PPM Activities	Chairperson NTWG for PPM Activities / DDG (TB)	NTWG for PPM Activities members	Biannual
	National Operational Research Committee	Chairperson National OR Committee / DDG (TB)	National OR Committee members	Biannual
	National Airborne Infection Control (AIC) Committee Members	National AIC Committee Chairperson / DDG (TB)	National AIC Committee members	Biannual
Zonal	Medical College performance review	ZTF Chairperson	STF members	Annual
	RNTCP Performance Review including one day exclusively for PMDT activities	DDG (TB)	Regional Directors, STOs, DTOs of selected districts	Annual
State	State Health Society Review (RNTCP included as an agenda item)	PS (Health), MD-NRHM	Director Health Services, CMHO , All programme heads in state,	Quarterly
	RNTCP performance review	STO	DTO	Quarterly

Level	Type of Review	Chairperson	Participants	Frequency
	Performance review of Under-performing districts	STO	DTO	Biannual
	Medical college performance review	STO/ STF Chairperson	Nodal Officers from all medical colleges	Quarterly
	State Operational Research Committee Meeting	STO/ STF Chairperson	State OR Committee Members	Quarterly
	State TB-HIV Co-ordination committee meeting	PS (Health)	Members of State TB-HIV Cordination Committee	Biannual
	State Working Group Meeting for HIV/TB collaborative activities	PD-SACS / STO	Members of State Working Group for HIV/TB collaborative activities	Quarterly
	State DOTS-Plus Committee meeting	PS (Health)	State DOTS-Plus Committee members	Quarterly
	Review of RNTCP Accounting	State Accountant	District level Accountant	Biannual Review and One for PIP
	Review of Drug management	State Drug Store Manager	District Drug Storekeepers	Biannual
	Review of data management	State epidemiologist and state Statistical Assistant	District DEO/Statistical assistant	Biannual
	Workshop for Other Sector Health Facilities such as Railways, ESI, CGHS, Mines, etc…	STO	Representatives from Other sector Health facilities	Annual
	Review Meeting of Partners	STO	All Partners	Biannual
District	District Health Society Review (RNTCP included as an agenda item)	District Magistrate / Chairman District Health Society.	CMHO, All programme heads in district, Block Medical Officers, MO-PHIs (infrequently)	Quarterly
	CMHO Monthly Meeting with Block Medical Officers and MO-In charge PHCs (RNTCP included as an agenda item)	CMHO	All Block Medical Officers, MO-In-charge PHC, and Superintendent CHC.	Monthly
	RNTCP performance review	DTO	MOTC, STS and STLS	Monthly
	Medical college performance review	Core Committee Chairman of the respective Medical College	Core Committee Members of the respective Medical College and DTO	Quarterly
	TB-HIV District Coordination Committee meeting	Chairperson of TB-HIV District Coordination Committee	Members of District TB-HIV Coordination Committee	Quarterly
	Review of Drugs and Logistics	DTO and DTC Pharmacist	Pharmacists/Incharge Storekeeper of all TUs and PHIs	Quarterly
	DOTS-Plus site committee meeting	Chairperson/Coordinator DOTS-Plus site	DOTS-Plus site committee members, DTOs / Sr.DOTS-Plus-TB-HIV Coordinator	Monthly
	Workshop with Partners and other sector hospitals	CMHO/DTO	Representative from Partners	Biannual

Level	Type of Review	Chairperson	Participants	Frequency
	such as Railways, ESI, CGHS, IMA, AYUSH, NGOs, External funded projects etc…			
	Review of TB-HIV collaborative activities along with RNTCP monthly meeting	DAPCU/DTO	ICTC/CCC Counsellors, STS, DOT-Plus-TB-HIV Coordinator	Monthly
Block	Block Level Meeting with MO-In-charge PHI and other staff. (RNTCP included as an agenda item)	Block Medical Officer	MO-I/C-PHC and other staff.	Monthly
PHI	Monthly Meetings with Staff (RNTCP included as an agenda item)	MOIC, PHC	MPHS/ANM/MPW/ ASHA	Monthly
Level	Type of Review	Chairperson	Participants	Frequency
National	RNTCP performance review	DDG (TB)	STOs	Biannual
	Medical College performance review	DDG (TB)	ZTF members	Annual
	TB-HIV collaborative activities	DDG-TB	Members of National Working Group for TB-HIV collaborative activities	Quarterly
	Laboratory Committee	Chairperson Laboratory Committee / DDG (TB)	Members of Laboratory Committee	Biannual
	National DOTS-Plus Committee	Chairperson National DOTS- Plus Committee / DDG (TB)	Members of National DOTS-Plus Committee	Biannual
	National Technical Working Group (NTWG) for PPM Activities	Chairperson NTWG for PPM Activities / DDG (TB)	NTWG for PPM Activities members	Biannual
	National Operational Research Committee	Chairperson National OR Committee / DDG (TB)	National OR Committee members	Biannual
	National Airborne Infection Control (AIC) Committee Members	National AIC Committee Chairperson / DDG (TB)	National AIC Committee members	Biannual
Zonal	Medical College performance review	ZTF Chairperson	STF members	Annual
	RNTCP Performance Review including one day exclusively for PMDT activities	DDG (TB)	Regional Directors, STOs, DTOs of selected districts	Annual
State	State Health Society Review (RNTCP included as an agenda item)	PS (Health), MD-NRHM	Director Health Services, CMHO , All programme heads in state,	Quarterly
	RNTCP performance review	STO	DTO	Quarterly
	Performance review of Under-performing districts	STO	DTO	Biannual
	Medical college performance review	STO/ STF Chairperson	Nodal Officers from all medical colleges	Quarterly

Level	Type of Review	Chairperson	Participants	Frequency
	State Operational Research Committee Meeting	STO/ STF Chairperson	State OR Committee Members	Quarterly
	State TB-HIV Co-ordination committee meeting	PS (Health)	Members of State TB-HIV Cordination Committee	Biannual
	State Working Group Meeting for HIV/TB collaborative activities	PD-SACS / STO	Members of State Working Group for HIV/TB collaborative activities	Quarterly
	State DOTS-Plus Committee meeting	PS (Health)	State DOTS-Plus Committee members	Quarterly
	Review of RNTCP Accounting	State Accountant	District level Accountant	Biannual Review and One for PIP
	Review of Drug management	State Drug Store Manager	District Drug Storekeepers	Biannual
	Review of data management	State epidemiologist and state Statistical Assistant	District DEO/Statistical assistant	Biannual
	Workshop for Other Sector Health Facilities such as Railways, ESI, CGHS, Mines, etc…	STO	Representatives from Other sector Health facilities	Annual
	Review Meeting of Partners	STO	All Partners	Biannual
District	District Health Society Review (RNTCP included as an agenda item)	District Magistrate / Chairman District Health Society.	CMHO, All programme heads in district, Block Medical Officers, MO-PHIs (infrequently)	Quarterly
	CMHO Monthly Meeting with Block Medical Officers and MO-In charge PHCs (RNTCP included as an agenda item)	CMHO	All Block Medical Officers, MO-In-charge PHC, and Superintendent CHC.	Monthly
	RNTCP performance review	DTO Core Committee Chairman	MOTC, STS and STLS Core Committee Members	Monthly
	Medical college performance review	of the respective Medical College	of the respective Medical College and DTO	Quarterly
	TB-HIV District Coordination Committee meeting	Chairperson of TB-HIV District Coordination Committee	Members of District TB-HIV Coordination Committee	Quarterly
	Review of Drugs and Logistics	DTO and DTC Pharmacist	Pharmacists/Incharge Storekeeper of all TUs and PHIs	Quarterly
	DOTS-Plus site committee meeting	Chairperson/Coordinator DOTS-Plus site	DOTS-Plus site committee members, DTOs / Sr.DOTS-Plus-TB-HIV Coordinator	Monthly
	Workshop with Partners and other sector hospitals such as Railways, ESI, CGHS, IMA, AYUSH, NGOs, External funded projects etc…	CMHO/DTO	Representative from Partners	Biannual
	Review of TB-HIV collaborative activities along	DAPCU/DTO	ICTC/CCC Counsellors, STS,DOT-Plus-TB-HIV	Monthly

Level	Type of Review	Chairperson	Participants	Frequency
	with RNTCP monthly meeting		Coordinator	
Block	Block Level Meeting with MO-In-charge PHI and other staff. (RNTCP included as an agenda item)	Block Medical Officer	MO-I/C-PHC and other staff.	Monthly
PHI	Monthly Meetings with Staff (RNTCP included as an agenda item)	MOIC, PHC	MPHS/ANM/MPW/ASHA	Monthly

Success Stories

Andaman & Nicobor Islands:

INTERMEDIATE REFERENCE LABORATORY, A&N ISLANDS - A SUCCESS STORY

The DOTS Plus State Committee had been constituted in Andaman & Nicobor islands under the Chairmanship of Secretary (Health), A&N Administration. The up-gradation of the DOTS Plus site at G.B. Pant Hospital, Port Blair was also commenced with a view to hasten the rolling out of DOTS PLUS in the A & N Islands.

Special training for DOTS Plus was provided to the RNTCP staff.

Having met all the requirements, ICMR, Port Blair earned Accreditation in April, 2011 to be the Intermediate Reference Laboratory of the Andaman & Nicobar group of Islands (Lab Accreditation No. 24/RNTCP/2011) under the Designated NRL at TRC, Chennai - a milestone achievement in A &N Islands' RNTCP Unit's struggle against Tuberculosis.

Regular EQAs keep the proficiency of the IRL at par with the standards set by the Central TB Division.

Since then, till Dec 2011, a total of 10 MDR-TB suspect cases have been cultured in the IRL, Port Blair, out of which 02 cases have been confirmed as MDR-TB. It takes around 56 days to confirm a negative culture whereas a positive culture with a heavy bacterial load can be confirmed in as little a time as 3 weeks. The identification of MDR-TB cases within the infrastructure and facilities of the A&N Islands makes the dream of an MDR-TB-free Islands seem closer to reality.

With the availability of Falcon tubes and other transport material, all the distant islands will be equipped to send culture specimens directly to the IRL, Port Blair without having to refer each patient to the capital town. The culture in IRL, Port Blair will also save, substantially, the resources of the government and also enable the treatment for MDR-TB through the DOTS Plus regimen commence quickly. This will, in turn, reduce the number of people being exposed to MDR-TB infection and also significantly reduce the mortality caused by MDR-TB.

The initiation of DOTS Plus and plans for setting up of a separate MDR-TB ward at G.B. Pant Hospital are only the beginning of the long yet attainable journey to see an MDR-TB-free Islands 'in our lifetime'.

This success story of the constitution of an IRL for the A&N Islands- and thus enabling speedier and more convenient treatment to the Islanders- would always be our inspiration, and drive us to reach greater heights and overcoming all hurdles in our war against Tuberculosis.

Andhra Pradesh:

INVOLVING PHARMACIES IN TB CONTROL - ANDHRA PRADESH EXPERIENCE

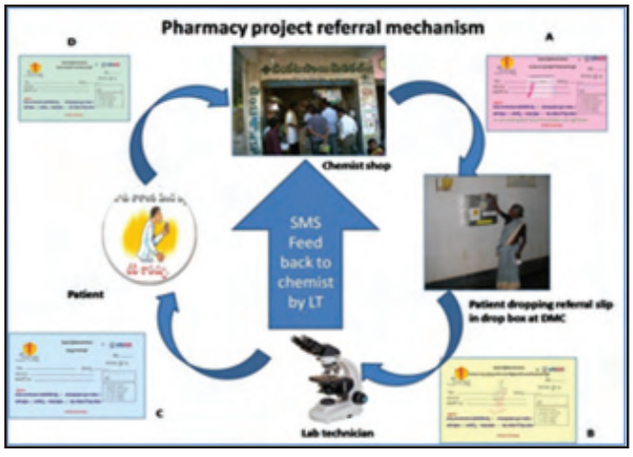
State TB cell, Andhra Pradesh is involving private chemists in Ongole, Prakasam district in identification and referral of TB suspects to DMC. PATH with USAID support has provided technical assistance for this project. In addition to referring suspects to designated microscopy Centers (DMC), private chemists also play role in reducing over the counter (OTC) sale of anti TB drugs.

The project sensitized and trained key stakeholders including private chemists on the role of PPM in TB care and control, referral mechanism, availability of free TB services under RNTCP. To facilitate referral process appropriate job aids (referral slips and drop box, DMC referral map, pamphlets etc.) were developed.

Self carbonized color coded referral slips were designed in quadruplicate (A-D). Slip D (green) is to be retained at the medical shop, the remaining three to be provided to

the chest symptomatic who is instructed to drop slip A (pink) in the designated drop box at the DMC, hand over slip B (yellow) to the laboratory technician, and keep slip C (blue) for patient's records.In order to integrate the above activities of project with district RNTCP, supportive supervision, joint review meetings and SMS feedback mechanism were developed. This project contributed to 5% of the chest symptomatics examined and 2% of the smear positive TB patients diagnosed in the project area.

The report of this project was released during 71st conference of International Pharmaceutical Federation (FIP) held at Hyderabad India and was also shared with all the stakeholders in the state and district. Further,



experiences from the pilot were shared by State TB office with the Director General, Drugs and Copy Rights, Drug Control Administration (DG, DCA), Andhra Pradesh during a state level convention of pharmacies. The DG DCA made an emphasis of involving private chemists to expand accessibility to TB control services. He also directed the drug inspectors to keep a watch on the sale of anti TB drugs without valid prescription by the registered medical practitioners and Pharmacists. A circular to this effect has been issued on 31st October 2011. With the learning's from Ongole project state TB office has expanded this to another district Rangareddy with a vision to expand this intervention to entire state of Andhra Pradesh with the technical assistance from key partners.

Assam:

Cured Re-treatment patient as trained DOTS Provider in Missionaries of Charity DOTS Centre, Bongaigaon district

Sisters of Missionaries of Charity DOTS Centre, Bongaigaon district have engaged one cured re-treatment patient as DOTS Provider which gives tremendous

motivation to other T.B. patients currently under treatment.

Bihar:

Jaiprabha - Substantial contribution by an unknown silent operator to RNTCP

In a remote area of Banka District in Bihar, inhabited by the Santhal tribals and infested with naxalites, an NGO named Jaiprabha silently and effortlessly participates under DMC Scheme since 2008. The area is greatly underserved as there is no Govt. health facility in a 30 km radius. Thus the participation of Jaiprabha is a boon to the inhabitants as its DMC has examined over 800 suspects and detected 140 sputum positive patients. More than 250 patients have been treated with DOTS by its vast network of SHGs in its area of work. Such silent operating NGOs working tirelessly are a beacon to the PP model.

Using mobiles to reach people

MuzaffarpurCBCI-CARD, a Union partner in Project Axshya, took the novel initiative of reaching large numbers of people through a text message on TB sent

(DMC - Jaiprabha hospital)

(Doctor examining TB suspects)

(Training of SHG DOT Providers)

on mobile networks in Muzaffarpur district, Bihar. The message was sent to 10000 people, as a result of which 53 chest symptomatics reached the designated microscopy centre for sputum examination. Of those tested, two were sputum-positive cases and are now on DOTS. The target is to send messages to 1 lakh mobile numbers within four months in a phased manner so that effective tracking can be done. A definite impact is anticipated through this innovative communication technique

Chhattisgarh:

Reaching the un-reached - RNTCP in the Central Jail Raipur

Central Jail Raipur is the largest Central Jail in Chhattisgarh with capacity of 1130 prisoners. Current lock up statistics shows 2247 (as of 31st March 2011) prisoners, which is 2 times more than the actual intake capacity. Prisoners are vulnerable to TB as they may enter the prison with high risk of prior TB disease with potential to spread the disease to the jail inmates due to confinement and over-

crowding of living areas in prisons. Central Jail Raipur was engaged in RNTCP way back in 2009 with establishment of a DMC and a DOTS Centre. DMC is managed by a MO & LT and DOTS Centre by few selected jail inmates, acting as DOT providers. Out of

80 Registered TB cases in Raipur jail, 18 are cured, 14 have completed their treatment and 11 are currently on DOTS. Patients do not default their treatment in the Jail Hospital and fully comply with the DOTS and follow up sputum schedules. However, the feedback mechanism of the patients who are transferred out and released from the Jail needs to be strengthened with support from the

DTO - District Raipur.
Credit for ensuring good quality of DOTS in the Central Jail Raipur goes to the RNTCP dedicated team in this Jail Hospital - Dr Roy Chowdhary, MO in-charge of DMC and especially, to Mr Sanjay Yadav, a jail inmate and a committed TB worker, who has been providing quality DOTS to the TB patients here since 2009. Sanjay is also instrumental in building capacity of his fellow inmates to act as DOT Providers and has already created small group of DOT Providers in the hospital.

Gujarat:

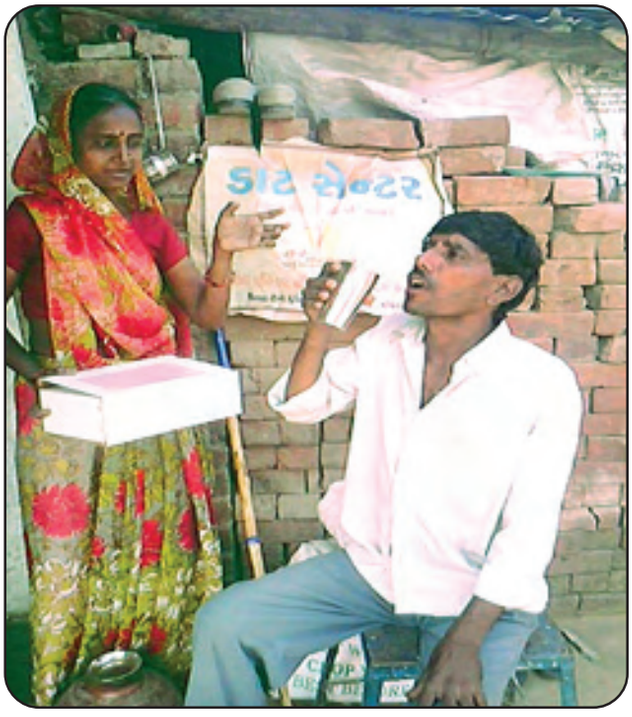
Private Practitioner - front runner for TB referral and Treatment (Surat Municipal Corporation-Gujarat)

Dr. Manoj Pansuria is practicing physician at Navagam Dindoli -textile and Diamond workers population area since last 3 Years. He was sensitized by RNTCP staff following which he took interest in the program and started referring TB suspects to local DMCs. He also started providing DOTS to the TB patients at his clinic.

Presently he is providing DOTS to 23 TB patients. His contribution to RNTCP has been highly appreciated by the Surat Municipal Corporation.

ASHA - successful DOTS Provider: Smt. KUMUDBEN M. PARMAR, ASHA (Accredited Social Health Activist) worker of Sathrota village resides in TU Halol district Panchmahal. She works as DOT Provider. She has cured 5 patients of CAT - I in year 2010 and currentlygiving DOTS to CAT - IV Patient Vitthal Shankar Rathod of her village. Vitthal Shankar has already completed 1 year of DOTS Plus treatment.

Story of a MDR TB case currently under the treatment of RNTCP: ABHESINH KALUBHAI RAVAL, Male, 16, a physically handicapped patient of



Kadana TU resides in village Chhani of Khanpur Taluka (Tribal TU). He had TB in 2007 and completed his

(During DOTS Plus treatment initiation) (Currently)

treatment. Again he had a relapse of TB in 2009 and diagnosed as MDR TB in August 2010. He was put on on CAT - IV on 24/11/10. At the time of treatment initiation his weight was 40 kg. He was so frustrated due to his illness he dropped his school and stopped his studies. After starting DOTS Plus treatment, he started

feeling better and re-joined his school. He took 4 months for culture conversion. Now he is 45 kg of weight and feels healthy. He expresses his gratitude to his family members and health staff of RNTCP for his well- being and health. He is currently preparing for the Higher Secondary Board Exam in 2012.

Jammu & Kashmir:

A poet in RNTCP

(Poet Ayoub Saber at TU Pattan during patient-provider meeting)

A man in his seventies decided to get involved with TB cure and control programme in Kashmir division 5 years ago not knowing that this activity will give a charismatic influence to his own character and elevate the programme to a more conspicuous level. White haired, clean shaved and shoulders slightly dropping down Ayoub Sabir- poet and social worker has now become face of the Revised National Tuberculosis Control Programme in Kashmir division. Ayoub Sabir- nick named as" DOTS ON AND TB GONE" within his literary circles and RNTCP in Kashmir division are complementing to each other, one increasing the visibility of other. He came up with the following poetic piece in local language;

Mushkil hall gov pani deri
I swear that difficulty is over
Yane aov RNTCP
Since the inception of RNTCP
TB zaniv akh kath khaas
About TB particularly note
Doun haftan ya ami hur chaas
Cough for two weeks or more
TB nish haa sapdakh free
You will be TB free
Wael ghas DMC labatery
Go at once to DMC laboratory
Thok nee seeti yeye ma aanch
Take sputum along
Doun dohan doulate karnav jaanch
Get sputum tested on day one and day two
DOT center ghas wael kar sanz
Prepare to go to DOT centre
Dawaa tate khov mooftas mannz
Take medicine free of coast
Dade nishe sapdakh wael aazad
You will be TB free

In reply to a survey question approximately 40% people said they know signs, symptoms and cure of TB because they have heard these from Ayoub Saber on Radio Kashmir Srinagar.

Jharkhand:

Impact of School based IEC activities

Muni Lal Murmu, resident of a tribal and hard to reach village of Bhataundha in Godda district developed cough. Having cough for 20 days, he also started feeling weak, hampering his daily work. He visited a local quack many times and took herbal medicines. Although costly, the medicines did not help in improving his health, instead it led to further deterioration of his health and made him bedridden. One day his neighbor's son saw him cough & cry in the bed. The boy after listening to his complain of cough for more than two weeks, weakness and presence of blood in sputum, remembered of the school visit by some health workers who, by describing about the TB and DOTS, made them aware about TB symptoms. He advised Muni lal to get his sputum examined. On the boy's advice he visited DMC and had his sputum examined. He was diagnosed to have sputum positive pulmonary TB. Sahiya of his village visited and sensitized him about precautions to prevent spread of TB and started giving DOTS treatment regularly under her supervision. With regular treatment & timely follow up sputum examinations, he was declared cured after the full course of treatment. Now he is free from all the symptoms and is performing his daily chores effectively. He is now a regular part of community meetings in the village & spreads awareness about symptoms of TB and free of cost availability of diagnosis and treatment for TB under DOTS Programme.

Impact of Community meeting

Bengali Ram, a 45 years old farmer resident of Bihari Champadih village of Hazaribagh district of Jharkhand.

He was suffering from cough for a few months and weakness for more than 15 days, due to which his daily work was suffering leading to economical loss, as he was the sole bread winner in the family. One day a community meeting was held in the village on TB issue. Sahiya Punam Devi was also present there. Bengali Ram heard about TB symptoms and consulted the Sahiya. She advised him to go to DMC and get sputum examined. He was diagnosed as sputum positive pulmonary TB. The sahiya herself provided DOT services to Bengali Ram. The patient could complete the treatment only due to free of cost medicines and care provided by Punam devi under the DOTS Programme. He completed full course of treatment with timely follow-up sputum examinations and was cured of TB. Now his life is back to normalcy with a renewed confidence in himself. He now is an active member of VHND (Village Health & Sanitation Committee) and "TB Forums" in his village & spreads awareness about the availability of free of cost TB care services under RNTCP.

Karnataka

My favorite 2's in RNTCP

DTO and RNTCP staff of Ramanagara district greeted all the private practitioners 2012 new year with an innovative greeting card with the title My favorite 2's in RNTCP.

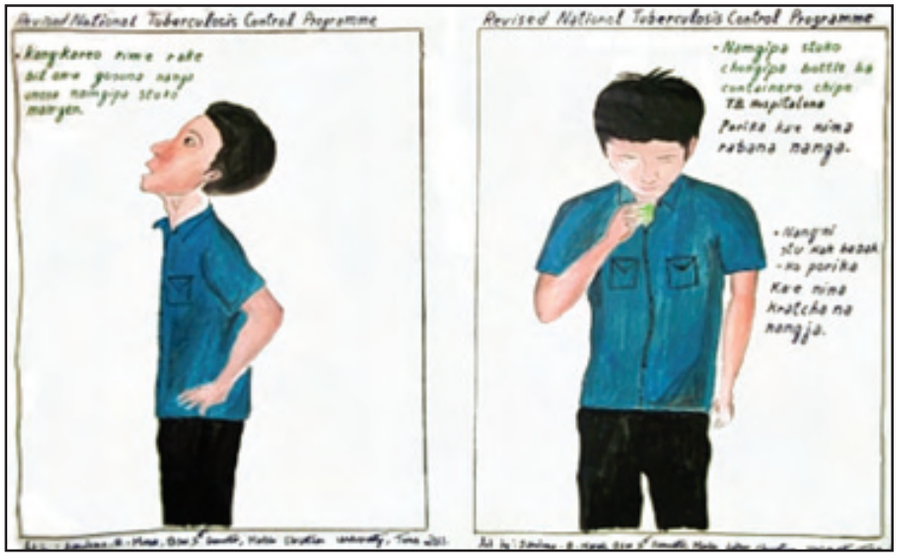
Madhya Pradesh:

A family saved: Khamaria village, Jabalpur

Mr Shivdas Tiwari and his two daughters, Mausmi on the left and Neha on his right, make up a TB-infected family of village Khamaria in Jabalpur, Madhya Pradesh - his wife and son died of TB years back. Mr Shivdas (55 years) and Mausmi (22 years) too are TB patients and their treatments are on. An NGO partner, Norbetine Social Society, met them during Project Axshya activities. Mausmi was the first victim of TB and the family was searching for treatment but, they say, could not get good treatment and guidance even at the government hospitals. Finally, she was diagnosed as a TB patient with the help of a RNTCP DOTS centre in a medical college and treatment was started. Before treatment, she lacked appetite, had loss of eyesight, and was so feeble that she could not move from one place to another. Now she can do all her activities on her own. She has been taking paediatric anti-TB drugs as per her bodyweight. Her weight has now increased and she is responding to the treatment. Meanwhile, Mr Shivdas too developed a cough and was also diagnosed as a TB patient after sputum examination. He was advised to take treatment and was also started on DOTS. They are now hopeful that their lives will be saved - and we are happy we could save a family.

Meghalaya

The Students from Martin Luther Christian University, Tura Campus had come to District Tuberculosis Centre, Tura for the project work for 3 months. During their project work they had conducted poster campaign on Tuberculosis in Local language (Garo) and English. The following Posters had been displayed by the students of the said University at District TB Hospital Compound, Tura, West Garo Hills, Meghalaya.



Mizoram:

Sputum collection centre & DOT provider at Kolasib District

Mr. Thangkhuma, Church Elder, Zanlawn, Kolasib District had volunteered to be sputum collection centre. He was trained on correct techniques of sputum collection and transportation and provided with sputum cups. He has collected and transferred 11 sputum samples so far since October 2011.

Retrieval of drug addict TB patients: Mrs.B. Lalhmangaihsangi of Luangmual, Lunglei is a dedicated Community Volunteer of CMAI. She had undergone TB and ACSM training at district level. She successfully brought the a drug addict TB patient back to RNTCP for treatment who had defaulted number of times previously. Now the patient is taking the treatment regularly and never misses a dose. The 'impossible' has been possible due to Mrs.B. Lalhmangaihsangi's hard work and dedication to RNTCP.

Nagaland:

Dedication of District TB Officer: Dr Chubatemsu , DTO of Mokokchung District in Nagaland has been serving the TB Programme ever since its inception. He is one of the most sincere and efficient Program Managers in the State. Not only does he treat patients but he takes an extra effort to visit each and every patient at their homes and interacts with them and their family members and provides them necessary health education on TB, cough hygiene, drug adherence and infection control. In his own words, Dr. Chubatemsu states that…" in their own homes, the patient is a king and hence feels confident enough to put forward various queries, thereby addressing issues of stigma and discrimination" Being a Christian, he ends the visit with a simple word of prayer for speedy recovery and general well-being of the patient and their family. This is also one of the main reasons why Mokokchung has been able to check the problem of Defaulters and also Case finding has been consistent. He is well known in the District for his service rendered towards the people and on several occasions he has been lauded even by the State Officials.

(Dr Dr Chubatemsu , DTO of Mokokchung District visiting a TB patient at his home)

Orissa:

Initiative of Ganjam district, Odisha to encourage key staff of RNTCP for better performance

RNTCP has its own 'Supervision and Monitoring Strategy' with specific indicators to monitor and evaluate the programme at different levels with the specific objective to further improve the performance of programme. For better performance of RNTCP, Ganjam district team has decided to give some rewards to TU level RNTCP supervisory staff. This reward will be rotatory trophy to the winner who will achieve the performance above RNTCP norm. The indicators are Case detection (> 70%), Sputum Conversion rate (>90%), Cure rate (> 85%), and Default rate (< 5%).Trophy will be given to STS, STLS and a appreciation letter with sign of CDMO will be given to Mo-TU. On the basis of 3q 2011RNTCP reports of Ganjam district, Aska TU, got 3 trophies for performing above the norms as best performing TU.

We hope that this initiative will enhance enthusiasm of the Supervisory Team at the TU and healthy competition among them which will be helpful to improve performance of RNTCP.

Punjab:

Flower Vendor outside Temple works as DOT Provider of RNTCP

Jagdish Tiwari, a 45 year old man who belongs to Gaunda District, U.P. is owner of a flower stall outside Bizli Pehalwan Mandir on famous Lawrence Road, ASR. He takes personal

interest in RNTCP and a trained DOT provider. He had successfully given treatment to 4 TB patients. He is regularly accompanying the chest symptomatics to the local DMCs for their sputum examination. His contribution helps in high compliance of patients specially migrants and ultimately contributing to the success of RNTCP.

A flag bearer of RNTCP as a DOT Provider in Slum

Local RMP Dr Simarjeet Singh has been practicing in slum area around Sultan Wind Road, Amritsar is a DOT Provider since last 1 year. He joined the RNTCP as a DOT Provider inspired by the cure of his son who suffered from Tuberculosis and still on DOTS. Dr Singh never allows his patient to default. He has given treatment to 40 TB patients in his area and 8 TB patients still under DOTS from him. "He is my best DOT Provider working in my area." says T.B. Health Visitor Jasveer Kaur.

Tamil Nadu:

Screening for TB and HIV

In Tiruchirappalli District Aniyapur PHC is an additional PHC and also DOT Centre. During routine visit to the centre in August 2011 DTO reviewed TB Cards of two TB patient who were also co-infected by HIV and both belong to a small village V. Poosaripatti. The village has a population of about 200. Then after discussion with DDHS it was decided to screen the whole village for both HIV and TB. The VHN of the village was given the responsibility of meeting the village Panchayat President to arrange an awareness and screening campaign.

The villagers were asked to assemble at 6PM. The MO, VHN and local Panchayat President also attended. A famous Tamil Film with Mr. Rajiniganth as Hero "Shivaji" was screened. About 170 villagers attended the meeting. Medical Officer in the middle of the film spoke about

TB and HIV and offered the services available at the Village itself for screening of both diseases. The STLS and LT of the nearby DMC collected the sputum samples and ICTC Technician collected the blood sample for HIV.

Tribal Patient turned DOT Provider

(DOT Provider Rajamani (Rt) with patient)

Selvi Rajamani, 31, is a resident of the tribal village of Anaikatty. She had TB and got cured after receiving treatment from RNTCP. Since then, Rajamani started to refer TB suspects to the District TB Center for sputum examination. She has so far referred around 15 suspects of which 6 of them have been diagnosed as Sputum Positive Pulmonary Tuberculosis including a small boy aged 5 years. Rajamani has also volunteered to treat the patients she has helped to diagnose by acting as a DOT Provider and has successfully cured 2 patients and is currently delivering treatment to 3 more.

Tripura:

DOTS Plus treatment first serve in North East

RNTCP, Tripura has taken the first initiative to introduce DOTS Plus treatment and facilities for patients in the North East Region. The first dose of 2nd line anti TB Drugs was given to the patients namely Anil Debnath & Sajal Deb who are the residents of Agartala. These two patients are suffering from Drug resistance TB, which was detected by LRS Institute , New Delhi after sputum culture, and recommended for starting of DOTS Plus treatment under Category-IV. Patients are very much cooperative to accept the injections and medicines. They have also committed to undergo regular treatment with medicines till the course is completed.

Uttaranchal:

The first Private medical college in the country to start DOTS Plus site in PPM mode

Under the aegis of State Health and Family Welfare Society (TB), Uttarakhand the Himalayan Institute of Medical Sciences (HIMS) Dehradun has become the first private medical college in the country to start DOTS Plus site in PPM mode.

The State Govt. and the Society decided to establish the State DOTS Plus site in HIMS. This was necessitated by the fact that there was no Govt medical college in Dehradun and the District hospital had a severe space deficit.

The HIMS College administration agreed to provide space for a 10 beded ward for DOTS Plus site. On 6th April 2011 the Society signed a Memorandum of Understanding with HIMS College after due approvals. The civil work was done as per the RNTCP norms and AIC guidelines and funds for this was provided by State TB Cell from the budget of DOTS Plus site. Further the State got approval of Rs 2 lac from NRHM additionalities for the recurring cost of patient management in the NRHM PIP of FY 2011-12.

Central TB Division DOTS Plus appraisal team visited this site on 9th Aug 2011 for DOTS Plus appraisal. The first MDR TB patient was admitted on 19th October 2011. A total of 16 MDR TB patients have been admitted in this site in 2011. The refreshment to the patients are provided by Rotary Club of Dehradun .This site will cater to the MDR TB patients of 7 districts of Uttarakhand.

West Bengal:

Success story from Burdwan district

Supriya Nandi of Gram Panchayet office of Raina II block, is a highly motivated and dedicated DOT provider of IMPACT project of CARE India in West Bengal.

Supriya works diligently to ensure her TB patients adher to DOTS. As part of the initiative of the IMPACT program to link TB patients with support from the Government welfare schemes Supriya brings midday meal

to each of TB patient in the village.

Supriya is very particular about preventing the slightest chance of defaulters. Once she noticed some of her TB patients were experiencing problems of non-adherence. She immediately alerted the local panchayet, health staff and field workers of IMPACT project of CARE about the growing problems. They quickly formed a team and were successful in redirecting the patients into their treatment regimens.

Supriya reports increased awareness and reducing stigma in the community members on TB that resulted from the gallant efforts of health volunteers like her. She says she loves her job and enjoys bringing hope and awareness to her community.

RNTCP Case Finding and Treatment Outcome Performance, 1999 – 2011

Every quarter, Central TB Division receives aggregate case-finding, programme management, sputum conversion, and treatment outcome information for patients registered under the programme from over 2,600 tuberculosis units nationwide. RNTCP follows the global method of cohort analysis for describing case finding and treatment outcomes. Timely data collection and dissemination are hallmarks of the RNTCP surveillance and data management systems. The data from the quarterly reports are analyzed and disseminated in the public domain as quarterly performance reports before the end of the subsequent quarter and as an annual report. For the purpose of describing the notification in this section, the data from the reports of the 4 quarters in a calendar year have been added and is presented in the form of annual data. Though the programme was formally initiated in the year 1997 and the quarterly reporting mechanism was in place since inception, the data presented below extend from the year 1999, when approximately about 10% of the country's population was covered onwards. The rapid pace of DOTS expansion over the past decade complicates longitudinal data analysis in a number of ways. District-by-district scale-up of RNTCP services over several years changes the denominator of population covered every quarter. Basic demographic characteristics of implementing districts differed over the expansion years, as well as the expected evolution of services and TB epidemiology in areas implementing RNTCP over longer time periods.

For the purposes of this analysis, districts implementing RNTCP less than one year during the initial year of implementation were attributed to cover a population proportionate to the number of days in the first year that services were available in each district. The rates presented in this section are all per 100,000 populations after adjusting for the number of days of implementation by individual districts till year 2006. Also the population of the districts is based on 2001 census and 2011 Census India for these two years and estimated for the rest of the years based on these two Censuses. Though the population in the tables is complete population of services covered as on 31st December of that year.

Sputum Microscopy Services and TB Suspect Examination

Over the 11 year analysis period, the population covered increased from 139 million to 1.21 billion populations (Table 1). Smear microscopy services are reported independently of case notification results. As expected from service expansion, the absolute number of TB suspects examined by smear microscopy annually has increased manifold, from 0.96 million to 7.8 million. Over the same time period, the rate of TB suspect examination also increased by 50%, from 421 per 100,000 population covered by RNTCP services to 651 per 100,000 population covered. Similarly, the rate of sputum smear positive cases diagnosed by microscopy has increased by 20%, from 62 to 79 per 100,000 population [Figure 1]. The average number of suspects examined for every sputum smear positive case diagnosed has gradually increased about 1.3% per year, from 2001 to 2011, the number of suspects examined per smear positive case diagnosed has increased by 28% from 6.4 to 8.3 suspects (Figure 2). Total and sputum smear positive case notification is also shown in Table 1. An average difference of 11.3% [Range 8–15%] was observed between the rate of sputum-positive cases diagnosed and the sputum-positive case notification rate.

Table 1: TB Case finding activities and notification rates (1999 - 2011)

Year	Total population of India covered under RNTCP (millions)	Sputum Microscopy Services				Case Notification			
		Suspects examined		Sputum smear positive cases diagnosed		Total TB cases notified		Total sputum smear positive cases notified	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate
1999	139	n/a		n/a		133,918	101	61,103	46
2000	241	956,113	421	148,610	65	240,835	106	131,100	58
2001	441	2,046,039	517	286,789	73	468,360	118	252,878	64
2002	528	2,507,455	524	356,409	75	619,259	129	327,519	68
2003	761	3,955,395	576	555,250	81	906,638	132	473,378	69
2004	920	5,128,852	599	711,661	83	1,188,545	139	615,343	72
2005	1058	5,684,860	569	762,619	76	1,294,550	129	676,542	68
2006	1105	6,216,509	566	834,628	76	1,400,340	127	746,149	68
2007	1,138	6,483,312	570	879,741	77	1,474,605	130	790,463	69
2008	1,156	6,817,390	590	911,821	79	1,517,363	131	815,254	71
2009	1,174	7,247,895	617	930,453	79	1,533,309	131	825,397	70
2010	1,192	7,550,522	633	939062	79	1,522,147	128	831,429	70
2011	1,210	7,875,158	651	953032	79	1,515,872	125	844,920	70

Population is total covered at the year end of each year till 2006
Estimated population based on 2001 & 2011 Census
Rates are adjusted for the number of days of implementation till 2006

Figure 1: rate of TB suspect examined and smear positive TB cases diagnosed per 100,000 population

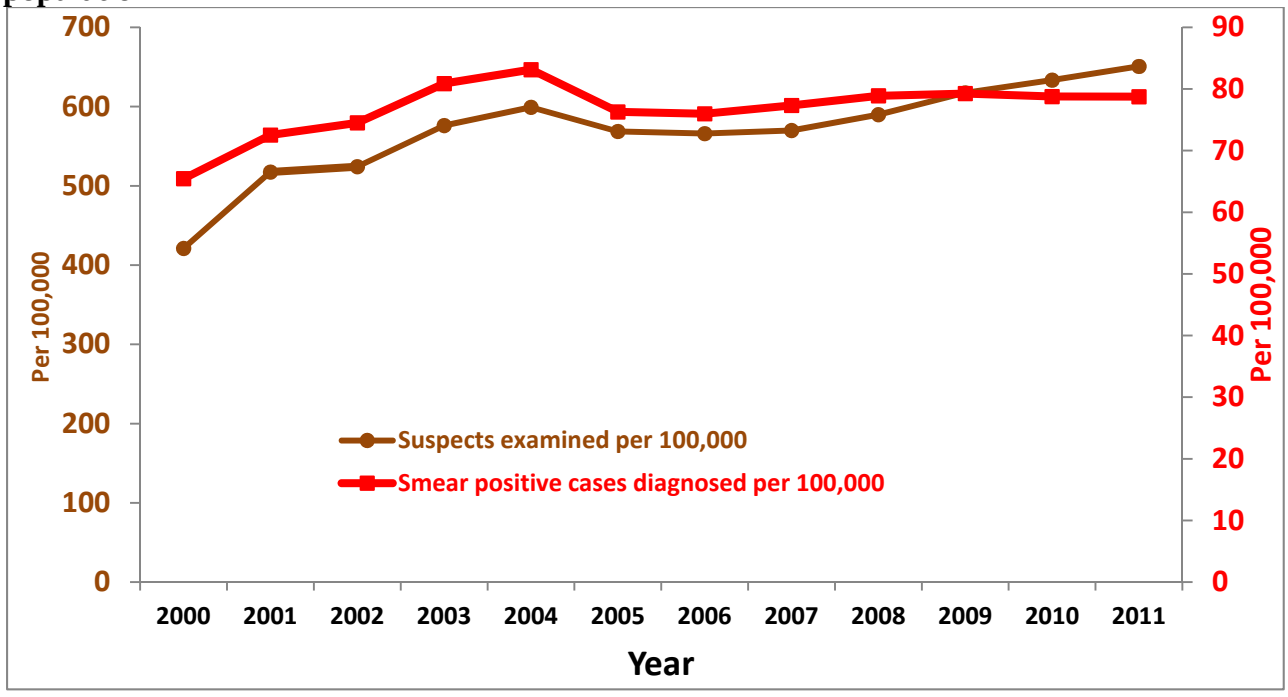
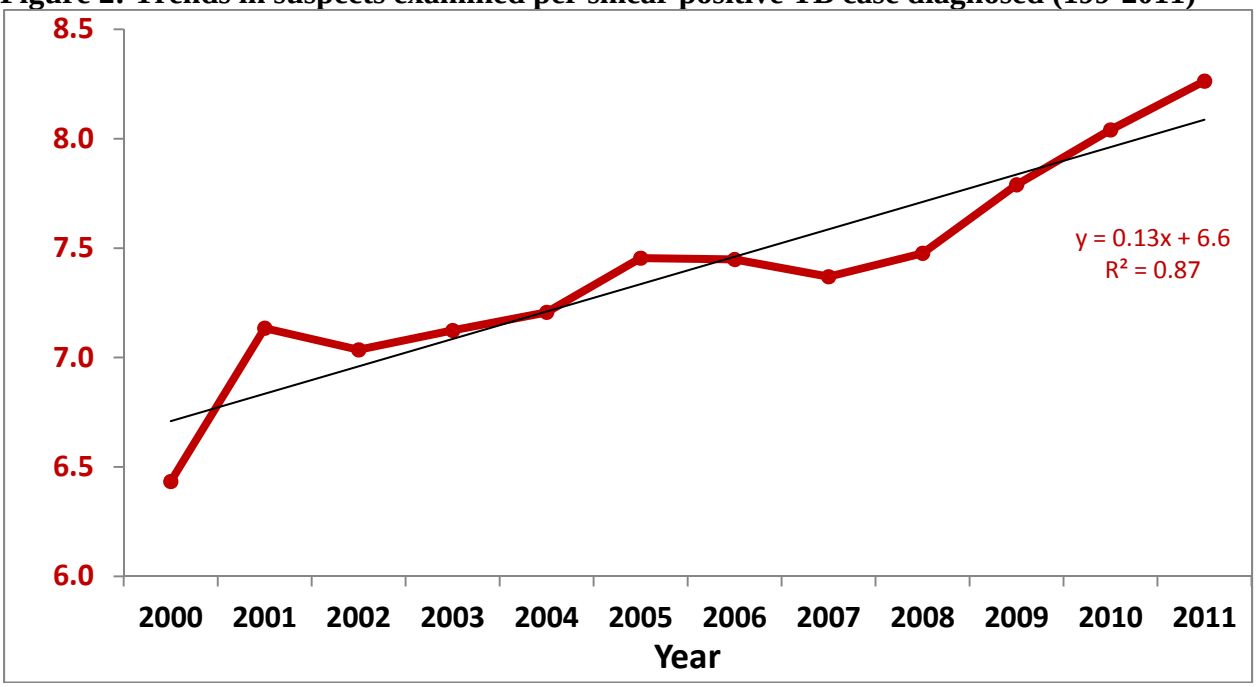


Figure 2: Trends in suspects examined per smear positive TB case diagnosed (199-2011)



Notification Rates of TB Cases

Overall, case notification has increased over the 12 year analysis period, and the notification rates of most types of TB cases has steadily increased or remained stable, with the exceptions of new smear-negative (Table 2 and Figure 3) and "treatment after default" (Table 2 and Figure 4). The total case notification rate has increased from 101 cases per 100,000 population in 1999 to 125 per 100,000 population in 2011 (Table 1), though the last 4 years case notification has been effectively flat or rather decreasing. The NSP case notification rate has increased from 39 cases per 100,000 population in 1999 to 53 per 100,000 population in the year 2008, and has remained at 53/100,000 for the past 4 years. The NSN notification rates have shown a decreasing trend from 45 per 100,000 population in 2004 to 28 per 100,000 population in 2011 (Table 2 and Figure 3), and continues to fall without clear explanation. Some of the arguments for this are increased efforts to get the sputum examined and bacilli demonstrated with increasing availability and application of quality sputum smear microscopy services expanded under the programme.

The notification rate of re-treatment cases has increased by 40% over the past 12 years, from 18 per 100,000 population in 1999 to 25 per 100,000 population in 2011. The increase in retreatment notification rates appears to be driven largely by increases in the notification rates of the 'relapse' and 'others' types of re-treatment cases. The 're-treatment others' notification rate has almost doubled from 4 per 100,000 population in 1999 to 8 per 100,000 population in 2011. The notification rate of failure-type re-treatment cases has remained almost stable from 2002 onwards at the rate of 2 cases per 100,000 population. The "Treatment after default" notification rates have declined from 10/100,000 population in 2001 to 6/100,000 population in 2011 **(Table 2 and Figure 4).**

Table 2: Notification rates of different types of TB under RNTCP, 1999:2011 (Numbers & notification rates per 100,000 population)

Year	Population covered (millions)	New smear positive		New smear negative		New extra-pulmonary		Re-treatment Relapse		Re-treatement Treatment after default		Re-treatment Failure		Re-treatment Others		Total case notification	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1999	139	51,627	39	42,180	32	16,015	12	7,334	6	9,326	7	1,401	1	5,541	4	133,918	101
2000	241	93,359	41	73,714	32	28,004	12	12,511	6	20,288	9	3,183	1	9,115	4	240,835	106
2001	441	183,970	47	146,145	37	52,373	13	23,122	6	38,400	10	6,195	2	18,450	5	468,360	118
2002	528	243,529	51	195,798	41	72,288	15	34,143	7	40,767	9	8,684	2	24,578	5	619,259	129
2003	761	358,490	52	291,062	42	109,777	16	46,577	7	54,353	8	11,560	2	35,983	5	906,638	132
2004	920	465,616	54	381,656	45	144,182	17	62,251	7	67,657	8	16,296	2	51,929	6	1,188,545	139
2005	1058	507,089	51	392,679	39	170,783	17	75,054	8	72,021	7	17,710	2	59,845	6	1,294,550	129
2006	1105	554,914	51	401,384	37	183,719	17	90,153	8	76,699	7	19,496	2	74,270	7	1,400,340	127
2007	1,138	592,262	52	398,707	35	206,701	18	96,781	9	77,397	7	19,012	2	83,746	7	1,474,605	130
2008	1,156	616,027	53	390,260	34	220,185	19	104,210	9	76,583	7	18,434	2	89,995	8	1,517,363	131
2009	1,174	624,617	53	384,113	33	233,026	20	108,361	9	73,549	6	18,870	2	88,976	8	1,533,309	131
2010	1,192	630,165	53	366,381	31	231,121	19	110,691	9	72,110	6	18,463	2	91,708	8	1,522,147	128
2011	1,210	642,321	53	340,203	28	226,965	19	112,508	9	72,787	6	17,304	1	101832	8	1,515,872	125

Population is total covered at the year end of each year till 2006
Estimated population based on 2001 & 2011 Census
Rates are adjusted for the number of days of implementation till 2006

Figure 3: Trends in type of TB case notification rate (199-2011)

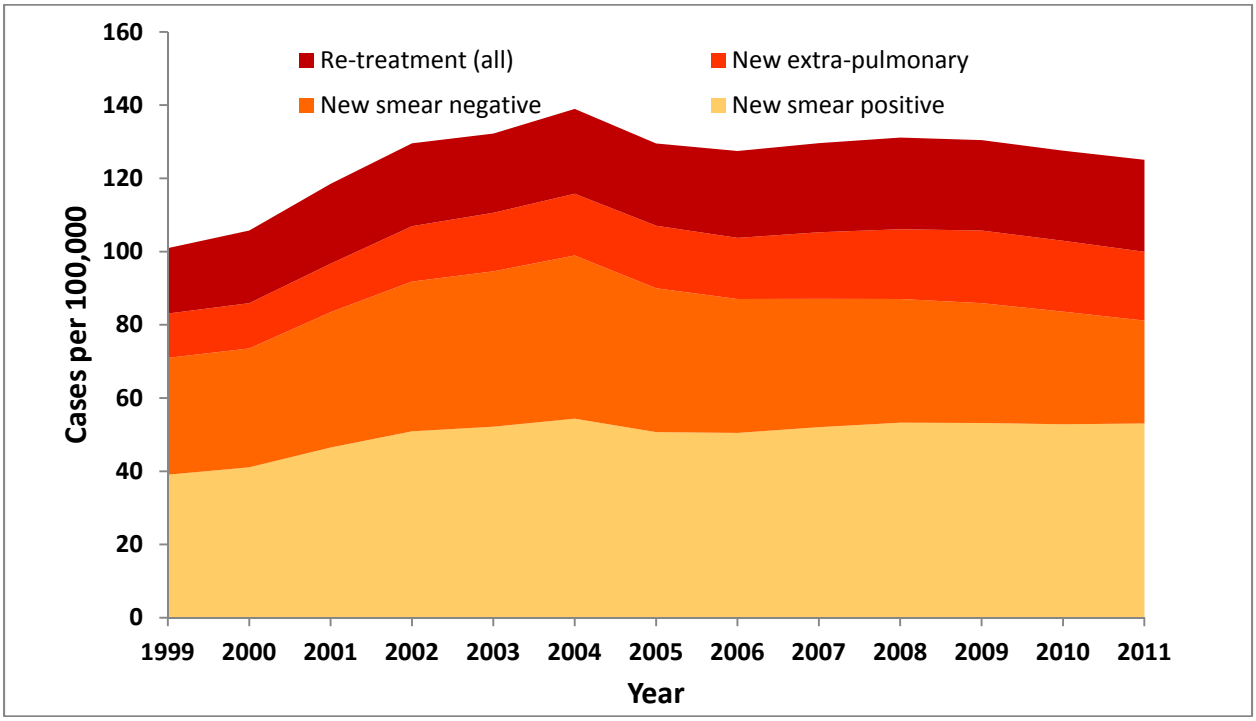
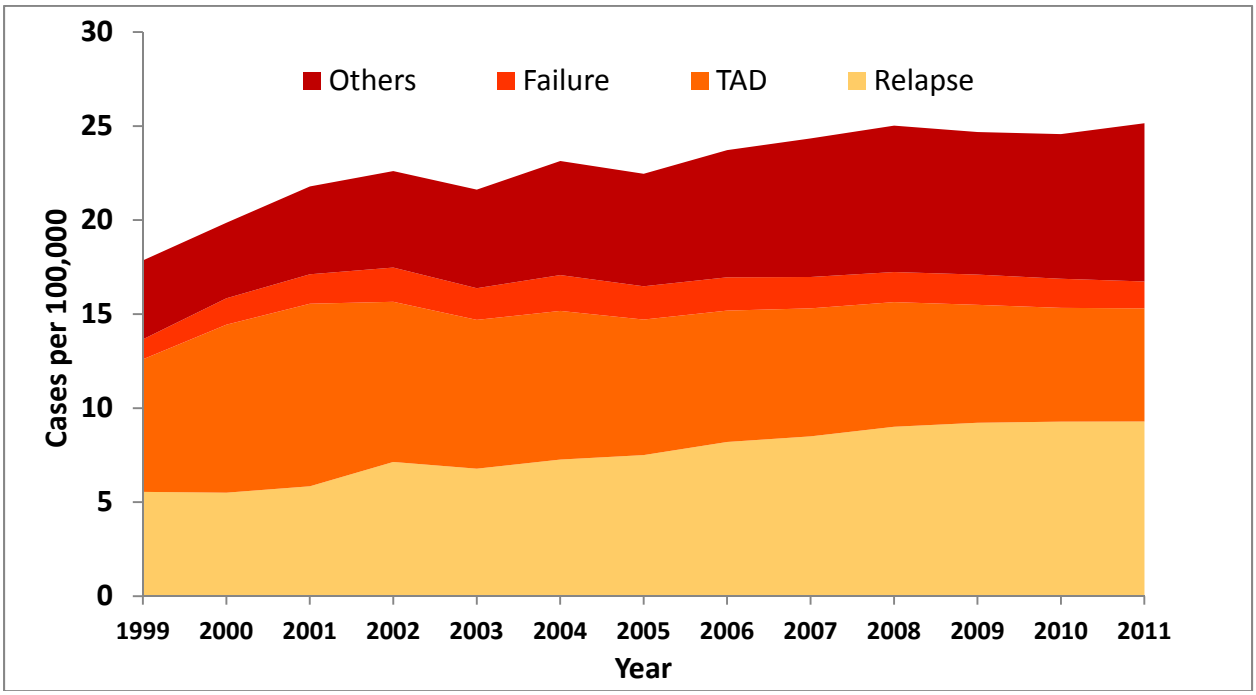


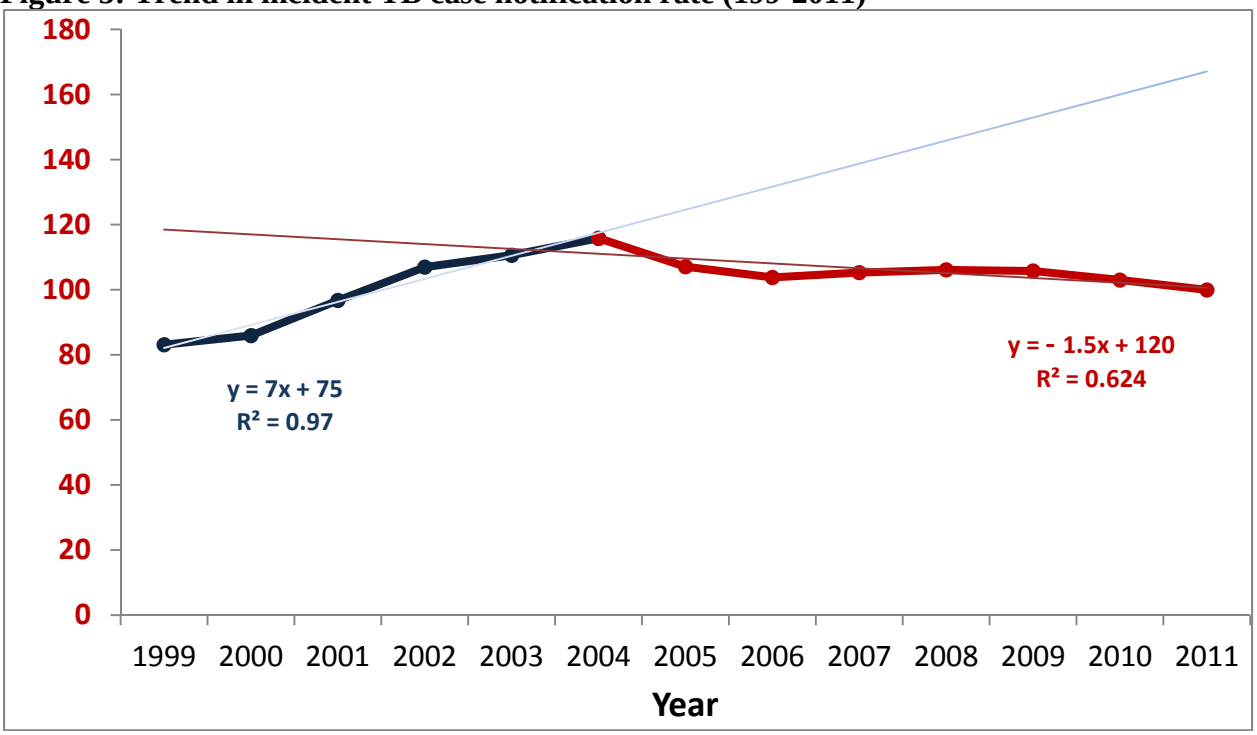
Figure 4: Trends in type of re-treatment TB case notification rate (199-2011)



All New (incident) TB Case Notification

The number and rate of all new (incident) cases notified in the country has steadily increased at the rate of 7% annually for several years initially in the implementation of the programme starting from 83 per 100,000 population in 1999 to 116 per 100,000 population in 2004, with almost 40% increase in half a decade (Figure 5). The decline began after complete coverage in the country, and the all new (incident) TB case notification rate has decreased from 116 per 100,000 population in 2004 to 100 per 100,000 population in year 2011 showing a decline of 14%, almost 2% annually.

Figure 5: Trend in incident TB case notification rate (199-2011)



Treatment Outcomes of Notified TB Cases

Treatment outcomes of pulmonary sputum-positive cases notified under RNTCP is summarized in Table 3 Among NSP cases, the treatment success rate has been > 85% since the year 2001. The death rate and failure rate has been about 5% and 2% respectively. The default rates has decreased from 9% for the cohort of TB patients registered in 1999 to 6% for the cohort of patients registered in 2010. Among smear positive re-treatment cases the treatment success rate has been > 68% since implementation. The death rate has shown increase from 7% to 8%, failure rate about 6%. High default rates > 15% has been an area of concern among the re-treatment cases. The treatment success rate has been relatively less favorable among re-treatment TAD cases and failure cases **(Table 4)** when compared to the treatment success rate among other smear positive TB cases (NSP and relapse).

Death rates among re-treatment cases have been higher when compared to the death rates among new smear positive TB cases **(Table 3 and Table 4)**. Among re-treatment cases, the death rates

among failure cases has been consistently higher by about 1-2% when compared to the death rates among other types of re-treatment cases.

Table 3: Treatment outcomes among notified new TB cases, 1999–2010

	New smear positive				New smear negative				New Extra Pulmonary			
Year	Success	Death	Failure	Default	Success	Death	Failure	Default	Success	Death	Failure	Default
1999	82%	5%	3%	9%	85%	4%	1%	9%	91%	2%	0%	6%
2000	84%	4%	3%	8%	86%	3%	1%	9%	91%	2%	0%	7%
2001	85%	5%	3%	7%	86%	4%	1%	8%	91%	2%	0%	6%
2002	87%	4%	3%	6%	87%	4%	1%	7%	92%	2%	0%	5%
2003	86%	5%	2%	6%	87%	4%	1%	7%	92%	2%	0%	5%
2004	86%	4%	2%	7%	87%	4%	1%	8%	92%	2%	0%	5%
2005	86%	5%	2%	7%	87%	4%	1%	8%	91%	2%	0%	6%
2006	86%	5%	2%	6%	87%	4%	1%	8%	90%	3%	0%	5%
2007	87%	5%	2%	6%	87%	3%	1%	8%	91%	2%	0%	5%
2008	87%	4%	2%	6%	88%	3%	1%	7%	92%	3%	0%	4%
2009	87%	4%	2%	6%	88%	3%	1%	7%	92%	2%	0%	4%
2010	88%	4%	2%	6%	89%	3%	1%	7%	93%	3%	0%	4%

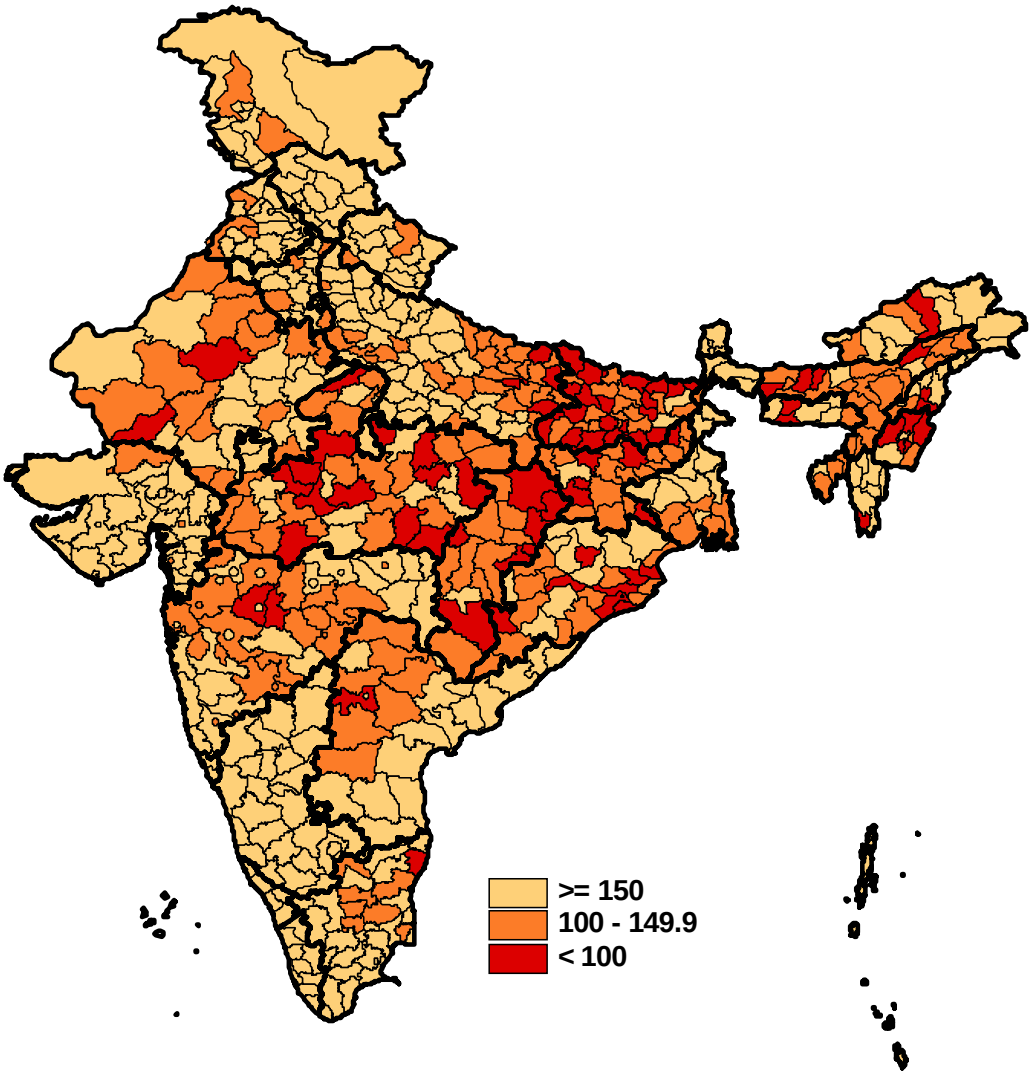
The year shown is the year of registration

Table 4: Treatment outcomes among notified smear-positive re-treatment TB cases, 1999–2010

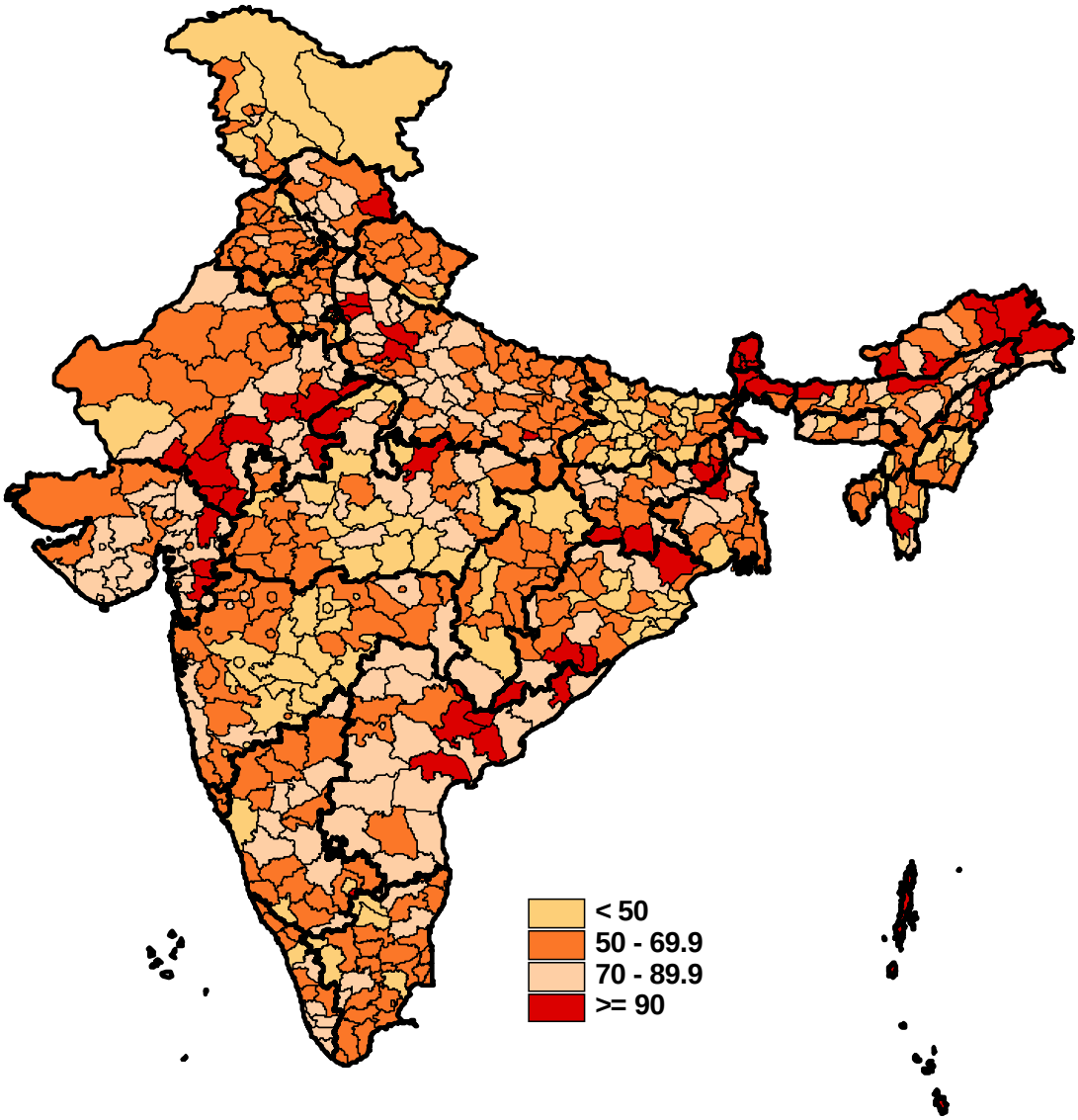
	Relapse				Failure				Treatment After Default				Total Smear positive Re-treatment			
Year	Success	Death	Failure	Default	Success	Death	Failure	Default	Success	Death	Failure	Default	Success	Death	Failure	Default
1999	73%	7%	6%	13%	61%	7%	13%	17%	65%	7%	6%	21%	68%	7%	6%	18%
2000	73%	7%	6%	14%	57%	9%	14%	19%	69%	7%	5%	17%	69%	7%	6%	16%
2001	74%	7%	6%	12%	59%	9%	15%	16%	71%	7%	5%	16%	71%	7%	6%	15%
2002	75%	7%	6%	12%	60%	8%	15%	16%	71%	7%	5%	16%	72%	7%	6%	14%
2003	75%	7%	5%	12%	60%	9%	14%	16%	69%	8%	5%	18%	70%	8%	6%	15%
2004	74%	7%	5%	13%	62%	8%	13%	16%	69%	7%	4%	18%	71%	7%	6%	16%
2005	73%	7%	5%	14%	59%	8%	14%	18%	67%	8%	4%	20%	69%	7%	6%	17%
2006	73%	7%	5%	14%	58%	9%	14%	18%	66%	8%	4%	19%	69%	8%	6%	16%
2007	74%	7%	4%	12%	60%	9%	13%	16%	68%	8%	4%	18%	70%	8%	5%	15%
2008	75%	7%	5%	12%	59%	9%	14%	16%	68%	8%	4%	17%	71%	8%	5%	14%
2009	75%	7%	5%	12%	58%	10%	16%	15%	68%	8%	4%	17%	71%	8%	6%	14%
2010	75%	7%	5%	12%	57%	10%	15%	16%	68%	8%	4%	18%	71%	8%	5%	14%

The year shown is the year of registration

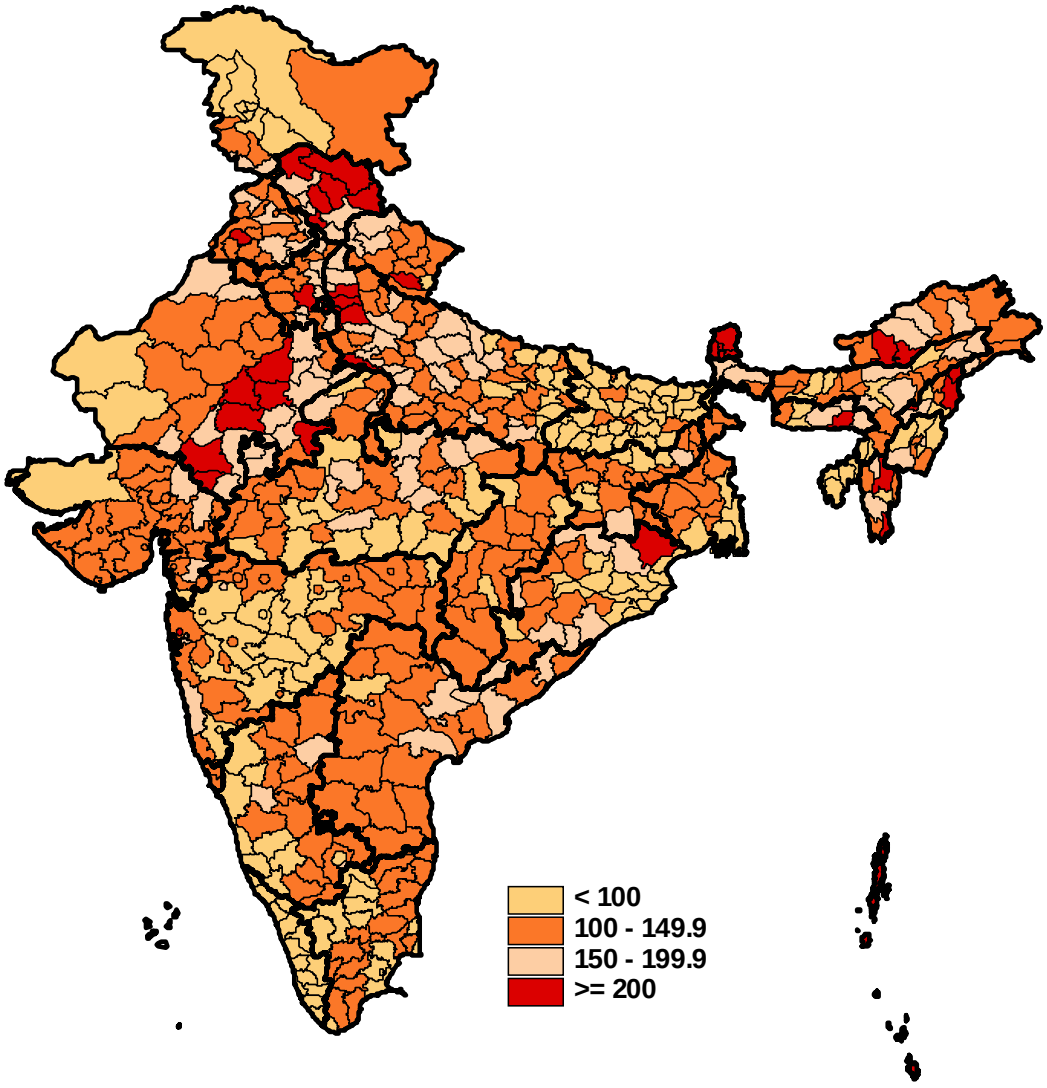
TB Suspects Examined per 100,000 Population per Quarter, by Districts, India 2011



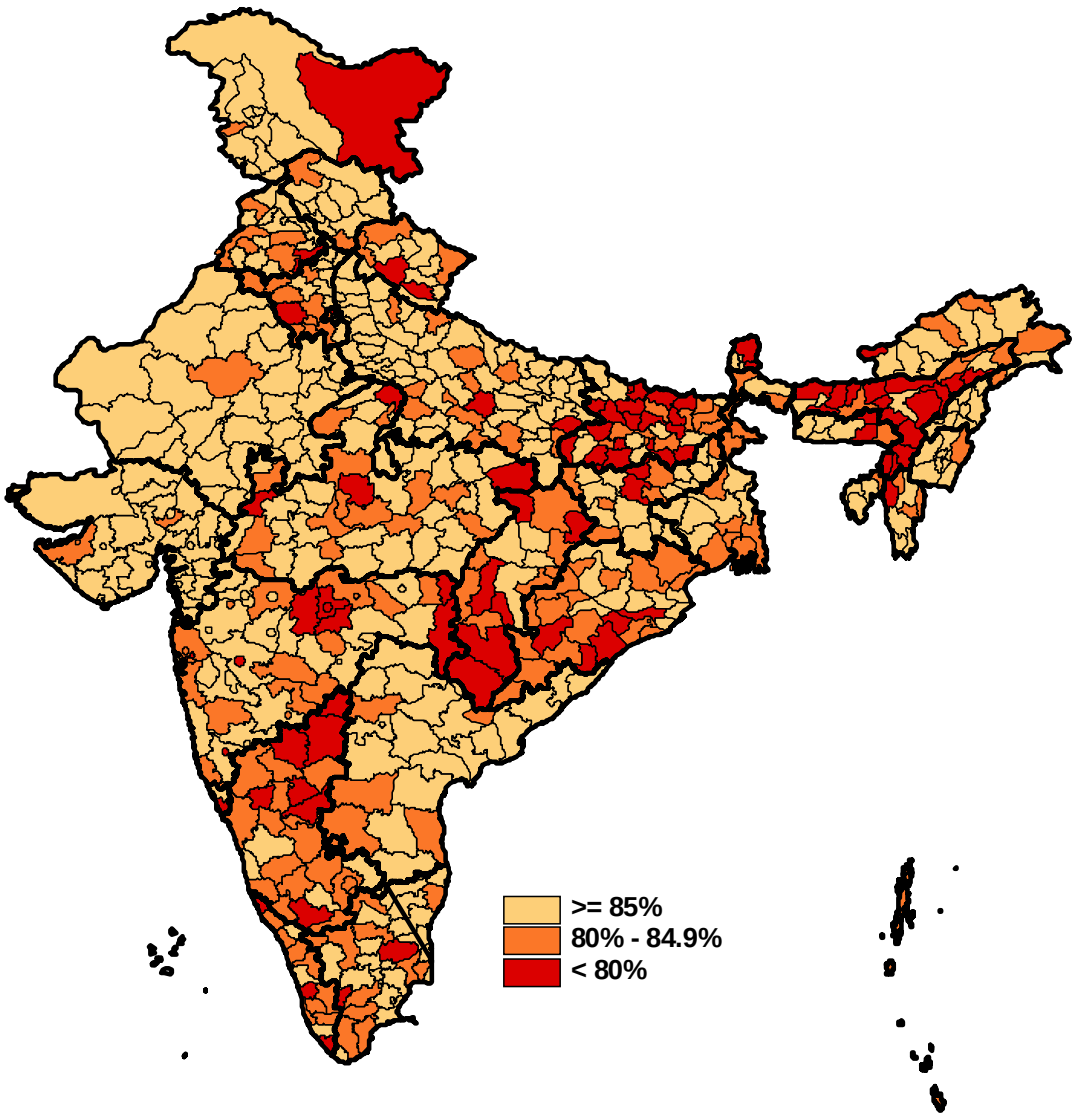
Annual Smear Positive Case Notification Rate (from CFR) by District, India, 2010



Annual Total Case Notification Rate, India, 2010



Cure Rate of New Smear Positive Cases by Districts, India 2010



Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	Population (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared to previous year)	No of Smear positive patients diagnosed[2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (reported by RNTCP DMCs)[3]	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[4]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Andaman & Nicobar	4	4568	301	48%	367	12	26%	97	91	908	239	71	65	70	34	25
Andhra Pradesh	847	563463	166	0%	77732	7	1%	92	77	111915	132	60	30	16	27	19
Arunachal Pradesh	14	10706	194	-8%	1409	8	-19%	102	84	2311	167	62	33	28	43	25
Assam	312	144567	116	-5%	22304	6	2%	72	62	37841	121	51	31	17	23	12
Bihar	1038	400173	96	1%	46382	9	7%	45	39	76484	74	32	21	5	15	8
Chandigarh	11	17560	416	45%	2351	7	8%	223	116	2537	241	85	24	83	49	35
Chhattisgarh	255	109636	107	-5%	13063	8	3%	51	46	27118	106	41	39	14	13	6
D & N Haveli	3	2654	194	20%	298	9	19%	87	64	419	122	49	23	24	26	17
Daman & Diu	2	3043	313	28%	216	14	33%	89	45	313	129	36	45	19	30	11
Delhi	168	164392	245	11%	24065	7	3%	144	119	51645	308	82	54	101	71	41
Goa	15	14948	256	22%	1298	12	2%	89	66	1982	136	49	20	38	29	19
Gujarat	604	428419	177	-4%	59584	7	2%	99	83	74867	124	59	13	16	36	25
Haryana	254	181414	179	11%	25161	7	7%	99	81	37913	150	54	27	27	41	30
Himachal Pradesh	69	70916	259	1%	7748	9	10%	113	97	13501	197	69	32	48	47	31
Jammu & Kashmir	125	98304	196	4%	9017	11	9%	72	67	13473	107	54	14	21	18	15
Jharkhand	330	155736	118	-3%	23051	7	2%	70	64	38574	117	55	33	8	20	10
Karnataka	611	525613	215	3%	46196	11	3%	76	61	70595	115	47	24	21	23	16
Kerala	334	345053	258	4%	14662	24	3%	44	37	26126	78	32	18	18	10	7
Lakshadweep	1	951	369	180%	10	95	117%	16	20	17	26	12	0	6	8	8
Madhya Pradesh	726	392329	135	10%	54677	7	8%	75	64	90764	125	50	38	13	24	16
Maharashtra	1124	710985	158	1%	75319	9	5%	67	60	135281	120	47	26	21	26	14
Manipur	27	13083	120	-13%	1360	10	3%	50	46	3080	113	39	30	25	20	9
Meghalaya	30	22586	191	-5%	2610	9	9%	88	71	5079	171	56	38	41	35	20
Mizoram	11	8499	195	-7%	740	11	-8%	68	61	2304	211	45	55	70	41	18
Nagaland	20	14506	183	9%	1894	8	1%	96	85	3722	188	65	40	42	42	24
Orissa	419	212366	127	-2%	28833	7	5%	69	61	48970	117	51	28	21	17	10
Puducherry	12	22618	454	16%	2695	8	1%	217	69	1568	126	52	23	29	22	19
Punjab	277	182348	165	1%	23689	8	9%	86	78	39206	142	56	25	30	31	23
Rajasthan	686	421609	154	2%	73378	6	2%	107	91	112504	164	63	41	22	38	29
Sikkim	6	6874	283	-7%	706	10	2%	116	106	1631	268	78	57	72	62	38
Tamil Nadu	721	676634	234	-8%	45404	15	0%	63	57	79830	111	44	28	21	17	13
Tripura	37	20486	140	-4%	1925	11	-1%	52	48	2798	76	42	13	12	9	7
Uttar Pradesh	1996	1268669	159	8%	190446	7	0%	95	86	285884	143	69	32	16	26	19
Uttarakhand	101	71805	177	-4%	10307	7	2%	102	78	14883	147	54	32	24	37	25
West Bengal	913	587645	161	0%	64135	9	6%	70	62	99829	109	51	20	18	21	14
Grand Total	**12102**	**7875158**	**163**	**1%**	**953032**	**8**	**3%**	**79**	**68**	**1515872**	**125**	**53**	**28**	**19**	**25**	**17**

Estimated New Smear Positive cases / lakh population based on ARTI data for North Zone (Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Uttar Pradesh, Uttarakhand) is 95; East Zone (Andaman & Nicobar, Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, West Bengal) is 75; South Zone (Andhra Pradesh, Karnataka, Lakshdweep, Puducherry, Tamil Nadu) is 75 and West Zone (Chhattisgarh, Dadra & Nagar Haveli, Daman & Diu, Goa, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan) is 80; Orissa is 85, Kerala is 50

1 Projected population based on census population of 2011 is used for calculation of case-detection rate. 1 lakh = 100,000 population

2 Smear positive patients diagnosed include new smear positive cases and smear positive retreatment cases reported from DMCs in the PMR

3 Smear positive patients reported by RNTCP DMCs in the PMR

4 Total patients registered for treatment includes new sputum smear positive cases, new smear negative cases, new extra-pulmonary cases, new others, relapse, failure, TAD and retreatment others

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients	3 month conversion rate of retreatment patients	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Andaman & Nicobar	57	7%	93%	77%	345	95%	316	87%	265	89%	190	21%	15%	1%	0.1%		
Andhra Pradesh	4368	5%	92%	75%	59982	90%	64915	97%	45597	83%	92986	83%	85%	11%	10%	90%	44%
Arunachal Pradesh	199	12%	91%	79%	1055	88%	1152	96%	801	91%	713	31%	60%	0.3%	0.2%		
Assam	1507	5%	87%	66%	16970	86%	18365	93%	11620	75%	12598	33%	28%	1%	0%	47%	96%
Bihar	4343	7%	88%	73%	35843	87%	40270	97%	24357	77%	50505	66%	10%	4%	0%	18%	48%
Chandigarh	221	11%	91%	74%	1131	89%	1222	97%	1090	95%	498	20%	96%	1%	1%	69%	62%
Chhattisgarh	1264	5%	89%	72%	10469	87%	11673	97%	7458	78%	13829	51%	11%	4%	0.4%	0%	100%
D & N Haveli	19	6%	90%	68%	209	93%	221	98%	137	94%	79	19%	29%	1%	0.2%	50%	50%
Daman & Diu	13	5%	86%	75%	100	88%	113	100%	98	100%	79	25%	80%	4%	4%	25%	8%
Delhi	5539	14%	89%	72%	18454	89%	20187	98%	15361	94%	4297	8%	62%	2%	1%	77%	73%
Goa	118	8%	87%	67%	880	89%	935	94%	754	94%	264	13%	95%	5%	5%	99%	69%
Gujarat	3219	6%	92%	69%	46616	92%	49895	98%	38248	90%	41964	56%	89%	5%	4%	95%	71%
Haryana	1639	6%	90%	75%	18990	89%	19953	93%	12958	82%	10368	27%	67%	1%	1%	41%	36%
Himachal Pradesh	601	6%	92%	81%	6650	96%	6694	97%	5604	92%	1749	13%	31%	2%	1%	52%	57%
Jammu & Kashmir	737	7%	92%	80%	8400	98%	8527	99%	6750	95%	1447	11%	10%	1%	0.1%	9%	73%
Jharkhand	1794	6%	92%	80%	18356	85%	21289	99%	12080	69%	24052	62%	18%	3%	1%	2%	62%
Karnataka	4315	8%	88%	63%	32703	85%	36657	96%	21920	81%	35258	50%	91%	14%	13%	99%	72%
Kerala	3434	15%	**84%**	69%	11489	87%	11906	91%	8236	78%	16466	63%	57%	3%	2%	42%	52%
Lakshadweep	0	0%	100%	100%	13	100%	13	100%	8	73%	3	18%	0%				
Madhya Pradesh	8472	12%	91%	71%	42171	89%	45943	97%	27943	77%	54816	60%	17%	2%	0.3%	21%	64%
Maharashtra	7382	7%	90%	68%	59791	87%	66364	97%	43619	81%	42372	31%	79%	10%	8%	94%	60%
Manipur	170	7%	90%	75%	1237	96%	1232	95%	951	85%	1626	53%	48%	10%	5%	53%	43%
Meghalaya	663	16%	85%	62%	2016	90%	2144	95%	1393	85%	2921	58%	12%	1%	0%	100%	0%
Mizoram	345	19%	91%	74%	681	98%	677	98%	426	84%	459	20%	65%	11%	7%	95%	52%
Nagaland	417	14%	93%	82%	1317	75%	1447	83%	1211	76%	1548	42%	51%	8%	4%	86%	54%
Orissa	2310	6%	88%	67%	21502	83%	25220	98%	14761	72%	34864	71%	17%	3%	0.4%	7%	18%
Puducherry	128	10%	90%	74%	708	80%	745	84%	598	95%	0	0%	69%	2%	1%	100%	48%
Punjab	1994	6%	90%	75%	20506	93%	21574	98%	17136	91%	10407	27%	64%	2%	1%	64%	61%
Rajasthan	4586	5%	92%	77%	51823	81%	59224	93%	42263	81%	15698	14%	24%	1%	0.2%	47%	42%
Sikkim	119	40%	87%	68%	659	93%	641	91%	533	97%	620	38%	3%	2%	0.1%		
Tamil Nadu	5020	7%	90%	70%	34508	83%	40268	97%	27296	83%	21092	26%	89%	8%	7%	86%	59%
Tripura	49	2%	89%	73%	1430	79%	1755	97%	1186	78%	1319	47%	30%	2%	1%	57%	57%
Uttar Pradesh	14165	6%	92%	78%	157175	90%	172831	99%	112386	86%	204085	71%	13%	1%	0.2%	25%	37%
Uttarakhand	885	8%	90%	74%	7068	88%	7824	98%	4965	79%	8681	58%	39%	1%	0.4%	50%	36%
West Bengal	3972	5%	88%	65%	47301	80%	54594	93%	38613	82%	26041	26%	46%	2%	1%	68%	64%
Grand Total	**84064**	**7%**	**90%**	**73%**	**738548**	**87%**	**816786**	**97%**	**548622**	**83%**	**733894**	**48%**	**45%**	**6%**	**3%**	91%	**59%**

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Andaman & Nicobar	56	85%	20	100%	20	100%	15	51%	74	64%	185	74%
Andhra Pradesh	46	71%	11	56%	14	69%	11	37%	81	70%	163	65%
Arunachal Pradesh	33	51%	19	96%	17	86%	13	43%	66	58%	149	60%
Assam	43	66%	17	83%	14	70%	7	25%	56	49%	137	55%
Bihar	38	59%	8	42%	15	76%	12	40%	66	58%	141	56%
Chandigarh	62	95%	20	100%	20	100%	10	33%	95	83%	207	83%
Chhattisgarh	44	68%	9	47%	14	70%	13	44%	60	53%	141	56%
D & N Haveli	52	81%	10	50%	20	100%	11	37%	55	48%	149	60%
Daman & Diu	53	82%	20	100%	20	100%	14	46%	73	64%	181	72%
Delhi	45	69%	19	94%	13	63%	16	53%	72	63%	164	66%
Goa	63	96%	10	50%	16	80%	8	25%	62	54%	158	63%
Gujarat	56	86%	18	92%	16	80%	13	42%	78	68%	181	72%
Haryana	49	75%	17	83%	15	76%	13	43%	65	57%	159	64%
Himachal Pradesh	42	65%	19	96%	17	85%	11	35%	70	61%	160	64%
Jammu & Kashmir	50	77%	16	82%	16	79%	12	40%	71	61%	165	66%
Jharkhand	47	72%	3	13%	17	85%	10	32%	69	60%	145	58%
Karnataka	55	85%	17	87%	14	69%	10	33%	70	61%	167	67%
Kerala	54	84%	18	89%	13	63%	15	50%	70	61%	170	68%
Lakshadweep	24	37%	20	100%	20	100%	25	83%	41	36%	130	52%
Madhya Pradesh	48	74%	14	72%	15	73%	12	41%	69	60%	158	63%
Maharashtra	53	81%	14	68%	15	74%	11	35%	80	69%	171	69%
Manipur	42	64%	18	89%	16	78%	8	27%	64	56%	147	59%
Meghalaya	47	73%	19	93%	17	83%	11	35%	64	56%	157	63%
Mizoram	39	60%	19	94%	9	43%	12	39%	65	56%	143	57%
Nagaland	36	55%	18	91%	14	71%	10	33%	71	62%	150	60%
Orissa	44	67%	15	76%	13	65%	15	51%	63	55%	150	60%
Puducherry	61	94%	20	100%	20	100%	19	62%	68	59%	188	75%
Punjab	51	79%	15	73%	18	91%	9	31%	73	63%	166	66%
Rajasthan	44	68%	16	82%	18	89%	14	45%	66	57%	158	63%
Sikkim	48	75%	15	75%	19	95%	11	35%	80	69%	173	69%
Tamil Nadu	52	80%	12	60%	15	74%	12	41%	67	58%	158	63%
Tripura	51	78%	18	88%	19	95%	9	31%	54	47%	151	60%
Uttar Pradesh	43	66%	3	15%	16	79%	12	41%	70	61%	144	58%
Uttarakhand	47	73%	12	58%	13	66%	11	35%	58	51%	141	56%
West Bengal	46	70%	18	89%	14	71%	14	47%	59	52%	151	60%
Grand Total	**47**	**72%**	**13**	**67%**	**15**	**75%**	**12**	**40%**	**69**	**60%**	**156**	**62%**

Outcome of Smear Positive Retreatment cases for India 2010 (excluding "Others")

Type of retreatment case	Cured	Success	Died	Failure	Defaulted	Transferred out	No. registered
Relapse	68.7%	75.0%	7.2%	4.8%	11.8%	1.1%	110590
Failure	50.1%	56.7%	9.6%	15.5%	16.3%	1.4%	18439
Treatment after default	59.8%	67.8%	8.2%	3.9%	17.6%	2.6%	72074
Total	**63.8%**	**70.8%**	**7.8%**	**5.5%**	**14.3%**	**1.7%**	**201103**

State-wise outcome of Smear Positive Retreatment cases 2010 (excluding "Others")

Implementing states	Relapse							Failure							TAD						
	No. registered	Cured	Success	Died	Failure	Defaulted	Transferred out	No. registered	Cured	Success	Died	Failure	Defaulted	Transferred out	No. registered	Cured	Success	Died	Failure	Defaulted	Transferred out
Andaman & Nicobar	56	76.8%	76.8%	10.7%	7.1%	5.4%	0.0%	6	83.3%	83.3%	0.0%	0.0%	16.7%	0.0%	29	48.3%	62.1%	10.3%	6.9%	6.9%	13.8%
Andhra Pradesh	8304	72.0%	76.2%	9.2%	5.7%	8.2%	0.5%	1849	51.7%	56.9%	12.9%	17.7%	11.0%	0.8%	6375	65.3%	72.0%	9.9%	5.2%	11.6%	1.2%
Arunachal Pradesh	197	77.2%	79.2%	4.1%	10.2%	6.6%	0.0%	41	65.9%	65.9%	4.9%	22.0%	7.3%	0.0%	78	60.3%	75.6%	1.3%	6.4%	15.4%	1.3%
Assam	2153	55.4%	65.4%	8.5%	5.7%	19.5%	0.8%	506	43.7%	53.6%	10.1%	12.6%	23.1%	0.6%	1243	49.3%	59.1%	7.7%	4.1%	27.9%	1.2%
Bihar	2928	65.0%	80.4%	5.2%	3.4%	9.8%	1.1%	558	44.3%	59.5%	9.7%	15.1%	14.0%	1.8%	4171	62.3%	77.8%	4.9%	2.3%	13.5%	1.5%
Chandigarh	237	73.8%	74.3%	5.5%	9.7%	6.8%	3.8%	58	69.0%	69.0%	8.6%	15.5%	5.2%	1.7%	63	58.7%	58.7%	12.7%	6.3%	19.0%	3.2%
Chhattisgarh	917	59.8%	76.8%	5.6%	2.3%	15.0%	0.3%	164	50.6%	65.2%	9.1%	5.5%	20.1%	0.0%	616	46.3%	63.5%	9.4%	1.6%	24.8%	0.6%
D & N Haveli	28	60.7%	60.7%	3.6%	3.6%	28.6%	3.6%	4	25.0%	25.0%	25.0%	50.0%	0.0%	0.0%	29	34.5%	34.5%	20.7%	6.9%	37.9%	0.0%
Daman & Diu	25	60.0%	72.0%	8.0%	0.0%	16.0%	4.0%	6	50.0%	50.0%	0.0%	33.3%	0.0%	16.7%	12	50.0%	66.7%	0.0%	16.7%	8.3%	8.3%
Delhi	4162	73.3%	73.9%	6.3%	7.4%	9.4%	2.3%	731	50.6%	51.3%	8.8%	19.7%	11.2%	4.4%	2029	65.6%	66.5%	8.3%	7.1%	14.7%	2.6%
Goa	153	65.4%	66.7%	8.5%	10.5%	13.7%	0.7%	34	52.9%	52.9%	14.7%	17.6%	14.7%	0.0%	65	50.8%	53.8%	4.6%	9.2%	29.2%	1.5%
Gujarat	9460	68.5%	69.5%	8.8%	7.4%	13.1%	0.9%	942	44.3%	45.9%	11.0%	19.1%	21.9%	1.0%	6060	62.0%	63.0%	8.6%	5.8%	19.6%	2.6%
Haryana	4103	68.7%	74.9%	6.1%	4.8%	13.8%	0.4%	736	53.9%	61.4%	6.1%	14.3%	17.9%	0.3%	2480	55.8%	66.8%	7.4%	4.4%	21.0%	0.3%
Himachal Pradesh	1804	74.4%	81.3%	6.4%	5.9%	5.9%	0.5%	241	52.3%	55.2%	10.0%	23.2%	10.0%	0.8%	248	56.0%	64.1%	10.9%	7.7%	16.1%	1.2%
Jammu & Kashmir	1283	74.6%	81.0%	5.7%	3.7%	6.1%	3.6%	115	53.9%	60.9%	8.7%	9.6%	12.2%	7.8%	290	60.3%	67.6%	5.9%	3.1%	14.8%	8.6%
Jharkhand	1481	71.8%	80.5%	5.7%	2.8%	9.2%	1.9%	244	51.6%	59.8%	8.6%	8.2%	15.2%	7.8%	1420	66.8%	77.0%	6.8%	2.3%	10.8%	3.2%
Karnataka	4485	61.4%	66.0%	9.8%	7.0%	15.5%	1.6%	1089	43.3%	47.6%	10.0%	20.5%	20.0%	1.7%	3957	45.0%	50.3%	12.6%	6.1%	25.6%	5.4%
Kerala	1124	73.0%	77.1%	7.4%	6.3%	8.1%	1.0%	650	66.8%	71.5%	3.5%	12.2%	11.7%	0.3%	600	41.8%	48.7%	9.2%	6.3%	32.0%	3.5%
Lakshadweep	1	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0							0						
Madhya Pradesh	5668	64.2%	76.4%	6.0%	3.6%	11.6%	2.5%	1029	47.2%	15.5%	9.1%	11.0%	15.9%	1.2%	4485	52.8%	15.2%	8.3%	3.3%	16.7%	3.7%
Maharashtra	9616	62.1%	67.4%	9.7%	5.6%	15.6%	1.5%	1598	40.8%	4.6%	12.5%	17.2%	20.1%	2.1%	4666	54.8%	4.9%	11.2%	3.8%	22.5%	2.6%
Manipur	141	68.1%	71.6%	2.1%	12.1%	13.5%	0.7%	42	69.0%	2.4%	7.1%	16.7%	4.8%	0.0%	92	66.3%	5.4%	5.4%	7.6%	15.2%	0.0%
Meghalaya	307	56.4%	64.2%	6.5%	11.7%	16.3%	1.3%	174	33.9%	7.5%	8.0%	23.6%	22.4%	4.6%	162	39.5%	11.1%	11.1%	5.6%	28.4%	4.3%
Mizoram	127	72.4%	82.7%	6.3%	10.2%	11.0%	0.0%	30	66.7%	6.7%	6.7%	30.0%	10.0%	0.0%	9	55.6%	0.0%	33.3%	0.0%	44.4%	0.0%
Nagaland	229	82.5%	87.8%	4.4%	7.4%	3.5%	0.9%	66	63.6%	4.5%	4.5%	25.8%	6.1%	0.0%	121	84.3%	5.8%	3.3%	3.3%	2.5%	1.7%
Orissa	2070	57.5%	72.0%	8.3%	3.6%	15.2%	0.9%	445	44.9%	11.0%	7.9%	11.5%	22.2%	1.6%	1733	44.1%	14.5%	8.9%	2.8%	23.9%	5.7%
Puducherry	122	73.0%	76.2%	10.7%	6.6%	6.6%	0.0%	21	52.4%	0.0%	9.5%	23.8%	14.3%	0.0%	61	65.6%	3.3%	11.5%	6.6%	11.5%	1.6%
Punjab	4604	69.5%	77.4%	7.1%	3.3%	9.5%	2.9%	519	58.4%	8.1%	10.6%	9.6%	11.4%	1.7%	1264	58.1%	8.5%	9.3%	4.3%	14.3%	5.5%
Rajasthan	11151	73.1%	80.5%	6.1%	3.8%	10.4%	0.2%	1497	58.5%	9.2%	7.5%	11.2%	13.8%	0.2%	7623	68.7%	8.4%	6.9%	3.4%	13.5%	0.3%
Sikkim	150	68.0%	68.0%	4.0%	20.7%	4.7%	2.7%	62	33.9%	0.0%	11.3%	50.0%	3.2%	1.6%	35	57.1%	0.0%	8.6%	22.9%	5.7%	5.7%
Tamil Nadu	5016	63.4%	70.0%	8.7%	5.3%	15.5%	0.6%	788	41.6%	4.2%	13.8%	17.9%	21.1%	0.8%	3280	52.2%	7.7%	10.4%	3.7%	24.8%	1.1%
Tripura	205	74.6%	78.5%	3.9%	4.4%	13.2%	0.0%	28	67.9%	0.0%	7.1%	7.1%	17.9%	0.0%	41	61.0%	4.9%	2.4%	9.8%	22.0%	0.0%
Uttar Pradesh	19510	73.6%	81.0%	5.5%	2.2%	10.4%	0.8%	1980	57.4%	8.6%	7.6%	8.7%	16.8%	0.8%	14422	66.4%	8.8%	5.9%	2.1%	13.5%	3.3%
Uttarakhand	1685	70.4%	75.4%	5.3%	3.9%	11.9%	3.4%	185	56.2%	8.6%	6.5%	9.7%	16.2%	2.7%	753	60.8%	5.2%	5.8%	2.8%	18.5%	6.9%
West Bengal	7088	67.2%	71.2%	7.7%	6.9%	12.7%	1.4%	2001	47.4%	3.4%	9.5%	21.0%	16.4%	2.0%	3562	50.0%	5.5%	9.5%	6.0%	26.1%	2.9%
Grand Total	**110590**	**68.7%**	**75.0%**	**7.2%**	**4.8%**	**11.8%**	**1.1%**	**18439**	**50.1%**	**6.6%**	**9.6%**	**15.5%**	**16.3%**	**1.4%**	**72074**	**59.8%**	**8.1%**	**8.2%**	**3.9%**	**17.6%**	**2.6%**

Treatment success includes 'Cured' and 'Treatment completed'

Treatment Outcome of New cases for 2010

Implementing states	New Smear Positive[1]							New Smear Negative[2]						New Extra Pulmonary[2]					
	Regist-ered	Cure	Comp-leted	Died	Failure	Defaulted	Trans out	Regist-ered	Comp-leted	Died	Failure	Defaulted	Trans out	Regist-ered	Comp-leted	Died	Failure	Defaulted	Trans out
Andaman & Nicobar	285	82.5%	0.4%	2.5%	6.0%	6.3%	2.5%	195	85.1%	4.1%	0.5%	**8.2%**	2.1%	219	88.6%	**5.9%**	0.0%	4.6%	0.9%
Andhra Pradesh	50120	87.1%	1.9%	4.7%	2.2%	3.5%	0.4%	28529	90.3%	4.1%	0.5%	4.6%	0.5%	12966	92.6%	3.0%	0.2%	2.9%	1.2%
Arunachal Pradesh	741	88.4%	0.5%	2.4%	3.6%	3.9%	1.1%	589	90.2%	2.4%	0.8%	6.1%	0.5%	437	92.4%	0.9%	0.2%	5.7%	0.7%
Assam	16819	79.8%	3.8%	3.9%	2.1%	9.8%	0.6%	10603	82.2%	3.4%	0.6%	**13.4%**	0.4%	5421	88.5%	3.3%	0.2%	7.6%	0.4%
Bihar	33636	80.4%	**8.3%**	2.8%	1.1%	6.8%	0.6%	24750	89.9%	1.9%	0.3%	7.2%	0.7%	5109	90.7%	1.6%	0.1%	4.0%	3.6%
Chandigarh	1008	88.8%	0.0%	2.4%	2.9%	3.3%	2.4%	381	93.7%	0.8%	1.8%	1.6%	2.1%	856	96.4%	1.1%	0.1%	1.4%	1.1%
Chhattisgarh	10722	80.2%	**6.4%**	4.1%	0.9%	8.0%	0.4%	10443	86.3%	2.3%	0.3%	**10.6%**	0.5%	3701	93.0%	1.7%	0.1%	4.5%	0.7%
D & N Haveli	145	80.7%	0.0%	4.8%	0.7%	12.4%	1.4%	94	85.1%	2.1%	2.1%	**8.5%**	2.1%	65	90.8%	1.5%	0.0%	3.1%	4.6%
Daman & Diu	84	88.1%	1.2%	3.6%	3.6%	3.6%	0.0%	71	85.9%	4.2%	0.0%	**8.5%**	1.4%	57	91.2%	**5.3%**	0.0%	3.5%	0.0%
Delhi	13527	85.3%	0.2%	3.0%	4.2%	5.3%	1.9%	8453	92.3%	1.9%	1.2%	3.7%	0.9%	16397	96.2%	1.0%	0.1%	2.0%	0.7%
Goa	773	83.8%	0.5%	4.4%	3.6%	6.5%	0.9%	407	89.4%	**5.2%**	1.2%	2.9%	0.2%	560	94.5%	2.7%	0.2%	2.0%	0.2%
Gujarat	36419	87.8%	0.2%	4.4%	2.4%	4.4%	0.8%	8599	89.3%	4.3%	0.8%	5.0%	0.6%	10077	92.6%	3.0%	0.1%	3.6%	0.7%
Haryana	13387	84.3%	1.5%	4.4%	3.0%	6.2%	0.4%	7046	86.4%	3.4%	1.4%	**8.4%**	0.3%	6460	93.9%	1.3%	0.2%	4.2%	0.2%
Himachal Pradesh	5132	87.6%	1.6%	3.6%	2.8%	3.9%	0.4%	2443	90.5%	3.4%	1.4%	4.3%	0.4%	3360	94.4%	2.4%	0.1%	2.5%	0.4%
Jammu & Kashmir	6604	89.6%	1.7%	2.7%	1.3%	2.5%	2.3%	1908	87.6%	4.8%	0.5%	4.5%	2.5%	2877	90.6%	2.7%	0.2%	3.1%	3.3%
Jharkhand	17841	85.7%	4.4%	3.5%	1.2%	4.7%	0.4%	12345	89.8%	2.0%	0.3%	6.8%	1.1%	2840	93.0%	1.5%	0.2%	4.5%	0.7%
Karnataka	27324	81.2%	1.3%	6.9%	2.7%	6.9%	1.0%	14699	83.5%	**6.6%**	0.6%	7.4%	1.8%	12836	87.9%	**5.0%**	0.2%	4.7%	2.2%
Kerala	10952	82.3%	1.8%	4.8%	4.9%	5.5%	0.6%	6074	91.8%	2.9%	0.2%	4.5%	0.5%	6023	90.3%	3.4%	0.1%	4.6%	1.6%
Lakshadweep	10	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2	100.0%	0.0%	0.0%	0.0%	0.0%	0					
Madhya Pradesh	34368	86.1%	3.4%	3.7%	1.4%	4.6%	0.8%	26734	88.6%	2.2%	0.4%	7.7%	1.1%	9915	91.6%	1.6%	0.1%	4.2%	2.5%
Maharashtra	52661	84.6%	1.2%	6.0%	2.1%	5.2%	1.0%	30279	87.0%	4.5%	0.7%	6.7%	1.2%	25052	90.5%	3.5%	0.2%	4.3%	1.5%
Manipur	1057	88.4%	1.5%	3.1%	2.1%	4.7%	0.2%	1181	91.4%	2.9%	0.0%	5.7%	0.0%	738	93.0%	2.8%	0.0%	4.1%	0.1%
Meghalaya	1640	81.5%	2.1%	3.4%	5.2%	6.5%	1.2%	1042	86.9%	3.6%	0.5%	7.6%	1.4%	1144	89.7%	2.3%	0.0%	6.7%	1.3%
Mizoram	398	98.7%	3.5%	3.3%	4.5%	5.3%	0.0%	486	109.1%	**5.1%**	0.2%	4.9%	0.4%	606	112.2%	**5.1%**	0.3%	3.8%	0.2%
Nagaland	1347	93.2%	0.8%	1.8%	3.9%	3.3%	0.2%	905	94.5%	2.1%	1.0%	5.9%	0.6%	730	110.3%	0.8%	0.3%	2.1%	0.1%
Orissa	22355	82.6%	4.0%	5.0%	1.2%	6.2%	0.9%	11714	85.5%	**5.2%**	0.5%	7.4%	1.5%	9023	91.0%	3.2%	0.2%	4.7%	0.9%
Puducherry	589	82.7%	2.5%	5.4%	3.6%	5.4%	0.3%	301	92.0%	4.0%	0.3%	2.7%	0.0%	308	94.5%	3.2%	0.0%	1.6%	0.0%
Punjab	16960	86.1%	2.0%	4.4%	1.8%	4.0%	1.8%	7132	88.1%	4.3%	0.6%	4.7%	2.3%	8388	94.3%	2.2%	0.1%	2.0%	1.4%
Rajasthan	42522	88.6%	2.0%	3.6%	1.7%	4.8%	0.3%	30268	90.8%	3.1%	0.8%	6.0%	0.1%	15362	95.3%	2.6%	0.1%	3.0%	0.1%
Sikkim	508	80.5%	0.0%	3.7%	12.6%	2.2%	1.0%	349	92.6%	2.3%	4.0%	1.1%	0.0%	410	96.6%	2.2%	0.2%	0.2%	0.7%
Tamil Nadu	32805	84.9%	1.5%	5.3%	1.5%	6.5%	0.3%	21967	92.3%	3.6%	0.3%	3.5%	0.3%	15940	95.7%	2.4%	0.0%	1.5%	0.3%
Tripura	1538	86.7%	0.8%	4.6%	3.1%	4.6%	0.4%	494	88.7%	**6.5%**	0.4%	4.3%	0.2%	455	89.2%	4.2%	0.0%	6.2%	0.4%
Uttar Pradesh	122334	86.3%	3.3%	3.2%	0.9%	5.6%	0.7%	73215	89.9%	1.9%	0.3%	7.0%	0.9%	33029	94.1%	1.0%	0.1%	3.8%	1.1%
Uttarakhand	5511	83.0%	2.9%	3.9%	1.7%	6.7%	1.9%	3248	86.4%	2.3%	0.7%	**8.6%**	2.0%	2441	93.8%	1.1%	0.2%	4.1%	0.8%
West Bengal	47556	83.9%	1.4%	3.9%	3.0%	6.9%	0.9%	18900	85.0%	**5.5%**	0.7%	**8.1%**	0.9%	17066	88.4%	4.1%	0.2%	4.8%	2.5%
Grand Total	**629678**	**85.1%**	**2.6%**	**4.2%**	**1.9%**	**5.5%**	**0.7%**	**365846**	**88.8%**	**3.3%**	**0.5%**	**6.7%**	**0.8%**	**230868**	**92.6%**	**2.5%**	**0.1%**	**3.7%**	**1.2%**

1 Treatment success for New Smear Positive is cured and treatment completed.

2 Treatment success for New Smear Negative and New Extra Pulmonary are treatment completed.

Programme infrastructure,Staffing and Training status in 2011

Implementing states	Total no. of reporting units (Districts / DTC)	Implementing district details		Involvement of Other sectors			Number of key staff in position						In Place and trained in RNTCP	
		No. of TB Units	No. of DMCs	NGO	PP	Medical College	DTO	2nd MO	MO-TC	STS	STLS	LT	MO	Para Staff
Andaman & Nicobar	1	3	13	0	0	0	1	0	3	3	3	32	89%	94%
Andhra Pradesh	24	178	924	110	138	32	18	21	171	161	169	873	71%	83%
Arunachal Pradesh	14	14	34	13	0	0	14	0	6	14	14	39	70%	58%
Assam	24	69	337	29	0	3	24	9	51	69	69	426	82%	64%
Bihar	38	177	714	28	2	7	26	28	157	140	145	639	70%	82%
Chandigarh	1	3	17	7	76	2	1	0	3	3	3	17	100%	100%
Chhattisgarh	16	67	375	72	0	3	16	2	53	62	60	318	80%	88%
D & N Haveli	1	1	5	0	9	0	1	0	1	1	1	5	100%	89%
Daman & Diu	2	2	4	0	3	0	2	1	1	2	2	4	66%	100%
Delhi	25	36	198	75	62	6	23	10	18	46	38	185	96%	73%
Goa	2	4	20	2	56	1	2	0	4	4	4	20	100%	100%
Gujarat	30	138	738	157	3927	16	17	13	137	137	134	690	97%	96%
Haryana	21	49	230	9	65	4	18	7	46	46	51	229	80%	69%
Himachal Pradesh	12	41	170	3	40	2	12	3	36	40	42	171	76%	81%
Jammu & Kashmir	14	42	165	9	8	5	15	12	35	40	43	234	90%	87%
Jharkhand	24	70	294	48	12	3	23	12	60	66	72	411	79%	86%
Karnataka	31	125	644	59	144	39	26	7	123	124	124	632	85%	78%
Kerala	14	79	490	79	27	22	14	10	56	73	72	530	79%	64%
Lakshadweep	1	1	9	2	0	0	1	0	0	1	1	19	19%	100%
Madhya Pradesh	50	150	742	83	105	11	50	11	128	133	144	769	83%	86%
Maharashtra	55	276	1368	226	5378	41	54	58	240	270	262	1318	74%	86%
Manipur	9	13	52	133	10	1	9	6	4	13	17	62	69%	59%
Meghalaya	7	12	57	27	0	1	6	1	7	12	12	52	90%	69%
Mizoram	8	9	30	1	0	0	8	2	8	9	9	29	74%	92%
Nagaland	11	13	44	46	15	0	11	0	3	13	13	48	77%	68%
Orissa	31	109	547	146	1	5	28	8	98	107	87	502	79%	86%
Puducherry	1	4	23	3	0	9	1	0	4	4	5	23	71%	94%
Punjab	20	60	290	71	312	8	20	7	52	55	54	287	88%	65%
Rajasthan	33	150	825	55	250	9	31	9	125	136	130	794	85%	83%
Sikkim	4	14	20	3	1	1	4	0	3	5	5	22	95%	92%
Tamil Nadu	31	142	797	106	102	27	25	23	113	136	133	733	86%	90%
Tripura	4	10	54	3	0	2	4	1	8	10	10	63	92%	95%
Uttar Pradesh	71	414	1831	210	138	22	69	43	371	377	357	1972	66%	58%
Uttarakhand	13	30	144	17	2	4	12	4	22	28	28	141	60%	64%
West Bengal	19	193	834	139	11	11	19	9	181	190	192	924	83%	71%
Grand Total	**662**	**2698**	**13039**	**1971**	**10894**	**297**	**605**	**317**	**2328**	**2530**	**2505**	**13213**	**79%**	**79%**

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed[2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Andaman & Nicobar	Andaman & Nicobar Islands *	4	4568	301	48%	367	12	26%	97	91	908	239	71	65	70	34	25
Andhra Pradesh	Adilabad *	27	12350	113	5%	2253	5	-1%	82	78	3731	136	65	40	11	20	17
Andhra Pradesh	Anantapur	41	27590	169	-6%	3868	7	0%	95	75	5345	131	60	30	17	24	17
Andhra Pradesh	Bhadrachalam	8	7172	214	1%	1312	5	-5%	156	131	1651	197	106	40	10	41	30
Andhra Pradesh	Chittoor	42	28651	172	-3%	4242	7	-3%	102	66	4758	114	53	21	17	22	15
Andhra Pradesh	Cuddapah	29	19676	171	-6%	2102	9	4%	73	74	4035	140	52	36	16	35	23
Andhra Pradesh	East Godavari	52	45556	221	17%	4434	10	10%	86	77	8058	156	63	45	22	27	15
Andhra Pradesh	Guntur	49	39115	200	-3%	5779	7	-3%	118	93	7584	155	70	37	14	34	24
Andhra Pradesh	Hyderabad	40	42658	266	1%	6174	7	-3%	154	77	6985	174	60	31	51	31	18
Andhra Pradesh	Karimnagar	38	22274	146	6%	3114	7	1%	82	73	4285	112	54	25	8	26	21
Andhra Pradesh	Khammam	20	13450	172	-1%	2487	5	4%	127	102	2957	151	77	28	10	36	30
Andhra Pradesh	Krishna	45	28617	158	1%	3884	7	-2%	86	74	5624	124	58	28	15	23	17
Andhra Pradesh	Kurnool	40	23662	146	-7%	3100	8	-2%	77	69	5576	138	53	39	14	32	20
Andhra Pradesh	Mahbubnagar	40	19249	119	-15%	3059	6	-10%	76	70	4263	105	54	18	10	24	19
Andhra Pradesh	Medak	30	12410	102	0%	1839	7	2%	61	63	2819	93	48	15	11	19	16
Andhra Pradesh	Nalgonda	35	15474	111	1%	3165	5	3%	91	77	4156	119	56	22	15	26	22
Andhra Pradesh	Nellore	30	21378	180	0%	2826	8	4%	95	80	3904	132	58	30	9	34	25
Andhra Pradesh	Nizamabad	26	21440	210	32%	2078	10	34%	81	78	2917	114	67	23	9	16	12
Andhra Pradesh	Prakasam	34	20825	153	-5%	2799	7	-11%	82	81	4261	126	62	26	8	29	22
Andhra Pradesh	Rangareddi	53	20839	98	-32%	3855	5	-1%	73	61	5822	110	46	20	23	21	16
Andhra Pradesh	Srikakulam	27	19327	179	11%	2024	10	7%	75	71	3974	147	59	53	10	26	14
Andhra Pradesh	Visakhapatnam	43	32550	190	-2%	3880	8	-5%	90	76	5829	136	63	30	22	21	15
Andhra Pradesh	Vizianagaram	23	19994	213	13%	2357	8	7%	101	94	3823	163	75	30	28	30	20
Andhra Pradesh	Warangal	35	20601	146	-2%	3511	6	-3%	100	74	3767	107	51	19	8	29	25
Andhra Pradesh	West Godavari	39	28605	182	13%	3590	8	2%	91	87	5791	147	69	37	11	30	19
Arunachal Pradesh	Changlang **	1	1115	188	9%	96	12	-32%	65	72	178	120	62	24	18	17	13
Arunachal Pradesh	Dibang Valley	1	456	184	-22%	60	8	-43%	97	102	78	126	73	8	13	32	29
Arunachal Pradesh	East Kameng *	1	525	167	-18%	101	5	-56%	129	88	179	228	56	47	28	97	33
Arunachal Pradesh	East Siang *	1	818	207	1%	91	9	5%	92	100	189	191	72	44	29	45	36
Arunachal Pradesh	Kurung Kumey	1	81	23		6	14		7	11	21	23	7	6	4	7	4
Arunachal Pradesh	Lohit **	2	1037	156	25%	158	7	6%	95	90	249	149	74	31	9	36	18
Arunachal Pradesh	Lower Subansiri *	1	541	163	32%	58	9	-47%	70	78	129	156	46	33	28	49	36
Arunachal Pradesh	Papum Pare *	2	3114	441	-20%	461	7	-16%	261	122	589	334	84	90	64	96	47
Arunachal Pradesh	Tawang *	0.5	353	177	-14%	35	10	-19%	70	72	71	142	52	24	36	30	20
Arunachal Pradesh	Tirap †	1	929	207	7%	103	9	-17%	92	91	208	186	63	27	52	43	29
Arunachal Pradesh	Upper Siang *	0.4	383	271	8%	33	12	36%	94	85	43	122	71	11	23	17	14
Arunachal Pradesh	Upper Subansiri *	1	466	140	-23%	69	7	-13%	83	76	125	150	54	25	24	47	25
Arunachal Pradesh	West Kameng *	1	470	135	-2%	77	6	-27%	88	83	115	132	74	23	21	15	9
Arunachal Pradesh	West Siang *	1	418	93	-15%	61	7	-33%	54	66	137	122	51	7	20	33	17
Assam	Barpeta	19	6708	88	1%	889	8	5%	46	44	1838	96	36	28	9	23	10
Assam	Bongaigaon	10	5966	144	-2%	820	7	8%	79	66	1167	113	54	28	7	24	14
Assam	Cachar	17	8574	123	-10%	1112	8	-1%	64	50	2287	132	44	45	31	11	7
Assam	Darrang	9	5454	150	32%	759	7	4%	84	75	1320	145	62	41	15	27	16
Assam	Dhemaji	7	2811	102	-12%	450	6	12%	65	64	690	100	54	21	9	15	10
Assam	Dhubri	19	7227	93	-10%	1220	6	1%	63	56	2178	112	47	34	4	28	12

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Andaman & Nicobar	Andaman & Nicobar Islands *	57	7%	93%	77%	83%	73%	345	95%	316	87%	265	89%	190	21%	15%	1%	0%		
Andhra Pradesh	Adilabad *	113	4%	90%	64%	90%	71%	2031	91%	2229	100%	1438	87%	3666	98%	77%	4%	3%	100%	33%
Andhra Pradesh	Anantapur	142	3%	87%	69%	85%	66%	2780	88%	3058	97%	2073	79%	4814	90%	87%	10%	9%	84%	56%
Andhra Pradesh	Bhadrachalam	18	1%	87%	67%	90%	77%	957	84%	1082	95%	488	55%	1160	70%	59%	3%	2%	100%	56%
Andhra Pradesh	Chittoor	129	3%	90%	69%	87%	66%	2660	93%	2818	99%	1944	80%	4147	87%	88%	11%	10%	99%	77%
Andhra Pradesh	Cuddapah	87	3%	91%	69%	90%	75%	1887	86%	2082	95%	1447	84%	3664	91%	70%	8%	5%	98%	49%
Andhra Pradesh	East Godavari	336	5%	96%	87%	91%	77%	3574	89%	3913	98%	2967	88%	6918	86%	87%	19%	16%	77%	28%
Andhra Pradesh	Guntur	171	3%	94%	84%	91%	75%	4337	94%	4610	100%	3470	87%	5988	79%	84%	15%	13%	100%	49%
Andhra Pradesh	Hyderabad	652	11%	93%	71%	88%	66%	3040	96%	3036	96%	2463	94%	3054	44%	95%	7%	7%	91%	49%
Andhra Pradesh	Karimnagar	65	2%	91%	74%	90%	74%	2542	89%	2748	96%	1902	86%	3469	81%	75%	10%	7%	100%	43%
Andhra Pradesh	Khammam	73	3%	85%	74%	87%	77%	1796	86%	2082	100%	1349	79%	2604	88%	72%	7%	5%	97%	41%
Andhra Pradesh	Krishna	200	4%	92%	71%	90%	71%	3003	88%	3243	95%	2379	83%	2792	50%	83%	19%	16%	99%	32%
Andhra Pradesh	Kurnool	240	6%	89%	69%	84%	64%	2456	82%	2979	100%	1489	64%	5375	96%	79%	10%	8%	94%	55%
Andhra Pradesh	Mahbubnagar	162	5%	89%	76%	86%	72%	2746	93%	2861	97%	2012	82%	4000	94%	90%	5%	4%	93%	41%
Andhra Pradesh	Medak	113	5%	89%	64%	87%	61%	1741	90%	1825	95%	1101	74%	2547	90%	86%	8%	7%	85%	57%
Andhra Pradesh	Nalgonda	149	5%	91%	70%	91%	74%	2357	87%	2502	93%	1646	75%	3866	93%	92%	15%	14%	95%	26%
Andhra Pradesh	Nellore	81	3%	91%	68%	86%	61%	2205	90%	2457	100%	1624	86%	3904	100%	86%	12%	10%	98%	46%
Andhra Pradesh	Nizamabad	89	4%	91%	75%	89%	76%	1888	93%	1982	98%	1520	87%	2629	90%	76%	7%	6%	99%	55%
Andhra Pradesh	Prakasam	116	4%	90%	68%	89%	73%	2420	85%	2824	99%	2067	92%	4141	97%	94%	14%	13%	100%	46%
Andhra Pradesh	Rangareddi	349	7%	91%	74%	86%	71%	3107	94%	3253	99%	2482	90%	4956	85%	88%	11%	10%	98%	49%
Andhra Pradesh	Srikakulam	203	6%	94%	80%	93%	76%	1641	84%	1857	95%	1200	76%	3513	88%	86%	13%	11%	93%	21%
Andhra Pradesh	Visakhapatnam	338	7%	95%	85%	92%	79%	3099	92%	3328	99%	2542	91%	5246	90%	92%	10%	9%	94%	62%
Andhra Pradesh	Vizianagaram	281	9%	93%	81%	92%	77%	1984	88%	2171	97%	1607	82%	3535	92%	94%	7%	7%	18%	82%
Andhra Pradesh	Warangal	61	2%	91%	80%	88%	77%	2384	89%	2523	94%	1823	83%	3767	100%	82%	5%	4%	92%	75%
Andhra Pradesh	West Godavari	200	4%	95%	88%	94%	84%	3347	96%	3452	100%	2564	84%	3231	56%	81%	18%	14%	77%	27%
Arunachal Pradesh	Changlang **	7	5%	90%	74%	91%	70%	90	82%	104	95%	56	78%	92	52%	36%	0%	0%		
Arunachal Pradesh	Dibang Valley	5	9%	95%	100%	91%	100%	63	100%	63	100%	63	100%	8	10%	90%	0%	0%		
Arunachal Pradesh	East Kameng *	23	22%	97%	73%	90%	77%	67	96%	70	100%	24	73%	6	3%	35%	0%	0%		
Arunachal Pradesh	East Siang *	10	7%	94%	76%	92%	71%	86	80%	84	79%	85	88%	58	31%	42%	0%	0%		
Arunachal Pradesh	Kurung Kumey	4	27%	100%				9	90%	10	100%	0		0	0%	29%	0%	0%		
Arunachal Pradesh	Lohit **	5	3%	82%	84%	86%	68%	92	60%	153	100%	100	100%	25	10%	70%	0%	0%		
Arunachal Pradesh	Lower Subansiri *	18	20%	76%	66%	97%	76%	64	94%	68	100%	38	90%	20	16%	30%	0%	0%		
Arunachal Pradesh	Papum Pare *	68	16%	97%	77%	92%	75%	220	95%	231	100%	184	96%	353	60%	86%	1%	1%		
Arunachal Pradesh	Tawang *	6	11%	96%	100%	79%	100%	34	94%	35	97%	25	93%	8	11%	61%	0%	0%		
Arunachal Pradesh	Tirap †	20	13%	89%	73%	83%	84%	98	94%	94	90%	60	88%	97	47%	34%	0%	0%		
Arunachal Pradesh	Upper Siang *	6	16%	81%	67%	84%	80%	30	100%	30	100%	25	71%	3	7%	35%	0%	0%		
Arunachal Pradesh	Upper Subansiri *	4	5%	86%	82%	81%	75%	58	88%	66	100%	49	100%	15	12%	74%	0%	0%		
Arunachal Pradesh	West Kameng *	11	11%	93%	88%	94%	86%	72	100%	72	100%	42	82%	28	24%	69%	0%	0%		
Arunachal Pradesh	West Siang *	12	12%	93%	89%	87%	63%	72	95%	72	95%	50	96%	0	0%	58%	0%	0%		
Assam	Barpeta	48	3%	81%	56%	83%	51%	702	80%	869	99%	392	63%	62	3%	34%	1%	0%		
Assam	Bongaigaon	24	3%	90%	69%	86%	66%	627	89%	616	87%	265	44%	216	19%	24%	1%	0%	100%	100%
Assam	Cachar	102	5%	89%	75%	82%	61%	761	85%	857	96%	488	63%	1125	49%	26%	5%	1%	0%	100%
Assam	Darrang	27	3%	87%	63%	85%	58%	625	89%	690	98%	557	72%	582	44%	27%	0%	0%		
Assam	Dhemaji	20	3%	89%	75%	87%	71%	400	90%	443	100%	335	83%	288	42%	36%	0%	0%		
Assam	Dhubri	51	3%	90%	65%	89%	71%	884	78%	893	79%	620	67%	1344	62%	18%	0%	0%	0%	0%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Andaman & Nicobar	Andaman & Nicobar Islands *	56	85%	20	100%	20	100%	15	51%	74	64%	185	74%
Andhra Pradesh	Adilabad *	48	74%	10	50%	16	80%	14	46%	75	65%	163	65%
Andhra Pradesh	Anantapur	24	37%	10	50%	8	40%	8	28%	61	53%	112	45%
Andhra Pradesh	Bhadrachalam	16	24%	10	50%	12	60%	14	47%	67	59%	119	48%
Andhra Pradesh	Chittoor	57	88%	10	50%	8	40%	12	41%	76	66%	164	65%
Andhra Pradesh	Cuddapah	38	58%	10	50%	8	40%	18	62%	94	81%	168	67%
Andhra Pradesh	East Godavari	57	87%	10	50%	12	60%	17	55%	87	76%	182	73%
Andhra Pradesh	Guntur	61	94%	10	50%	16	80%	20	67%	89	78%	197	79%
Andhra Pradesh	Hyderabad	40	62%	10	50%	8	40%	14	45%	90	78%	162	65%
Andhra Pradesh	Karimnagar	50	77%	20	100%	16	80%	15	50%	77	67%	178	71%
Andhra Pradesh	Khammam	40	62%	10	50%	16	80%	12	38%	82	71%	159	64%
Andhra Pradesh	Krishna	48	73%	10	50%	16	80%	5	17%	94	82%	172	69%
Andhra Pradesh	Kurnool	48	74%	10	50%	16	80%	11	38%	81	71%	166	67%
Andhra Pradesh	Mahbubnagar	34	52%	20	100%	16	80%	5	17%	73	63%	147	59%
Andhra Pradesh	Medak	51	78%	10	50%	16	80%	5	17%	67	59%	149	60%
Andhra Pradesh	Nalgonda	42	64%	10	50%	16	80%	29	96%	67	58%	163	65%
Andhra Pradesh	Nellore	58	90%	10	50%	16	80%	11	36%	87	76%	183	73%
Andhra Pradesh	Nizamabad	37	56%	10	50%	12	60%	5	17%	87	76%	151	60%
Andhra Pradesh	Prakasam	56	87%	10	50%	16	80%	5	17%	70	60%	157	63%
Andhra Pradesh	Rangareddi	52	80%	10	50%	16	80%	7	23%	84	73%	169	68%
Andhra Pradesh	Srikakulam	57	88%	10	50%	16	80%	5	17%	76	66%	164	66%
Andhra Pradesh	Visakhapatnam	59	91%	10	50%	12	60%	10	33%	84	73%	175	70%
Andhra Pradesh	Vizianagaram	45	69%	20	100%	16	80%	10	33%	86	75%	177	71%
Andhra Pradesh	Warangal	59	90%	10	50%	20	100%	5	17%	89	77%	182	73%
Andhra Pradesh	West Godavari	38	58%	10	50%	8	40%	10	33%	92	80%	158	63%
Arunachal Pradesh	Changlang **	22	34%	10	50%	20	100%	5	17%	68	59%	125	50%
Arunachal Pradesh	Dibang Valley	44	68%	20	100%	20	100%	15	50%	75	65%	174	70%
Arunachal Pradesh	East Kameng *	25	39%	20	100%	12	60%	15	50%	66	57%	138	55%
Arunachal Pradesh	East Siang *	27	42%	20	100%	8	40%	15	51%	71	61%	141	57%
Arunachal Pradesh	Kurung Kumey												
Arunachal Pradesh	Lohit **	26	40%	20	100%	20	100%	15	50%	60	53%	141	57%
Arunachal Pradesh	Lower Subansiri *	48	74%	20	100%	20	100%	15	50%	49	43%	152	61%
Arunachal Pradesh	Papum Pare *	61	95%	20	100%	16	80%	20	67%	74	64%	191	77%
Arunachal Pradesh	Tawang *	26	39%	20	100%	20	100%	15	50%	68	59%	149	59%
Arunachal Pradesh	Tirap †	19	29%	20	100%	12	60%	13	43%	62	54%	125	50%
Arunachal Pradesh	Upper Siang *	29	45%	20	100%	20	100%	5	17%	58	50%	132	53%
Arunachal Pradesh	Upper Subansiri *	47	73%	20	100%	20	100%	15	50%	64	56%	167	67%
Arunachal Pradesh	West Kameng *	27	41%	20	100%	20	100%	15	50%	81	70%	163	65%
Arunachal Pradesh	West Siang *	26	40%	20	100%	16	80%	5	17%	68	59%	135	54%
Assam	Barpeta	44	68%	20	100%	20	100%	6	21%	54	47%	144	58%
Assam	Bongaigaon	41	64%	20	100%	16	80%	5	17%	63	55%	146	58%
Assam	Cachar	51	78%	20	100%	16	80%	5	17%	44	39%	136	55%
Assam	Darrang	49	76%	20	100%	20	100%	5	17%	70	61%	164	66%
Assam	Dhemaji	52	80%	20	100%	8	40%	5	17%	53	46%	138	55%
Assam	Dhubri	48	73%	10	50%	16	80%	5	17%	68	60%	147	59%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed [2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Assam	Dibrugarh	13	7427	140	3%	1500	5	5%	113	80	2373	179	66	31	59	23	16
Assam	Goalpara	10	4144	103	-2%	601	7	16%	60	57	937	93	49	24	4	16	9
Assam	Golaghat	11	4450	105	-9%	655	7	4%	62	56	1368	129	48	42	22	17	8
Assam	Hailakandi	7	3523	134	-12%	334	11	5%	51	45	571	87	37	20	14	15	9
Assam	Jorhat	11	7150	164	44%	818	9	48%	75	67	1491	137	54	33	28	21	13
Assam	Kamrup	29	15454	132	-7%	2618	6	-7%	89	72	3991	136	49	30	16	41	25
Assam	Karbi Anglong *	10	4044	105	-6%	669	6	-11%	69	61	1464	152	55	60	13	24	8
Assam	Karimganj	12	4917	101	-22%	554	9	-13%	46	39	1086	89	33	24	15	18	6
Assam	Kokrajhar	11	4420	104	-6%	925	5	-5%	87	82	1354	127	70	30	3	24	13
Assam	Lakhimpur	10	3442	83	-18%	669	5	-19%	64	57	901	87	47	17	6	16	10
Assam	Marigaon	10	4284	112	-5%	498	9	22%	52	46	964	101	37	32	5	27	10
Assam	Nagaon	28	12840	114	-4%	1652	8	9%	58	49	2619	93	43	26	8	15	7
Assam	Nalbari	13	4743	88	-3%	653	7	13%	48	51	1279	95	42	25	10	18	10
Assam	North Cachar Hills *	2	1246	146	2%	171	7	-7%	80	71	291	136	51	44	8	34	23
Assam	Sibsagar	12	5065	110	-5%	929	5	-14%	81	76	1684	146	60	30	29	28	17
Assam	Sonitpur	19	10767	140	-8%	1908	6	1%	99	87	2981	155	75	39	16	25	14
Assam	Tinsukia	13	7797	148	-8%	1612	5	-9%	122	96	2408	183	79	26	51	27	18
Assam	Udalguri	8	2114	63		288	7		35	34	599	72	27	26	5	14	7
Bihar	Araria **	28	8916	79	-2%	1113	8	5%	40	33	1846	66	29	25	2	9	4
Bihar	Arwal	7	3355	120	0%	339	10	21%	48	42	473	68	33	17	2	15	9
Bihar	Aurangabad-BI **	25	9507	95	13%	918	10	10%	37	33	1404	56	26	13	4	13	7
Bihar	Banka **	20	7833	96	18%	705	11	8%	35	38	1436	71	33	18	1	18	5
Bihar	Begusarai **	30	13496	114	-3%	1633	8	11%	55	52	2921	99	41	34	4	20	12
Bihar	Bhagalpur **	30	18717	154	2%	1951	10	9%	64	52	3198	105	44	34	10	18	9
Bihar	Bhojpur **	27	7624	70	3%	824	9	6%	30	25	1336	49	18	11	3	17	8
Bihar	Buxar	17	6542	96	27%	636	10	5%	37	37	1046	61	27	16	3	15	10
Bihar	Darbhanga **	39	16816	107	11%	2211	8	-2%	56	47	3102	79	38	14	12	15	10
Bihar	Gaya **	44	11564	66	-2%	1421	8	3%	32	28	3706	85	23	33	5	17	4
Bihar	Gopalganj **	26	10791	105	16%	989	11	7%	39	35	1496	58	26	12	3	17	9
Bihar	Jamui **	18	4510	64	-5%	497	9	10%	28	27	1211	69	22	26	2	19	7
Bihar	Jehanabad **	11	4816	107	-2%	611	8	-2%	54	51	1114	99	39	35	5	21	13
Bihar	Kaimur **	16	4685	72	23%	539	9	30%	33	30	922	57	22	16	1	18	8
Bihar	Katihar **	31	13666	111	-1%	2094	7	4%	68	59	2363	77	50	9	4	14	10
Bihar	Khagaria **	17	6400	97	-4%	623	10	11%	38	35	868	52	30	12	2	9	5
Bihar	Kishanganj **	17	6309	93	-10%	814	8	2%	48	47	1078	64	40	8	4	11	6
Bihar	Lakhisarai **	10	3713	93	-17%	339	11	-12%	34	32	637	64	25	17	4	17	8
Bihar	Madhepura **	20	10451	131	20%	925	11	26%	46	42	1066	53	35	8	1	9	7
Bihar	Madhubani **	45	16506	92	-7%	1920	9	11%	43	36	2258	50	31	9	3	7	5
Bihar	Munger **	14	7335	135	7%	798	9	13%	59	56	1346	99	44	26	10	19	13
Bihar	Muzaffarpur **	48	19890	104	1%	2494	8	2%	52	46	5016	105	37	38	8	21	9
Bihar	Nalanda **	29	8278	72	-10%	1062	8	1%	37	34	1642	57	31	19	3	5	2
Bihar	Nawada **	22	5325	60	3%	697	8	13%	31	30	1006	45	25	9	2	9	5
Bihar	Pashchim Champaran **	39	13116	84	-18%	1873	7	-9%	48	44	2200	56	39	7	2	8	5
Bihar	Patna	58	24035	104	-1%	3016	8	10%	52	36	5853	101	28	35	15	23	9
Bihar	Purba Champaran **	51	12958	64	11%	1662	8	3%	33	29	2208	43	25	10	2	6	4
Bihar	Purnia **	33	20266	155	-9%	2405	8	-4%	73	63	3054	93	52	22	3	16	11

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Assam	Dibrugarh	226	11%	91%	75%	90%	73%	1016	94%	979	90%	837	88%	691	29%	53%	0%	0%		
Assam	Goalpara	18	2%	88%	61%	80%	51%	546	93%	584	100%	428	92%	292	31%	24%	0%	0%		
Assam	Golaghat	64	5%	88%	69%	80%	58%	515	87%	558	94%	421	78%	417	30%	68%	1%	0%	100%	67%
Assam	Hailakandi	26	6%	88%	57%	79%	72%	191	63%	303	99%	174	61%	132	23%	16%	1%	0%	0%	100%
Assam	Jorhat	83	7%	87%	56%	80%	48%	718	97%	735	100%	493	89%	490	33%	32%	1%	0%		
Assam	Kamrup	102	4%	88%	69%	86%	63%	1905	87%	2097	96%	1216	78%	971	24%	29%	0%	0%	144%	200%
Assam	Karbi Anglong *	38	3%	82%	57%	79%	48%	545	90%	582	96%	216	55%	592	40%	11%	2%	0%	0%	75%
Assam	Karimganj	30	3%	86%	60%	81%	63%	402	84%	479	100%	268	71%	413	38%	33%	1%	0%	38%	50%
Assam	Kokrajhar	25	2%	82%	55%	81%	58%	748	85%	794	90%	532	80%	541	40%	31%	1%	0%	100%	100%
Assam	Lakhimpur	32	4%	90%	68%	88%	61%	541	90%	595	99%	397	83%	744	83%	10%	0%	0%		
Assam	Marigaon	25	4%	82%	64%	74%	52%	370	82%	406	90%	275	82%	170	18%	27%	0%	0%		
Assam	Nagaon	53	2%	92%	72%	87%	71%	1087	77%	1345	96%	1027	84%	582	22%	25%	1%	0%	40%	100%
Assam	Nalbari	23	2%	86%	72%	83%	57%	623	89%	702	100%	344	62%	509	40%	22%	1%	0%	100%	100%
Assam	North Cachar Hills *	2	1%	86%	63%	79%	57%	140	89%	147	94%	47	51%	71	24%	67%	0%	0%	0%	0%
Assam	Sibsagar	99	7%	85%	59%	79%	55%	690	78%	790	89%	399	69%	658	39%	13%	1%	0%	0%	67%
Assam	Sonitpur	149	6%	81%	59%	81%	63%	1557	91%	1686	98%	1031	84%	877	29%	15%	0%	0%		
Assam	Tinsukia	229	11%	91%	76%	85%	67%	1126	88%	935	73%	858	80%	600	25%	38%	0%	0%	33%	67%
Assam	Udalguri	11	2%	87%	76%			251	88%	280	99%	0		231	39%	17%	1%	0%		
Bihar	Araria **	158	10%	89%	69%	85%	64%	676	71%	915	96%	569	78%	229	12%	8%	1%	0%	0%	0%
Bihar	Arwal	16	4%	88%	76%	95%	93%	278	94%	295	100%	193	78%	271	57%	39%	1%	0%	0%	0%
Bihar	Aurangabad-BI **	73	7%	84%	74%	79%	60%	771	91%	814	96%	508	88%	973	69%	1%	5%	0%		
Bihar	Banka **	54	5%	77%	61%	85%	80%	663	86%	683	89%	243	73%	778	54%	5%	5%	0%		
Bihar	Begusarai **	197	8%	91%	84%	94%	88%	1447	93%	1558	100%	988	70%	2717	93%	17%	1%	0%		
Bihar	Bhagalpur **	288	11%	89%	75%	89%	74%	1520	95%	1596	99%	1227	91%	1384	43%	14%	6%	1%	13%	75%
Bihar	Bhojpur **	57	6%	82%	66%	78%	70%	521	74%	590	84%	351	75%	201	15%	6%	7%	0%	0%	0%
Bihar	Buxar	57	7%	93%	87%	91%	83%	599	95%	610	97%	328	82%	956	91%	0%		0%		
Bihar	Darbhanga **	256	10%	92%	75%	88%	71%	1774	95%	1877	100%	1131	90%	2813	91%	36%	4%	2%	43%	38%
Bihar	Gaya **	131	4%	81%	75%	93%	88%	917	76%	1159	95%	575	73%	2691	73%	0%		0%		
Bihar	Gopalganj **	64	6%	91%	82%	91%	84%	817	90%	911	100%	682	89%	1411	94%	24%	6%	1%	67%	33%
Bihar	Jamui **	50	6%	76%	61%	79%	74%	434	88%	489	99%	162	52%	1094	90%	4%	15%	1%	50%	50%
Bihar	Jehanabad **	58	7%	89%	81%	85%	75%	540	94%	561	98%	368	85%	932	84%	3%	3%	0%		
Bihar	Kaimur **	26	4%	86%	75%	80%	65%	450	93%	481	99%	271	75%	413	45%	0%		0%		
Bihar	Katihar **	133	7%	86%	68%	83%	67%	1527	83%	1846	100%	1414	100%	1950	83%	37%	2%	1%	0%	100%
Bihar	Khagaria **	56	8%	86%	67%	86%	77%	506	87%	581	100%	322	71%	362	42%	57%	3%	1%	0%	100%
Bihar	Kishanganj **	44	5%	90%	69%	90%	82%	719	91%	791	100%	579	86%	939	87%	45%	2%	1%		
Bihar	Lakhisarai **	34	7%	72%	62%	87%	83%	320	97%	308	94%	159	71%	259	41%	33%	2%	1%	0%	17%
Bihar	Madhepura **	54	6%	89%	82%	95%	91%	728	87%	839	100%	568	86%	34	3%	16%	2%	0%		
Bihar	Madhubani **	81	4%	86%	73%	84%	71%	1513	93%	1604	99%	1012	72%	1842	82%	2%	8%	0%		
Bihar	Munger **	83	8%	87%	67%	89%	74%	682	89%	770	100%	349	58%	1040	77%	11%	6%	1%	0%	100%
Bihar	Muzaffarpur **	295	7%	89%	76%	89%	81%	1612	72%	2079	93%	942	62%	3508	70%	3%	5%	0%		
Bihar	Nalanda **	104	7%	93%	78%	95%	90%	895	92%	919	95%	815	87%	1432	87%	0%		0%		
Bihar	Nawada **	40	5%	97%	86%	96%	87%	647	98%	646	97%	537	86%	740	74%	19%	0%	0%		
Bihar	Pashchim Champaran **	66	3%	95%	77%	94%	88%	1450	83%	1688	97%	1350	82%	469	21%	7%	3%	0%		
Bihar	Patna	587	13%	88%	71%	89%	68%	1758	82%	1957	91%	1368	73%	520	9%	0%		0%		
Bihar	Purba Champaran **	62	3%	90%	70%	96%	87%	1296	88%	1475	100%	815	74%	911	41%	17%	5%	1%		
Bihar	Purnia **	166	7%	90%	77%	90%	84%	1916	92%	2048	99%	1126	69%	2830	93%	25%	2%	0%	0%	100%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Assam	Dibrugarh	43	67%	10	50%	12	60%	14	46%	70	61%	150	60%
Assam	Goalpara	52	80%	10	50%	4	20%	15	50%	63	55%	144	58%
Assam	Golaghat	22	34%	10	50%	4	20%	5	17%	45	39%	86	34%
Assam	Hailakandi	29	44%	20	100%	20	100%	5	17%	55	48%	128	51%
Assam	Jorhat	41	63%	20	100%	16	80%	15	50%	59	51%	151	60%
Assam	Kamrup	40	62%	20	100%	8	40%	10	33%	67	58%	145	58%
Assam	Karbi Anglong *	42	64%	20	100%	20	100%	5	17%	42	37%	129	52%
Assam	Karimganj	47	72%	10	50%	12	60%	5	17%	62	54%	135	54%
Assam	Kokrajhar	47	73%	20	100%	20	100%	5	17%	55	47%	147	59%
Assam	Lakhimpur	53	82%	20	100%	16	80%	5	17%	55	48%	149	60%
Assam	Marigaon	26	41%	20	100%	8	40%	5	17%	48	42%	107	43%
Assam	Nagaon	44	68%	10	50%	12	60%	5	17%	49	42%	120	48%
Assam	Nalbari	49	76%	20	100%	16	80%	5	17%	53	46%	143	57%
Assam	North Cachar Hills *	45	69%	20	100%	20	100%	5	17%	60	52%	150	60%
Assam	Sibsagar	52	81%	10	50%	12	60%	7	22%	30	26%	111	44%
Assam	Sonitpur	28	43%	10	50%	12	60%	15	50%	58	50%	123	49%
Assam	Tinsukia	45	69%	20	100%	16	80%	15	50%	63	55%	159	63%
Assam	Udalguri												
Bihar	Araria **	54	82%	20	100%	16	80%	6	20%	55	48%	150	60%
Bihar	Arwal	51	79%	10	50%	16	80%	19	62%	80	70%	176	70%
Bihar	Aurangabad-BI **	29	45%	0	0%	16	80%	15	50%	50	44%	111	44%
Bihar	Banka **	47	73%	0	0%	16	80%	18	59%	83	72%	164	66%
Bihar	Begusarai **	41	62%	20	100%	16	80%	5	17%	75	65%	157	63%
Bihar	Bhagalpur **	32	49%	20	100%	12	60%	5	17%	60	52%	129	52%
Bihar	Bhojpur **	29	45%	0	0%	16	80%	5	17%	42	36%	92	37%
Bihar	Buxar	29	44%	10	50%	16	80%	30	100%	86	74%	170	68%
Bihar	Darbhanga **	44	68%	20	100%	16	80%	15	50%	75	66%	171	68%
Bihar	Gaya **	24	37%	10	50%	12	60%	11	35%	51	44%	107	43%
Bihar	Gopalganj **	20	30%	20	100%	12	60%	25	83%	88	77%	165	66%
Bihar	Jamui **	39	59%	10	50%	8	40%	14	45%	65	57%	135	54%
Bihar	Jehanabad **	52	80%	10	50%	16	80%	15	50%	60	52%	153	61%
Bihar	Kaimur **	39	60%	10	50%	8	40%	5	17%	47	41%	109	44%
Bihar	Katihar **	51	78%	20	100%	16	80%	15	50%	61	53%	163	65%
Bihar	Khagaria **	48	74%	10	50%	20	100%	25	83%	65	56%	168	67%
Bihar	Kishanganj **	41	63%	10	50%	16	80%	15	50%	54	47%	136	54%
Bihar	Lakhisarai **	36	56%	0	0%	16	80%	18	59%	55	48%	125	50%
Bihar	Madhepura **	29	45%	0	0%	20	100%	5	17%	70	61%	125	50%
Bihar	Madhubani **	28	43%	10	50%	16	80%	5	17%	64	55%	122	49%
Bihar	Munger **	39	60%	10	50%	16	80%	15	50%	64	55%	144	58%
Bihar	Muzaffarpur **	38	59%	10	50%	16	80%	11	37%	64	55%	139	56%
Bihar	Nalanda **	38	58%	0	0%	16	80%	5	17%	72	63%	131	52%
Bihar	Nawada **	30	46%	10	50%	16	80%	6	19%	76	66%	138	55%
Bihar	Pashchim Champaran **	29	44%	0	0%	16	80%	10	33%	63	55%	118	47%
Bihar	Patna	38	59%	0	0%	8	40%	15	50%	59	52%	121	48%
Bihar	Purba Champaran **	36	56%	10	50%	16	80%	25	83%	80	70%	168	67%
Bihar	Purnia **	62	96%	10	50%	16	80%	10	34%	63	55%	162	65%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed [2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Bihar	Rohtas	30	14482	122	12%	1497	10	9%	51	45	2057	69	39	16	2	13	7
Bihar	Saharsa **	19	7534	99	-6%	707	11	7%	37	35	1373	72	33	30	2	7	2
Bihar	Samastipur **	43	17498	103	15%	2186	8	29%	51	45	3818	90	36	28	8	18	10
Bihar	Saran **	39	10174	65	8%	1081	9	21%	27	26	2214	56	20	17	4	14	6
Bihar	Sheikhpura **	6	3378	133	9%	207	16	26%	33	23	533	84	19	32	3	12	5
Bihar	Sheohar	7	2372	90	-10%	239	10	20%	36	35	772	118	24	61	6	25	11
Bihar	Sitamarhi **	34	14453	106	6%	1915	8	6%	56	52	2932	86	44	21	8	13	9
Bihar	Siwan	33	12723	96	-4%	1404	9	10%	42	37	2718	82	27	24	1	29	11
Bihar	Supaul **	22	6570	74	-2%	637	10	-5%	29	28	1036	46	23	12	1	11	5
Bihar	Vaishali **	35	13569	97	-7%	1400	10	-9%	40	35	3225	92	27	38	5	21	9
Chandigarh	Chandigarh	11	17560	416	45%	2351	7	8%	223	116	2537	241	85	24	83	49	35
Chhattisgarh	Bastar *	16	6138	99	-5%	904	7	-4%	58	44	1743	112	36	43	15	18	8
Chhattisgarh	Bilaspur-CG	27	11612	109	-11%	1381	8	0%	52	48	2751	103	42	32	18	12	8
Chhattisgarh	Dantewada *	8	4017	127	11%	688	6	-7%	87	71	917	116	63	31	8	14	8
Chhattisgarh	Dhamtari	8	3254	102	-12%	443	7	-8%	55	48	703	88	43	29	8	8	6
Chhattisgarh	Durg	33	14934	112	-1%	1260	12	16%	38	34	3602	108	30	45	23	10	5
Chhattisgarh	Janjgir	16	8156	126	-9%	792	10	14%	49	50	1815	112	43	47	7	15	7
Chhattisgarh	Jashpur *	9	2344	69	61%	328	7	-11%	38	27	548	64	24	28	3	7	4
Chhattisgarh	Kanker *	7	5054	169	13%	501	10	18%	67	64	1000	134	56	51	13	14	9
Chhattisgarh	Kawardha **	8	2018	61	-18%	253	8	-10%	31	29	388	47	24	10	5	8	5
Chhattisgarh	Korba	12	6408	133	0%	665	10	5%	55	50	1605	133	46	52	21	13	4
Chhattisgarh	Koriya **	7	2640	100	7%	217	12	18%	33	28	600	91	24	42	9	17	6
Chhattisgarh	Mahasamund	10	3863	94	-2%	489	8	8%	47	46	1029	100	42	39	10	10	5
Chhattisgarh	Raigarh-CG **	15	4850	81	-1%	802	6	7%	54	50	1546	104	44	43	6	9	6
Chhattisgarh	Raipur	41	17670	109	-18%	2288	8	0%	56	50	4347	107	44	33	18	12	7
Chhattisgarh	Rajnandgaon	15	7362	120	-5%	979	8	1%	64	64	1927	125	55	35	18	18	10
Chhattisgarh	Surguja †	24	9316	99	3%	1073	9	3%	45	43	2597	110	40	48	8	15	3
D & N Haveli	Dadra & Nagar Haveli †	3	2654	194	20%	298	9	19%	87	64	419	122	49	23	24	26	17
Daman & Diu	Daman	2	2300	301	24%	180	13	38%	94	48	270	141	38	51	18	34	12
Daman & Diu	Diu	0.5	743	357	43%	36	21	23%	69	35	43	83	27	21	21	13	8
Delhi	BJRM Chest Clinic	5	4685	238	19%	624	8	-4%	127	119	1368	278	82	51	82	63	38
Delhi	BSA Chest Clinic	5	2935	138	-3%	490	6	-2%	92	95	1409	265	68	65	81	50	29
Delhi	CD Chest Clinic	5	3192	150	0%	457	7	1%	86	60	1033	194	45	47	58	33	17
Delhi	DDU Chest Clinic	11	10980	258	67%	1332	8	21%	125	123	4100	385	83	70	153	79	43
Delhi	DFIT Chest Clinic	9	5670	159		914	6		102	96	1944	218	66	34	61	57	32
Delhi	GTB Chest Clinic	6	7449	337	8%	1157	6	-10%	209	148	2205	399	101	63	134	100	54
Delhi	Gulabi Bagh	9	6285	172	17%	842	7	-4%	92	77	1756	192	53	33	64	42	28
Delhi	Hedgewar Chest Clinic	5	3944	208	5%	539	7	-2%	114	85	1078	228	66	32	82	48	23
Delhi	Jhandewalan	5	4209	193	11%	616	7	8%	113	105	1616	296	73	61	90	71	36
Delhi	Karawal Nagar	8	5658	185	-13%	1083	5	3%	141	143	2856	373	105	56	135	76	44
Delhi	Kingsway Camp	7	4902	166	-10%	774	6	-1%	105	101	1675	227	72	37	66	50	32
Delhi	LN Chest Clinic	5	5949	304	9%	697	9	12%	143	73	950	194	48	25	73	48	26
Delhi	LRS	9	7564	203	20%	1303	6	-17%	140	137	3278	352	96	55	122	78	46

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Bihar	Rohtas	75	4%	88%	70%	91%	80%	1276	94%	1352	100%	899	85%	1586	77%	8%	3%	0%		
Bihar	Saharsa **	71	6%	97%	88%	95%	88%	570	85%	667	100%	386	74%	712	52%	0%		0%		
Bihar	Samastipur **	223	7%	84%	71%	92%	86%	1635	84%	1944	100%	1042	64%	2845	75%	0%	61%	0%		
Bihar	Saran **	100	6%	75%	59%	75%	57%	918	89%	1033	100%	487	75%	1926	87%	2%	40%	1%		
Bihar	Sheikhpura **	44	10%	82%	54%	88%	68%	143	93%	153	100%	129	89%	502	94%	26%	0%	0%	0%	0%
Bihar	Sheohar	40	7%	86%	58%	82%	64%	180	78%	232	100%	137	84%	715	93%	0%		0%		
Bihar	Sitamarhi **	214	9%	84%	67%	82%	63%	1535	85%	1675	93%	662	60%	2312	79%	1%	36%	0%	0%	100%
Bihar	Siwan	91	5%	86%	77%	91%	91%	1122	89%	1257	100%	791	71%	2384	88%	0%	0%	0%		
Bihar	Supaul **	33	4%	89%	73%	97%	98%	523	85%	614	100%	378	87%	1043	101%	0%		0%		
Bihar	Vaishali **	162	7%	85%	66%	88%	77%	965	76%	1253	99%	494	63%	2781	86%	3%	7%	0%	0%	13%
Chandigarh	Chandigarh	221	11%	91%	74%	89%	71%	1131	89%	1222	97%	1090	95%	498	20%	96%	1%	1%	69%	62%
Chhattisgarh	Bastar *	71	5%	86%	70%	78%	65%	649	94%	684	100%	347	99%	1057	61%	22%	3%	1%	0%	50%
Chhattisgarh	Bilaspur-CG	198	8%	93%	69%	92%	83%	1050	80%	1212	93%	630	65%	1839	67%	11%	9%	1%		
Chhattisgarh	Dantewada *	32	4%	62%	39%	59%	49%	324	58%	498	89%	90	38%	216	24%	0%		0%		
Chhattisgarh	Dhamtari	17	3%	84%	64%	79%	61%	353	91%	386	99%	265	79%	533	76%	21%	2%	0%		
Chhattisgarh	Durg	181	6%	86%	70%	85%	66%	1019	88%	1139	99%	810	79%	1380	38%	0%		0%		
Chhattisgarh	Janjgir	69	4%	90%	80%	93%	86%	744	91%	812	100%	644	87%	998	55%	7%	2%	0%		
Chhattisgarh	Jashpur *	7	1%	85%	80%	92%	86%	199	85%	201	86%	110	73%	164	30%	0%		0%		
Chhattisgarh	Kanker *	36	4%	90%	66%	90%	67%	433	90%	481	100%	311	74%	342	34%	34%	2%	1%		
Chhattisgarh	Kawardha **	22	7%	88%	64%	86%	46%	192	81%	237	100%	120	70%	184	47%	0%		0%		
Chhattisgarh	Korba	106	7%	93%	74%	93%	73%	541	89%	610	100%	494	85%	1068	67%	45%	1%	0%		
Chhattisgarh	Koriya **	21	4%	85%	82%	85%	71%	178	92%	194	100%	155	89%	284	47%	0%		0%		
Chhattisgarh	Mahasamund	68	7%	91%	78%	83%	69%	448	93%	483	100%	292	71%	910	88%	0%		0%		
Chhattisgarh	Raigarh-CG **	53	4%	93%	81%	89%	81%	718	95%	753	100%	447	72%	348	23%	0%		0%		
Chhattisgarh	Raipur	173	4%	92%	81%	89%	69%	1800	87%	2040	98%	1487	85%	1548	36%	16%	5%	1%	0%	114%
Chhattisgarh	Rajnandgaon	79	5%	90%	60%	85%	63%	893	89%	947	95%	491	62%	1095	57%	20%	7%	1%		
Chhattisgarh	Surguja †	131	6%	92%	80%	91%	81%	928	91%	996	98%	765	98%	1863	72%	0%		0%		
D & N Haveli	Dadra & Nagar Haveli †	19	6%	90%	68%	81%	46%	209	93%	221	98%	137	94%	79	19%	29%	1%	0%	50%	50%
Daman & Diu	Daman	4	2%	85%	75%	89%	65%	82	86%	95	100%	82	100%	73	27%	83%	5%	4%	27%	0%
Daman & Diu	Diu	9	25%	100%	75%	92%	83%	18	100%	18	100%	16	100%	6	14%	58%	0%	0%	0%	100%
Delhi	BJRM Chest Clinic	145	14%	93%	79%	86%	69%	521	88%	591	100%	450	100%	340	25%	58%	3%	2%	100%	87%
Delhi	BSA Chest Clinic	139	12%	87%	70%	84%	61%	468	90%	502	97%	345	93%	566	40%	17%	2%	0%	0%	100%
Delhi	CD Chest Clinic	100	12%	91%	83%	80%	71%	331	100%	329	99%	218	85%	22	2%	65%	1%	1%		
Delhi	DDU Chest Clinic	438	13%	89%	73%	85%	71%	1124	84%	1346	100%	1091	73%	342	8%	57%	2%	1%	92%	70%
Delhi	DFIT Chest Clinic	172	12%	90%	76%			796	91%	874	100%	587		925	48%	84%	1%	1%		
Delhi	GTB Chest Clinic	233	14%	88%	68%	83%	67%	789	92%	857	100%	564	91%	125	6%	71%	1%	1%	100%	90%
Delhi	Gulabi Bagh	184	13%	87%	65%	86%	70%	649	88%	738	100%	566	100%	0	0%	74%	3%	2%	100%	100%
Delhi	Hedgewar Chest Clinic	109	13%	89%	67%	84%	67%	401	95%	424	100%	333	95%	6	1%	100%	1%	1%	0%	88%
Delhi	Jhandewalan	220	18%	88%	65%	83%	60%	534	89%	598	100%	409	100%	79	5%	60%	2%	1%	100%	67%
Delhi	Karawal Nagar	361	16%	86%	66%	89%	76%	1078	94%	1143	100%	883	94%	58	2%	52%	2%	1%	67%	50%
Delhi	Kingsway Camp	144	11%	91%	68%	86%	71%	582	76%	593	77%	444	78%	47	3%	59%	2%	1%	77%	77%
Delhi	LN Chest Clinic	115	16%	92%	69%	90%	85%	348	96%	362	100%	362	100%	37	4%	82%	2%	2%	100%	91%
Delhi	LRS	313	12%	89%	67%	91%	71%	1146	87%	1315	99%	720	100%	0	0%	48%	2%	1%	14%	86%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Bihar	Rohtas	43	67%	20	100%	20	100%	19	63%	63	55%	165	66%
Bihar	Saharsa **	48	74%	0	0%	16	80%	5	17%	77	67%	146	58%
Bihar	Samastipur **	29	44%	0	0%	16	80%	5	17%	84	73%	134	54%
Bihar	Saran **	32	49%	0	0%	16	80%	10	34%	70	61%	128	51%
Bihar	Sheikhpura **	41	63%	10	50%	12	60%	5	17%	59	52%	127	51%
Bihar	Sheohar	46	70%	10	50%	20	100%	15	50%	59	51%	150	60%
Bihar	Sitamarhi **	45	70%	0	0%	12	60%	17	57%	91	80%	166	66%
Bihar	Siwan	34	53%	10	50%	16	80%	5	17%	60	52%	125	50%
Bihar	Supaul **	37	57%	0	0%	16	80%	5	17%	70	61%	128	51%
Bihar	Vaishali **	28	43%	10	50%	16	80%	5	17%	63	55%	122	49%
Chandigarh	Chandigarh	62	95%	20	100%	20	100%	10	33%	95	83%	207	83%
Chhattisgarh	Bastar *	34	52%	20	100%	20	100%	8	25%	47	41%	129	52%
Chhattisgarh	Bilaspur-CG	45	69%	10	50%	4	20%	19	63%	79	69%	157	63%
Chhattisgarh	Dantewada *	40	61%	10	50%	20	100%	5	17%	35	30%	109	44%
Chhattisgarh	Dhamtari	53	82%	10	50%	12	60%	25	83%	60	52%	160	64%
Chhattisgarh	Durg	41	63%	0	0%	12	60%	15	50%	50	43%	118	47%
Chhattisgarh	Janjgir	51	79%	10	50%	16	80%	5	17%	54	47%	136	55%
Chhattisgarh	Jashpur *	39	59%	10	50%	20	100%	5	17%	65	57%	139	56%
Chhattisgarh	Kanker *	52	80%	10	50%	12	60%	25	83%	68	59%	167	67%
Chhattisgarh	Kawardha **	37	57%	10	50%	8	40%	25	83%	54	47%	134	54%
Chhattisgarh	Korba	49	76%	10	50%	16	80%	20	65%	85	74%	180	72%
Chhattisgarh	Koriya **	50	76%	10	50%	16	80%	6	19%	45	39%	126	51%
Chhattisgarh	Mahasamund	49	75%	10	50%	12	60%	10	33%	70	61%	151	60%
Chhattisgarh	Raigarh-CG **	45	69%	10	50%	16	80%	20	67%	71	62%	161	65%
Chhattisgarh	Raipur	45	70%	10	50%	12	60%	15	49%	68	59%	150	60%
Chhattisgarh	Rajnandgaon	52	79%	10	50%	12	60%	5	17%	58	51%	137	55%
Chhattisgarh	Surguja †	24	38%	0	0%	16	80%	5	17%	57	50%	103	41%
D & N Haveli	Dadra & Nagar Haveli †	52	81%	10	50%	20	100%	11	37%	55	48%	149	60%
Daman & Diu	Daman	54	83%	20	100%	20	100%	5	17%	79	69%	178	71%
Daman & Diu	Diu	53	81%	20	100%	20	100%	23	76%	68	59%	183	73%
Delhi	BJRM Chest Clinic	65	100%	20	100%	16	80%	19	64%	89	77%	209	84%
Delhi	BSA Chest Clinic	46	71%	20	100%	16	80%	25	82%	80	70%	187	75%
Delhi	CD Chest Clinic	45	69%	20	100%	0	0%	16	54%	68	59%	149	60%
Delhi	DDU Chest Clinic	49	76%	10	50%	12	60%	10	33%	83	72%	164	66%
Delhi	DFIT Chest Clinic												
Delhi	GTB Chest Clinic	63	97%	20	100%	20	100%	14	47%	74	64%	191	76%
Delhi	Gulabi Bagh	30	46%	20	100%	8	40%	25	84%	41	35%	124	50%
Delhi	Hedgewar Chest Clinic	53	82%	20	100%	20	100%	11	36%	87	75%	191	76%
Delhi	Jhandewalan	51	78%	10	50%	20	100%	17	57%	41	36%	138	55%
Delhi	Karawal Nagar	30	46%	20	100%	20	100%	10	33%	82	72%	162	65%
Delhi	Kingsway Camp	35	53%	20	100%	16	80%	26	85%	82	71%	178	71%
Delhi	LN Chest Clinic	53	82%	20	100%	16	80%	20	67%	82	71%	191	76%
Delhi	LRS	46	71%	20	100%	4	20%	15	50%	71	62%	156	63%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed[2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Delhi	MNCH Chest Clinic	5	4257	216	59%	666	6	1%	135	200	2633	535	138	102	174	121	69
Delhi	Moti Nagar	6	9020	382	16%	1212	7	0%	205	128	1811	307	83	45	99	79	47
Delhi	Narela	6	6907	292	10%	990	7	-1%	168	128	1751	297	91	52	78	75	45
Delhi	NDMC	7	13028	498	25%	1791	7	2%	274	96	1633	250	64	35	93	57	35
Delhi	Nehru Nagar	11	9878	233	3%	1724	6	0%	163	135	3854	364	90	71	117	83	50
Delhi	Patparganj	8	9380	312	-2%	1440	7	7%	192	168	2920	388	112	46	138	92	60
Delhi	R.K.Mission	8	6136	195	-15%	837	7	21%	106	97	1784	226	67	61	47	52	34
Delhi	RTRM Chest Clinic	5	6213	304	48%	831	7	9%	163	130	1463	286	85	47	78	77	48
Delhi	SGM Chest Clinic	7	8693	321	-2%	1122	8	0%	166	146	2846	420	100	109	117	93	53
Delhi	Shahdra	6	7449	318	-10%	1088	7	16%	186	144	2350	402	104	64	142	91	44
Delhi	SPM Marg	6	4113	171	6%	588	7	10%	98	74	1005	168	52	20	54	42	26
Delhi	SPMH Chest Clinic	5	5896	277	23%	948	6	18%	178	169	2327	437	110	46	166	115	66
Goa	North Goa	8	10241	313	23%	762	13	6%	93	64	1146	140	50	22	42	25	17
Goa	South Goa	6	4707	184	22%	536	9	-5%	84	67	836	131	48	17	32	34	22
Gujarat	Ahmadabad	16	10217	156	-20%	1616	6	-14%	99	75	1756	107	53	7	14	33	23
Gujarat	Ahmadabad MC	56	33501	150	-10%	5714	6	0%	103	79	8326	149	50	14	36	48	31
Gujarat	Amreli	15	12006	198	1%	1368	9	-5%	90	82	1515	100	63	5	9	23	19
Gujarat	Anand	21	15573	186	6%	2387	7	6%	114	90	3023	145	61	25	15	43	29
Gujarat	Banaskantha	31	18058	145	-8%	3180	6	0%	102	84	3666	118	55	13	8	43	30
Gujarat	Bharuch	16	10976	177	-2%	1724	6	-2%	111	94	2030	131	71	11	17	31	24
Gujarat	Bhavnagar	29	19307	168	4%	2519	8	15%	88	77	3129	109	57	10	13	28	21
Gujarat	Chhota Udepur	10	6875	172	13%	914	8	13%	91	95	1214	121	67	12	7	35	28
Gujarat	Dahod *	21	18141	213	-15%	2394	8	-1%	113	102	2821	133	67	16	10	40	36
Gujarat	Gandhinagar	14	10261	185	5%	1359	8	-2%	98	85	1720	124	61	7	14	40	25
Gujarat	Jamnagar	22	15025	174	-3%	1654	9	3%	77	71	2400	111	54	7	20	30	20
Gujarat	Junagadh	27	18244	166	-4%	2234	8	-2%	81	79	2871	105	61	8	8	28	20
Gujarat	Kachchh	21	12636	151	-13%	1619	8	-4%	77	63	1789	86	48	5	8	24	17
Gujarat	Kheda	23	15929	173	2%	2668	6	6%	116	93	2960	129	63	14	9	42	32
Gujarat	Mahesana	20	16699	206	1%	1950	9	1%	96	81	2301	113	61	9	13	30	21
Gujarat	Narmada	6	5809	246	2%	589	10	7%	100	98	731	124	74	10	8	32	26
Gujarat	Navsari	13	10097	190	-7%	1269	8	-10%	95	82	1704	128	63	17	18	30	20
Gujarat	Panch Mahals	24	16914	177	-5%	3085	5	0%	129	116	3764	158	77	19	9	52	42
Gujarat	Patan	13	13052	243	21%	1471	9	18%	110	88	1665	124	61	13	9	40	27
Gujarat	Porbandar	6	3962	169	4%	492	8	-4%	84	80	790	135	68	32	10	25	14
Gujarat	Rajkot	38	29301	193	2%	3113	9	6%	82	72	3852	101	57	8	14	22	16
Gujarat	Sabarkantha	24	16007	165	-6%	2869	6	-3%	118	92	3799	157	60	30	10	55	33
Gujarat	Surat	16	14262	220	-6%	2498	6	3%	154	96	2277	141	70	16	19	36	26
Gujarat	Surat MC	45	26502	148	-28%	2967	9	-6%	66	64	5471	123	44	11	32	35	20
Gujarat	Surendranagar	18	13600	194	6%	1916	7	11%	109	81	2141	122	57	14	17	33	25
Gujarat	The Dangs *	2	2092	231	4%	181	12	22%	80	75	250	110	60	22	7	21	16
Gujarat	Vadodara	15	16644	279	38%	2277	7	13%	153	96	1997	134	64	13	13	44	33
Gujarat	Vadodara Corp	17	9962	149	-15%	1495	7	5%	90	75	1946	117	55	10	19	33	22
Gujarat	Valsad *	17	10629	156	-13%	1173	9	-1%	69	70	1670	98	55	6	11	26	15
Gujarat	Vyara (Surat)	8	6138	190	-4%	889	7	-2%	110	103	1289	160	80	29	15	35	25
Haryana	Ambala	11	15265	336	56%	1555	10	14%	137	91	1710	150	63	23	26	39	30

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Delhi	MNCH Chest Clinic	294	14%	86%	68%	81%	66%	817	80%	1019	100%	784	77%	0	0%	43%	2%	1%	94%	67%
Delhi	Moti Nagar	177	13%	89%	75%	84%	69%	705	92%	767	100%	523	97%	72	4%	65%	1%	1%	79%	64%
Delhi	Narela	192	15%	83%	65%	80%	63%	754	93%	657	81%	525	99%	335	19%	83%	2%	2%	45%	41%
Delhi	NDMC	126	10%	94%	76%	89%	71%	579	90%	642	100%	495	100%	0	0%	62%	2%	1%	100%	97%
Delhi	Nehru Nagar	374	13%	88%	67%	82%	67%	1328	89%	1488	100%	1203	100%	0	0%	54%	2%	1%	98%	56%
Delhi	Patparganj	335	15%	92%	75%	89%	68%	1041	81%	1293	100%	1074	100%	0	0%	77%	1%	1%	95%	76%
Delhi	R.K.Mission	214	16%	92%	79%	88%	69%	754	96%	788	100%	699	100%	72	4%	62%	3%	2%	60%	80%
Delhi	RTRM Chest Clinic	106	10%	93%	80%	92%	81%	677	100%	680	100%	592	60%	158	11%	64%	3%	2%	48%	52%
Delhi	SGM Chest Clinic	316	14%	91%	76%	86%	70%	999	96%	1038	100%	794	100%	5	0%	88%	0%	0%	100%	95%
Delhi	Shahdra	315	17%	88%	77%	83%	70%	852	99%	864	100%	760	99%	348	15%	61%	2%	1%	52%	48%
Delhi	SPM Marg	92	12%	86%	64%	80%	69%	402	87%	342	74%	281	77%	120	12%	36%	5%	2%	50%	54%
Delhi	SPMH Chest Clinic	325	19%	89%	74%	86%	67%	779	83%	937	100%	659	91%	640	28%	57%	2%	1%	39%	61%
Goa	North Goa	65	7%	88%	70%	88%	63%	502	92%	522	96%	448	96%	170	15%	96%	4%	4%	100%	74%
Goa	South Goa	53	9%	85%	64%	80%	60%	378	85%	413	93%	306	92%	94	11%	94%	6%	6%	99%	64%
Gujarat	Ahmadabad	73	6%	91%	63%	87%	61%	1145	92%	1237	100%	909	88%	1652	94%	94%	6%	6%	100%	80%
Gujarat	Ahmadabad MC	569	10%	86%	57%	84%	55%	4159	92%	4504	99%	3335	98%	1768	21%	85%	7%	6%	86%	72%
Gujarat	Amreli	63	5%	91%	62%	85%	60%	1173	94%	1211	98%	898	92%	842	56%	68%	4%	3%	97%	81%
Gujarat	Anand	97	5%	94%	79%	89%	73%	1790	95%	1835	97%	1556	92%	1725	57%	82%	4%	3%	100%	73%
Gujarat	Banaskantha	107	5%	92%	77%	88%	73%	2420	91%	2562	97%	1890	84%	2704	74%	89%	2%	2%	100%	81%
Gujarat	Bharuch	76	5%	93%	80%	91%	72%	1340	91%	1477	100%	1127	86%	1216	60%	87%	3%	3%	84%	61%
Gujarat	Bhavnagar	123	5%	92%	73%	90%	70%	2115	94%	2223	99%	1852	89%	2027	65%	90%	4%	3%	98%	74%
Gujarat	Chhota Udepur	24	3%	92%	76%	90%	73%	860	90%	949	100%	708	87%	880	72%	88%	1%	1%	85%	77%
Gujarat	Dahod *	145	7%	97%	81%	91%	75%	2106	96%	2176	100%	1828	95%	1954	69%	98%	2%	2%	100%	70%
Gujarat	Gandhinagar	59	5%	93%	66%	87%	66%	1097	92%	1152	97%	958	95%	1079	63%	99%	5%	5%	98%	75%
Gujarat	Jamnagar	163	9%	91%	61%	84%	55%	1452	91%	1532	96%	926	73%	1485	62%	76%	5%	4%	100%	94%
Gujarat	Junagadh	154	7%	92%	67%	89%	63%	2087	94%	2189	99%	1631	88%	1987	69%	93%	4%	3%	95%	91%
Gujarat	Kachchh	52	4%	89%	61%	87%	59%	1267	93%	1319	96%	892	85%	1169	65%	79%	6%	5%	86%	43%
Gujarat	Kheda	72	4%	92%	69%	88%	63%	1950	90%	2014	93%	1676	88%	1650	56%	89%	3%	3%	100%	68%
Gujarat	Mahesana	73	4%	92%	75%	88%	68%	1454	88%	1622	98%	1290	90%	747	32%	97%	8%	8%	100%	88%
Gujarat	Narmada	16	3%	97%	79%	93%	77%	538	91%	588	100%	466	89%	597	82%	84%	1%	1%	100%	60%
Gujarat	Navsari	74	6%	94%	77%	88%	68%	1049	95%	1089	99%	935	97%	1194	70%	87%	5%	5%	97%	39%
Gujarat	Panch Mahals	97	4%	93%	73%	90%	73%	2666	94%	2849	100%	2304	94%	2802	74%	91%	2%	2%	90%	80%
Gujarat	Patan	51	5%	91%	68%	89%	67%	1055	89%	1173	99%	865	87%	894	54%	93%	4%	4%	100%	96%
Gujarat	Porbandar	77	12%	91%	60%	91%	67%	456	96%	472	99%	356	88%	340	43%	92%	6%	6%	83%	68%
Gujarat	Rajkot	238	8%	92%	68%	88%	62%	2623	94%	2771	99%	2136	93%	1628	42%	92%	6%	6%	100%	65%
Gujarat	Sabarkantha	107	4%	92%	75%	87%	71%	2029	90%	2215	98%	1616	83%	2866	75%	88%	3%	3%	74%	82%
Gujarat	Surat	76	4%	92%	70%	89%	70%	1379	88%	1561	100%	1243	87%	1736	76%	89%	4%	4%	97%	71%
Gujarat	Surat MC	312	8%	91%	64%	88%	60%	2614	90%	2888	100%	2225	96%	1546	28%	98%	9%	9%	100%	65%
Gujarat	Surendranagar	102	7%	91%	57%	88%	67%	1355	95%	1427	100%	1049	90%	1367	64%	98%	7%	7%	99%	70%
Gujarat	The Dangs *	19	9%	92%	56%	89%	62%	154	90%	172	100%	138	88%	190	76%	96%	1%	1%	67%	33%
Gujarat	Vadodara	47	4%	92%	60%	87%	56%	1368	94%	1423	98%	1001	90%	1278	64%	89%	3%	3%	94%	65%
Gujarat	Vadodara Corp	75	5%	90%	65%	87%	53%	1061	83%	1234	96%	882	83%	407	21%	76%	8%	6%	98%	76%
Gujarat	Valsad *	57	5%	90%	66%	87%	64%	1073	90%	1189	100%	875	85%	1176	70%	88%	3%	3%	96%	73%
Gujarat	Vyara (Surat)	21	2%	93%	80%	90%	74%	781	93%	842	100%	681	90%	1058	82%	94%	2%	2%	98%	53%
Haryana	Ambala	38	3%	93%	82%	87%	72%	983	93%	1020	97%	603	89%	20	1%	48%	2%	1%		

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Delhi	MNCH Chest Clinic	47	72%	20	100%	16	80%	7	23%	46	40%	136	54%
Delhi	Moti Nagar	57	87%	20	100%	8	40%	20	67%	58	50%	162	65%
Delhi	Narela	23	36%	20	100%	0	0%	17	57%	63	54%	123	49%
Delhi	NDMC	51	78%	20	100%	12	60%	20	67%	87	76%	189	76%
Delhi	Nehru Nagar	46	71%	20	100%	12	60%	16	55%	62	54%	157	63%
Delhi	Patparganj	44	67%	20	100%	16	80%	10	34%	80	70%	170	68%
Delhi	R.K.Mission	30	46%	20	100%	16	80%	20	68%	77	67%	163	65%
Delhi	RTRM Chest Clinic	33	51%	10	50%	8	40%	5	17%	85	74%	141	56%
Delhi	SGM Chest Clinic	34	53%	20	100%	8	40%	20	67%	71	62%	154	61%
Delhi	Shahdra	53	82%	20	100%	12	60%	14	46%	81	70%	180	72%
Delhi	SPM Marg	58	89%	20	100%	8	40%	7	23%	62	54%	155	62%
Delhi	SPMH Chest Clinic	30	46%	20	100%	20	100%	20	67%	83	73%	173	69%
Goa	North Goa	63	97%	10	50%	16	80%	5	17%	74	64%	168	67%
Goa	South Goa	62	95%	10	50%	16	80%	10	33%	50	44%	148	59%
Gujarat	Ahmadabad	45	70%	20	100%	20	100%	12	39%	91	79%	188	75%
Gujarat	Ahmadabad MC	63	96%	20	100%	8	40%	16	53%	50	44%	156	63%
Gujarat	Amreli	48	73%	20	100%	16	80%	13	42%	66	58%	163	65%
Gujarat	Anand	64	98%	20	100%	16	80%	15	51%	81	71%	196	79%
Gujarat	Banaskantha	60	92%	20	100%	12	60%	12	39%	78	68%	182	73%
Gujarat	Bharuch	49	76%	20	100%	20	100%	20	67%	68	59%	177	71%
Gujarat	Bhavnagar	41	63%	20	100%	16	80%	8	25%	76	66%	161	64%
Gujarat	Chhota Udepur	58	89%	20	100%	16	80%	13	44%	76	66%	183	73%
Gujarat	Dahod *	62	95%	20	100%	12	60%	10	33%	92	80%	196	78%
Gujarat	Gandhinagar	65	100%	20	100%	20	100%	21	69%	76	66%	202	81%
Gujarat	Jamnagar	50	76%	20	100%	16	80%	8	28%	71	62%	165	66%
Gujarat	Junagadh	45	70%	10	50%	16	80%	10	33%	76	66%	158	63%
Gujarat	Kachchh	58	90%	20	100%	20	100%	26	86%	87	76%	211	85%
Gujarat	Kheda	52	80%	20	100%	16	80%	7	23%	48	42%	143	57%
Gujarat	Mahesana	53	82%	20	100%	16	80%	10	33%	81	70%	180	72%
Gujarat	Narmada	57	88%	10	50%	12	60%	10	33%	79	69%	168	67%
Gujarat	Navsari	63	97%	20	100%	16	80%	5	17%	90	78%	194	77%
Gujarat	Panch Mahals	49	75%	10	50%	20	100%	14	45%	101	88%	194	77%
Gujarat	Patan	59	90%	20	100%	12	60%	23	77%	86	75%	200	80%
Gujarat	Porbandar	50	77%	20	100%	16	80%	10	33%	75	65%	171	68%
Gujarat	Rajkot	64	98%	20	100%	16	80%	18	60%	74	65%	192	77%
Gujarat	Sabarkantha	63	97%	20	100%	16	80%	17	57%	78	68%	194	78%
Gujarat	Surat	50	77%	20	100%	16	80%	13	45%	106	92%	205	82%
Gujarat	Surat MC	64	99%	20	100%	16	80%	7	23%	69	60%	176	71%
Gujarat	Surendranagar	64	98%	20	100%	20	100%	20	67%	83	73%	207	83%
Gujarat	The Dangs *	53	81%	20	100%	20	100%	10	33%	64	56%	167	67%
Gujarat	Vadodara	50	76%	20	100%	16	80%	17	56%	85	73%	187	75%
Gujarat	Vadodara Corp	63	98%	20	100%	12	60%	5	17%	79	69%	179	72%
Gujarat	Valsad *	48	73%	0	0%	12	60%	5	17%	78	68%	143	57%
Gujarat	Vyara (Surat)	64	98%	20	100%	20	100%	7	23%	70	61%	181	72%
Haryana	Ambala	44	68%	20	100%	20	100%	15	50%	75	65%	175	70%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed [2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Haryana	Bhiwani	16	8854	136	21%	1462	6	15%	90	80	1888	116	52	15	14	36	31
Haryana	Faridabad	18	10335	144	-13%	1437	7	-11%	80	72	3295	183	47	34	57	45	27
Haryana	Fatehabad	9	6041	160	0%	755	8	13%	80	72	1078	114	47	22	11	35	29
Haryana	Gurgaon	15	10069	166	-6%	1473	7	9%	97	73	2209	146	51	17	42	36	24
Haryana	Hisar	17	11246	161	9%	1901	6	6%	109	73	2014	116	48	18	11	39	29
Haryana	Jhajjar	10	7546	197	84%	927	8	41%	97	116	1898	198	82	26	38	52	41
Haryana	Jind	13	8906	167	11%	1202	7	11%	90	86	1816	136	55	21	20	41	35
Haryana	Kaithal **	11	5968	139	9%	847	7	3%	79	75	1287	120	52	21	12	34	26
Haryana	Karnal	15	10458	174	6%	1611	6	-3%	107	87	2544	169	56	42	27	44	34
Haryana	Kurukshetra	10	6163	160	-6%	904	7	-5%	94	80	1278	133	57	17	26	32	26
Haryana	Mahendragarh	9	6059	164	16%	805	8	-6%	87	69	1288	140	43	33	20	44	29
Haryana	Mewat **	11	4034	93	-4%	836	5	2%	77	73	1308	120	45	16	14	45	31
Haryana	Palwal	10	5603	135	16%	806	7	1%	77	74	1496	144	51	35	23	35	26
Haryana	Panchkula	6	8113	363	24%	800	10	10%	143	93	1075	192	64	29	51	48	31
Haryana	Panipat	12	7365	153	5%	990	7	-3%	82	68	2147	178	48	60	27	43	22
Haryana	Rewari	9	6940	194	7%	727	10	7%	81	73	1469	164	48	39	30	48	27
Haryana	Rohtak	11	16592	392	10%	2471	7	9%	233	118	2158	204	75	31	44	55	45
Haryana	Sirsa	13	9102	176	12%	1313	7	6%	101	84	1684	130	56	13	20	41	34
Haryana	Sonipat	15	9794	165	14%	1398	7	8%	94	98	2813	190	67	40	32	52	33
Haryana	Yamunanagar	12	6961	143	3%	941	7	8%	78	66	1458	120	50	19	24	27	19
Himachal Pradesh	Bilaspur-HP	4	3809	249	1%	364	10	30%	95	101	635	166	73	23	27	42	34
Himachal Pradesh	Chamba	5	4202	202	-2%	596	7	-6%	115	122	1169	225	79	30	45	71	50
Himachal Pradesh	Hamirpur-HP **	5	5066	279	-11%	488	10	10%	107	96	771	170	69	15	51	34	29
Himachal Pradesh	Kangra	15	13904	231	7%	1587	9	10%	105	84	2623	174	60	28	46	37	26
Himachal Pradesh	Kinnaur *	1	1073	318	14%	95	11	8%	113	117	225	267	91	27	77	66	32
Himachal Pradesh	Kullu	4	4599	263	-14%	496	9	15%	113	103	1299	297	70	71	83	72	35
Himachal Pradesh	Lahul & Spiti *	0.3	478	379	26%	29	16	-22%	92	92	81	257	57	67	73	60	38
Himachal Pradesh	Mandi	10	10255	256	4%	1018	10	7%	102	109	2051	205	70	31	49	54	43
Himachal Pradesh	Shimla	8	10106	311	9%	1180	9	17%	145	89	1551	191	66	26	55	43	24
Himachal Pradesh	Sirmaur	5	4541	214	-10%	553	8	3%	104	102	1037	196	71	37	37	50	34
Himachal Pradesh	Solan	6	8747	379	2%	882	10	11%	153	99	1328	230	79	50	51	50	24
Himachal Pradesh	Una	5	4136	198	-4%	460	9	4%	88	90	731	140	70	23	21	26	21
Jammu & Kashmir	Anantnag	15	12015	201	18%	770	16	36%	52	52	1041	70	45	6	9	9	8
Jammu & Kashmir	Badgam	7	5270	179	-12%	439	12	2%	60	63	567	77	60	3	10	4	4
Jammu & Kashmir	Baramula	14	8086	144	-6%	624	13	-1%	45	40	880	63	36	5	16	6	5
Jammu & Kashmir	Doda	9	4773	129	-19%	416	11	12%	45	44	890	96	30	17	31	18	16
Jammu & Kashmir	Jammu	18	18456	250	12%	2484	7	-2%	135	106	3263	177	74	28	30	44	36
Jammu & Kashmir	Kargil *	1	1262	220	15%	70	18	-4%	49	47	137	96	41	27	15	12	6
Jammu & Kashmir	Kathua	6	4258	173	4%	609	7	0%	99	93	967	157	64	31	25	37	30
Jammu & Kashmir	Kupwara	9	6424	183	-4%	519	12	9%	59	70	764	87	64	5	11	8	7
Jammu & Kashmir	Leh (Ladakh) *	1	1324	225	0%	74	18	-7%	50	47	217	148	33	21	75	18	17
Jammu & Kashmir	Poonch	5	3188	167	8%	267	12	16%	56	56	511	107	48	20	25	14	8
Jammu & Kashmir	Pulwama	8	5864	175	0%	565	10	-4%	68	74	778	93	71	9	8	5	4
Jammu & Kashmir	Rajouri	6	4607	186	0%	403	11	7%	65	61	766	124	47	20	34	21	16
Jammu & Kashmir	Srinagar	16	14776	236	8%	1051	14	25%	67	60	1487	95	54	11	21	8	7
Jammu & Kashmir	Udhampur	9	8001	230	17%	726	11	21%	83	84	1205	138	57	15	34	32	29
Jharkhand	Bokaro	21	11842	144	-4%	1417	8	3%	69	66	2551	124	57	31	15	22	10
Jharkhand	Chatra **	10	3976	95	5%	677	6	3%	65	64	1092	105	58	28	3	15	7
Jharkhand	Deoghar **	15	7831	131	-9%	986	8	1%	66	60	1163	78	54	11	3	10	6
Jharkhand	Dhanbad	27	12821	119	-5%	1849	7	-5%	69	65	2978	111	57	26	8	20	9
Jharkhand	Dumka **	13	7255	137	2%	1184	6	1%	90	83	2545	193	69	77	2	44	14

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Haryana	Bhiwani	65	5%	88%	66%	86%	69%	1108	83%	997	74%	566	58%	85	5%	281%	1%	2%	29%	29%
Haryana	Faridabad	266	11%	90%	76%	85%	68%	1208	90%	1222	91%	735	86%	216	7%	63%	1%	1%	100%	100%
Haryana	Fatehabad	35	5%	90%	86%	87%	77%	585	82%	611	85%	526	82%	264	24%	51%	1%	1%		
Haryana	Gurgaon	134	8%	86%	65%	83%	65%	919	81%	1029	91%	735	87%	1130	51%	39%	1%	0%	38%	31%
Haryana	Hisar	55	4%	90%	78%	85%	69%	1204	90%	1223	91%	939	84%	348	17%	76%	1%	1%	75%	25%
Haryana	Jhajjar	98	7%	92%	75%	84%	73%	1115	95%	1177	100%	705	89%	406	21%	39%	5%	2%		
Haryana	Jind	48	4%	90%	79%	85%	73%	1060	89%	1119	94%	743	80%	658	36%	41%	1%	0%	100%	0%
Haryana	Kaithal **	23	2%	88%	73%	84%	74%	776	92%	840	100%	596	91%	267	21%	31%	1%	0%	0%	100%
Haryana	Karnal	104	6%	92%	76%	89%	81%	1266	93%	1351	99%	880	99%	1114	44%	76%	1%	1%		
Haryana	Kurukshetra	34	4%	92%	76%	89%	77%	760	95%	765	96%	614	93%	485	38%	49%	1%	0%	100%	0%
Haryana	Mahendragarh	59	7%	90%	81%	83%	69%	616	93%	591	89%	351	81%	364	28%	65%	1%	0%		
Haryana	Mewat **	72	9%	91%	58%	90%	54%	718	87%	829	100%	444	77%	223	17%	26%	1%	0%	33%	33%
Haryana	Palwal	126	11%	89%	79%	84%	77%	621	78%	641	80%	469	0%	0	0%	80%	1%	0%		
Haryana	Panchkula	65	8%	92%	76%	86%	67%	485	91%	491	92%	359	94%	390	36%	66%	1%	0%	0%	50%
Haryana	Panipat	99	6%	90%	82%	86%	77%	657	78%	842	100%	519	79%	1120	52%	49%	2%	1%	100%	0%
Haryana	Rewari	40	4%	90%	85%	83%	68%	591	88%	592	88%	366	73%	655	45%	73%	1%	1%	67%	17%
Haryana	Rohtak	115	7%	89%	74%	87%	74%	1112	88%	1247	98%	667	72%	331	15%	27%	3%	1%	0%	0%
Haryana	Sirsa	47	4%	90%	64%	83%	65%	1069	92%	1089	94%	695	82%	643	38%	43%	0%	0%		
Haryana	Sonipat	76	4%	89%	82%	88%	77%	1371	92%	1467	99%	798	69%	514	18%	91%	1%	1%	43%	36%
Haryana	Yamunanagar	40	4%	90%	61%	87%	66%	766	91%	810	96%	648	88%	1135	78%	43%	0%	0%	0%	91%
Himachal Pradesh	Bilaspur-HP	18	4%	88%	67%	88%	70%	393	97%	405	100%	377	97%	1	0%	55%	3%	2%		
Himachal Pradesh	Chamba	41	5%	91%	85%	87%	75%	665	99%	664	99%	413	87%	72	6%	46%	2%	1%		
Himachal Pradesh	Hamirpur-HP **	21	3%	93%	83%	91%	73%	430	97%	436	98%	422	93%	63	8%	60%	4%	3%	0%	25%
Himachal Pradesh	Kangra	161	8%	92%	83%	89%	78%	1248	96%	1286	99%	1023	91%	679	26%	31%	2%	1%	86%	71%
Himachal Pradesh	Kinnaur *	12	7%	84%	50%	89%	68%	99	95%	103	99%	93	97%	10	4%	8%	0%	0%		
Himachal Pradesh	Kullu	113	12%	94%	88%	91%	84%	423	92%	453	98%	444	86%	61	5%	11%	1%	0%	0%	100%
Himachal Pradesh	Lahul & Spiti *	10	16%	91%	100%	100%	0%	26	87%	26	87%	24	96%	0	0%	0%		0%		
Himachal Pradesh	Mandi	46	3%	92%	79%	88%	77%	1074	95%	1116	99%	893	95%	214	10%	8%	1%	0%		
Himachal Pradesh	Shimla	73	6%	96%	89%	92%	89%	695	95%	610	83%	656	91%	83	5%	45%	0%	0%		
Himachal Pradesh	Sirmaur	40	5%	91%	79%	88%	71%	546	98%	538	96%	374	83%	238	23%	21%	0%	0%		
Himachal Pradesh	Solan	51	5%	90%	76%	88%	76%	582	98%	585	98%	471	94%	176	13%	38%	1%	1%		
Himachal Pradesh	Una	15	3%	91%	74%	92%	64%	469	99%	472	99%	414	99%	152	21%	36%	2%	1%		
Jammu & Kashmir	Anantnag	110	12%	92%	82%	92%	79%	790	100%	790	100%	671	95%	140	13%	37%	0%	0%		
Jammu & Kashmir	Badgam	24	4%	92%	88%	89%	88%	460	99%	467	100%	389	88%	101	18%	6%	0%	0%		
Jammu & Kashmir	Baramula	55	7%	95%	83%	96%	97%	542	95%	560	98%	513	90%	62	7%	0%		0%		
Jammu & Kashmir	Doda	61	8%	92%	77%	94%	83%	421	100%	421	100%	411	100%	0	0%	0%		0%		
Jammu & Kashmir	Jammu	114	5%	89%	78%	88%	70%	1968	97%	1995	99%	1358	97%	894	27%	9%	4%	0%	9%	73%
Jammu & Kashmir	Kargil *	8	7%	93%	67%	93%	0%	67	100%	67	100%	39	93%	20	15%	0%		0%		
Jammu & Kashmir	Kathua	26	4%	93%	82%	91%	74%	539	93%	580	100%	366	92%	23	2%	0%		0%		
Jammu & Kashmir	Kupwara	47	7%	92%	76%	93%	87%	621	100%	621	100%	514	99%	43	6%	50%	0%	0%		
Jammu & Kashmir	Leh (Ladakh) *	3	2%	80%	65%	76%	72%	74	100%	74	100%	41	85%	19	9%	18%	0%	0%		
Jammu & Kashmir	Poonch	15	3%	91%	83%	90%	80%	269	100%	269	100%	180	85%	0	0%	0%		0%		
Jammu & Kashmir	Pulwama	78	11%	95%	91%	97%	71%	622	100%	622	100%	484	99%	50	6%	11%	0%	0%		
Jammu & Kashmir	Rajouri	52	8%	91%	79%	88%	89%	386	100%	386	100%	292	90%	0	0%	0%		0%		
Jammu & Kashmir	Srinagar	109	8%	93%	85%	92%	74%	953	100%	953	100%	930	100%	41	3%	5%	0%	0%		
Jammu & Kashmir	Udhampur	35	4%	92%	85%	90%	81%	688	93%	722	97%	562	90%	54	4%	1%	11%	0%		
Jharkhand	Bokaro	128	6%	92%	73%	87%	72%	1315	95%	1378	100%	928	76%	1993	78%	19%	2%	0%		
Jharkhand	Chatra **	41	4%	94%	94%	89%	74%	597	87%	686	100%	430	88%	1016	93%	22%	0%	0%		
Jharkhand	Deoghar **	40	4%	95%	93%	96%	95%	804	89%	899	100%	731	87%	779	67%	38%	1%	0%		
Jharkhand	Dhanbad	157	6%	93%	81%	90%	78%	1547	88%	1722	98%	1175	79%	1517	51%	19%	1%	0%	17%	17%
Jharkhand	Dumka **	43	2%	93%	92%	91%	84%	861	78%	1104	100%	596	68%	2472	97%	40%	0%	0%		

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Haryana	Bhiwani	44	68%	10	50%	16	80%	5	17%	62	54%	137	55%
Haryana	Faridabad	60	92%	20	100%	12	60%	15	50%	84	73%	191	76%
Haryana	Fatehabad	62	96%	20	100%	0	0%	5	17%	76	66%	163	65%
Haryana	Gurgaon	39	59%	20	100%	20	100%	15	50%	65	57%	159	64%
Haryana	Hisar	46	71%	20	100%	16	80%	15	50%	57	49%	154	61%
Haryana	Jhajjar	65	100%	20	100%	16	80%	10	33%	68	59%	179	72%
Haryana	Jind	45	69%	10	50%	16	80%	20	67%	62	54%	153	61%
Haryana	Kaithal **	52	80%	20	100%	16	80%	15	50%	69	60%	172	69%
Haryana	Karnal	61	95%	20	100%	12	60%	13	43%	87	76%	194	77%
Haryana	Kurukshetra	58	89%	20	100%	20	100%	5	17%	51	44%	153	61%
Haryana	Mahendragarh	51	79%	10	50%	16	80%	15	50%	67	59%	159	64%
Haryana	Mewat **	50	77%	0	0%	12	60%	15	50%	42	36%	119	48%
Haryana	Palwal	43	67%	20	100%	12	60%	16	55%	68	59%	159	64%
Haryana	Panchkula	46	70%	20	100%	20	100%	15	50%	67	58%	168	67%
Haryana	Panipat	31	48%	20	100%	8	40%	15	50%	66	58%	141	56%
Haryana	Rewari	41	63%	20	100%	16	80%	15	50%	49	43%	141	57%
Haryana	Rohtak	38	59%	10	50%	20	100%	14	45%	65	56%	146	59%
Haryana	Sirsa	50	77%	20	100%	20	100%	12	40%	35	31%	137	55%
Haryana	Sonipat	53	81%	20	100%	12	60%	14	48%	77	67%	176	71%
Haryana	Yamunanagar	49	76%	10	50%	20	100%	5	17%	74	65%	158	63%
Himachal Pradesh	Bilaspur-HP	48	73%	20	100%	20	100%	5	17%	74	64%	167	67%
Himachal Pradesh	Chamba	42	64%	20	100%	20	100%	15	50%	74	64%	170	68%
Himachal Pradesh	Hamirpur-HP **	48	73%	20	100%	20	100%	17	58%	81	70%	186	74%
Himachal Pradesh	Kangra	28	44%	20	100%	16	80%	10	33%	80	70%	154	62%
Himachal Pradesh	Kinnaur *	39	60%	20	100%	20	100%	15	50%	71	61%	165	66%
Himachal Pradesh	Kullu	43	67%	20	100%	16	80%	5	17%	73	63%	157	63%
Himachal Pradesh	Lahul & Spiti *	49	75%	20	100%	20	100%	5	17%	66	57%	160	64%
Himachal Pradesh	Mandi	47	73%	20	100%	20	100%	5	17%	64	55%	156	62%
Himachal Pradesh	Shimla	24	37%	20	100%	12	60%	5	17%	81	70%	142	57%
Himachal Pradesh	Sirmaur	48	73%	20	100%	8	40%	5	17%	59	51%	139	56%
Himachal Pradesh	Solan	47	72%	10	50%	20	100%	20	67%	56	49%	153	61%
Himachal Pradesh	Una	47	72%	20	100%	12	60%	20	67%	69	60%	168	67%
Jammu & Kashmir	Anantnag	55	84%	20	100%	20	100%	10	33%	84	73%	189	75%
Jammu & Kashmir	Badgam	51	79%	20	100%	20	100%	5	17%	84	73%	180	72%
Jammu & Kashmir	Baramula	59	91%	10	50%	16	80%	11	36%	76	66%	172	69%
Jammu & Kashmir	Doda	37	57%	10	50%	20	100%	19	64%	76	66%	162	65%
Jammu & Kashmir	Jammu	35	54%	10	50%	8	40%	5	17%	71	61%	129	52%
Jammu & Kashmir	Kargil *	38	58%	20	100%	20	100%	21	71%	71	62%	170	68%
Jammu & Kashmir	Kathua	47	72%	20	100%	0	0%	15	50%	81	70%	162	65%
Jammu & Kashmir	Kupwara	53	81%	20	100%	8	40%	20	67%	71	62%	172	69%
Jammu & Kashmir	Leh (Ladakh) *	51	79%	20	100%	20	100%	26	85%	74	64%	191	76%
Jammu & Kashmir	Poonch	50	78%	20	100%	16	80%	5	17%	46	40%	137	55%
Jammu & Kashmir	Pulwama	63	97%	20	100%	20	100%	11	37%	64	56%	178	71%
Jammu & Kashmir	Rajouri	48	74%	20	100%	20	100%	5	17%	61	53%	154	62%
Jammu & Kashmir	Srinagar	63	97%	10	50%	12	60%	11	37%	69	60%	165	66%
Jammu & Kashmir	Udhampur	51	79%	10	50%	20	100%	5	17%	63	55%	150	60%
Jharkhand	Bokaro	48	74%	0	0%	20	100%	5	17%	70	61%	144	57%
Jharkhand	Chatra **	38	58%	0	0%	16	80%	7	23%	88	77%	148	59%
Jharkhand	Deoghar **	49	76%	10	50%	12	60%	5	17%	87	76%	163	65%
Jharkhand	Dhanbad	56	86%	0	0%	20	100%	17	56%	57	49%	149	60%
Jharkhand	Dumka **	47	73%	0	0%	12	60%	15	50%	84	73%	158	63%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed[2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Jharkhand	Garhwa	13	5305	100	-13%	842	6	-2%	64	60	1970	149	52	62	6	29	8
Jharkhand	Giridih **	24	8639	88	-14%	1432	6	-1%	59	56	1815	74	47	11	3	12	9
Jharkhand	Godda **	13	5163	98	7%	733	7	-10%	56	49	1389	106	40	39	4	23	9
Jharkhand	Gumla †	10	3800	93	1%	617	6	2%	60	56	914	89	49	18	6	13	7
Jharkhand	Hazaribagh **	17	10109	146	15%	1076	9	12%	62	58	1741	100	50	26	7	17	10
Jharkhand	Jamtara **	8	3725	118	-3%	577	6	-1%	73	70	975	123	60	25	2	36	10
Jharkhand	Khunti †	5	1460	69	-13%	348	4	-19%	66	66	496	94	58	10	14	11	8
Jharkhand	Kodarma **	7	2936	102	-2%	313	9	28%	44	34	431	60	30	13	3	14	5
Jharkhand	Lathehar **	7	4716	162	4%	526	9	13%	72	78	863	119	64	27	6	19	14
Jharkhand	Lohardaga *	5	1552	84	-5%	248	6	10%	54	48	361	78	40	16	9	13	9
Jharkhand	Pakaur **	9	4792	133	-3%	886	5	2%	99	98	1302	145	86	29	4	26	14
Jharkhand	Palamu **	19	11246	145	-9%	1568	7	-5%	81	77	2860	148	64	48	11	24	13
Jharkhand	Pashchimi Singhbhum *	15	6203	103	3%	1242	5	6%	83	77	2379	158	72	64	10	13	6
Jharkhand	Purbi Singhbhum †	23	9077	99	-9%	1887	5	-1%	82	70	2896	126	58	32	10	26	13
Jharkhand	Ramgarh **	9	4394	116	21%	539	8	21%	57	53	1004	106	47	35	11	12	9
Jharkhand	Ranchi †	29	14476	124	-9%	2139	7	3%	73	57	3313	114	47	31	14	22	11
Jharkhand	Sahibganj **	12	6288	137	19%	736	9	17%	64	60	1614	140	51	58	5	27	10
Jharkhand	Saraikela-Kharsawan **	11	5284	124	-16%	706	7	-7%	66	65	1256	118	60	38	5	15	6
Jharkhand	Simdega **	6	2846	119	7%	523	5	-8%	87	83	666	111	71	16	7	18	13
Karnataka	Bagalkot	19	14987	198	4%	1397	11	-5%	74	58	2176	115	45	36	13	21	14
Karnataka	Bangalore City	74	47264	160	-39%	5880	8	2%	80	39	6280	85	27	13	26	19	13
Karnataka	Bangalore Rural	10	7677	194	-9%	624	12	-12%	63	60	1234	125	47	21	35	22	16
Karnataka	Bangalore Urban	22	19148	217	28%	1554	12	5%	70	92	4136	188	71	31	50	35	23
Karnataka	Belgaum	48	32105	168	4%	2482	13	15%	52	50	4683	98	43	27	13	15	7
Karnataka	Bellary	25	20040	198	6%	2379	8	13%	94	68	3272	129	51	31	21	26	19
Karnataka	Bidar **	17	16545	243	13%	1369	12	-6%	81	72	2442	144	53	43	13	35	23
Karnataka	Bijapur	22	16454	189	-3%	1566	11	-26%	72	55	2215	102	45	32	8	17	11
Karnataka	Chamarajanagar	10	9825	241	1%	704	14	4%	69	77	1452	142	60	24	29	28	21
Karnataka	Chikkaballapur	13	10510	209	16%	1110	9	-13%	88	83	1755	140	65	25	23	27	22
Karnataka	Chikmagalur	11	12863	283	24%	669	19	12%	59	50	1048	92	40	13	22	17	13
Karnataka	Chitradurga	17	11097	167	-4%	1226	9	-3%	74	73	2396	144	60	37	23	25	15
Karnataka	Dakshina Kannada	21	22263	267	13%	1399	16	4%	67	50	1922	92	38	14	17	23	14
Karnataka	Davanagere	19	19582	251	17%	1605	12	9%	82	59	2209	113	46	26	17	24	14
Karnataka	Dharwad	18	15873	215	6%	1493	11	10%	81	56	1811	98	43	13	23	19	14
Karnataka	Gadag	11	9749	229	4%	931	10	-14%	87	75	1242	117	59	19	14	24	17
Karnataka	Gulbarga **	26	21747	212	9%	1973	11	7%	77	65	2937	115	47	20	13	35	22
Karnataka	Hassan	18	20365	287	12%	1055	19	10%	59	56	1680	95	42	16	17	20	15
Karnataka	Haveri	16	13123	205	6%	1265	10	-16%	79	75	2407	151	57	46	18	30	19
Karnataka	Kodagu	6	5154	232	19%	271	19	16%	49	43	441	79	35	13	17	15	11
Karnataka	Kolar	15	11728	190	-8%	1066	11	-6%	69	54	1542	100	44	17	23	16	11
Karnataka	Koppal	14	9157	165	11%	1195	8	8%	86	76	1860	134	58	30	14	32	23
Karnataka	Mandya	18	21497	297	22%	1279	17	15%	71	67	2048	113	52	13	26	23	16

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Jharkhand	Garhwa	147	9%	92%	85%	94%	85%	648	81%	799	100%	393	62%	1633	83%	8%	0%	0%		
Jharkhand	Giridih **	102	7%	90%	80%	92%	85%	1182	85%	1385	100%	852	75%	1357	75%	17%	2%	0%	0%	67%
Jharkhand	Godda **	56	5%	87%	82%	94%	89%	570	88%	641	99%	243	51%	800	58%	1%	0%	0%	0%	100%
Jharkhand	Gumla †	38	5%	92%	85%	91%	74%	442	77%	575	100%	356	78%	759	83%	12%	2%	0%		
Jharkhand	Hazaribagh **	102	7%	92%	81%	83%	84%	994	96%	1030	100%	546	77%	1517	87%	21%	32%	7%	0%	57%
Jharkhand	Jamtara **	25	4%	94%	80%	93%	83%	466	84%	556	100%	368	78%	612	63%	33%	1%	0%		
Jharkhand	Khunti †	20	5%	88%	78%	90%	77%	328	94%	348	100%	187	66%	617	124%	11%	2%	0%		
Jharkhand	Kodarma **	18	5%	86%	53%	80%	63%	243	97%	251	100%	148	73%	302	70%	59%	2%	1%		
Jharkhand	Lathehar **	43	6%	94%	89%	93%	88%	427	75%	487	86%	276	59%	19	2%	10%	1%	0%		
Jharkhand	Lohardaga *	12	4%	79%	60%	81%	55%	165	73%	210	93%	134	71%	361	100%	0%		0%		
Jharkhand	Pakaur **	20	2%	91%	82%	88%	73%	541	61%	893	100%	246	37%	1053	81%	0%		0%		
Jharkhand	Palamu **	209	9%	95%	82%	94%	76%	1367	91%	1500	100%	762	63%	457	16%	18%	3%	1%	0%	86%
Jharkhand	Pashchimi Singhbhum *	68	3%	95%	81%	90%	81%	908	78%	1159	99%	487	47%	1819	76%	6%	0%	0%		
Jharkhand	Purbi Singhbhum †	72	3%	91%	75%	90%	76%	1465	90%	1633	100%	1264	87%	1291	45%	15%	4%	1%	8%	69%
Jharkhand	Ramgarh **	57	6%	88%	60%	83%	77%	496	94%	511	97%	54	0%	0	0%	19%	0%	0%		
Jharkhand	Ranchi †	200	7%	93%	78%	90%	57%	1452	86%	1634	97%	1144	82%	1223	37%	24%	1%	0%	0%	80%
Jharkhand	Sahibganj **	145	11%	90%	85%	91%	85%	547	78%	687	98%	180	35%	1038	64%	5%	5%	0%	0%	100%
Jharkhand	Saraikela-Kharsawan **	38	3%	91%	75%	92%	83%	581	83%	703	100%	401	69%	786	63%	16%	0%	0%		
Jharkhand	Simdega **	13	2%	87%	53%	85%	63%	410	82%	498	99%	179	54%	631	95%	8%	0%	0%		
Karnataka	Bagalkot	109	6%	90%	64%	83%	60%	931	83%	1078	96%	684	82%	1088	50%	96%	44%	43%	99%	78%
Karnataka	Bangalore City	454	9%	88%	57%	83%	53%	2504	85%	2928	100%	2025	89%	1804	29%	84%	6%	5%	99%	69%
Karnataka	Bangalore Rural	108	11%	86%	58%	84%	51%	561	89%	628	100%	377	88%	658	53%	93%	6%	5%	100%	74%
Karnataka	Bangalore Urban	233	7%	89%	71%	85%	58%	1791	86%	2032	98%	1286	84%	2926	71%	90%	10%	9%	100%	75%
Karnataka	Belgaum	577	15%	89%	76%	83%	72%	2180	91%	2369	99%	1601	78%	1960	42%	92%	25%	23%	99%	67%
Karnataka	Bellary	212	8%	89%	64%	79%	60%	1424	80%	1625	92%	878	78%	1471	45%	93%	13%	12%	100%	70%
Karnataka	Bidar **	94	5%	89%	62%	76%	52%	1124	88%	1200	93%	457	69%	669	27%	85%	8%	7%	100%	62%
Karnataka	Bijapur	112	6%	91%	70%	76%	58%	914	76%	988	82%	338	57%	1013	46%	97%	33%	32%	96%	63%
Karnataka	Chamarajanagar	64	5%	89%	63%	85%	58%	742	90%	785	95%	545	84%	695	48%	93%	10%	9%	98%	68%
Karnataka	Chikkaballapur	76	5%	90%	50%	85%	58%	809	74%	1076	99%	398	59%	953	54%	92%	7%	7%	100%	68%
Karnataka	Chikmagalur	47	6%	88%	55%	85%	55%	524	86%	600	99%	307	68%	659	63%	94%	10%	9%	99%	80%
Karnataka	Chitradurga	67	3%	89%	60%	85%	60%	1084	87%	1229	99%	797	82%	1870	78%	88%	7%	6%	98%	72%
Karnataka	Dakshina Kannada	66	5%	87%	67%	81%	57%	997	92%	1034	95%	660	83%	965	50%	98%	11%	11%	96%	83%
Karnataka	Davanagere	59	3%	86%	69%	82%	60%	1035	88%	1124	95%	705	82%	1272	58%	88%	15%	13%	100%	78%
Karnataka	Dharwad	102	7%	87%	61%	80%	63%	968	91%	1019	96%	629	78%	445	25%	95%	15%	15%	100%	77%
Karnataka	Gadag	45	5%	90%	68%	82%	61%	687	85%	812	100%	455	82%	178	14%	89%	23%	20%	100%	64%
Karnataka	Gulbarga **	131	6%	86%	56%	76%	49%	1401	80%	1640	93%	655	71%	1273	43%	88%	13%	11%	99%	73%
Karnataka	Hassan	51	4%	92%	71%	85%	53%	887	87%	961	94%	675	84%	824	49%	92%	11%	10%	100%	81%
Karnataka	Haveri	352	18%	86%	72%	81%	69%	965	79%	1169	96%	593	78%	1647	68%	82%	8%	7%	99%	76%
Karnataka	Kodagu	18	5%	86%	71%	84%	61%	213	83%	256	100%	187	95%	250	57%	93%	8%	7%	96%	88%
Karnataka	Kolar	101	8%	88%	59%	86%	55%	730	86%	824	97%	541	81%	875	57%	96%	7%	7%	99%	72%
Karnataka	Koppal	103	7%	85%	61%	79%	53%	911	81%	1101	98%	547	77%	1179	63%	98%	15%	15%	100%	62%
Karnataka	Mandya	100	6%	92%	68%	87%	61%	1037	84%	1194	96%	883	90%	1291	63%	89%	12%	11%	100%	80%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Jharkhand	Garhwa	52	79%	0	0%	8	40%	15	50%	69	60%	143	57%
Jharkhand	Giridih **	58	88%	0	0%	16	80%	5	17%	80	69%	158	63%
Jharkhand	Godda **	55	84%	0	0%	12	60%	15	50%	82	71%	163	65%
Jharkhand	Gumla †	45	69%	0	0%	20	100%	5	17%	73	63%	143	57%
Jharkhand	Hazaribagh **	51	79%	0	0%	16	80%	5	18%	83	72%	155	62%
Jharkhand	Jamtara **	55	84%	0	0%	12	60%	15	50%	59	51%	141	56%
Jharkhand	Khunti †	34	53%	10	50%	20	100%	10	33%	72	62%	146	58%
Jharkhand	Kodarma **	24	36%	0	0%	20	100%	15	50%	68	59%	126	50%
Jharkhand	Lathehar **	52	79%	0	0%	20	100%	6	20%	70	61%	147	59%
Jharkhand	Lohardaga *	29	45%	10	50%	20	100%	5	17%	42	37%	106	43%
Jharkhand	Pakaur **	53	82%	0	0%	20	100%	7	22%	62	54%	142	57%
Jharkhand	Palamu **	52	80%	0	0%	12	60%	15	50%	65	57%	144	58%
Jharkhand	Pashchimi Singhbhum *	37	57%	0	0%	20	100%	11	37%	59	51%	127	51%
Jharkhand	Purbi Singhbhum †	47	72%	0	0%	20	100%	5	17%	77	67%	149	60%
Jharkhand	Ramgarh **	41	63%	20	100%	20	100%	5	17%	68	59%	154	61%
Jharkhand	Ranchi †	65	100%	0	0%	12	60%	14	45%	67	58%	157	63%
Jharkhand	Sahibganj **	46	71%	0	0%	20	100%	11	37%	68	60%	146	58%
Jharkhand	Saraikela-Kharsawan **	46	70%	0	0%	20	100%	11	36%	49	43%	126	50%
Jharkhand	Simdega **	50	76%	10	50%	20	100%	5	17%	49	43%	134	54%
Karnataka	Bagalkot	55	85%	20	100%	12	60%	5	17%	72	63%	165	66%
Karnataka	Bangalore City	58	89%	20	100%	8	40%	10	33%	69	60%	165	66%
Karnataka	Bangalore Rural	61	93%	20	100%	16	80%	20	67%	86	74%	202	81%
Karnataka	Bangalore Urban	56	86%	20	100%	12	60%	5	17%	91	79%	184	73%
Karnataka	Belgaum	49	75%	10	50%	16	80%	5	17%	79	69%	160	64%
Karnataka	Bellary	59	90%	20	100%	20	100%	7	24%	83	72%	189	76%
Karnataka	Bidar **	59	91%	10	50%	16	80%	15	50%	64	56%	164	66%
Karnataka	Bijapur	56	87%	20	100%	12	60%	15	50%	60	52%	163	65%
Karnataka	Chamarajanagar	50	77%	20	100%	8	40%	5	17%	91	79%	174	70%
Karnataka	Chikkaballapur	41	62%	10	50%	20	100%	8	26%	79	69%	157	63%
Karnataka	Chikmagalur	61	95%	20	100%	12	60%	9	30%	63	55%	165	66%
Karnataka	Chitradurga	44	68%	20	100%	16	80%	5	17%	71	62%	156	62%
Karnataka	Dakshina Kannada	55	85%	10	50%	16	80%	5	18%	59	51%	145	58%
Karnataka	Davanagere	59	90%	20	100%	12	60%	5	17%	51	44%	146	59%
Karnataka	Dharwad	57	87%	20	100%	12	60%	6	20%	59	52%	154	62%
Karnataka	Gadag	58	90%	20	100%	12	60%	8	26%	73	64%	172	69%
Karnataka	Gulbarga **	57	88%	20	100%	16	80%	15	50%	73	64%	182	73%
Karnataka	Hassan	55	85%	20	100%	8	40%	5	17%	60	53%	148	59%
Karnataka	Haveri	60	92%	10	50%	16	80%	15	50%	57	50%	158	63%
Karnataka	Kodagu	45	70%	20	100%	20	100%	20	67%	86	74%	191	76%
Karnataka	Kolar	63	96%	10	50%	16	80%	7	23%	66	57%	161	65%
Karnataka	Koppal	56	87%	20	100%	16	80%	19	64%	63	55%	175	70%
Karnataka	Mandya	58	90%	20	100%	12	60%	5	17%	76	66%	171	68%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed [2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Karnataka	Mysore	30	35397	295	2%	3432	10	-2%	115	65	3889	130	49	27	30	24	18
Karnataka	Raichur	19	14824	193	-4%	1968	8	-2%	102	82	2967	154	60	42	13	38	24
Karnataka	Ramanagara	11	11592	268	42%	824	14	13%	76	77	1484	137	56	21	28	32	23
Karnataka	Shimoga	18	16435	234	22%	1195	14	13%	68	65	1895	108	56	19	19	14	10
Karnataka	Tumkur	27	25727	240	11%	2176	12	7%	81	70	3628	135	56	27	30	22	16
Karnataka	Udupi	12	12301	261	16%	844	15	4%	72	55	1065	90	45	12	16	18	13
Karnataka	Uttara Kannada	14	13396	233	16%	665	20	8%	46	43	1252	87	36	23	14	14	8
Karnataka	Yadgiri **	12	7188	153	48%	600	12	52%	51	52	1227	105	39	28	8	30	15
Kerala	Alappuzha	21	24107	284	13%	897	27	9%	42	44	2051	97	39	31	18	9	8
Kerala	Ernakulam	33	28393	216	-8%	1727	16	-8%	53	41	2710	83	34	23	13	13	9
Kerala	Idukki	11	16079	363	6%	379	42	-12%	34	33	747	67	29	12	20	6	5
Kerala	Kannur	25	25920	257	3%	950	27	-3%	38	30	1650	65	25	13	19	9	6
Kerala	Kasaragod	13	9738	187	-3%	456	21	4%	35	34	893	69	28	12	16	13	8
Kerala	Kollam	26	28070	267	23%	1163	24	26%	44	42	2196	84	36	23	14	10	7
Kerala	Kottayam	20	29167	368	14%	1105	26	11%	56	47	1774	90	42	15	23	10	8
Kerala	Kozhikode	31	27581	223	-3%	1193	23	-9%	39	30	2384	77	26	20	23	7	5
Kerala	Malappuram	41	34171	208	-11%	1167	29	0%	28	26	2560	62	22	18	15	7	5
Kerala	Palakkad	28	20931	186	-7%	1218	17	5%	43	43	2245	80	37	12	20	11	9
Kerala	Pathanamthitta	12	12330	258	30%	648	19	19%	54	48	1112	93	42	19	21	11	8
Kerala	Thiruvananthapuram	33	47721	361	12%	1810	26	1%	55	41	2615	79	36	16	17	10	7
Kerala	Thrissur	31	32643	262	3%	1668	20	2%	54	40	2498	80	34	16	20	11	8
Kerala	Wayanad	8	8202	251	12%	281	29	27%	34	32	691	85	29	28	22	6	5
Lakshadweep	Lakshadweep *	0.6	951	369	180%	10	95	117%	16	20	17	26	12	0	6	8	8
Madhya Pradesh	Alirajpur †	7	1948	67	194%	308	6	32%	42	42	501	69	31	18	4	15	12
Madhya Pradesh	Anuppur	7	4001	133	547%	460	9	2%	61	60	778	104	54	33	7	9	6
Madhya Pradesh	Ashoknagar	8	3022	89	390%	476	6	-11%	56	58	993	118	45	42	7	23	13
Madhya Pradesh	Balaghat **	17	3461	51	0%	781	4	3%	46	46	1225	72	40	16	5	11	7
Madhya Pradesh	Barwani †	14	7573	137	-6%	923	8	-1%	67	54	1158	84	43	17	8	15	12
Madhya Pradesh	Betul **	16	12072	192	49%	922	13	-4%	59	46	1237	79	39	22	6	11	9
Madhya Pradesh	Bhind	17	7378	108	6%	795	9	1%	47	40	2086	122	31	68	9	14	10
Madhya Pradesh	Bhopal	24	21565	228	-9%	3454	6	-6%	146	80	4105	173	57	52	20	44	24
Madhya Pradesh	Burhanpur **	8	5290	175	137%	647	8	12%	85	83	1138	150	69	50	13	18	16
Madhya Pradesh	Chhatarpur **	18	23400	332	37%	2975	8	14%	169	111	2910	165	88	37	8	32	26
Madhya Pradesh	Chhindwara **	21	9258	111	14%	1282	7	2%	61	52	1919	92	37	26	8	20	16
Madhya Pradesh	Damoh **	13	6909	137	12%	1271	5	6%	101	93	2016	160	68	36	19	36	28
Madhya Pradesh	Datia	8	3219	102	3%	697	5	-1%	89	78	1284	163	54	52	13	44	25
Madhya Pradesh	Dewas	16	6672	107	1%	907	7	-10%	58	56	1549	99	51	24	14	10	7
Madhya Pradesh	Dhar †	22	10568	121	-15%	1279	8	-1%	59	59	2728	125	48	50	10	16	11
Madhya Pradesh	Dindori †	7	4822	171	41%	374	13	31%	53	51	647	92	41	27	10	14	11
Madhya Pradesh	Guna	12	4033	81	-53%	654	6	0%	53	43	1182	95	37	37	9	11	8
Madhya Pradesh	Gwalior	20	15947	196	2%	2234	7	9%	110	82	2994	147	58	27	25	37	26
Madhya Pradesh	Harda **	6	2640	116	-3%	302	9	-12%	53	51	705	124	37	53	14	20	16
Madhya Pradesh	Hoshangabad **	12	8171	165	1%	1040	8	4%	84	82	2125	171	66	66	15	24	18
Madhya Pradesh	Indore	33	30450	233	7%	3284	9	11%	100	77	4745	145	55	25	29	36	24
Madhya Pradesh	Jabalpur	25	19033	193	44%	2468	8	31%	100	82	3835	156	62	33	25	35	22
Madhya Pradesh	Jhabua †	10	4391	107	-40%	734	6	0%	72	66	1379	135	56	53	8	18	11
Madhya Pradesh	Katni	13	3988	77	-14%	887	4	3%	69	61	1901	147	51	77	6	13	12
Madhya Pradesh	Khandwa **	13	4899	94	-27%	710	7	9%	54	49	1271	97	44	39	4	10	6
Madhya Pradesh	Khargone **	19	9921	132	-5%	1359	7	3%	73	66	2575	138	54	51	16	16	13

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Karnataka	Mysore	248	8%	86%	63%	79%	52%	1802	90%	1878	94%	1077	79%	962	25%	89%	12%	11%	100%	75%
Karnataka	Raichur	303	14%	88%	60%	85%	54%	1345	82%	1432	88%	908	77%	2304	78%	94%	14%	13%	100%	67%
Karnataka	Ramanagara	69	6%	92%	65%	87%	55%	695	82%	817	96%	550	87%	861	58%	94%	7%	6%	100%	82%
Karnataka	Shimoga	63	4%	89%	71%	86%	74%	1044	90%	1137	98%	711	83%	820	43.3%	86%	8%	7%	97%	54%
Karnataka	Tumkur	158	5%	86%	56%	84%	58%	1732	89%	1899	98%	1353	88%	2249	62%	96%	17%	16%	100%	67%
Karnataka	Udupi	42	5%	86%	69%	86%	68%	664	97%	671	98%	469	95%	654	61%	97%	15%	15%	100%	94%
Karnataka	Uttara Kannada	102	10%	86%	66%	83%	62%	559	88%	601	95%	407	83%	711	57%	93%	9%	8%	100%	71%
Karnataka	Yadgiri **	49	6%	82%	51%	73%	48%	443	70%	550	86%	222	67%	732	60%	90%	12%	10%	100%	73%
Kerala	Alappuzha	429	23%	85%	73%	84%	68%	943	96%	935	95%	625	78%	1639	80%	55%	2%	1%	80%	95%
Kerala	Ernakulam	343	15%	84%	67%	83%	67%	1225	87%	1264	90%	904	82%	1503	55%	32%	4%	1%	44%	56%
Kerala	Idukki	93	14%	84%	58%	83%	67%	327	87%	364	97%	231	83%	597	80%	75%	2%	2%	11%	78%
Kerala	Kannur	191	13%	86%	70%	85%	65%	728	92%	753	95%	514	82%	881	53%	56%	2%	1%	37%	58%
Kerala	Kasaragod	43	6%	84%	69%	81%	63%	410	87%	449	95%	274	71%	637	71%	95%	5%	5%	95%	75%
Kerala	Kollam	218	11%	88%	76%	87%	71%	1072	94%	1134	100%	886	88%	903	41%	63%	2%	2%	100%	90%
Kerala	Kottayam	173	11%	82%	68%	84%	67%	831	84%	818	83%	624	77%	745	42%	69%	2%	1%	47%	59%
Kerala	Kozhikode	475	22%	85%	67%	83%	73%	826	84%	934	96%	555	78%	1577	66%	51%	3%	1%	0%	100%
Kerala	Malappuram	483	21%	83%	72%	85%	75%	897	80%	1034	92%	709	73%	1978	77%	68%	2%	1%	86%	93%
Kerala	Palakkad	154	8%	82%	66%	85%	68%	978	77%	952	75%	783	75%	1540	69%	50%	3%	2%	21%	68%
Kerala	Pathanamthitta	118	12%	86%	70%	84%	65%	570	97%	583	99%	340	72%	629	57%	56%	2%	1%	60%	80%
Kerala	Thiruvananthapuram	227	10%	85%	71%	81%	64%	1276	89%	1326	92%	787	78%	1677	64%	58%	4%	2%	22%	17%
Kerala	Thrissur	333	15%	85%	65%	87%	70%	1150	88%	1098	84%	768	75%	1669	67%	52%	3%	2%	38%	100%
Kerala	Wayanad	154	24%	86%	73%	90%	75%	256	93%	262	95%	236	83%	491	71%	63%	1%	0%	0%	100%
Lakshadweep	Lakshadweep *	0	0%	100%	100%	0%	100%	13	100%	13	100%	8	0%	3	18%	0%		0%		
Madhya Pradesh	Alirajpur †	24	6%	92%	81%	100%	93%	283	90%	310	99%	331	301%	170	34%	4%	0%	0%		
Madhya Pradesh	Anuppur	71	10%	91%	61%	200%	60%	376	84%	448	100%	120	171%	68	9%	41%	0%	0%		
Madhya Pradesh	Ashoknagar	31	4%	92%	66%	300%	85%	413	84%	494	100%	269	368%	567	57%	12%	0%	0%		
Madhya Pradesh	Balaghat **	52	5%	90%	71%	90%	73%	650	81%	786	98%	436	62%	851	69%	27%	2%	0%		
Madhya Pradesh	Barwani †	49	5%	89%	67%	89%	75%	700	91%	764	99%	387	66%	685	59%	0%		0%		
Madhya Pradesh	Betul **	87	8%	92%	73%	88%	74%	680	91%	750	100%	351	96%	1093	88%	7%	0%	0%		
Madhya Pradesh	Bhind	351	19%	86%	66%	82%	67%	616	88%	691	99%	318	66%	1387	66%	8%	1%	0%		
Madhya Pradesh	Bhopal	373	12%	93%	63%	84%	54%	1661	87%	1911	100%	1360	93%	2080	51%	4%	0%	0%		
Madhya Pradesh	Burhanpur **	116	12%	91%	74%	88%	73%	610	95%	637	99%	432	184%	757	67%	38%	4%	1%		
Madhya Pradesh	Chhatarpur **	276	12%	95%	81%	92%	77%	1924	96%	2005	100%	1418	96%	2139	74%	5%	0%	0%		
Madhya Pradesh	Chhindwara **	41	3%	91%	72%	89%	72%	1011	90%	1084	97%	499	60%	1086	57%	3%	3%	0%		
Madhya Pradesh	Damoh **	135	9%	86%	61%	88%	69%	1140	94%	867	72%	658	80%	631	31%	6%	2%	0%		
Madhya Pradesh	Datia	220	23%	91%	52%	87%	64%	594	95%	602	96%	262	69%	658	51%	12%	0%	0%		
Madhya Pradesh	Dewas	157	11%	91%	64%	86%	62%	808	89%	903	100%	477	73%	804	52%	30%	1%	0%	0%	100%
Madhya Pradesh	Dhar †	442	19%	93%	76%	91%	73%	1177	91%	1273	98%	872	81%	1529	56%	4%	0%	0%		
Madhya Pradesh	Dindori †	50	9%	91%	79%	84%	76%	308	83%	365	99%	132	50%	512	79%	23%	1%	0%		
Madhya Pradesh	Guna	35	3%	90%	68%	90%	78%	494	88%	561	100%	414	52%	421	36%	15%	1%	0%		
Madhya Pradesh	Gwalior	468	21%	93%	67%	89%	61%	1513	88%	1705	99%	1098	89%	1633	55%	20%	1%	0%	0%	0%
Madhya Pradesh	Harda **	166	28%	91%	47%	91%	45%	271	89%	302	100%	86	52%	335	48%	30%	4%	1%	86%	14%
Madhya Pradesh	Hoshangabad **	317	17%	94%	83%	93%	84%	904	87%	1034	100%	878	94%	1258	59%	34%	1%	0%		
Madhya Pradesh	Indore	618	17%	96%	83%	93%	79%	2443	95%	2570	100%	2043	93%	2816	59%	46%	4%	2%		
Madhya Pradesh	Jabalpur	337	11%	93%	64%	91%	63%	1842	89%	2057	99%	1140	75%	2555	67%	6%	3%	0%	0%	83%
Madhya Pradesh	Jhabua †	119	10%	95%	88%	93%	84%	639	93%	673	98%	528	53%	684	50%	3%	0%	0%		
Madhya Pradesh	Katni	92	5%	87%	78%	88%	76%	642	79%	802	99%	550	76%	1634	86%	9%	0%	0%		
Madhya Pradesh	Khandwa **	127	11%	90%	63%	88%	70%	536	82%	534	82%	373	48%	1093	86%	5%	1%	0%		
Madhya Pradesh	Khargone **	370	16%	94%	83%	87%	75%	1117	89%	1255	100%	961	88%	1008	39%	16%	1%	0%		

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Karnataka	Mysore	50	77%	10	50%	12	60%	5	17%	74	64%	151	60%
Karnataka	Raichur	58	89%	20	100%	12	60%	18	60%	65	57%	173	69%
Karnataka	Ramanagara	57	87%	20	100%	12	60%	5	17%	71	61%	164	66%
Karnataka	Shimoga	63	96%	20	100%	8	40%	14	47%	69	60%	173	69%
Karnataka	Tumkur	64	98%	20	100%	16	80%	10	33%	69	60%	179	71%
Karnataka	Udupi	39	60%	20	100%	16	80%	15	50%	74	64%	164	65%
Karnataka	Uttara Kannada	52	81%	20	100%	12	60%	5	17%	71	62%	160	64%
Karnataka	Yadgiri **	50	77%	10	50%	16	80%	17	56%	59	51%	151	61%
Kerala	Alappuzha	52	79%	10	50%	16	80%	29	97%	86	75%	193	77%
Kerala	Ernakulam	55	85%	20	100%	4	20%	9	30%	53	46%	142	57%
Kerala	Idukki	60	92%	20	100%	16	80%	10	33%	74	64%	180	72%
Kerala	Kannur	62	96%	20	100%	16	80%	10	33%	56	49%	165	66%
Kerala	Kasaragod	59	91%	10	50%	20	100%	8	26%	81	70%	178	71%
Kerala	Kollam	59	90%	20	100%	16	80%	18	61%	79	69%	192	77%
Kerala	Kottayam	34	52%	20	100%	16	80%	10	33%	51	45%	131	53%
Kerala	Kozhikode	25	38%	20	100%	12	60%	10	33%	62	54%	129	52%
Kerala	Malappuram	63	97%	20	100%	4	20%	12	41%	87	76%	186	75%
Kerala	Palakkad	58	89%	20	100%	0	0%	25	84%	53	46%	156	62%
Kerala	Pathanamthitta	53	82%	20	100%	20	100%	15	49%	73	63%	181	72%
Kerala	Thiruvananthapuram	57	88%	10	50%	4	20%	22	74%	63	55%	156	62%
Kerala	Thrissur	61	94%	20	100%	16	80%	20	67%	76	66%	193	77%
Kerala	Wayanad	64	98%	20	100%	16	80%	10	33%	86	75%	196	79%
Lakshadweep	Lakshadweep *	24	37%	20	100%	20	100%	25	83%	41	36%	130	52%
Madhya Pradesh	Alirajpur †	20	31%	20	100%	8	40%	5	17%	72	63%	126	50%
Madhya Pradesh	Anuppur	49	76%	10	50%	20	100%	5	17%	70	60%	154	61%
Madhya Pradesh	Ashoknagar	36	56%	10	50%	16	80%	5	17%	75	66%	143	57%
Madhya Pradesh	Balaghat **	42	65%	10	50%	20	100%	7	23%	69	60%	149	59%
Madhya Pradesh	Barwani †	56	86%	10	50%	16	80%	15	50%	51	45%	148	59%
Madhya Pradesh	Betul **	53	82%	20	100%	16	80%	15	50%	65	57%	169	68%
Madhya Pradesh	Bhind	48	74%	10	50%	20	100%	15	50%	63	55%	156	62%
Madhya Pradesh	Bhopal	55	85%	20	100%	8	40%	20	67%	65	57%	168	67%
Madhya Pradesh	Burhanpur **	45	69%	20	100%	8	40%	15	50%	80	70%	168	67%
Madhya Pradesh	Chhatarpur **	47	72%	10	50%	4	20%	25	83%	81	70%	166	66%
Madhya Pradesh	Chhindwara **	45	69%	10	50%	12	60%	15	50%	50	43%	132	53%
Madhya Pradesh	Damoh **	53	82%	20	100%	16	80%	5	17%	59	51%	153	61%
Madhya Pradesh	Datia	38	58%	20	100%	8	40%	15	50%	57	50%	138	55%
Madhya Pradesh	Dewas	49	76%	20	100%	20	100%	20	67%	92	80%	201	80%
Madhya Pradesh	Dhar †	57	88%	10	50%	12	60%	20	67%	78	68%	177	71%
Madhya Pradesh	Dindori †	44	68%	20	100%	16	80%	24	79%	50	43%	153	61%
Madhya Pradesh	Guna	47	72%	10	50%	20	100%	5	17%	68	59%	150	60%
Madhya Pradesh	Gwalior	62	96%	20	100%	12	60%	5	17%	73	63%	172	69%
Madhya Pradesh	Harda **	54	83%	20	100%	12	60%	15	50%	79	69%	180	72%
Madhya Pradesh	Hoshangabad **	61	94%	10	50%	12	60%	20	67%	91	79%	194	78%
Madhya Pradesh	Indore	65	100%	10	50%	16	80%	20	67%	92	80%	203	81%
Madhya Pradesh	Jabalpur	63	97%	20	100%	20	100%	15	50%	65	57%	183	73%
Madhya Pradesh	Jhabua †	45	70%	10	50%	16	80%	5	17%	70	61%	146	58%
Madhya Pradesh	Katni	30	46%	20	100%	4	20%	5	17%	74	64%	133	53%
Madhya Pradesh	Khandwa **	41	63%	10	50%	12	60%	25	83%	59	51%	146	59%
Madhya Pradesh	Khargone **	49	76%	10	50%	20	100%	25	85%	75	65%	180	72%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed[2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Madhya Pradesh	Mandla †	11	4680	111	2%	844	6	12%	80	72	1389	132	61	39	16	14	11
Madhya Pradesh	Mandsaur	13	8810	164	22%	1162	8	15%	87	82	2180	163	53	54	15	41	31
Madhya Pradesh	Morena	20	7404	94	-3%	1141	6	-6%	58	50	1778	90	32	13	14	31	20
Madhya Pradesh	Narsinghpur **	11	5047	116	-9%	539	9	3%	49	48	1109	102	37	27	19	19	13
Madhya Pradesh	Neemuch	8	5710	173	5%	685	8	3%	83	81	1318	160	62	47	17	33	20
Madhya Pradesh	Panna **	10	3195	79	21%	784	4	22%	77	73	1159	114	53	22	7	32	20
Madhya Pradesh	Raisen **	13	5067	95	30%	631	8	-2%	47	50	1383	104	36	34	6	27	15
Madhya Pradesh	Rajgarh	15	5602	91	-8%	772	7	-1%	50	43	1706	110	33	38	8	31	11
Madhya Pradesh	Ratlam	15	6628	114	12%	985	7	22%	68	56	2050	141	36	54	14	37	21
Madhya Pradesh	Rewa	24	13592	144	24%	1853	7	0%	78	70	3589	152	58	45	24	24	14
Madhya Pradesh	Sagar **	24	10703	113	4%	1971	5	4%	83	74	2790	117	57	30	10	20	18
Madhya Pradesh	Satna	22	12938	145	62%	1551	8	64%	70	63	3608	162	57	68	19	18	7
Madhya Pradesh	Sehore **	13	5123	98	10%	553	9	11%	42	39	1191	91	32	34	7	18	7
Madhya Pradesh	Seoni **	14	4686	85	-6%	687	7	-12%	50	47	1125	82	34	18	10	20	14
Madhya Pradesh	Shahdol	11	3856	91	-41%	563	7	10%	53	44	988	93	37	32	7	15	7
Madhya Pradesh	Shajapur	15	5663	94	-1%	1226	5	-4%	81	81	1867	123	61	21	14	27	21
Madhya Pradesh	Sheopur	7	3766	137	10%	906	4	0%	132	107	1189	173	85	46	7	35	23
Madhya Pradesh	Shivpuri	17	9946	144	15%	1500	7	4%	87	84	2416	140	71	45	2	22	13
Madhya Pradesh	Sidhi	11	4668	104	-46%	758	6	-22%	67	64	1451	129	51	28	17	32	16
Madhya Pradesh	Singrauli	12	4051	86	243%	486	8	-10%	41	37	906	77	32	21	13	11	6
Madhya Pradesh	Tikamgarh **	14	3460	60	11%	519	7	8%	36	33	894	62	27	22	4	9	7
Madhya Pradesh	Ujjain	20	12427	156	28%	1961	6	14%	99	71	2769	139	49	37	24	29	24
Madhya Pradesh	Umaria	6	4222	164	128%	457	9	52%	71	67	738	115	58	28	9	20	11
Madhya Pradesh	Vidisha **	15	6454	111	8%	920	7	5%	63	61	2185	150	41	62	10	38	21
Maharashtra	Ahmadnagar	42	23194	138	10%	1663	14	14%	40	41	3278	78	37	17	13	12	5
Maharashtra	Ahmednagar MC	4	2596	185	9%	194	13	38%	55	30	350	100	21	36	24	19	10
Maharashtra	Akola	14	9091	163	0%	568	16	13%	41	48	1247	90	38	16	18	18	13
Maharashtra	Akola MC	4	3378	198	38%	563	6	31%	132	55	479	112	39	18	30	25	18
Maharashtra	Amravati MC	6	6121	237	-9%	494	12	1%	76	50	705	109	35	21	25	28	16
Maharashtra	Amravati Rural	22	17219	192	21%	1399	12	7%	62	57	2371	106	43	21	17	25	15
Maharashtra	Aurangabad MC	12	12743	272	319%	1132	11	87%	97	51	1070	91	40	7	25	19	12
Maharashtra	Aurangabad-MH **	25	5839	58	-82%	920	6	-47%	36	52	1815	72	43	9	6	14	10
Maharashtra	Bhandara	12	10338	216	41%	714	14	35%	60	54	1276	106	41	23	15	27	15
Maharashtra	Bhiwandi Nizampur	7	4822	169	93%	738	7	16%	104	85	1575	221	66	58	41	53	22
Maharashtra	Bid **	26	17338	168	15%	1016	17	33%	39	35	1846	71	29	16	14	13	6
Maharashtra	Buldana **	26	14467	140	-2%	1976	7	6%	76	51	2424	94	37	22	11	23	16
Maharashtra	Chandrapur	22	15101	172	4%	1455	10	2%	66	54	2186	100	45	24	13	18	11
Maharashtra	Dhule	17	10222	153	1%	919	11	10%	55	64	1684	101	54	20	10	17	10
Maharashtra	Dhule MC	4	4660	310	7%	703	7	-14%	187	81	540	144	66	19	24	35	16
Maharashtra	Gadchiroli **	11	6761	158	14%	840	8	4%	78	66	1207	113	57	24	14	18	10
Maharashtra	Gondiya	13	8059	152	-5%	806	10	0%	61	51	1292	98	42	22	17	17	10
Maharashtra	Hingoli **	12	5014	106	-4%	602	8	-5%	51	53	1214	103	43	28	14	18	13
Maharashtra	Jalgaon	38	16097	107	1%	1645	10	-1%	44	54	4148	110	43	37	12	18	11
Maharashtra	Jalgaon MC	5	5393	293	-14%	621	9	-6%	135	53	554	120	45	40	17	20	10
Maharashtra	Jalna **	20	5354	68	-35%	870	6	-35%	44	42	1572	80	30	22	10	19	13
Maharashtra	Kalyan Dombivli MC	12	6739	135	22%	983	7	4%	79	65	2027	163	52	38	31	42	16
Maharashtra	Kolhapur	33	22010	166	-8%	1787	12	-15%	54	49	2721	82	42	15	12	13	7
Maharashtra	Kolhapur MC	5	2447	111	-11%	218	11	-7%	40	38	440	80	29	15	21	15	10
Maharashtra	Latur **	25	16669	170	5%	1181	14	13%	48	42	2032	83	32	19	13	18	12

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Madhya Pradesh	Mandla †	110	9%	94%	78%	91%	80%	622	82%	745	98%	530	70%	1121	81%	18%	2%	0%		
Madhya Pradesh	Mandsaur	197	12%	90%	69%	90%	76%	1005	90%	1119	100%	678	83%	1126	52%	29%	2%	1%		
Madhya Pradesh	Morena	157	14%	91%	58%	90%	61%	837	82%	985	96%	377	59%	1529	86%	18%	0%	0%		
Madhya Pradesh	Narsinghpur **	101	11%	89%	61%	86%	65%	379	69%	542	99%	294	63%	804	72%	6%	2%	0%	0%	100%
Madhya Pradesh	Neemuch	47	5%	91%	79%	88%	81%	603	89%	671	99%	421	72%	790	60%	13%	2%	0%		
Madhya Pradesh	Panna **	106	13%	91%	73%	89%	68%	658	88%	743	99%	449	82%	33	3%	0%		0%		
Madhya Pradesh	Raisen **	49	5%	88%	81%	89%	81%	393	58%	678	100%	186	48%	139	10%	23%	1%	0%		
Madhya Pradesh	Rajgarh	103	8%	89%	55%	88%	75%	654	97%	669	100%	397	76%	1293	76%	25%	1%	0%		
Madhya Pradesh	Ratlam	241	16%	89%	75%	84%	64%	730	88%	794	95%	412	74%	1472	72%	26%	1%	0%		
Madhya Pradesh	Rewa	266	9%	90%	80%	91%	80%	1611	95%	1268	75%	980	86%	2781	77%	22%	4%	1%	0%	100%
Madhya Pradesh	Sagar **	177	8%	89%	67%	89%	72%	1543	87%	1747	98%	815	61%	1659	59%	10%	1%	0%		
Madhya Pradesh	Satna	216	7%	89%	68%	91%	76%	1292	91%	1365	96%	879	76%	2100	58%	7%	1%	0%		
Madhya Pradesh	Sehore **	119	13%	90%	72%	88%	77%	480	94%	508	100%	345	86%	885	74%	7%	2%	0%		
Madhya Pradesh	Seoni **	65	8%	93%	64%	90%	68%	600	89%	592	88%	280	55%	1002	89%	44%	3%	1%		
Madhya Pradesh	Shahdol	56	7%	88%	79%	94%	85%	420	90%	466	100%	245	34%	563	57%	8%	1%	0%	100%	100%
Madhya Pradesh	Shajapur	178	12%	94%	92%	92%	91%	1194	97%	1214	98%	924	88%	1385	74%	21%	2%	0%	0%	38%
Madhya Pradesh	Sheopur	137	14%	85%	51%	89%	82%	570	77%	711	96%	307	62%	1045	88%	58%	0%	0%		
Madhya Pradesh	Shivpuri	163	8%	92%	77%	93%	73%	1361	94%	1402	96%	897	83%	1879	78%	19%	6%	1%		
Madhya Pradesh	Sidhi	154	14%	85%	60%	90%	89%	584	77%	718	94%	343	50%	1187	82%	0%		0%		
Madhya Pradesh	Singrauli	68	9%	81%	50%	92%	78%	319	72%	441	99%	143	172%	437	48%	0%		0%		
Madhya Pradesh	Tikamgarh **	21	3%	89%	71%	86%	77%	372	77%	485	100%	250	64%	531	59%	0%		0%		
Madhya Pradesh	Ujjain	368	17%	90%	66%	89%	64%	1384	95%	1441	99%	678	80%	1555	56%	36%	2%	1%	67%	67%
Madhya Pradesh	Umaria	42	7%	92%	76%	90%	75%	400	90%	426	96%	177	76%	694	94%	25%	1%	0%		
Madhya Pradesh	Vidisha **	207	13%	84%	71%	87%	77%	808	90%	830	92%	543	86%	352	16%	5%	0%	0%		
Maharashtra	Ahmadnagar	143	5%	90%	64%	89%	60%	1627	94%	1740	100%	1376	89%	425	13%	80%	11%	9%	99%	68%
Maharashtra	Ahmednagar MC	10	4%	68%	68%	71%	56%	99	92%	107	99%	56	0%	1	0%	80%	26%	21%	100%	42%
Maharashtra	Akola	43	4%	82%	62%	78%	50%	555	79%	701	99%	436	83%	957	77%	81%	9%	7%	99%	76%
Maharashtra	Akola MC	33	9%	79%	49%	68%	43%	211	87%	243	100%	105	0%	25	5%	91%	14%	13%	97%	94%
Maharashtra	Amravati MC	29	6%	90%	70%	82%	57%	312	94%	330	100%	242	91%	246	35%	86%	9%	7%	100%	85%
Maharashtra	Amravati Rural	82	5%	88%	63%	84%	66%	1056	81%	1303	100%	633	65%	1214	51%	75%	5%	3%	100%	77%
Maharashtra	Aurangabad MC	56	7%	91%	71%	87%	63%	1214	199%	1312	215%	907	178%	683	64%	69%	7%	5%	66%	64%
Maharashtra	Aurangabad-MH **	63	4%	93%	82%	91%	80%	542	41%	609	46%	453	40%	6	0%	81%	6%	5%	90%	72%
Maharashtra	Bhandara	59	6%	90%	62%	80%	55%	577	85%	679	100%	359	72%	663	52%	94%	9%	9%	94%	98%
Maharashtra	Bhiwandi Nizampur	144	12%	86%	66%	83%	57%	569	91%	623	100%	346	87%	443	28%	68%	10%	7%	46%	63%
Maharashtra	Bid **	75	5%	91%	65%	85%	74%	847	92%	906	99%	565	69%	688	37%	83%	17%	14%	100%	42%
Maharashtra	Buldana **	60	3%	86%	58%	79%	62%	1106	81%	1348	98%	682	69%	690	28%	81%	4%	3%	98%	58%
Maharashtra	Chandrapur	65	4%	91%	66%	88%	63%	1049	86%	1208	99%	954	88%	977	45%	87%	9%	8%	97%	80%
Maharashtra	Dhule	49	4%	93%	74%	89%	74%	982	91%	1073	99%	741	80%	1202	71%	81%	11%	9%	100%	79%
Maharashtra	Dhule MC	31	8%	96%	81%	93%	78%	294	95%	305	99%	267	0%	71	13%	87%	9%	8%	98%	71%
Maharashtra	Gadchiroli **	41	4%	85%	63%	85%	64%	593	82%	644	89%	394	80%	420	35%	77%	2%	2%	75%	50%
Maharashtra	Gondiya	44	4%	83%	58%	82%	50%	573	84%	683	100%	406	73%	617	48%	78%	5%	4%	98%	75%
Maharashtra	Hingoli **	36	4%	88%	73%	83%	67%	607	92%	625	95%	420	87%	850	70%	82%	8%	6%	92%	55%
Maharashtra	Jalgaon	164	5%	89%	68%	85%	67%	1686	82%	2036	99%	1062	70%	2001	48%	83%	10%	8%	99%	46%
Maharashtra	Jalgaon MC	29	6%	88%	57%	87%	53%	228	90%	254	100%	202	0%	32	6%	94%	11%	11%	100%	75%
Maharashtra	Jalna **	22	2%	90%	75%	90%	77%	829	97%	853	100%	585	93%	780	50%	92%	7%	7%	60%	46%
Maharashtra	Kalyan Dombivli MC	149	10%	87%	60%	77%	50%	755	89%	847	100%	500	85%	93	5%	92%	9%	8%	90%	50%
Maharashtra	Kolhapur	160	7%	92%	68%	87%	56%	1459	89%	1643	100%	1019	80%	1000	37%	90%	13%	12%	92%	64%
Maharashtra	Kolhapur MC	22	6%	82%	52%	79%	44%	194	91%	205	96%	124	92%	11	3%	83%	24%	20%	100%	50%
Maharashtra	Latur **	68	4%	88%	56%	83%	47%	957	88%	1081	100%	716	86%	936	46%	79%	14%	11%	97%	44%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Madhya Pradesh	Mandla †	58	89%	10	50%	20	100%	5	17%	70	61%	163	65%
Madhya Pradesh	Mandsaur	57	88%	10	50%	16	80%	5	17%	67	58%	155	62%
Madhya Pradesh	Morena	40	61%	20	100%	16	80%	5	17%	64	56%	145	58%
Madhya Pradesh	Narsinghpur **	53	82%	20	100%	20	100%	5	17%	63	55%	161	65%
Madhya Pradesh	Neemuch	63	97%	20	100%	12	60%	10	33%	72	62%	177	71%
Madhya Pradesh	Panna **	47	72%	20	100%	12	60%	15	50%	52	45%	146	58%
Madhya Pradesh	Raisen **	47	72%	10	50%	16	80%	15	50%	65	56%	152	61%
Madhya Pradesh	Rajgarh	49	75%	10	50%	16	80%	7	23%	76	66%	157	63%
Madhya Pradesh	Ratlam	53	82%	10	50%	16	80%	15	50%	80	69%	174	70%
Madhya Pradesh	Rewa	55	84%	10	50%	16	80%	11	38%	103	89%	195	78%
Madhya Pradesh	Sagar **	48	74%	10	50%	12	60%	14	46%	65	57%	149	60%
Madhya Pradesh	Satna	48	73%	10	50%	16	80%	15	50%	85	74%	174	70%
Madhya Pradesh	Sehore **	38	58%	20	100%	16	80%	15	50%	51	44%	140	56%
Madhya Pradesh	Seoni **	60	92%	10	50%	20	100%	15	50%	65	56%	170	68%
Madhya Pradesh	Shahdol	41	63%	20	100%	8	40%	15	50%	65	56%	149	59%
Madhya Pradesh	Shajapur	48	74%	20	100%	12	60%	5	17%	86	74%	170	68%
Madhya Pradesh	Sheopur	56	86%	10	50%	16	80%	15	50%	68	59%	165	66%
Madhya Pradesh	Shivpuri	38	59%	10	50%	16	80%	5	17%	65	57%	135	54%
Madhya Pradesh	Sidhi	16	25%	20	100%	12	60%	5	17%	74	64%	127	51%
Madhya Pradesh	Singrauli	34	53%	10	50%	16	80%	5	17%	59	52%	125	50%
Madhya Pradesh	Tikamgarh **	50	77%	20	100%	16	80%	5	17%	36	31%	127	51%
Madhya Pradesh	Ujjain	41	64%	10	50%	12	60%	14	46%	79	68%	156	62%
Madhya Pradesh	Umaria	57	87%	10	50%	16	80%	15	50%	68	59%	166	66%
Madhya Pradesh	Vidisha **	49	76%	20	100%	16	80%	18	59%	58	50%	161	64%
Maharashtra	Ahmadnagar	54	84%	20	100%	20	100%	5	17%	67	58%	166	66%
Maharashtra	Ahmednagar MC	31	47%	20	100%	8	40%	15	50%	91	79%	164	66%
Maharashtra	Akola	48	74%	0	0%	16	80%	17	57%	85	74%	166	66%
Maharashtra	Akola MC	33	50%	10	50%	12	60%	17	57%	69	60%	141	56%
Maharashtra	Amravati MC	55	85%	20	100%	16	80%	10	33%	79	69%	180	72%
Maharashtra	Amravati Rural	49	76%	20	100%	16	80%	14	45%	98	85%	197	79%
Maharashtra	Aurangabad MC	64	98%	10	50%	16	80%	14	46%	88	77%	192	77%
Maharashtra	Aurangabad-MH **	64	99%	20	100%	20	100%	10	33%	64	56%	178	71%
Maharashtra	Bhandara	63	98%	0	0%	16	80%	7	23%	80	70%	167	67%
Maharashtra	Bhiwandi Nizampur	44	68%	10	50%	16	80%	20	67%	74	64%	164	66%
Maharashtra	Bid **	60	92%	20	100%	16	80%	5	17%	74	65%	175	70%
Maharashtra	Buldana **	50	77%	10	50%	16	80%	5	17%	78	68%	159	64%
Maharashtra	Chandrapur	52	80%	10	50%	8	40%	10	33%	96	83%	175	70%
Maharashtra	Dhule	56	86%	10	50%	16	80%	15	50%	81	70%	178	71%
Maharashtra	Dhule MC	27	41%	10	50%	16	80%	5	17%	95	82%	153	61%
Maharashtra	Gadchiroli **	56	87%	10	50%	20	100%	24	81%	73	63%	184	73%
Maharashtra	Gondiya	61	93%	0	0%	8	40%	10	33%	46	40%	124	50%
Maharashtra	Hingoli **	47	73%	20	100%	20	100%	7	23%	94	82%	188	75%
Maharashtra	Jalgaon	61	94%	20	100%	16	80%	5	17%	73	64%	176	70%
Maharashtra	Jalgaon MC	33	50%	10	50%	16	80%	5	17%	64	56%	128	51%
Maharashtra	Jalna **	55	84%	10	50%	16	80%	20	67%	106	93%	207	83%
Maharashtra	Kalyan Dombivli MC	58	89%	10	50%	16	80%	7	23%	52	45%	142	57%
Maharashtra	Kolhapur	46	71%	10	50%	12	60%	5	17%	91	79%	164	66%
Maharashtra	Kolhapur MC	35	54%	20	100%	12	60%	5	17%	80	69%	152	61%
Maharashtra	Latur **	47	72%	10	50%	16	80%	9	30%	90	78%	172	69%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed[2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Maharashtra	Malegoan Corporation	5	3917	208	53%	530	7	-1%	113	88	923	196	70	43	54	28	20
Maharashtra	Mira Bhayander	8	3796	116	32%	636	6	-5%	78	74	939	115	55	9	20	31	20
Maharashtra	Mumbai	125	97710	196	15%	13448	7	15%	108	103	30429	244	68	50	51	75	37
Maharashtra	Nagpur MC	24	14222	148	-9%	2042	7	0%	85	64	3224	134	52	18	35	28	13
Maharashtra	Nagpur Rural	22	15209	169	5%	1677	9	6%	75	66	2460	109	56	25	11	17	10
Maharashtra	Nanded **	28	12354	110	-9%	1445	9	-6%	51	46	2445	87	39	21	14	13	8
Maharashtra	Nanded Waghela MC	6	3210	146	-32%	386	8	-14%	70	43	504	92	35	15	26	16	9
Maharashtra	Nandurbar *	16	7831	119	-7%	1065	7	-14%	65	57	1781	108	46	29	13	20	12
Maharashtra	Nashik	42	21462	129	1%	1990	11	10%	48	48	3398	82	43	20	9	10	6
Maharashtra	Nashik Corp	15	8697	146	-1%	1016	9	15%	68	56	1447	97	49	26	8	15	7
Maharashtra	Navi Mumbai	11	11158	249	-21%	1404	8	5%	125	85	2144	192	62	32	45	53	28
Maharashtra	Osmanabad **	17	7876	119	2%	661	12	7%	40	38	1326	80	31	24	12	13	8
Maharashtra	Parbhani **	18	8068	110	-7%	775	10	3%	42	43	1562	85	34	24	14	13	10
Maharashtra	Pimpri Chinchwad	17	9821	142	-36%	983	10	5%	57	45	1857	107	34	16	33	24	12
Maharashtra	Pune	31	15472	124	12%	1619	10	2%	52	59	3649	117	49	15	31	23	11
Maharashtra	Pune Rural	46	32453	177	-10%	3491	9	5%	76	52	3892	85	44	13	14	15	9
Maharashtra	Raigarh-Mh	26	16284	154	-6%	2118	8	-9%	80	76	3661	139	59	27	21	31	19
Maharashtra	Ratnagiri	16	16621	258	42%	1354	12	9%	84	82	2642	164	68	47	13	36	16
Maharashtra	Sangli	23	24157	261	16%	1782	14	-9%	77	66	3033	131	58	31	16	25	9
Maharashtra	Sangli MC	5	2020	100	-29%	218	9	-5%	43	39	523	104	30	24	23	14	10
Maharashtra	Satara	30	25700	214	7%	1870	14	0%	62	57	3290	110	46	25	18	20	11
Maharashtra	Sindhudurg	8	9107	268	14%	480	19	10%	57	55	1050	124	43	36	22	22	12
Maharashtra	Solapur	34	19411	144	0%	1493	13	17%	44	44	2451	73	37	15	9	12	7
Maharashtra	Solapur MC	10	5588	147	-3%	853	7	-4%	90	58	1091	115	44	25	22	24	15
Maharashtra	Thane	48	22136	114	-33%	2541	9	6%	53	56	5973	123	45	33	20	24	12
Maharashtra	Thane MC	18	9780	134	-16%	1521	6	-1%	84	63	2893	159	45	33	41	41	20
Maharashtra	Ulhasnagar MC	5	3195	158	5%	596	5	5%	118	79	868	171	60	41	14	56	20
Maharashtra	Wardha	13	10966	212	12%	953	12	8%	74	58	1338	103	45	15	23	20	14
Maharashtra	Washim	12	4932	103	1%	524	9	-1%	44	45	1060	89	34	23	16	16	12
Maharashtra	Yavatmal **	28	16160	146	1%	1841	9	-3%	66	63	3375	122	49	30	22	21	15
Manipur	Bishnupur	2	814	85	-15%	121	7	20%	50	54	242	101	44	14	25	17	15
Manipur	Chandel *	1	740	128	-23%	55	13	3%	38	47	161	112	37	33	13	28	10
Manipur	Churachandpur *	3	2547	235	-22%	151	17	-11%	56	57	465	171	45	64	25	38	14
Manipur	Imphal East	5	2309	128	-24%	235	10	2%	52	52	720	159	45	52	37	25	8
Manipur	Imphal West	5	3419	166	-4%	406	8	11%	79	53	632	123	46	27	32	17	8
Manipur	Senapati *	4	907	64	8%	103	9	-8%	29	30	247	70	24	10	22	14	8
Manipur	Tamenglong *	1	485	87	-20%	54	9	25%	39	39	65	46	34	2	4	7	5
Manipur	Thoubal	4	1275	76	1%	161	8	3%	38	36	406	97	32	32	19	13	5
Manipur	Ukhrul *	2	587	80	-20%	74	8	4%	40	43	142	78	32	10	17	17	13
Meghalaya	East Garo Hills *	3	1257	99	143%	122	10	22%	38	35	207	65	28	17	6	14	7
Meghalaya	East Khasi Hills *	8	10480	318	-60%	1226	9	14%	149	92	2084	253	67	46	75	61	35
Meghalaya	Jaintia Hills *	4	1825	116	-20%	229	8	-5%	58	54	744	189	44	80	35	30	13
Meghalaya	Ri Bhoi *	3	1821	176	-11%	191	10	3%	74	79	465	180	61	26	47	44	26
Meghalaya	South Garo Hills *	1	429	75	-45%	48	9	-31%	34	51	110	77	46	12	8	11	5
Meghalaya	West Garo Hills *	6	4353	169	-10%	569	8	2%	89	75	708	110	67	15	12	16	10
Meghalaya	West Khasi Hills *	4	2421	157	0%	225	11	25%	58	67	761	197	52	51	57	38	20

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Maharashtra	Malegoan Corporation	87	11%	87%	84%	84%	74%	402	95%	424	100%	277	0%	277	30%	76%	5%	4%	100%	53%
Maharashtra	Mira Bhayander	47	7%	92%	71%	87%	61%	585	96%	611	100%	439	0%	512	55%	90%	9%	8%	100%	86%
Maharashtra	Mumbai	1982	9%	90%	67%	86%	64%	11378	86%	12205	93%	7961	82%	34	0%	76%	7%	5%	100%	49%
Maharashtra	Nagpur MC	175	7%	91%	69%	85%	52%	1173	75%	1262	81%	928	74%	275	9%	81%	17%	14%	100%	53%
Maharashtra	Nagpur Rural	108	5%	92%	77%	88%	74%	1357	91%	1490	100%	1221	90%	1045	42%	88%	6%	6%	90%	72%
Maharashtra	Nanded **	66	3%	90%	63%	89%	86%	1165	89%	1278	97%	795	74%	1178	48%	60%	9%	6%	83%	71%
Maharashtra	Nanded Waghela MC	15	4%	90%	71%	87%	62%	200	83%	225	94%	144	57%	250	50%	80%	12%	10%	100%	94%
Maharashtra	Nandurbar *	71	5%	90%	83%	86%	76%	816	84%	963	99%	431	64%	1381	78%	77%	8%	6%	91%	45%
Maharashtra	Nashik	288	10%	94%	90%	91%	81%	1826	90%	1994	99%	1285	64%	1486	44%	74%	4%	3%	97%	75%
Maharashtra	Nashik Corp	132	11%	91%	70%	86%	67%	784	94%	832	100%	630	97%	154	11%	85%	9%	8%	97%	67%
Maharashtra	Navi Mumbai	270	17%	90%	52%	85%	47%	940	94%	1005	100%	667	99%	1031	48%	95%	12%	12%	100%	83%
Maharashtra	Osmanabad **	82	7%	88%	70%	83%	64%	531	82%	648	100%	440	78%	638	48%	75%	28%	21%	95%	49%
Maharashtra	Parbhani **	51	4%	90%	74%	89%	67%	687	86%	801	100%	544	83%	507	32%	79%	17%	13%	98%	34%
Maharashtra	Pimpri Chinchwad	142	10%	90%	70%	85%	63%	758	94%	791	98%	587	83%	13	1%	96%	15%	15%	97%	77%
Maharashtra	Pune	194	7%	93%	71%	88%	56%	1730	93%	1805	97%	1356	95%	353	10%	83%	19%	16%	97%	68%
Maharashtra	Pune Rural	162	5%	92%	73%	87%	66%	1991	83%	2225	93%	1493	73%	965	25%	76%	18%	14%	75%	35%
Maharashtra	Raigarh-Mh	185	7%	89%	71%	83%	62%	1780	87%	2031	99%	1190	82%	2263	62%	61%	9%	5%	88%	60%
Maharashtra	Ratnagiri	57	3%	92%	68%	88%	57%	1253	93%	1341	99%	892	87%	1902	72%	93%	8%	8%	100%	81%
Maharashtra	Sangli	119	5%	92%	72%	87%	63%	1411	90%	1561	99%	940	83%	656	22%	91%	13%	12%	99%	84%
Maharashtra	Sangli MC	31	7%	90%	71%	85%	55%	171	85%	201	100%	130	71%	30	6%	96%	32%	31%	100%	67%
Maharashtra	Satara	137	5%	91%	64%	84%	58%	1590	92%	1726	100%	1064	77%	2012	61%	89%	17%	15%	97%	72%
Maharashtra	Sindhudurg	51	6%	90%	69%	86%	56%	434	92%	464	98%	370	86%	666	63%	91%	4%	4%	92%	83%
Maharashtra	Solapur	95	5%	91%	68%	88%	64%	1280	86%	1424	96%	1241	83%	511	21%	64%	23%	15%	77%	52%
Maharashtra	Solapur MC	94	11%	88%	60%	83%	47%	495	89%	549	99%	396	94%	22	2%	90%	15%	13%	97%	58%
Maharashtra	Thane	448	9%	91%	71%	86%	65%	2236	81%	2701	98%	1738	81%	3955	66%	58%	7%	4%	91%	60%
Maharashtra	Thane MC	307	14%	86%	58%	83%	61%	1049	88%	1161	98%	787	95%	1295	45%	77%	8%	6%	100%	76%
Maharashtra	Ulhasnagar MC	41	7%	93%	62%	81%	58%	325	81%	392	97%	291	98%	41	5%	82%	9%	8%	100%	66%
Maharashtra	Wardha	46	4%	90%	70%	82%	67%	612	80%	717	93%	490	79%	821	61%	91%	6%	6%	100%	60%
Maharashtra	Washim	34	4%	82%	63%	85%	62%	458	83%	507	92%	297	81%	701	66%	68%	10%	7%	83%	45%
Maharashtra	Yavatmal **	188	7%	88%	65%	89%	66%	1453	82%	1672	95%	1045	82%	2367	70%	80%	16%	13%	97%	38%
Manipur	Bishnupur	3	2%	93%	66%	91%	79%	124	89%	139	99%	116	91%	217	90%	43%	1%	0%	0%	100%
Manipur	Chandel *	6	5%	86%	89%	90%	50%	62	90%	69	100%	38	60%	103	64%	40%	33%	13%	78%	22%
Manipur	Churachandpur *	98	27%	87%	71%	90%	77%	160	100%	160	100%	120	98%	172	37%	63%	17%	11%	94%	94%
Manipur	Imphal East	20	3%	92%	77%	90%	79%	224	92%	229	94%	167	81%	500	69%	52%	6%	3%	45%	20%
Manipur	Imphal West	15	3%	91%	84%	87%	68%	269	96%	241	86%	193	81%	270	43%	23%	10%	2%	0%	4%
Manipur	Senapati *	13	7%	93%	83%	96%	76%	112	100%	112	100%	118	98%	0	0%	74%	3%	2%	0%	11%
Manipur	Tamenglong *	2	4%	91%	78%	91%	92%	54	100%	49	91%	47	80%	42	65%	69%	2%	2%		
Manipur	Thoubal	7	2%	87%	77%	91%	63%	152	99%	151	99%	92	75%	230	57%	45%	5%	2%	13%	50%
Manipur	Ukhrul *	6	5%	81%	41%	82%	64%	80	98%	82	100%	60	100%	92	65%	65%	28%	18%	67%	67%
Meghalaya	East Garo Hills *	9	6%	90%	82%	86%	78%	102	91%	89	79%	85	77%	98	47%	32%	2%	0%	100%	0%
Meghalaya	East Khasi Hills *	232	15%	78%	54%	74%	46%	749	90%	800	96%	400	84%	1100	53%	0%	0%	0%		
Meghalaya	Jaintia Hills *	211	34%	84%	49%	83%	59%	172	76%	227	100%	94	62%	744	100%	1%	25%	0%		
Meghalaya	Ri Bhoi *	51	14%	77%	66%	80%	61%	198	88%	203	90%	152	100%	409	88%	10%	4%	0%		
Meghalaya	South Garo Hills *	7	7%	96%	86%	90%	50%	52	71%	64	88%	34	57%	73	66%	15%	0%	0%		
Meghalaya	West Garo Hills *	30	5%	91%	86%	93%	80%	484	98%	494	100%	450	94%	173	24%	56%	0%	0%		
Meghalaya	West Khasi Hills *	123	20%	90%	66%	88%	50%	259	93%	267	96%	178	89%	324	43%	8%	0%	0%	100%	0%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Maharashtra	Malegoan Corporation	30	46%	10	50%	20	100%	24	81%	87	76%	172	69%
Maharashtra	Mira Bhayander	53	81%	20	100%	16	80%	23	78%	83	73%	195	78%
Maharashtra	Mumbai												
Maharashtra	Nagpur MC	52	80%	10	50%	12	60%	10	33%	68	59%	152	61%
Maharashtra	Nagpur Rural	49	76%	20	100%	16	80%	5	17%	89	77%	180	72%
Maharashtra	Nanded **	56	87%	10	50%	16	80%	5	17%	74	64%	161	65%
Maharashtra	Nanded Waghela MC	56	86%	20	100%	16	80%	5	17%	66	58%	163	65%
Maharashtra	Nandurbar *	57	88%	20	100%	16	80%	15	50%	93	81%	202	81%
Maharashtra	Nashik	55	84%	10	50%	16	80%	5	17%	99	86%	185	74%
Maharashtra	Nashik Corp	59	90%	10	50%	16	80%	10	32%	100	87%	194	78%
Maharashtra	Navi Mumbai	64	98%	20	100%	16	80%	29	95%	76	66%	205	82%
Maharashtra	Osmanabad **	63	97%	10	50%	16	80%	15	50%	78	67%	182	73%
Maharashtra	Parbhani **	61	93%	10	50%	16	80%	5	17%	94	82%	186	74%
Maharashtra	Pimpri Chinchwad	57	87%	20	100%	16	80%	5	17%	89	78%	187	75%
Maharashtra	Pune	63	97%	20	100%	8	40%	10	35%	74	65%	176	70%
Maharashtra	Pune Rural	60	92%	20	100%	16	80%	5	17%	86	75%	187	75%
Maharashtra	Raigarh-Mh	61	94%	10	50%	12	60%	10	32%	76	66%	168	67%
Maharashtra	Ratnagiri	60	92%	10	50%	8	40%	5	17%	91	79%	174	70%
Maharashtra	Sangli	45	69%	20	100%	16	80%	6	21%	99	86%	186	75%
Maharashtra	Sangli MC	24	37%	10	50%	12	60%	8	27%	83	72%	137	55%
Maharashtra	Satara	49	76%	20	100%	16	80%	5	17%	88	77%	178	71%
Maharashtra	Sindhudurg	56	86%	10	50%	8	40%	15	50%	103	89%	192	77%
Maharashtra	Solapur	59	91%	10	50%	16	80%	5	17%	71	62%	161	64%
Maharashtra	Solapur MC	46	71%	20	100%	12	60%	15	50%	59	51%	152	61%
Maharashtra	Thane	57	87%	10	50%	12	60%	15	50%	38	33%	132	53%
Maharashtra	Thane MC	64	98%	20	100%	16	80%	23	77%	81	71%	204	82%
Maharashtra	Ulhasnagar MC	62	95%	20	100%	16	80%	5	17%	68	59%	171	68%
Maharashtra	Wardha	63	97%	10	50%	12	60%	11	38%	73	63%	169	68%
Maharashtra	Washim	54	83%	10	50%	16	80%	5	17%	56	49%	141	56%
Maharashtra	Yavatmal **	60	92%	10	50%	16	80%	5	17%	82	71%	172	69%
Manipur	Bishnupur	33	51%	20	100%	20	100%	5	17%	58	50%	136	54%
Manipur	Chandel *	44	68%	20	100%	16	80%	10	33%	37	33%	128	51%
Manipur	Churachandpur *	29	45%	20	100%	12	60%	5	17%	92	80%	158	63%
Manipur	Imphal East	61	94%	10	50%	4	20%	10	33%	44	38%	129	52%
Manipur	Imphal West	54	83%	20	100%	16	80%	10	33%	66	57%	166	66%
Manipur	Senapati *	34	53%	20	100%	20	100%	5	17%	68	59%	147	59%
Manipur	Tamenglong *	32	49%	20	100%	16	80%	17	58%	65	57%	150	60%
Manipur	Thoubal	58	90%	20	100%	20	100%	5	17%	65	57%	168	67%
Manipur	Ukhrul *	29	45%	10	50%	16	80%	5	17%	82	71%	142	57%
Meghalaya	East Garo Hills *	47	73%	10	50%	20	100%	5	17%	66	57%	148	59%
Meghalaya	East Khasi Hills *	47	72%	20	100%	16	80%	14	46%	43	37%	139	56%
Meghalaya	Jaintia Hills *	33	51%	20	100%	4	20%	15	50%	63	55%	135	54%
Meghalaya	Ri Bhoi *	51	78%	20	100%	20	100%	15	50%	62	54%	167	67%
Meghalaya	South Garo Hills *	48	73%	20	100%	20	100%	5	17%	71	62%	164	66%
Meghalaya	West Garo Hills *	53	81%	20	100%	16	80%	5	17%	75	66%	169	68%
Meghalaya	West Khasi Hills *	53	82%	20	100%	20	100%	15	50%	70	61%	178	71%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed [2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Mizoram	Aizawl *	4	3884	240	-2%	335	12	0%	83	69	1223	303	48	75	116	64	24
Mizoram	Champhai *	1	762	152	-8%	39	20	34%	31	29	131	104	21	29	37	18	10
Mizoram	Kolasib *	1	813	245	-13%	58	14	48%	70	65	158	190	46	36	60	48	23
Mizoram	Lawngtlai *	1	382	81	-49%	20	19	-15%	17	32	149	127	25	45	29	28	8
Mizoram	Lunglei *	2	1107	180	-10%	183	6	-46%	119	99	290	188	80	29	52	27	19
Mizoram	Mamit *	1	536	156	-17%	37	14	-11%	43	37	86	100	35	31	20	14	8
Mizoram	Saiha *	1	614	272	21%	42	15	-18%	75	85	205	364	59	144	105	57	30
Mizoram	Serchhip *	1	401	155	62%	26	15	5%	40	39	62	96	34	29	22	11	9
Nagaland	Dimapur *	4	3731	246	-4%	669	6	0%	176	113	989	260	81	61	38	80	37
Nagaland	Kiphire *	1	590	199	38%	70	8	-8%	95	100	150	203	77	34	54	38	26
Nagaland	Kohima *	3	1506	139	-20%	219	7	14%	81	63	419	155	46	28	42	39	20
Nagaland	Longleng*	1	358	177	112%	44	8	-5%	87	85	86	170	67	26	45	32	24
Nagaland	Mokokchung *	2	1190	154	16%	178	7	9%	92	87	280	145	63	28	21	33	30
Nagaland	Mon *	3	2682	267	11%	202	13	-7%	81	114	626	250	81	52	64	52	34
Nagaland	Peren *	1	420	111	-16%	26	16	47%	27	41	84	88	26	37	7	18	18
Nagaland	Phek *	2	563	86	32%	82	7	-1%	50	45	146	89	38	10	24	17	12
Nagaland	Tuensang *	2	1559	198	16%	183	9	10%	93	92	642	326	73	76	126	52	20
Nagaland	Wokha *	2	1350	203	20%	121	11	13%	73	73	157	94	65	20	2	8	8
Nagaland	Zunheboto *	1	557	99	1%	100	6	-36%	71	70	143	101	65	23	3	10	6
Orissa	Anugul	13	7696	151	-4%	762	10	1%	60	49	1050	83	41	17	13	11	8
Orissa	Balangir **	16	7511	114	-9%	1044	7	0%	63	55	2291	139	50	45	22	19	6
Orissa	Baleshwar	23	10764	116	11%	1407	8	8%	61	51	2023	87	43	21	12	11	9
Orissa	Bargarh	15	6806	115	5%	749	9	12%	51	53	1724	117	48	30	28	11	6
Orissa	Bhadrak	15	5230	87	20%	468	11	-10%	31	30	851	56	26	9	15	7	4
Orissa	Bhubaneshwar MC	8	4215	126	-15%	597	7	0%	71	34	768	92	26	13	33	17	10
Orissa	Boudh	4	1424	81	-12%	213	7	-4%	48	58	402	91	51	12	16	13	7
Orissa	Cuttack	26	9594	92	3%	1320	7	10%	50	30	1710	65	24	10	22	10	6
Orissa	Debagarh	3	1231	99	-14%	159	8	-3%	51	50	292	94	42	21	17	13	9
Orissa	Dhenkanal	12	6218	130	-10%	717	9	-11%	60	60	1102	92	49	11	18	15	12
Orissa	Gajapati †	6	3165	137	-13%	618	5	-5%	107	98	1094	190	88	45	30	26	12
Orissa	Ganjam	35	19233	137	14%	2724	7	18%	77	69	5427	154	54	39	33	28	17
Orissa	Jagatsinghpur	11	4620	102	7%	237	19	29%	21	21	471	41	18	6	13	4	3
Orissa	Jajapur	18	5394	74	-4%	677	8	13%	37	40	1439	79	34	15	20	10	6
Orissa	Jharsuguda	6	3857	166	-21%	420	9	0%	72	70	803	139	57	37	23	21	13
Orissa	Kalahandi **	16	7465	119	-10%	1083	7	13%	69	64	1983	126	57	31	21	17	8
Orissa	Kandhamal †	7	4723	161	-13%	663	7	-10%	91	82	1035	141	71	26	25	20	12
Orissa	Kendrapara	14	6323	110	9%	489	13	9%	34	36	864	60	31	9	11	9	6
Orissa	Kendujhar	18	11061	153	-7%	1679	7	9%	93	82	2941	163	71	45	26	21	12
Orissa	Khordha	14	4342	77	6%	526	8	3%	37	38	1095	78	32	16	19	11	7
Orissa	Koraput †	14	7902	143	2%	1376	6	8%	100	84	1722	125	72	22	13	17	12
Orissa	Malkangiri *	6	2989	122	-27%	677	4	-2%	110	124	1021	167	105	25	15	22	19
Orissa	Mayurbhanj †	25	17571	175	-9%	3183	6	1%	127	119	5160	205	104	52	24	25	15
Orissa	Nabarangapur †	12	3941	81	-8%	637	6	2%	52	49	979	80	44	25	3	8	5
Orissa	Nayagarh	10	5679	148	-3%	872	7	-1%	91	73	1429	149	51	34	25	39	24
Orissa	Nuapada †	6	3996	165	8%	553	7	9%	91	78	933	154	68	56	13	17	12
Orissa	Puri	17	6285	93	-9%	583	11	-6%	34	33	1215	72	26	14	17	14	8
Orissa	Rayagada †	10	6606	172	-7%	1049	6	9%	109	100	1555	162	86	36	18	22	16

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Mizoram	Aizawl *	159	16%	92%	65%	108%	74%	290	100%	290	100%	175	81%	91	7%	67%	16%	11%	100%	53%
Mizoram	Champhai *	29	27%	71%	90%	84%	64%	38	97%	39	100%	44	100%	58	44%	86%	17%	15%	36%	21%
Mizoram	Kolasib *	9	8%	92%	78%	88%	92%	54	95%	54	95%	36	62%	32	20%	70%	9%	6%	87%	53%
Mizoram	Lawngtlai *	21	18%	96%	88%	100%	88%	35	92%	31	82%	16	67%	96	64%	33%	4%	1%		
Mizoram	Lunglei *	54	22%	95%	81%	138%	100%	153	100%	153	100%	85	99%	66	23%	82%	2%	1%	100%	63%
Mizoram	Mamit *	12	16%	83%	67%	76%	43%	35	95%	36	97%	19	90%	54	63%	66%	4%	2%	100%	75%
Mizoram	Saiha *	48	28%	95%	100%	94%	89%	49	98%	49	98%	39	95%	46	22%	24%	0%	0%		
Mizoram	Serchhip *	13	24%	95%	80%	81%	100%	27	96%	25	89%	12	63%	16	26%	100%	2%	2%	100%	100%
Nagaland	Dimapur *	54	8%	92%	83%	86%	78%	375	83%	451	100%	269	72%	484	49%	61%	15%	9%	99%	51%
Nagaland	Kiphire *	23	19%	96%	95%	95%	88%	72	95%	72	95%	67	100%	43	29%	36%	0%	0%	100%	100%
Nagaland	Kohima *	24	8%	94%	90%	93%	87%	178	99%	178	99%	199	100%	396	95%	89%	9%	8%	100%	57%
Nagaland	Longleng*	13	19%	88%	56%	90%	78%	45	98%	45	98%	40	93%	0	0%	80%	3%	2%	0%	0%
Nagaland	Mokokchung *	39	18%	95%	81%	89%	80%	172	97%	178	100%	184	100%	75	27%	35%	3%	1%	100%	50%
Nagaland	Mon *	77	16%	91%	79%	95%	98%	2	1%	41	14%	46	19%	0	0%	23%	1%	0%		
Nagaland	Peren *	8	12%	96%	60%	91%	78%	0	0%	0	0%	0	0%	0	0%	40%	3%	1%	100%	100%
Nagaland	Phek *	10	8%	85%	72%	93%	65%	70	85%	78	95%	43	83%	77	53%	30%	23%	7%	100%	100%
Nagaland	Tuensang *	140	26%	92%	75%	124%	109%	183	100%	183	100%	167	91%	330	51%	54%	4%	2%	14%	57%
Nagaland	Wokha *	15	10%	98%	100%	100%	100%	120	99%	121	100%	123	100%	120	76%	67%	0%	0%		
Nagaland	Zunheboto *	14	11%	91%	100%	86%	89%	100	100%	100	100%	73	96%	23	16%	19%	15%	3%		
Orissa	Anugul	41	5%	94%	74%	90%	66%	495	79%	623	100%	440	78%	836	80%	6%	8%	0%	0%	0%
Orissa	Balangir **	109	6%	88%	53%	84%	73%	771	83%	916	99%	377	54%	2143	94%	12%	0%	0%		
Orissa	Baleshwar	42	2%	89%	76%	86%	73%	1032	86%	1143	95%	670	77%	1885	93%	49%	2%	1%	0%	31%
Orissa	Bargarh	70	4%	90%	69%	88%	78%	671	84%	779	98%	498	74%	1650	96%	13%	4%	1%		
Orissa	Bhadrak	25	3%	88%	76%	91%	75%	371	82%	448	99%	211	77%	851	100%	67%	2%	1%	100%	100%
Orissa	Bhubaneshwar MC	88	14%	86%	68%	83%	64%	263	89%	278	94%	184	86%	230	30%	31%	3%	1%		
Orissa	Boudh	23	7%	89%	71%	86%	71%	219	86%	255	100%	184	81%	383	95%	19%	1%	0%		
Orissa	Cuttack	71	5%	88%	69%	86%	60%	629	78%	795	99%	363	62%	1430	84%	0%		0%		
Orissa	Debagarh	11	4%	85%	48%	82%	55%	149	93%	159	99%	117	97%	269	92%	5%	0%	0%		
Orissa	Dhenkanal	60	7%	92%	78%	93%	69%	631	87%	727	100%	421	70%	988	90%	8%	1%	0%		
Orissa	Gajapati †	111	12%	87%	45%	79%	47%	488	85%	528	92%	300	69%	795	73%	3%	14%	0%		
Orissa	Ganjam	345	8%	88%	56%	82%	56%	2045	82%	2440	98%	1072	64%	4115	76%	21%	8%	2%		
Orissa	Jagatsinghpur	11	3%	90%	68%	93%	70%	213	87%	242	99%	224	87%	468	99%	1%	0%	0%		
Orissa	Jajapur	49	4%	94%	84%	92%	77%	652	88%	701	95%	613	80%	1169	81%	16%	3%	0%	100%	0%
Orissa	Jharsuguda	32	5%	92%	77%	84%	66%	361	88%	389	95%	325	85%	775	97%	0%		0%		
Orissa	Kalahandi **	92	5%	82%	64%	86%	59%	845	83%	992	97%	486	57%	100	5%	8%	2%	0%		
Orissa	Kandhamal †	74	8%	90%	64%	88%	78%	475	79%	582	97%	246	55%	948	92%	6%	3%	0%		
Orissa	Kendrapara	34	5%	97%	86%	96%	76%	480	91%	530	100%	467	94%	814	94%	5%	0%	0%		
Orissa	Kendujhar	140	5%	86%	62%	86%	54%	1308	87%	1495	100%	1086	87%	42	1%	0%	0%	0%	0%	0%
Orissa	Khordha	80	9%	88%	68%	86%	67%	452	82%	546	100%	339	78%	65	6%	21%	1%	0%		
Orissa	Koraput †	97	7%	89%	73%	88%	67%	917	79%	1142	98%	652	69%	1430	83%	46%	1%	0%		
Orissa	Malkangiri *	44	5%	81%	66%	84%	74%	575	76%	635	84%	366	60%	464	45%	0%		0%		
Orissa	Mayurbhanj †	143	3%	89%	75%	89%	71%	2477	83%	2971	99%	1975	77%	4571	89%	25%	1%	0%		
Orissa	Nabarangapur †	32	4%	92%	71%	88%	80%	536	89%	569	95%	368	74%	940	96%	5%	4%	0%		
Orissa	Nayagarh	65	6%	70%	43%	66%	35%	640	89%	681	95%	139	41%	40	3%	7%	2%	0%		
Orissa	Nuapada †	38	5%	91%	60%	89%	75%	424	88%	470	97%	265	69%	249	27%	15%	0%	0%		
Orissa	Puri	82	8%	89%	68%	88%	67%	538	95%	569	100%	345	76%	1138	94%	29%	1%	0%		
Orissa	Rayagada †	119	9%	88%	78%	88%	75%	676	69%	975	100%	610	69%	1358	87%	19%	1%	0%	0%	0%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Mizoram	Aizawl *	63	97%	20	100%	4	20%	10	33%	53	46%	150	60%
Mizoram	Champhai *	32	50%	20	100%	0	0%	15	50%	78	68%	145	58%
Mizoram	Kolasib *	34	53%	20	100%	12	60%	5	17%	77	67%	148	59%
Mizoram	Lawngtlai *	32	49%	20	100%	12	60%	8	27%	48	42%	120	48%
Mizoram	Lunglei *	61	93%	20	100%	4	20%	15	51%	58	50%	158	63%
Mizoram	Mamit *	28	43%	20	100%	12	60%	20	67%	67	58%	147	59%
Mizoram	Saiha *	34	52%	10	50%	12	60%	15	50%	61	53%	132	53%
Mizoram	Serchhip *	29	45%	20	100%	12	60%	5	17%	75	65%	141	57%
Nagaland	Dimapur *	59	91%	20	100%	8	40%	5	17%	69	60%	161	64%
Nagaland	Kiphire *	33	50%	20	100%	16	80%	15	50%	87	76%	171	68%
Nagaland	Kohima *	35	54%	20	100%	20	100%	10	33%	95	82%	180	72%
Nagaland	Longleng*	51	78%	10	50%	20	100%	15	50%	68	59%	164	65%
Nagaland	Mokokchung *	34	52%	20	100%	20	100%	10	33%	81	70%	165	66%
Nagaland	Mon *	28	43%	20	100%	12	60%	5	17%	44	39%	110	44%
Nagaland	Peren *	30	46%	20	100%	4	20%	15	50%	64	56%	133	53%
Nagaland	Phek *	24	37%	20	100%	12	60%	5	17%	67	58%	128	51%
Nagaland	Tuensang *	32	49%	20	100%	8	40%	20	67%	67	58%	147	59%
Nagaland	Wokha *	35	53%	10	50%	16	80%	5	17%	75	65%	141	56%
Nagaland	Zunheboto *	34	53%	20	100%	20	100%	5	17%	69	60%	148	59%
Orissa	Anugul	36	55%	20	100%	16	80%	11	38%	61	53%	144	58%
Orissa	Balangir **	47	72%	10	50%	8	40%	25	83%	67	59%	157	63%
Orissa	Baleshwar	40	62%	20	100%	4	20%	15	51%	70	61%	150	60%
Orissa	Bargarh	43	66%	10	50%	12	60%	23	77%	80	69%	168	67%
Orissa	Bhadrak	47	72%	20	100%	12	60%	25	83%	71	62%	175	70%
Orissa	Bhubaneshwar MC	41	63%	20	100%	12	60%	23	76%	72	63%	168	67%
Orissa	Boudh	38	58%	20	100%	16	80%	25	83%	83	72%	182	73%
Orissa	Cuttack	34	52%	20	100%	16	80%	26	86%	61	53%	156	63%
Orissa	Debagarh	30	46%	20	100%	20	100%	15	50%	63	55%	148	59%
Orissa	Dhenkanal	59	90%	10	50%	12	60%	13	45%	68	59%	162	65%
Orissa	Gajapati †	50	77%	20	100%	16	80%	5	17%	49	43%	140	56%
Orissa	Ganjam	38	58%	10	50%	20	100%	15	50%	66	58%	149	60%
Orissa	Jagatsinghpur	52	80%	10	50%	16	80%	15	50%	77	67%	170	68%
Orissa	Jajapur	39	60%	10	50%	8	40%	15	50%	60	52%	132	53%
Orissa	Jharsuguda	46	71%	10	50%	12	60%	16	53%	40	35%	124	50%
Orissa	Kalahandi **	40	61%	10	50%	12	60%	8	28%	52	45%	122	49%
Orissa	Kandhamal †	61	94%	10	50%	16	80%	13	42%	62	54%	162	65%
Orissa	Kendrapara	47	73%	10	50%	8	40%	5	17%	85	74%	155	62%
Orissa	Kendujhar	51	78%	10	50%	20	100%	12	40%	38	33%	131	52%
Orissa	Khordha	49	76%	20	100%	8	40%	28	94%	76	66%	181	72%
Orissa	Koraput †	31	48%	20	100%	16	80%	5	17%	71	61%	143	57%
Orissa	Malkangiri *	39	59%	20	100%	12	60%	5	17%	63	55%	139	55%
Orissa	Mayurbhanj †	40	61%	20	100%	20	100%	15	50%	59	52%	154	62%
Orissa	Nabarangapur †	44	68%	10	50%	8	40%	15	50%	58	51%	136	54%
Orissa	Nayagarh	43	67%	20	100%	12	60%	10	33%	48	42%	133	53%
Orissa	Nuapada †	45	69%	20	100%	12	60%	11	36%	65	57%	153	61%
Orissa	Puri	56	86%	10	50%	12	60%	15	50%	78	68%	171	69%
Orissa	Rayagada †	31	47%	20	100%	8	40%	5	17%	38	33%	101	41%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed[2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Orissa	Sambalpur	10	7900	189	-1%	1008	8	-3%	97	61	1409	135	52	34	32	18	11
Orissa	Sonapur	7	2880	110	0%	281	10	4%	43	46	613	94	40	23	20	11	7
Orissa	Sundargarh †	21	15745	189	5%	2062	8	3%	99	83	3569	172	69	50	27	25	14
Puducherry	Puducherry	12	22618	454	16%	2695	8	1%	217	69	1568	126	52	23	29	22	19
Punjab	Amritsar	25	14557	146	0%	2590	6	27%	104	78	3941	158	55	26	43	34	25
Punjab	Barnala	6	4051	170	21%	467	9	19%	78	74	634	106	60	11	17	18	15
Punjab	Bathinda	14	8482	153	-13%	1243	7	-1%	89	84	1999	144	58	27	23	36	28
Punjab	Faridkot	6	4459	180	-8%	737	6	-2%	119	100	1307	211	66	46	46	54	36
Punjab	Fatehgarh Sahib	6	5202	217	31%	483	11	-2%	81	83	800	133	66	13	30	25	20
Punjab	Firozpur	20	11421	141	-4%	1464	8	13%	72	71	2302	114	52	19	16	27	20
Punjab	Gurdaspur	23	15473	168	4%	1890	8	1%	82	82	2975	129	58	20	18	33	25
Punjab	Hoshiarpur	16	10250	162	4%	1142	9	11%	72	66	1797	114	47	26	16	25	21
Punjab	Jalandhar	22	13478	154	4%	2098	6	6%	96	82	3366	154	59	25	37	33	26
Punjab	Kapurthala	8	5788	177	1%	633	9	3%	77	75	1032	126	57	20	26	22	19
Punjab	Ludhiana	35	21052	151	-8%	2721	8	11%	78	70	5194	149	52	31	37	29	20
Punjab	Mansa-PN	8	6492	211	1%	637	10	23%	83	73	988	129	54	24	25	26	21
Punjab	Moga	10	5149	130	12%	879	6	13%	89	89	1434	145	70	23	22	29	19
Punjab	Mohali	10	5061	128	-27%	527	10	6%	53	71	1405	142	52	19	43	29	21
Punjab	Muktsar	9	5831	161	-2%	868	7	1%	96	83	1181	131	59	19	22	31	26
Punjab	Nawanshahr	6	4291	175	7%	565	8	7%	92	95	887	144	75	17	27	25	21
Punjab	Patiala	19	14190	187	9%	1975	7	7%	104	76	2857	151	52	20	44	33	26
Punjab	Rupnagar	7	6319	231	9%	691	9	8%	101	94	1047	153	70	21	32	30	25
Punjab	Sangrur	17	13161	199	-3%	1141	12	12%	69	71	2492	151	48	43	29	31	24
Punjab	Tarn Taran	11	7641	171	25%	938	8	14%	84	91	1568	140	65	19	22	33	27
Rajasthan	Ajmer	26	17779	172	9%	3818	5	2%	148	115	5572	216	71	46	36	62	47
Rajasthan	Alwar	37	17781	121	-11%	2905	6	-1%	79	78	5660	154	61	47	25	20	18
Rajasthan	Banswara †	19	9401	121	4%	2522	4	4%	130	135	3596	185	97	33	12	43	39
Rajasthan	Baran	12	8614	176	5%	1552	6	-3%	127	108	2471	202	82	57	20	43	32
Rajasthan	Barmer	26	12332	118	-22%	1265	10	6%	49	50	2478	95	38	28	10	20	13
Rajasthan	Bharatpur	25	11503	113	3%	2024	6	-9%	79	78	3607	141	57	43	11	30	23
Rajasthan	Bhilwara	24	17933	186	-3%	3750	5	-6%	156	143	6188	257	92	61	39	65	52
Rajasthan	Bikaner	24	15356	162	-2%	2363	6	-2%	100	72	2699	114	52	11	24	27	21
Rajasthan	Bundi	11	5970	134	13%	957	6	6%	86	96	1900	171	69	40	18	43	29
Rajasthan	Chittaurgarh	21	13478	162	16%	1882	7	13%	90	108	3752	180	71	40	24	45	39
Rajasthan	Churu	20	8797	108	-5%	1557	6	0%	76	72	2711	133	46	37	17	33	27
Rajasthan	Dausa	16	10203	156	14%	1401	7	11%	86	79	2519	154	54	49	17	33	25
Rajasthan	Dhaulpur	12	8486	176	4%	1537	6	-3%	127	111	2244	186	78	48	15	45	35
Rajasthan	Dungarpur †	14	6733	121	-8%	2006	3	-7%	144	141	3031	218	102	52	14	50	42
Rajasthan	Ganganagar	20	11689	148	9%	1692	7	10%	86	82	3201	163	64	46	25	28	21
Rajasthan	Hanumangarh	18	9924	139	8%	1783	6	19%	100	90	2777	156	59	33	22	42	35
Rajasthan	Jaipur	36	40900	285	19%	5873	7	1%	164	97	7202	201	63	46	43	49	36
Rajasthan	Jaipur DTC II	31	23946	195		3173	8		103	93	5436	177	61	39	32	45	34
Rajasthan	Jaisalmer	7	4454	166	-10%	359	12	7%	53	52	561	83	41	12	16	15	12
Rajasthan	Jalore	18	7050	96	-17%	1290	5	4%	70	85	2661	145	66	40	6	34	21

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Orissa	Sambalpur	55	4%	91%	68%	87%	65%	576	88%	652	100%	341	61%	1409	100%	8%	3%	0%		
Orissa	Sonapur	19	4%	82%	68%	86%	46%	263	86%	305	100%	135	62%	54	9%	10%	0%	0%		
Orissa	Sundargarh †	108	4%	92%	75%	89%	68%	1330	77%	1683	97%	942	69%	3255	91%	16%	3%	0%		
Puducherry	Puducherry	128	10%	90%	74%	85%	72%	708	80%	745	84%	598	95%	0	0%	69%	2%	1%	100%	48%
Punjab	Amritsar	283	9%	88%	70%	87%	76%	1893	96%	1976	100%	1621	100%	2862	73%	80%	2%	1%	56%	67%
Punjab	Barnala	28	5%	92%	83%	89%	78%	405	91%	438	98%	306	81%	150	24%	61%	2%	1%	100%	100%
Punjab	Bathinda	74	5%	91%	83%	88%	82%	1147	96%	1190	100%	1125	100%	433	22%	73%	2%	2%	60%	20%
Punjab	Faridkot	54	6%	88%	63%	86%	69%	611	97%	618	98%	444	90%	341	26%	85%	2%	2%	100%	100%
Punjab	Fatehgarh Sahib	38	6%	92%	64%	87%	67%	482	94%	513	100%	297	94%	523	65%	71%	2%	2%	100%	100%
Punjab	Firozpur	95	5%	87%	68%	86%	69%	1298	89%	1363	94%	1070	89%	733	32%	53%	2%	1%	17%	67%
Punjab	Gurdaspur	118	5%	93%	82%	91%	77%	1742	91%	1913	100%	1386	85%	235	8%	72%	1%	1%	100%	100%
Punjab	Hoshiarpur	72	5%	93%	86%	90%	79%	1012	95%	1069	100%	947	94%	619	34%	51%	2%	1%	100%	0%
Punjab	Jalandhar	177	7%	91%	76%	87%	72%	1728	94%	1750	95%	1057	70%	703	21%	60%	2%	1%	73%	45%
Punjab	Kapurthala	44	5%	88%	81%	88%	74%	616	99%	618	100%	486	88%	255	25%	92%	2%	2%	50%	64%
Punjab	Ludhiana	419	10%	89%	74%	84%	70%	2256	90%	2463	98%	2208	94%	1419	27%	62%	1%	1%	50%	67%
Punjab	Mansa-PN	38	5%	92%	78%	92%	84%	567	98%	578	100%	570	99%	0	0%	52%	2%	1%	100%	20%
Punjab	Moga	60	5%	96%	93%	92%	85%	849	96%	849	96%	732	94%	514	36%	73%	2%	1%	100%	40%
Punjab	Mohali	75	7%	91%	76%	89%	69%	611	85%	714	100%	574	94%	431	31%	78%	2%	2%	89%	89%
Punjab	Muktsar	48	5%	91%	73%	94%	86%	722	94%	765	100%	545	90%	262	22%	65%	1%	1%	100%	25%
Punjab	Nawanshahr	26	4%	95%	80%	93%	82%	571	96%	594	100%	511	94%	180	20%	44%	2%	1%	100%	100%
Punjab	Patiala	125	6%	83%	66%	81%	61%	1345	91%	1411	95%	963	90%	291	10%	51%	1%	1%	29%	67%
Punjab	Rupnagar	49	6%	94%	82%	92%	83%	594	92%	646	100%	596	96%	189	18%	77%	1%	1%	67%	47%
Punjab	Sangrur	114	6%	88%	74%	87%	73%	1026	86%	1075	90%	880	84%	193	8%	51%	1%	0%	100%	67%
Punjab	Tarn Taran	57	5%	92%	72%	93%	78%	1031	100%	1031	100%	818	100%	74	5%	48%	2%	1%	73%	27%
Rajasthan	Ajmer	292	7%	91%	66%	86%	72%	2635	86%	2938	96%	1838	85%	510	9%	47%	1%	0%		
Rajasthan	Alwar	197	4%	92%	81%	91%	83%	1711	59%	1810	62%	1725	69%	1065	19%	12%	0%	0%		
Rajasthan	Banswara †	112	4%	92%	80%	91%	83%	2191	83%	2480	94%	1361	66%	465	13%	10%	3%	0%		
Rajasthan	Baran	134	7%	92%	84%	91%	83%	1285	92%	1371	98%	996	87%	755	31%	8%	1%	0%		
Rajasthan	Barmer	53	3%	91%	74%	91%	83%	1123	86%	1304	99%	1045	82%	69	3%	30%	0%	0%		
Rajasthan	Bharatpur	161	6%	94%	83%	90%	80%	1624	80%	2005	99%	995	72%	812	23%	6%	1%	0%		
Rajasthan	Bhilwara	305	7%	92%	77%	90%	75%	3009	87%	3391	98%	2627	91%	510	8%	28%	2%	1%		
Rajasthan	Bikaner	135	7%	89%	68%	89%	75%	1483	86%	1525	89%	1119	85%	349	13%	0%		0%		
Rajasthan	Bundi	60	4%	91%	67%	89%	70%	1016	93%	1074	98%	682	85%	251	13%	14%	1%	0%		
Rajasthan	Chittaurgarh	98	3%	89%	78%	88%	75%	1781	78%	2144	93%	1497	85%	293	8%	43%	1%	0%		
Rajasthan	Churu	151	7%	90%	77%	90%	80%	1320	89%	1403	95%	1054	90%	353	13%	8%	0%	0%	50%	50%
Rajasthan	Dausa	85	4%	92%	84%	89%	75%	1044	80%	1278	98%	751	75%	438	17%	12%	0%	0%	0%	0%
Rajasthan	Dhaulpur	139	8%	92%	78%	89%	76%	1060	78%	1313	96%	807	74%	408	18%	12%	1%	0%		
Rajasthan	Dungarpur †	89	4%	92%	73%	92%	84%	1498	75%	2004	100%	1319	78%	651	21%	7%	3%	0%		
Rajasthan	Ganganagar	103	4%	92%	80%	90%	83%	1551	93%	1655	100%	1429	90%	492	15%	55%	0%	0%		
Rajasthan	Hanumangarh	160	8%	90%	78%	87%	78%	1516	91%	1572	94%	1285	87%	105	4%	29%	0%	0%		
Rajasthan	Jaipur	446	8%	94%	80%	91%	72%	1771	50%	2208	62%	2448	58%	310	4%	63%	1%	0%	75%	100%
Rajasthan	Jaipur DTC II	260	6%	94%	80%	172%	133%	2471	84%	2856	98%	2035	190%	552	10%	71%	1%	0%	0%	100%
Rajasthan	Jaisalmer	11	2%	89%	74%	90%	76%	315	89%	327	92%	265	83%	50	9%	22%	1%	0%		
Rajasthan	Jalore	34	2%	93%	83%	93%	83%	1457	92%	1568	99%	1274	89%	63	2%	9%	19%	2%	40%	43%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Orissa	Sambalpur	47	72%	20	100%	12	60%	15	50%	54	47%	148	59%
Orissa	Sonapur	51	79%	10	50%	8	40%	25	83%	48	42%	142	57%
Orissa	Sundargarh †	46	71%	10	50%	16	80%	15	50%	72	62%	159	64%
Puducherry	Puducherry	61	94%	20	100%	20	100%	19	62%	68	59%	188	75%
Punjab	Amritsar	59	90%	20	100%	20	100%	7	23%	76	67%	182	73%
Punjab	Barnala	27	41%	10	50%	20	100%	5	17%	101	88%	163	65%
Punjab	Bathinda	45	70%	20	100%	16	80%	5	17%	95	83%	182	73%
Punjab	Faridkot	41	63%	20	100%	16	80%	25	83%	75	65%	176	71%
Punjab	Fatehgarh Sahib	53	82%	20	100%	12	60%	20	67%	82	71%	187	75%
Punjab	Firozpur	45	69%	0	0%	20	100%	15	50%	63	55%	143	57%
Punjab	Gurdaspur	56	85%	10	50%	20	100%	13	43%	59	51%	158	63%
Punjab	Hoshiarpur	56	86%	20	100%	20	100%	5	17%	64	56%	165	66%
Punjab	Jalandhar	62	95%	10	50%	16	80%	5	17%	66	58%	159	64%
Punjab	Kapurthala	55	84%	20	100%	20	100%	5	17%	71	62%	171	68%
Punjab	Ludhiana	58	89%	20	100%	20	100%	5	17%	67	58%	170	68%
Punjab	Mansa-PN	49	76%	20	100%	20	100%	15	50%	73	63%	177	71%
Punjab	Moga	55	84%	20	100%	20	100%	15	50%	61	53%	170	68%
Punjab	Mohali	56	86%	10	50%	20	100%	5	17%	75	65%	166	66%
Punjab	Muktsar	56	87%	10	50%	16	80%	5	17%	77	67%	165	66%
Punjab	Nawanshahr	51	78%	20	100%	20	100%	10	33%	65	57%	166	66%
Punjab	Patiala	33	50%	10	50%	20	100%	10	33%	60	52%	133	53%
Punjab	Rupnagar	59	92%	20	100%	20	100%	5	17%	89	77%	193	77%
Punjab	Sangrur	50	76%	0	0%	16	80%	8	27%	66	57%	139	56%
Punjab	Tarn Taran	60	92%	10	50%	12	60%	5	17%	71	62%	158	63%
Rajasthan	Ajmer	32	49%	10	50%	12	60%	20	67%	63	55%	137	55%
Rajasthan	Alwar	29	45%	20	100%	20	100%	15	50%	89	77%	173	69%
Rajasthan	Banswara †	38	59%	10	50%	20	100%	5	17%	72	63%	146	58%
Rajasthan	Baran	43	67%	20	100%	20	100%	11	37%	75	65%	170	68%
Rajasthan	Barmer	20	31%	20	100%	16	80%	13	43%	77	67%	147	59%
Rajasthan	Bharatpur	52	80%	20	100%	12	60%	15	50%	72	63%	171	69%
Rajasthan	Bhilwara	50	77%	20	100%	20	100%	24	79%	68	59%	182	73%
Rajasthan	Bikaner	42	64%	10	50%	16	80%	16	54%	60	52%	144	57%
Rajasthan	Bundi	48	74%	20	100%	20	100%	15	50%	58	50%	161	64%
Rajasthan	Chittaurgarh	43	66%	0	0%	20	100%	20	67%	80	69%	162	65%
Rajasthan	Churu	44	68%	20	100%	20	100%	8	28%	58	50%	150	60%
Rajasthan	Dausa	45	69%	20	100%	16	80%	25	83%	56	49%	162	65%
Rajasthan	Dhaulpur	48	73%	20	100%	20	100%	10	32%	67	58%	164	66%
Rajasthan	Dungarpur †	54	83%	10	50%	16	80%	10	32%	61	53%	151	60%
Rajasthan	Ganganagar	50	77%	20	100%	20	100%	5	17%	87	76%	182	73%
Rajasthan	Hanumangarh	36	56%	20	100%	12	60%	15	50%	53	46%	136	55%
Rajasthan	Jaipur	59	90%	20	100%	20	100%	15	51%	78	67%	192	77%
Rajasthan	Jaipur DTC II	62	96%	20	100%	20	100%	20	67%	53	46%	175	70%
Rajasthan	Jaisalmer	48	74%	20	100%	16	80%	10	33%	70	60%	163	65%
Rajasthan	Jalore	41	63%	20	100%	20	100%	21	71%	80	70%	182	73%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed[2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Rajasthan	Jhalawar	14	6952	123	11%	1464	5	8%	104	84	2030	144	57	40	10	37	30
Rajasthan	Jhunjhunun	21	11558	135	11%	1631	7	9%	76	71	2720	127	46	27	20	34	27
Rajasthan	Jodhpur	37	20855	141	-5%	2871	7	6%	78	62	4939	134	46	36	27	25	17
Rajasthan	Karauli	15	10298	177	6%	1489	7	17%	102	92	2584	177	60	65	9	44	35
Rajasthan	Kota	20	12869	165	12%	2081	6	14%	107	82	3164	162	58	49	21	34	25
Rajasthan	Nagaur	33	12984	98	1%	2105	6	5%	64	62	4009	121	41	32	17	32	23
Rajasthan	Pali	20	9374	115	6%	1580	6	12%	78	77	2933	144	55	46	14	29	23
Rajasthan	Rajsamand	12	5163	111	4%	1175	4	-9%	101	106	1986	171	72	39	18	41	35
Rajasthan	Sawai Madhopur	13	9319	174	15%	1579	6	6%	118	106	2513	188	75	41	27	45	35
Rajasthan	Sikar	27	14672	137	1%	2018	7	-6%	75	64	3062	114	42	28	11	33	23
Rajasthan	Sirohi	10	6264	151	-15%	1124	6	-11%	108	104	1612	155	76	26	12	41	29
Rajasthan	Tonk	14	10572	186	5%	2122	5	4%	149	148	3809	268	104	74	33	57	48
Rajasthan	Udaipur	33	28400	218	6%	8430	3	-1%	259	128	6877	211	91	46	27	47	39
Sikkim	East Sikkim	3	3945	351	-13%	401	10	1%	143	109	814	289	82	60	79	68	39
Sikkim	North Sikkim *	0.4	347	200	14%	37	9	2%	85	111	143	330	72	76	97	85	44
Sikkim	South Sikkim **	1.5	1481	252	2%	159	9	11%	108	110	401	273	76	70	65	61	39
Sikkim	West Sikkim **	1.4	1101	202	-4%	109	10	-3%	80	95	273	200	73	29	56	43	32
Tamil Nadu	Chennai	47	66206	354	-1%	5663	12	2%	121	68	6649	142	50	31	36	24	20
Tamil Nadu	Coimbatore	35	22591	163	-6%	2038	11	6%	59	47	2697	78	37	11	15	14	11
Tamil Nadu	Cuddalore	26	30012	288	-12%	1212	25	0%	47	52	3431	132	38	42	30	22	15
Tamil Nadu	Dharmapuri	15	11464	191	-15%	672	17	-9%	45	45	1344	89	31	24	14	20	14
Tamil Nadu	Dindigul	22	23159	268	1%	2349	10	4%	109	68	3063	142	54	39	30	19	15
Tamil Nadu	Erode	23	24431	270	-9%	2515	10	-4%	111	62	2206	98	47	17	14	19	16
Tamil Nadu	Kanchipuram	40	13960	87	-19%	1249	11	-7%	31	56	4640	116	42	27	29	18	15
Tamil Nadu	Kanyakumari	19	22266	299	10%	1250	18	2%	67	50	1411	76	41	13	10	11	10
Tamil Nadu	Karur	11	5512	128	-12%	436	13	16%	40	53	1158	108	43	34	15	16	11
Tamil Nadu	Krishnagiri	19	11257	149	-21%	720	16	-3%	38	42	1487	79	33	19	15	12	10
Tamil Nadu	Madurai	30	26420	217	-11%	2795	9	3%	92	63	3509	115	47	27	20	22	18
Tamil Nadu	Nagapattinam	16	10800	167	5%	811	13	7%	50	52	1568	97	43	30	13	12	11
Tamil Nadu	Namakkal	17	9398	137	-86%	697	13	-81%	40	50	1458	85	40	19	14	12	11
Tamil Nadu	Perambalur	13	7637	145	9%	686	11	8%	52	52	1319	100	42	24	22	12	10
Tamil Nadu	Pudukottai	16	11611	179	-3%	806	14	-3%	50	45	1368	85	36	24	11	13	9
Tamil Nadu	Ramanathapuram	13	12126	227	-4%	622	19	3%	47	58	1265	95	48	21	11	14	12
Tamil Nadu	Salem	35	18713	134	-7%	1924	10	3%	55	49	3085	89	37	17	18	16	12
Tamil Nadu	Sivaganga	13	10459	195	-20%	813	13	-12%	61	50	1235	92	42	27	12	12	8
Tamil Nadu	Thanjavur	24	27165	283	-7%	1689	16	0%	70	58	2547	106	46	26	17	17	13
Tamil Nadu	The Nilgiris	7	6467	220	56%	200	32	40%	27	27	396	54	23	11	13	6	5
Tamil Nadu	Theni	12	12601	253	-10%	1036	12	-8%	83	65	1715	138	53	41	21	23	14
Tamil Nadu	Thiruvallur	37	31475	211	-24%	1460	22	-11%	39	57	4125	111	44	23	26	18	14
Tamil Nadu	Thiruvarur	13	7374	145	-3%	702	11	-15%	55	51	1429	113	41	41	12	18	11
Tamil Nadu	Tiruchirappalli	27	30170	278	-12%	1875	16	-5%	69	58	3470	128	52	35	31	10	6
Tamil Nadu	Tirunelveli	31	23292	189	3%	1769	13	-1%	58	54	3390	110	42	33	18	17	14
Tamil Nadu	Tiruppur	25	9225	93	-12%	708	13	-5%	29	47	2155	87	37	24	11	15	11
Tamil Nadu	Tiruvanamalai	25	22118	224	-9%	1651	13	0%	67	65	3006	122	50	31	20	20	16
Tamil Nadu	Toothukudi	17	12654	182	-1%	1206	10	11%	69	62	1862	107	50	27	15	16	14
Tamil Nadu	Vellore	39	72174	459	1%	2722	27	4%	69	64	5356	136	54	31	36	15	11

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Rajasthan	Jhalawar	52	3%	90%	75%	87%	73%	1028	84%	1181	96%	764	82%	220	11%	1%	0%	0%		
Rajasthan	Jhunjhunun	129	6%	91%	66%	86%	70%	1288	82%	1540	98%	986	82%	177	7%	13%	3%	0%	0%	100%
Rajasthan	Jodhpur	177	4%	95%	75%	92%	76%	1969	85%	2304	99%	1529	74%	343	7%	2%	5%	0%		
Rajasthan	Karauli	72	4%	93%	82%	91%	76%	1045	76%	1373	100%	923	76%	702	27%	0%		0%		
Rajasthan	Kota	173	7%	91%	79%	90%	82%	1465	90%	1486	91%	1190	85%	687	22%	0%		0%		
Rajasthan	Nagaur	175	6%	89%	75%	88%	79%	1837	87%	1970	93%	1468	85%	540	13%	0%		0%		
Rajasthan	Pali	90	4%	93%	81%	89%	82%	1357	85%	1539	97%	1085	77%	177	6%	7%	4%	0%		
Rajasthan	Rajsamand	58	4%	90%	76%	88%	79%	1028	83%	1201	97%	751	80%	395	20%	24%	0%	0%		
Rajasthan	Sawai Madhopur	63	3%	91%	79%	90%	78%	1258	85%	1470	100%	923	85%	324	13%	27%	1%	0%		
Rajasthan	Sikar	125	6%	91%	79%	88%	70%	1457	84%	1600	92%	1141	86%	133	4%	0%		0%		
Rajasthan	Sirohi	61	5%	93%	81%	90%	78%	1004	92%	1073	98%	868	92%	267	17%	8%	5%	0%	100%	0%
Rajasthan	Tonk	163	5%	91%	79%	89%	75%	2019	94%	2150	100%	1652	89%	862	23%	59%	0%	0%	50%	50%
Rajasthan	Udaipur	223	4%	92%	81%	92%	86%	3207	76%	4111	97%	2431	70%	2370	34%	35%	1%	0%		
Sikkim	East Sikkim	54	9%	84%	64%	76%	51%	327	95%	331	97%	252	96%	202	25%	1%	0%	0%		
Sikkim	North Sikkim *	11	10%	78%	80%	71%	55%	37	74%	37	74%	33	94%	56	39%	5%	0%	0%		
Sikkim	South Sikkim **	31	10%	95%	73%	86%	63%	160	95%	168	99%	133	98%	235	59%	6%	4%	0%		
Sikkim	West Sikkim **	23	11%	88%	64%	89%	81%	135	94%	105	73%	115	97%	127	47%	1%	0%	0%		
Tamil Nadu	Chennai	468	8%	91%	72%	87%	61%	2729	84%	3243	99%	2309	87%	514	8%	92%	3%	3%	99%	84%
Tamil Nadu	Coimbatore	84	4%	90%	67%	85%	57%	1460	88%	1663	100%	1208	87%	822	30%	96%	7%	7%	94%	71%
Tamil Nadu	Cuddalore	379	13%	93%	85%	92%	82%	1090	80%	1320	97%	1136	87%	155	5%	74%	5%	3%	93%	78%
Tamil Nadu	Dharmapuri	43	4%	87%	68%	86%	63%	484	71%	648	95%	425	81%	54	4%	96%	14%	14%	100%	35%
Tamil Nadu	Dindigul	331	12%	91%	71%	86%	71%	1273	85%	1470	99%	825	78%	1417	46%	86%	12%	11%	63%	42%
Tamil Nadu	Erode	38	2%	91%	60%	84%	54%	1189	83%	1412	99%	898	83%	698	32%	97%	8%	8%	98%	75%
Tamil Nadu	Kanchipuram	311	8%	90%	70%	86%	66%	1775	79%	2094	93%	1647	92%	1132	24%	87%	3%	2%	94%	63%
Tamil Nadu	Kanyakumari	85	7%	92%	78%	88%	62%	840	89%	945	100%	518	73%	816	58%	83%	2%	2%	92%	83%
Tamil Nadu	Karur	43	4%	95%	87%	90%	80%	461	79%	577	99%	420	76%	105	9%	100%	14%	14%	60%	40%
Tamil Nadu	Krishnagiri	64	5%	88%	77%	87%	70%	683	86%	769	96%	494	82%	263	18%	79%	11%	9%	80%	44%
Tamil Nadu	Madurai	309	11%	89%	61%	82%	60%	1814	93%	1661	85%	1435	98%	268	8%	76%	10%	7%	69%	32%
Tamil Nadu	Nagapattinam	93	7%	92%	44%	90%	57%	661	76%	796	92%	415	59%	154	10%	64%	9%	5%	100%	47%
Tamil Nadu	Namakkal	48	4%	89%	69%	87%	58%	669	77%	868	100%	813	94%	482	33%	100%	16%	16%	100%	57%
Tamil Nadu	Perambalur	110	9%	91%	72%	80%	65%	561	82%	626	91%	388	80%	175	13%	96%	11%	10%	82%	58%
Tamil Nadu	Pudukottai	54	5%	92%	58%	90%	63%	508	69%	610	83%	475	80%	495	36%	88%	9%	8%	22%	68%
Tamil Nadu	Ramanathapuram	147	14%	91%	51%	87%	59%	672	83%	807	100%	614	91%	385	30%	95%	5%	5%	41%	55%
Tamil Nadu	Salem	154	6%	89%	58%	84%	50%	1413	82%	1703	99%	724	54%	886	29%	92%	17%	15%	96%	58%
Tamil Nadu	Sivaganga	73	7%	91%	81%	88%	72%	513	76%	561	83%	450	75%	367	30%	98%	9%	9%	62%	45%
Tamil Nadu	Thanjavur	162	8%	87%	63%	82%	56%	1401	98%	1423	100%	976	89%	639	25%	94%	6%	6%	96%	67%
Tamil Nadu	The Nilgiris	45	13%	82%	56%	85%	56%	200	97%	206	100%	158	96%	231	58%	95%	4%	4%	92%	92%
Tamil Nadu	Theni	91	6%	87%	61%	83%	55%	637	76%	820	98%	473	80%	206	12%	92%	14%	13%	100%	31%
Tamil Nadu	Thiruvallur	205	6%	92%	79%	87%	67%	1670	77%	2152	100%	1332	82%	1057	26%	100%	4%	4%	100%	99%
Tamil Nadu	Thiruvarur	174	15%	87%	52%	84%	54%	545	82%	662	100%	385	80%	161	11%	69%	3%	2%	88%	68%
Tamil Nadu	Tiruchirappalli	214	7%	90%	67%	88%	76%	1460	92%	1575	99%	1278	93%	765	22%	73%	14%	10%	84%	53%
Tamil Nadu	Tirunelveli	155	5%	90%	69%	82%	62%	1434	83%	1666	96%	840	69%	1137	34%	91%	6%	6%	67%	91%
Tamil Nadu	Tiruppur	52	3%	89%	69%	85%	52%	992	84%	1184	100%	0	0%	164	8%	100%	11%	11%	98%	67%
Tamil Nadu	Tiruvanamalai	175	7%	93%	83%	90%	75%	1178	72%	1583	97%	1250	88%	1089	36%	89%	6%	6%	89%	79%
Tamil Nadu	Toothukudi	125	8%	87%	69%	84%	59%	1013	92%	1086	99%	736	81%	359	19%	99%	7%	7%	99%	53%
Tamil Nadu	Vellore	141	3%	90%	76%	91%	73%	2295	91%	2532	100%	1914	92%	3297	62%	93%	5%	5%	67%	32%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Rajasthan	Jhalawar	32	49%	20	100%	20	100%	15	50%	67	59%	154	62%
Rajasthan	Jhunjhunun	51	78%	0	0%	20	100%	6	21%	66	58%	143	57%
Rajasthan	Jodhpur	41	62%	20	100%	20	100%	5	17%	62	54%	148	59%
Rajasthan	Karauli	48	75%	20	100%	8	40%	8	28%	28	25%	113	45%
Rajasthan	Kota	51	78%	20	100%	16	80%	12	38%	60	52%	158	63%
Rajasthan	Nagaur	38	58%	10	50%	20	100%	5	17%	50	43%	122	49%
Rajasthan	Pali	37	57%	10	50%	20	100%	14	46%	68	59%	149	60%
Rajasthan	Rajsamand	58	89%	20	100%	16	80%	27	90%	67	58%	188	75%
Rajasthan	Sawai Madhopur	53	81%	20	100%	16	80%	15	50%	52	45%	156	62%
Rajasthan	Sikar	42	64%	0	0%	20	100%	11	36%	54	47%	127	51%
Rajasthan	Sirohi	47	73%	20	100%	20	100%	8	25%	83	73%	178	71%
Rajasthan	Tonk	30	46%	20	100%	16	80%	17	57%	73	63%	156	62%
Rajasthan	Udaipur	40	61%	20	100%	20	100%	14	48%	73	63%	167	67%
Sikkim	East Sikkim	46	71%	10	50%	16	80%	7	23%	81	70%	160	64%
Sikkim	North Sikkim *	52	80%	10	50%	20	100%	5	17%	74	64%	161	64%
Sikkim	South Sikkim **	45	69%	20	100%	20	100%	15	50%	83	72%	183	73%
Sikkim	West Sikkim **	51	78%	20	100%	20	100%	15	50%	81	70%	187	75%
Tamil Nadu	Chennai	54	83%	10	50%	12	60%	10	32%	65	57%	151	60%
Tamil Nadu	Coimbatore	63	96%	20	100%	16	80%	10	33%	49	42%	157	63%
Tamil Nadu	Cuddalore	51	79%	10	50%	16	80%	11	37%	88	77%	177	71%
Tamil Nadu	Dharmapuri	50	78%	10	50%	12	60%	10	33%	73	64%	156	62%
Tamil Nadu	Dindigul	56	86%	10	50%	12	60%	27	90%	75	65%	180	72%
Tamil Nadu	Erode	64	99%	10	50%	16	80%	25	83%	64	55%	179	72%
Tamil Nadu	Kanchipuram	58	89%	10	50%	16	80%	5	17%	65	56%	153	61%
Tamil Nadu	Kanyakumari	27	42%	10	50%	20	100%	6	19%	56	48%	118	47%
Tamil Nadu	Karur	52	80%	20	100%	20	100%	30	100%	58	50%	180	72%
Tamil Nadu	Krishnagiri	56	87%	10	50%	12	60%	20	67%	64	56%	163	65%
Tamil Nadu	Madurai	64	98%	10	50%	16	80%	10	33%	57	50%	157	63%
Tamil Nadu	Nagapattinam	60	92%	20	100%	20	100%	10	34%	63	55%	173	69%
Tamil Nadu	Namakkal	44	67%	10	50%	16	80%	11	37%	61	53%	142	57%
Tamil Nadu	Perambalur	51	78%	0	0%	8	40%	15	50%	58	50%	132	53%
Tamil Nadu	Pudukottai	54	84%	20	100%	12	60%	15	49%	57	49%	158	63%
Tamil Nadu	Ramanathapuram	47	72%	10	50%	16	80%	5	17%	67	58%	144	58%
Tamil Nadu	Salem	48	75%	10	50%	16	80%	11	35%	61	53%	146	59%
Tamil Nadu	Sivaganga	45	68%	20	100%	16	80%	5	17%	71	61%	156	62%
Tamil Nadu	Thanjavur	59	91%	10	50%	8	40%	5	17%	62	54%	144	58%
Tamil Nadu	The Nilgiris	62	95%	10	50%	20	100%	30	100%	74	64%	195	78%
Tamil Nadu	Theni	31	47%	10	50%	12	60%	5	17%	80	70%	138	55%
Tamil Nadu	Thiruvallur	60	92%	20	100%	16	80%	13	45%	71	62%	181	72%
Tamil Nadu	Thiruvarur	31	48%	20	100%	20	100%	6	21%	79	68%	156	62%
Tamil Nadu	Tiruchirappalli	52	80%	10	50%	12	60%	5	17%	69	60%	148	59%
Tamil Nadu	Tirunelveli	50	76%	10	50%	20	100%	17	57%	78	68%	175	70%
Tamil Nadu	Tiruppur	64	98%	20	100%	16	80%	10	33%	78	68%	188	75%
Tamil Nadu	Tiruvanamalai	39	60%	10	50%	16	80%	10	34%	77	67%	153	61%
Tamil Nadu	Toothukudi	61	95%	10	50%	16	80%	15	50%	54	47%	156	63%
Tamil Nadu	Vellore	63	97%	10	50%	0	0%	10	33%	67	59%	150	60%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed[2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Tamil Nadu	Villupuram	35	16263	117	-9%	1622	10	-12%	47	71	4952	143	53	38	26	25	18
Tamil Nadu	Virudhunagar	19	67634	870	303%	1506	45	310%	77	62	2534	130	51	48	13	19	14
Tripura	Dhalai *	4	1975	131	-8%	141	14	17%	37	40	239	63	38	16	4	6	3
Tripura	North Tripura	7	2860	103	1%	230	12	21%	33	35	450	65	30	18	8	8	6
Tripura	South Tripura	9	4473	128	-1%	376	12	2%	43	44	577	66	37	10	9	10	7
Tripura	West Tripura	17	11178	162	-5%	1178	9	-8%	68	56	1532	89	50	12	17	10	8
Uttar Pradesh	Agra	44	41896	239	15%	6825	6	5%	156	121	8997	205	77	27	31	68	46
Uttar Pradesh	Aligarh	37	32044	218	16%	4303	7	2%	117	101	6953	189	82	56	23	28	20
Uttar Pradesh	Allahabad	60	47112	198	9%	6553	7	-4%	110	89	8213	138	63	28	13	33	28
Uttar Pradesh	Ambedkar Nagar	24	8803	92	11%	1593	6	6%	66	62	2066	86	57	13	8	8	6
Uttar Pradesh	Auraiya	14	9635	176	12%	1614	6	-1%	118	110	2068	151	83	20	10	38	31
Uttar Pradesh	Azamgarh	46	20896	113	16%	3065	7	-4%	66	61	4809	104	50	25	8	21	11
Uttar Pradesh	Baghpat	13	6960	134	17%	1334	5	-5%	102	104	1984	152	72	21	21	38	32
Uttar Pradesh	Bahraich **	35	17526	126	-14%	3030	6	-9%	87	84	5379	155	66	54	16	19	19
Uttar Pradesh	Ballia	32	12917	100	18%	2066	6	12%	64	66	3508	109	62	32	9	6	4
Uttar Pradesh	Balrampur	21	9720	113	-4%	1316	7	0%	61	59	2397	112	55	41	8	7	5
Uttar Pradesh	Banda **	18	11557	161	3%	1671	7	-8%	93	80	2442	136	55	23	21	36	28
Uttar Pradesh	Barabanki **	33	22044	169	23%	3616	6	1%	111	107	5856	180	82	42	23	32	25
Uttar Pradesh	Bareilly	45	37120	208	-4%	5106	7	1%	114	86	6618	148	62	34	15	37	25
Uttar Pradesh	Basti **	25	12927	131	23%	2043	6	4%	83	75	3324	135	66	39	16	14	10
Uttar Pradesh	Bijnor **	37	24674	167	6%	3321	7	-7%	90	89	4450	121	75	9	17	20	15
Uttar Pradesh	Budaun **	37	35700	240	15%	4465	8	9%	120	118	6404	172	87	38	5	42	32
Uttar Pradesh	Bulandshahar	35	24104	172	5%	3592	7	-3%	103	103	7538	215	83	70	28	33	21
Uttar Pradesh	Chandauli	20	7891	101	-7%	1335	6	-7%	68	64	1894	97	54	13	11	17	11
Uttar Pradesh	Chitrakoot	10	5807	147	25%	678	9	35%	68	66	1463	148	51	45	23	30	17
Uttar Pradesh	Deoria	31	11551	93	33%	2144	5	-6%	69	66	2802	90	57	9	11	13	10
Uttar Pradesh	Etah	18	17179	244	20%	2670	6	-8%	152	133	3395	193	102	31	20	38	32
Uttar Pradesh	Etawah	16	11789	187	-12%	1972	6	-9%	125	105	2663	169	73	28	29	39	34
Uttar Pradesh	Faizabad	25	13210	134	-10%	2089	6	5%	85	78	3424	139	67	41	13	18	12
Uttar Pradesh	Farrukhabad	19	10888	144	-3%	1695	6	-2%	90	77	2509	133	61	32	19	20	17
Uttar Pradesh	Fatehpur **	26	19411	184	26%	2444	8	6%	93	85	3437	131	67	25	12	25	20
Uttar Pradesh	Firozabad	25	13945	140	10%	2452	6	14%	98	88	4008	161	60	29	24	48	29
Uttar Pradesh	Gautam Budh Nagar	17	12813	191	3%	2080	6	-8%	124	114	3937	235	87	42	62	44	29
Uttar Pradesh	Ghaziabad	47	34709	186	-4%	5445	6	4%	117	123	11613	249	95	54	52	48	29
Uttar Pradesh	Ghazipur	36	11588	80	-4%	2245	5	-5%	62	61	2982	82	53	11	6	12	8
Uttar Pradesh	Gonda	34	14602	106	10%	2646	6	-2%	77	70	5174	151	62	63	12	14	9
Uttar Pradesh	Gorakhpur	44	26147	147	26%	3964	7	1%	89	77	4159	94	70	7	7	10	7
Uttar Pradesh	Hamirpur-UP **	11	8538	193	38%	1191	7	3%	108	95	1581	143	80	33	9	21	16
Uttar Pradesh	Hardoi **	41	26474	162	0%	4270	6	-6%	104	101	7615	186	84	68	9	25	18
Uttar Pradesh	Hathras	16	8535	136	9%	1445	6	-7%	92	86	1675	107	69	5	9	24	18
Uttar Pradesh	Jalaun **	17	10448	156	24%	1440	7	15%	86	82	2626	157	64	48	13	32	20
Uttar Pradesh	Jaunpur	45	19425	108	-1%	3283	6	-9%	73	70	6007	134	63	42	18	12	8
Uttar Pradesh	Jhansi **	20	13237	165	28%	2260	6	0%	113	89	2774	139	68	26	9	36	23
Uttar Pradesh	Jyotiba Phule Nagar **	18	16599	226	9%	1977	8	-3%	108	107	2618	142	82	26	7	27	25

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Tamil Nadu	Villupuram	339	8%	92%	78%	89%	76%	1972	80%	2351	95%	1585	84%	1898	38%	84%	9%	7%	92%	73%
Tamil Nadu	Virudhunagar	308	14%	88%	65%	84%	62%	916	73%	1255	100%	470	48%	901	36%	85%	4%	3%	75%	54%
Tripura	Dhalai *	1	0%	97%	87%	93%	91%	139	89%	139	89%	143	92%	182	76%	52%	0%	0%		
Tripura	North Tripura	12	3%	90%	67%	82%	65%	209	83%	234	93%	175	82%	327	73%	37%	5%	2%		
Tripura	South Tripura	9	2%	90%	75%	89%	71%	298	76%	383	97%	233	75%	208	36%	16%	1%	0%	50%	50%
Tripura	West Tripura	27	2%	87%	72%	88%	78%	784	78%	999	100%	635	75%	602	39%	30%	2%	1%	60%	60%
Uttar Pradesh	Agra	985	16%	91%	64%	90%	68%	4731	88%	5388	100%	2720	80%	7670	85%	14%	1%	0%		
Uttar Pradesh	Aligarh	367	6%	93%	81%	91%	79%	3297	88%	3756	100%	2259	88%	3079	44%	7%	1%	0%		
Uttar Pradesh	Allahabad	361	6%	92%	75%	86%	73%	5047	93%	5405	100%	2733	79%	6778	83%	50%	1%	1%	39%	27%
Uttar Pradesh	Ambedkar Nagar	36	2%	91%	85%	92%	84%	1339	88%	1454	96%	1027	82%	1513	73%	28%	1%	0%	0%	100%
Uttar Pradesh	Auraiya	84	5%	91%	77%	89%	81%	1401	90%	1563	100%	1017	86%	1811	88%	17%	1%	0%		
Uttar Pradesh	Azamgarh	185	5%	91%	78%	86%	76%	2588	91%	2772	97%	1454	74%	2216	46%	0%	100%	0%	0%	0%
Uttar Pradesh	Baghpat	68	5%	92%	86%	89%	85%	1167	86%	1356	100%	718	71%	1414	71%	36%	1%	0%	100%	50%
Uttar Pradesh	Bahraich **	203	4%	89%	77%	87%	75%	2792	95%	2941	100%	2045	91%	4421	82%	0%		0%		
Uttar Pradesh	Ballia	151	5%	94%	89%	92%	84%	1986	93%	2055	96%	1453	85%	1846	53%	1%	61%	1%		
Uttar Pradesh	Balrampur	99	4%	91%	67%	86%	63%	1283	100%	1283	100%	931	92%	1511	63%	0%	100%	0%		
Uttar Pradesh	Banda **	119	7%	93%	85%	92%	82%	1386	93%	1496	100%	1037	87%	1942	80%	58%	0%	0%	30%	80%
Uttar Pradesh	Barabanki **	425	9%	94%	86%	91%	85%	2955	84%	3506	100%	2245	78%	4220	72%	12%	1%	0%		
Uttar Pradesh	Bareilly	298	6%	90%	69%	87%	67%	3344	86%	3900	100%	3000	100%	5282	80%	2%	1%	0%		
Uttar Pradesh	Basti **	166	6%	90%	76%	88%	69%	1686	89%	1885	100%	1099	82%	2752	83%	2%	14%	0%	0%	0%
Uttar Pradesh	Bijnor **	237	6%	91%	77%	87%	73%	3005	91%	3306	100%	2286	96%	3715	83%	22%	0%	0%		
Uttar Pradesh	Budaun **	258	5%	95%	88%	92%	88%	4221	96%	4393	100%	3366	94%	4495	70%	15%	0%	0%		
Uttar Pradesh	Bulandshahar	386	6%	95%	83%	93%	83%	3399	93%	3620	100%	2544	88%	4103	54%	0%		0%		
Uttar Pradesh	Chandauli	93	6%	89%	74%	85%	76%	1182	93%	1268	100%	881	88%	1689	89%	26%	1%	0%		
Uttar Pradesh	Chitrakoot	55	5%	92%	79%	91%	83%	581	87%	666	100%	470	88%	1292	88%	5%	0%	0%	0%	20%
Uttar Pradesh	Deoria	203	8%	94%	79%	89%	75%	1837	88%	2050	98%	914	73%	2826	101%	27%	5%	1%	9%	0%
Uttar Pradesh	Etah	255	9%	93%	89%	95%	94%	1981	84%	2356	100%	1276	78%	2902	85%	6%	0%	0%		
Uttar Pradesh	Etawah	114	6%	91%	67%	85%	60%	1481	87%	1682	99%	1113	84%	2105	79%	70%	1%	0%	0%	0%
Uttar Pradesh	Faizabad	160	5%	91%	79%	88%	84%	1764	91%	1941	100%	1364	90%	2672	78%	17%	1%	0%	100%	100%
Uttar Pradesh	Farrukhabad	129	6%	93%	84%	87%	79%	1202	81%	1476	100%	974	78%	1101	44%	7%	1%	0%		
Uttar Pradesh	Fatehpur **	123	4%	90%	81%	92%	88%	2116	92%	2288	100%	1435	87%	2696	78%	11%	1%	0%		
Uttar Pradesh	Firozabad	606	22%	90%	66%	88%	68%	1947	88%	2165	98%	1321	80%	3633	91%	6%	1%	0%		
Uttar Pradesh	Gautam Budh Nagar	228	7%	93%	75%	92%	81%	1758	90%	1939	100%	1074	80%	2748	70%	38%	0%	0%		
Uttar Pradesh	Ghaziabad	675	7%	95%	88%	92%	88%	5639	98%	5715	99%	4391	93%	8526	73%	2%	1%	0%	0%	100%
Uttar Pradesh	Ghazipur	130	5%	89%	78%	87%	78%	2023	91%	2213	100%	1184	77%	2889	97%	1%	44%	1%	20%	0%
Uttar Pradesh	Gonda	327	7%	92%	83%	92%	88%	2113	87%	2424	100%	1275	76%	3256	63%	6%	1%	0%		
Uttar Pradesh	Gorakhpur	137	4%	92%	70%	90%	73%	2954	86%	3400	99%	1818	76%	3191	77%	2%	9%	0%	0%	17%
Uttar Pradesh	Hamirpur-UP **	59	4%	91%	82%	89%	77%	939	89%	1044	99%	503	75%	735	46%	5%	0%	0%		
Uttar Pradesh	Hardoi **	229	3%	92%	81%	88%	74%	3729	90%	4122	99%	2762	85%	5372	71%	17%	0%	0%		
Uttar Pradesh	Hathras	100	8%	94%	85%	93%	88%	1189	88%	1351	100%	826	89%	1455	87%	76%	0%	0%	0%	100%
Uttar Pradesh	Jalaun **	123	6%	89%	74%	89%	76%	1264	89%	1369	97%	944	91%	1949	74%	11%	1%	0%		
Uttar Pradesh	Jaunpur	192	4%	93%	79%	90%	72%	2794	89%	3066	97%	2190	87%	4047	67%	7%	6%	0%	0%	0%
Uttar Pradesh	Jhansi **	75	4%	90%	64%	87%	74%	1644	91%	1801	100%	845	77%	1520	55%	13%	0%	0%		
Uttar Pradesh	Jyotiba Phule Nagar **	47	2%	93%	90%	90%	82%	1847	94%	1971	100%	1286	90%	1202	46%	22%	1%	0%	0%	0%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Tamil Nadu	Villupuram	43	67%	10	50%	16	80%	10	33%	80	69%	159	64%
Tamil Nadu	Virudhunagar	62	95%	0	0%	16	80%	5	17%	46	40%	129	52%
Tripura	Dhalai *	50	77%	20	100%	20	100%	10	34%	61	53%	161	65%
Tripura	North Tripura	51	78%	20	100%	20	100%	10	34%	64	56%	166	66%
Tripura	South Tripura	49	75%	20	100%	16	80%	12	40%	53	46%	150	60%
Tripura	West Tripura	54	83%	10	50%	20	100%	5	17%	37	32%	126	50%
Uttar Pradesh	Agra	42	64%	0	0%	20	100%	20	67%	65	56%	146	59%
Uttar Pradesh	Aligarh	50	76%	20	100%	12	60%	15	50%	78	67%	174	70%
Uttar Pradesh	Allahabad	34	53%	0	0%	16	80%	16	55%	90	79%	157	63%
Uttar Pradesh	Ambedkar Nagar	46	70%	0	0%	20	100%	5	17%	70	61%	140	56%
Uttar Pradesh	Auraiya	48	73%	10	50%	16	80%	11	38%	74	65%	159	64%
Uttar Pradesh	Azamgarh	46	70%	0	0%	20	100%	15	50%	60	52%	141	56%
Uttar Pradesh	Baghpat	41	63%	0	0%	20	100%	16	54%	71	62%	148	59%
Uttar Pradesh	Bahraich **	42	64%	0	0%	20	100%	15	50%	53	46%	129	52%
Uttar Pradesh	Ballia	41	63%	0	0%	20	100%	19	63%	65	57%	145	58%
Uttar Pradesh	Balrampur	48	74%	10	50%	20	100%	10	33%	56	49%	144	58%
Uttar Pradesh	Banda **	43	67%	0	0%	16	80%	15	50%	92	80%	167	67%
Uttar Pradesh	Barabanki **	46	70%	0	0%	20	100%	13	43%	86	75%	164	66%
Uttar Pradesh	Bareilly	48	73%	0	0%	20	100%	5	17%	36	32%	109	44%
Uttar Pradesh	Basti **	45	69%	0	0%	16	80%	10	33%	80	69%	151	60%
Uttar Pradesh	Bijnor **	49	76%	0	0%	12	60%	15	49%	60	52%	136	55%
Uttar Pradesh	Budaun **	50	77%	0	0%	20	100%	10	33%	76	66%	156	62%
Uttar Pradesh	Bulandshahar	50	77%	0	0%	16	80%	15	50%	77	67%	158	63%
Uttar Pradesh	Chandauli	45	69%	0	0%	8	40%	19	64%	72	63%	144	58%
Uttar Pradesh	Chitrakoot	51	78%	0	0%	20	100%	15	50%	73	64%	159	64%
Uttar Pradesh	Deoria	47	73%	0	0%	20	100%	5	17%	78	68%	150	60%
Uttar Pradesh	Etah	50	77%	10	50%	16	80%	15	50%	75	65%	165	66%
Uttar Pradesh	Etawah	37	57%	10	50%	16	80%	5	17%	68	60%	137	55%
Uttar Pradesh	Faizabad	47	72%	0	0%	16	80%	10	33%	80	69%	152	61%
Uttar Pradesh	Farrukhabad	36	55%	0	0%	0	0%	5	17%	67	58%	108	43%
Uttar Pradesh	Fatehpur **	45	69%	0	0%	20	100%	12	39%	85	74%	162	65%
Uttar Pradesh	Firozabad	33	51%	0	0%	20	100%	9	30%	59	52%	121	48%
Uttar Pradesh	Gautam Budh Nagar	46	71%	0	0%	0	0%	25	83%	74	64%	145	58%
Uttar Pradesh	Ghaziabad	52	81%	10	50%	16	80%	15	50%	83	72%	176	71%
Uttar Pradesh	Ghazipur	25	39%	10	50%	16	80%	5	17%	68	59%	125	50%
Uttar Pradesh	Gonda	44	67%	0	0%	16	80%	15	50%	80	69%	155	62%
Uttar Pradesh	Gorakhpur	47	72%	0	0%	20	100%	15	50%	69	60%	151	60%
Uttar Pradesh	Hamirpur-UP **	26	40%	10	50%	16	80%	7	23%	53	46%	112	45%
Uttar Pradesh	Hardoi **	42	64%	0	0%	12	60%	15	50%	55	48%	124	49%
Uttar Pradesh	Hathras	45	70%	0	0%	16	80%	16	53%	71	62%	148	59%
Uttar Pradesh	Jalaun **	41	63%	0	0%	20	100%	15	50%	75	65%	151	60%
Uttar Pradesh	Jaunpur	46	71%	0	0%	20	100%	17	56%	75	65%	158	63%
Uttar Pradesh	Jhansi **	42	65%	0	0%	20	100%	15	50%	80	69%	157	63%
Uttar Pradesh	Jyotiba Phule Nagar **	44	68%	0	0%	16	80%	15	50%	55	48%	131	52%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed [2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
Uttar Pradesh	Kannauj	17	10550	159	-2%	1389	8	-1%	84	83	1998	121	68	22	13	18	16
Uttar Pradesh	Kanpur Dehat **	18	10804	150	19%	1816	6	-9%	101	99	2299	128	80	10	12	26	21
Uttar Pradesh	Kanpur Nagar	46	33665	184	12%	6024	6	1%	132	95	7279	159	68	22	26	43	29
Uttar Pradesh	Kanshiram Nagar	14	7444	129	-13%	1200	6	-13%	83	78	1628	113	67	24	10	13	11
Uttar Pradesh	Kaushambi	16	12942	203	15%	1695	8	22%	106	106	3019	189	84	50	14	42	22
Uttar Pradesh	Kheri	40	24733	154	18%	3927	6	-7%	98	94	6148	153	75	39	10	29	20
Uttar Pradesh	Kushinagar	36	14571	102	15%	2558	6	-7%	72	68	3649	102	61	21	10	10	7
Uttar Pradesh	Lalitpur **	12	8157	167	14%	1141	7	25%	94	85	1403	115	70	16	8	21	15
Uttar Pradesh	Lucknow	46	36822	201	-15%	5982	6	0%	130	84	6838	149	59	32	24	34	26
Uttar Pradesh	Maharajganj **	27	9781	92	-8%	1533	6	-9%	58	56	2019	76	50	13	4	9	6
Uttar Pradesh	Mahoba **	9	5267	150	9%	762	7	24%	87	82	910	104	57	10	7	30	26
Uttar Pradesh	Mainpuri	18	8786	119	17%	1245	7	9%	67	62	1915	104	52	22	11	17	13
Uttar Pradesh	Mathura	25	14506	143	0%	2177	7	9%	86	73	3088	121	57	29	14	21	17
Uttar Pradesh	Mau **	22	11707	133	21%	1435	8	-5%	65	58	2072	94	53	25	7	9	5
Uttar Pradesh	Meerut	34	31916	231	8%	4283	7	-1%	124	113	6916	201	88	44	33	35	25
Uttar Pradesh	Mirzapur	25	18045	181	8%	2298	8	8%	92	88	3751	150	67	42	10	32	22
Uttar Pradesh	Moradabad **	48	29550	155	7%	4749	6	2%	99	94	5494	115	76	8	11	21	18
Uttar Pradesh	Muzaffarnagar	41	33377	202	9%	4418	8	-1%	107	103	6855	166	78	30	24	33	27
Uttar Pradesh	Pilibhit **	20	16461	202	-1%	2177	8	-2%	107	86	2694	132	65	23	8	35	22
Uttar Pradesh	Pratapgarh **	32	20645	163	18%	2592	8	-5%	82	79	4302	136	68	29	15	23	13
Uttar Pradesh	Rae Bareli **	34	15045	110	3%	2670	6	3%	78	74	4967	146	60	53	13	19	14
Uttar Pradesh	Rampur	23	18016	193	-1%	2334	8	3%	100	94	3902	167	69	45	18	35	27
Uttar Pradesh	Saharanpur	35	26087	188	2%	3792	7	1%	109	103	5435	157	73	20	27	37	31
Uttar Pradesh	Sant Kabir Nagar **	17	8106	118	0%	1193	7	-4%	70	67	2264	132	58	33	24	17	10
Uttar Pradesh	Sant Ravidas Nagar	16	14550	234	32%	1823	8	6%	117	116	3009	194	92	51	11	40	24
Uttar Pradesh	Shahjahanpur	30	21148	176	21%	3002	7	19%	100	88	3954	132	73	27	11	21	15
Uttar Pradesh	Shravasti **	11	5221	117	-2%	857	6	-7%	77	73	1102	99	62	17	8	13	12
Uttar Pradesh	Siddharthnagar **	26	10674	105	0%	1567	7	-6%	61	61	2358	92	55	21	7	8	6
Uttar Pradesh	Sitapur **	45	31472	176	3%	3800	8	0%	85	81	7486	167	64	61	11	32	17
Uttar Pradesh	Sonbhadra	19	8190	110	-2%	1526	5	-1%	82	77	1910	103	64	13	8	18	13
Uttar Pradesh	Sultanpur	38	17343	114	6%	2762	6	1%	73	66	3705	98	57	19	7	14	11
Uttar Pradesh	Unnao **	31	18191	146	12%	3013	6	-6%	97	97	4888	157	72	33	18	34	26
Uttar Pradesh	Varanasi	37	24476	166	6%	3468	7	3%	94	77	5265	143	64	35	24	20	13
Uttarakhand	Almora	6	5458	219	31%	652	8	-9%	105	96	848	136	76	9	21	30	21
Uttarakhand	Bageshwar	3	1773	171	-19%	209	8	-2%	80	85	344	132	60	17	30	25	25
Uttarakhand	Chamoli	4	2301	147	24%	286	8	19%	73	74	584	149	48	31	27	42	27
Uttarakhand	Champawat	3	1649	159	-13%	135	12	7%	52	50	249	96	33	20	15	28	17
Uttarakhand	Dehradun	17	16694	246	-12%	2568	7	0%	151	74	2863	169	51	41	40	37	25
Uttarakhand	Garhwal	7	6139	224	24%	887	7	7%	129	82	945	138	60	28	18	31	24
Uttarakhand	Hardwar	19	9128	118	-14%	1476	6	-5%	77	67	2247	117	48	26	16	26	20
Uttarakhand	Nainital	10	7695	201	-9%	1526	5	4%	160	108	1961	205	61	37	29	78	50
Uttarakhand	Pithoragarh	5	3209	165	0%	410	8	-6%	84	78	573	118	58	15	19	26	22
Uttarakhand	Rudraprayag	2	1447	153	0%	181	8	9%	76	83	315	133	59	27	15	32	24
Uttarakhand	Tehri Garhwal	6	4243	172	31%	421	10	15%	68	88	951	154	59	24	28	44	31
Uttarakhand	Udhamsingh Nagar	16	9883	150	-18%	1280	8	10%	78	66	2405	146	47	47	17	35	20
Uttarakhand	Uttarkashi	3	2186	166	-5%	276	8	-3%	84	77	598	181	54	46	38	43	26
West Bengal	Bankura	36	27314	190	6%	2738	10	13%	76	68	4154	116	59	23	19	15	11
West Bengal	Barddhaman	77	56071	181	9%	5793	10	8%	75	66	9356	121	53	28	16	24	15
West Bengal	Birbhum	35	24074	172	-8%	3300	7	-8%	94	81	4364	125	68	26	10	20	14
West Bengal	Dakshin Dinajpur	17	12298	184	-4%	1643	7	7%	98	92	2400	144	79	24	19	21	15
West Bengal	Darjiling **	18	16094	218	-7%	2307	7	0%	125	98	3641	198	71	30	48	49	33

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
Uttar Pradesh	Kannauj	86	5%	95%	86%	93%	86%	1295	93%	1386	100%	1122	92%	1624	81%	1%	8%	0%		
Uttar Pradesh	Kanpur Dehat **	106	6%	94%	83%	90%	83%	1652	92%	1788	99%	1196	97%	1710	74%	30%	0%	0%		
Uttar Pradesh	Kanpur Nagar	522	10%	87%	73%	82%	65%	3804	86%	4165	94%	2625	86%	4302	59%	11%	1%	0%	50%	100%
Uttar Pradesh	Kanshiram Nagar	61	4%	92%	85%	95%	100%	853	76%	1123	100%	804	80%	1226	75%	43%	1%	0%		
Uttar Pradesh	Kaushambi	109	5%	97%	95%	98%	97%	1641	97%	1695	100%	1558	95%	3019	100%	16%	0%	0%		
Uttar Pradesh	Kheri	292	6%	91%	82%	90%	84%	3305	86%	3827	100%	1829	81%	5321	87%	5%	0%	0%		
Uttar Pradesh	Kushinagar	159	5%	94%	84%	93%	84%	2178	89%	2437	100%	1366	81%	3392	93%	3%	5%	0%	0%	83%
Uttar Pradesh	Lalitpur **	73	6%	89%	77%	91%	84%	983	94%	1019	98%	718	89%	1151	82%	41%	0%	0%		
Uttar Pradesh	Lucknow	385	7%	85%	64%	82%	60%	3620	93%	3898	100%	3080	98%	2192	32%	23%	0%	0%	25%	100%
Uttar Pradesh	Maharajganj **	89	5%	94%	84%	94%	84%	1274	85%	1430	96%	1129	87%	1456	72%	1%	9%	0%	0%	50%
Uttar Pradesh	Mahoba **	30	5%	90%	75%	92%	80%	655	90%	706	97%	569	88%	745	82%	2%	0%	0%		
Uttar Pradesh	Mainpuri	80	5%	91%	77%	93%	84%	821	68%	821	68%	404	52%	1942	101%	0%		0%		
Uttar Pradesh	Mathura	111	4%	89%	71%	88%	69%	1679	89%	1874	99%	1490	92%	2024	66%	6%	5%	0%	0%	0%
Uttar Pradesh	Mau **	59	3%	92%	84%	94%	79%	1172	91%	1286	100%	756	90%	1581	76%	18%	5%	1%		
Uttar Pradesh	Meerut	284	5%	93%	86%	91%	83%	3573	91%	3893	99%	2953	90%	5823	84%	17%	1%	0%	0%	82%
Uttar Pradesh	Mirzapur	161	5%	96%	90%	94%	92%	2079	94%	2195	99%	1825	91%	2605	69%	3%	0%	0%		
Uttar Pradesh	Moradabad **	200	4%	92%	77%	88%	74%	4163	93%	4464	100%	2626	83%	3960	72%	0%	20%	0%		
Uttar Pradesh	Muzaffarnagar	288	5%	91%	76%	88%	73%	3805	88%	4333	100%	2865	90%	4938	72%	18%	1%	0%	0%	0%
Uttar Pradesh	Pilibhit **	91	5%	91%	80%	86%	77%	1723	96%	1787	100%	1245	91%	1873	70%	10%	0%	0%		
Uttar Pradesh	Pratapgarh **	147	4%	92%	85%	94%	88%	2402	94%	2566	100%	1184	66%	3723	87%	20%	2%	0%	36%	43%
Uttar Pradesh	Rae Bareli **	174	4%	87%	81%	86%	77%	2165	85%	2542	100%	1633	86%	4282	86%	15%	0%	0%	0%	0%
Uttar Pradesh	Rampur	194	6%	90%	73%	89%	68%	2073	92%	2241	100%	1634	90%	667	17%	21%	0%	0%	0%	0%
Uttar Pradesh	Saharanpur	216	5%	91%	79%	90%	80%	3317	92%	3608	100%	2514	89%	4426	81%	3%	1%	0%	0%	0%
Uttar Pradesh	Sant Kabir Nagar **	114	6%	87%	70%	93%	76%	900	77%	1142	97%	637	71%	1789	79%	8%	3%	0%	0%	75%
Uttar Pradesh	Sant Ravidas Nagar	134	6%	97%	93%	94%	94%	1695	94%	1799	100%	1346	100%	2442	81%	8%	6%	0%		
Uttar Pradesh	Shahjahanpur	182	5%	92%	85%	88%	81%	2275	86%	2598	98%	1911	88%	2429	61%	4%	0%	0%		
Uttar Pradesh	Shravasti **	33	3%	91%	81%	89%	79%	736	90%	821	100%	509	80%	850	77%	8%	8%	1%		
Uttar Pradesh	Siddharthnagar **	108	5%	95%	94%	93%	86%	1409	90%	1573	100%	1050	87%	1712	73%	4%	18%	1%	18%	36%
Uttar Pradesh	Sitapur **	335	6%	91%	81%	93%	88%	3240	89%	3634	100%	2271	87%	4966	66%	13%	0%	0%		
Uttar Pradesh	Sonbhadra	86	5%	94%	84%	93%	86%	1339	93%	1417	99%	854	77%	1875	98%	20%	3%	1%	0%	100%
Uttar Pradesh	Sultanpur	144	5%	91%	80%	93%	81%	2346	92%	2519	98%	1863	88%	0	0%	15%	1%	0%		
Uttar Pradesh	Unnao **	243	6%	92%	86%	89%	83%	2830	93%	3042	100%	2112	94%	3770	77%	3%	3%	0%		
Uttar Pradesh	Varanasi	381	8%	91%	74%	88%	72%	2562	90%	2816	99%	1928	84%	3696	70%	10%	4%	0%		
Uttarakhand	Almora	48	7%	95%	89%	90%	84%	552	92%	597	100%	359	95%	517	61%	27%	1%	0%	0%	0%
Uttarakhand	Bageshwar	19	7%	95%	95%	87%	81%	215	97%	219	99%	176	76%	157	46%	31%	0%	0%		
Uttarakhand	Chamoli	17	4%	92%	84%	92%	83%	270	92%	294	100%	222	82%	181	31%	38%	2%	1%		
Uttarakhand	Champawat	16	9%	92%	87%	87%	88%	114	87%	131	100%	133	86%	178	71%	67%	0%	0%		
Uttarakhand	Dehradun	218	10%	88%	71%	85%	73%	1124	87%	1239	96%	889	87%	2102	73%	52%	1%	1%	67%	33%
Uttarakhand	Garhwal	53	7%	90%	75%	85%	79%	493	86%	533	93%	343	74%	568	60%	28%	1%	0%		
Uttarakhand	Hardwar	155	9%	90%	76%	87%	70%	1085	83%	1297	99%	561	55%	1717	76%	68%	1%	0%	50%	100%
Uttarakhand	Nainital	85	7%	84%	64%	76%	57%	1015	96%	1034	98%	473	71%	780	40%	32%	1%	0%	0%	0%
Uttarakhand	Pithoragarh	51	11%	91%	71%	87%	77%	349	89%	391	100%	257	83%	304	53%	18%	1%	0%	67%	33%
Uttarakhand	Rudraprayag	12	5%	88%	80%	88%	78%	156	79%	197	100%	166	83%	184	58%	48%	0%	0%		
Uttarakhand	Tehri Garhwal	32	5%	91%	85%	93%	89%	445	81%	550	100%	347	83%	764	80%	30%	0%	0%		
Uttarakhand	Udhamsingh Nagar	154	8%	89%	70%	86%	62%	1034	93%	1077	97%	872	89%	787	33%	17%	2%	0%	0%	0%
Uttarakhand	Uttarkashi	25	5%	93%	75%	90%	82%	216	82%	265	100%	167	80%	442	74%	38%	0%	0%		
West Bengal	Bankura	96	3%	93%	82%	91%	78%	2006	81%	2382	96%	1941	86%	1017	24%	49%	0%	0%		
West Bengal	Barddhaman	318	4%	90%	67%	86%	63%	3962	75%	4861	92%	2517	62%	2814	30%	43%	1%	1%	41%	53%
West Bengal	Birbhum	91	2%	87%	67%	82%	63%	2286	79%	2534	87%	1703	81%	626	14%	37%	1%	0%	100%	80%
West Bengal	Dakshin Dinajpur	62	3%	85%	66%	82%	66%	1084	69%	1259	80%	1142	87%	419	17%	14%	4%	1%	18%	53%
West Bengal	Darjiling **	250	9%	90%	58%	84%	53%	1505	79%	1744	91%	1130	80%	1761	48%	55%	2%	1%	90%	84%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
Uttar Pradesh	Kannauj	48	73%	0	0%	20	100%	5	17%	77	67%	150	60%
Uttar Pradesh	Kanpur Dehat **	39	59%	10	50%	16	80%	15	50%	70	61%	150	60%
Uttar Pradesh	Kanpur Nagar	24	37%	0	0%	16	80%	5	17%	62	54%	107	43%
Uttar Pradesh	Kanshiram Nagar	31	48%	0	0%	12	60%	25	83%	76	66%	144	58%
Uttar Pradesh	Kaushambi	43	66%	10	50%	12	60%	16	52%	79	68%	159	64%
Uttar Pradesh	Kheri	37	57%	10	50%	20	100%	15	50%	70	61%	152	61%
Uttar Pradesh	Kushinagar	44	68%	10	50%	16	80%	15	50%	69	60%	154	62%
Uttar Pradesh	Lalitpur **	46	71%	0	0%	8	40%	15	50%	75	65%	144	58%
Uttar Pradesh	Lucknow	35	53%	0	0%	20	100%	5	17%	55	48%	115	46%
Uttar Pradesh	Maharajganj **	48	75%	10	50%	16	80%	5	17%	71	62%	151	60%
Uttar Pradesh	Mahoba **	50	77%	10	50%	8	40%	10	33%	70	61%	148	59%
Uttar Pradesh	Mainpuri	38	59%	10	50%	8	40%	15	50%	81	70%	152	61%
Uttar Pradesh	Mathura	42	65%	0	0%	20	100%	5	17%	55	48%	122	49%
Uttar Pradesh	Mau **	39	61%	10	50%	20	100%	15	50%	80	70%	164	66%
Uttar Pradesh	Meerut	41	64%	0	0%	20	100%	15	50%	87	76%	163	65%
Uttar Pradesh	Mirzapur	45	69%	0	0%	12	60%	15	50%	75	66%	147	59%
Uttar Pradesh	Moradabad **	38	58%	0	0%	20	100%	15	50%	77	67%	150	60%
Uttar Pradesh	Muzaffarnagar	48	74%	10	50%	20	100%	15	50%	70	61%	163	65%
Uttar Pradesh	Pilibhit **	41	62%	0	0%	12	60%	15	50%	61	53%	128	51%
Uttar Pradesh	Pratapgarh **	34	53%	0	0%	0	0%	13	45%	77	67%	125	50%
Uttar Pradesh	Rae Bareli **	47	73%	0	0%	20	100%	5	17%	60	52%	132	53%
Uttar Pradesh	Rampur	48	74%	0	0%	20	100%	10	33%	78	68%	156	62%
Uttar Pradesh	Saharanpur	45	70%	0	0%	4	20%	10	33%	65	57%	124	50%
Uttar Pradesh	Sant Kabir Nagar **	43	66%	0	0%	20	100%	5	17%	75	65%	143	57%
Uttar Pradesh	Sant Ravidas Nagar	47	72%	0	0%	4	20%	5	17%	75	65%	131	53%
Uttar Pradesh	Shahjahanpur	38	59%	0	0%	12	60%	15	50%	67	58%	132	53%
Uttar Pradesh	Shravasti **	42	65%	0	0%	20	100%	15	50%	55	48%	132	53%
Uttar Pradesh	Siddharthnagar **	44	67%	20	100%	16	80%	5	17%	70	61%	155	62%
Uttar Pradesh	Sitapur **	39	60%	0	0%	12	60%	14	47%	80	69%	145	58%
Uttar Pradesh	Sonbhadra	43	65%	10	50%	20	100%	15	50%	70	61%	158	63%
Uttar Pradesh	Sultanpur	30	46%	0	0%	20	100%	5	18%	68	59%	124	49%
Uttar Pradesh	Unnao **	46	71%	10	50%	8	40%	14	48%	72	63%	151	60%
Uttar Pradesh	Varanasi	42	64%	0	0%	16	80%	5	17%	40	35%	103	41%
Uttarakhand	Almora	52	81%	10	50%	20	100%	15	50%	88	77%	186	74%
Uttarakhand	Bageshwar	49	76%	20	100%	12	60%	5	17%	46	40%	132	53%
Uttarakhand	Chamoli	52	81%	10	50%	12	60%	15	50%	55	47%	144	58%
Uttarakhand	Champawat	26	40%	20	100%	8	40%	13	44%	48	42%	116	46%
Uttarakhand	Dehradun	59	90%	0	0%	4	20%	10	33%	45	39%	118	47%
Uttarakhand	Garhwal	43	66%	0	0%	12	60%	5	17%	39	34%	99	40%
Uttarakhand	Hardwar	51	79%	0	0%	4	20%	10	33%	69	60%	134	53%
Uttarakhand	Nainital	51	78%	20	100%	20	100%	15	50%	49	42%	154	62%
Uttarakhand	Pithoragarh	43	66%	10	50%	16	80%	10	33%	68	59%	147	59%
Uttarakhand	Rudraprayag	48	74%	10	50%	12	60%	5	17%	70	61%	144	58%
Uttarakhand	Tehri Garhwal	49	75%	10	50%	16	80%	15	50%	74	65%	164	66%
Uttarakhand	Udhamsingh Nagar	49	76%	20	100%	20	100%	5	17%	48	42%	143	57%
Uttarakhand	Uttarkashi	42	65%	20	100%	16	80%	15	50%	60	52%	153	61%
West Bengal	Bankura	28	43%	20	100%	16	80%	5	17%	69	60%	138	55%
West Bengal	Barddhaman	53	81%	20	100%	20	100%	5	17%	66	57%	163	65%
West Bengal	Birbhum	51	78%	20	100%	12	60%	15	50%	44	38%	141	57%
West Bengal	Dakshin Dinajpur	39	60%	10	50%	20	100%	5	17%	33	29%	107	43%
West Bengal	Darjiling **	48	74%	20	100%	20	100%	6	21%	75	65%	170	68%

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Popu-lation (in lakh) covered by RNTCP[1]	No. of suspects examined	Suspects examined per lakh population per quarter	Rate of change in suspects examined per lakh population (compared previous year)	No of Smear positive patients diagnosed[2]	Suspects examined per smear positive case diagnosed	Rate of change in suspects examined per s+ case diagnosed (compared to previous year)	Annual smear positive case notification rate (from PMR)	Annual smear positive case notification rate [from CFR: sm + cases (NSP + Rel + TAD) / Pop]	Total patients registered for treatment[3]	Annual total case notification rate	Annual new smear positive case notification rate	Annual new smear negative case notification rate	Annual new extra pulmonary case notification rate	Annual previously treated case notification rate	Annual previously treated smear positive case notification rate
West Bengal	Haora	48	29063	150	5%	3314	9	7%	68	58	5187	107	42	17	20	28	19
West Bengal	Hugli	55	28581	129	8%	3593	8	5%	65	59	5892	107	49	19	19	19	12
West Bengal	Jalpaiguri **	39	37416	242	-7%	3995	9	3%	103	96	6828	176	79	31	32	35	24
West Bengal	Koch Bihar **	28	20154	178	-7%	1764	11	5%	62	54	2880	102	47	17	24	14	9
West Bengal	Kolkata	45	40322	225	19%	5049	8	12%	113	71	6238	139	48	17	35	39	27
West Bengal	Maldah **	40	28289	177	-6%	3542	8	5%	89	77	4846	121	66	20	14	22	14
West Bengal	Medinipur East	51	23041	113	1%	1672	14	15%	33	29	2436	48	25	6	8	8	5
West Bengal	Medinipur West	59	31374	132	5%	4092	8	7%	69	61	6663	112	52	25	17	19	10
West Bengal	Murshidabad	71	47267	166	-10%	5105	9	0%	72	67	7753	109	56	19	17	17	13
West Bengal	Nadia	52	39706	192	11%	3005	13	18%	58	53	4823	93	42	17	15	19	12
West Bengal	North 24 Parganas	101	49954	124	-1%	5566	9	6%	55	55	9274	92	44	11	17	20	13
West Bengal	Puruliya	29	18089	154	-5%	1869	10	4%	64	60	3764	129	51	44	11	22	10
West Bengal	South 24 Parganas	82	42673	131	-4%	3886	11	8%	48	48	6691	82	39	13	15	15	11
West Bengal	Uttar Dinajpur	30	15865	132	-14%	1902	8	-2%	63	58	2639	88	50	14	11	14	9
Grand Total		**12102**	**7875158**	**163**	1%	**953032**	**8**	**3%**	**79**	**68**	**1515872**	**125**	**53**	**28**	**19**	**25**	**17**
Summary of performance of Tribal Districts		**554**	**310030**	**140**	**-76%**	**45580**	**7**	**0%**	**82**	**74**	**77025**	**139**	**60**	**36**	**18**	**24**	**15**
Summary of performance of Poor and Backward		**2801**	**1438932**	**128**	**-74%**	**190004**	**8**	**6%**	**68**	**62**	**304215**	**109**	**50**	**28**	**10**	**20**	**13**
Zonal Analysis																	
North Zone		3000	2055408	171	7%	292784	7	2%	98	86	459042	153	66	31	25	31	22
South Zone		2526	2134332	211	-1%	186699	11	1%	74	62	290051	115	49	26	19	21	15
West Zone		3416	2083623	153	1%	277833	7	4%	81	70	443248	130	52	30	18	29	19
East zone		2704	1360488	126	0%	162768	8	6%	60	54	264765	98	44	23	12	18	10
North East		456	241307	132	-5%	32948	7	1.1%	72	63	58766	129	51	32	22	25	13

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	No (%) of pediatric cases out of all New cases		3 month conversion rate of new smear positive patients[4]	3 month conversion rate of retreatment patients[4]	Treatment Success rate of new smear positive patients[5]	Treatment success rate among smear positive previously treated cases[5]	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis		No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment		No (%) of all cured Smear Positive cases having end of treatment follow- up sputum done within 7 days of last dose		No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer		Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients put on CPT(RT report)	Proportion of HIV infected TB patients put on ART(RT report)
West Bengal	Haora	307	8%	86%	68%	82%	63%	2508	85%	2889	97%	1940	89%	2191	42%	72%	2%	2%	56%	42%
West Bengal	Hugli	176	4%	88%	65%	86%	63%	2403	72%	3299	98%	1984	77%	1579	27%	41%	1%	1%	29%	29%
West Bengal	Jalpaiguri **	383	7%	89%	66%	86%	64%	3636	92%	3864	97%	3219	94%	692	10%	58%	1%	1%	98%	78%
West Bengal	Koch Bihar **	67	3%	88%	68%	85%	62%	1174	74%	1467	93%	1080	78%	497	17%	32%	2%	1%		
West Bengal	Kolkata	486	11%	80%	59%	79%	59%	2924	87%	3359	100%	2533	98%	1766	28%	81%	6%	5%	67%	62%
West Bengal	Maldah **	262	7%	89%	69%	83%	68%	2309	72%	2827	89%	1863	70%	558	12%	37%	1%	0%	67%	33%
West Bengal	Medinipur East	55	3%	86%	58%	82%	55%	1194	77%	1461	94%	822	65%	358	15%	35%	3%	1%	72%	50%
West Bengal	Medinipur West	150	3%	91%	74%	88%	72%	2800	77%	2096	57%	2037	70%	1125	17%	20%	2%	0%	0%	50%
West Bengal	Murshidabad	317	5%	92%	69%	89%	69%	3906	80%	4714	96%	3339	83%	1532	20%	36%	1%	0%	100%	100%
West Bengal	Nadia	122	3%	90%	66%	87%	65%	2258	81%	2740	99%	1942	82%	1006	21%	44%	2%	1%	67%	29%
West Bengal	North 24 Parganas	326	4%	85%	58%	84%	61%	5283	92%	5686	99%	4287	94%	5314	57%	59%	3%	2%	74%	67%
West Bengal	Puruliya	118	4%	91%	76%	89%	72%	1430	80%	1646	92%	1218	78%	433	12%	37%	0%	0%		
West Bengal	South 24 Parganas	275	5%	88%	63%	85%	64%	3158	78%	4044	99%	2693	84%	1956	29%	38%	2%	1%	100%	97%
West Bengal	Uttar Dinajpur	111	5%	88%	67%	85%	64%	1475	83%	1722	97%	1223	84%	397	15%	57%	3%	1%	29%	94%
Grand Total		**84064**	**7%**	**90%**	**73%**	**88%**	**71%**	**738548**	**87%**	**816786**	**97%**	**548622**	**83%**	**733894**	**48%**	**45%**	**6%**	**3%**	**91%**	**59%**
Summary of performance of Tribal Districts		**4742**	**7%**	**90%**	**74%**	**88%**	**73%**	**35766**	**85%**	**40604**	**97%**	**26130**	**77%**	**45053**	**58%**	**28%**	**4%**	**1%**	**88%**	**52%**
Summary of performance of Poor and Backward		**15511**	**6%**	**90%**	**75%**	**89%**	**75%**	**153357**	**87%**	**172218**	**97%**	**106842**	**79%**	**185780**	**61%**	**22%**	**5%**	**1%**	**87%**	**53%**
Zonal Analysis																				
North Zone		25781	7%	91%	77%	89%	75%	238374	91%	258812	98%	176250	87%	241532	53%	29%	1%	0%	59%	59%
South Zone		17265	7%	90%	70%	86%	66%	139403	87%	154504	96%	103655	82%	165805	57%	85%	10%	9%	92%	57%
West Zone		25073	7%	91%	72%	88%	70%	212059	87%	234368	96%	160520	82%	169101	38%	50%	7%	3%	94%	62%
East zone		12476	6%	89%	69%	87%	69%	123347	83%	141689	96%	90076	77%	135652	51%	26%	2%	1%	52%	61%
North East		3469	7%	88%	68%	85%	65%	25365	86%	27413	93%	18121	78%	21804	37%	31%	3%	1%	74%	54%

* Tribal Districts (more than 50% tribal population) ** Poor/Backward District † Tribal & Poor/Backward Districts

Estimated New Smear Positive cases / lakh population based on ARTI data for North Zone (Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir,

1 Projected population based on census population of 2011 is used for calculation of case-detection rate. 1 lakh = 100,000 population

2 Smear positive patients diagnosed include new smear positive cases and smear positive retreatment cases

3 Total patients registered for treatment includes new sputum smear positive cases, new smear negative cases, new extra-pulmonary cases, new others ,relapse,failure,TAD and retreatment others

4 Sputum Conversion rate is not expected for new districts that began implementing RNTCP in 4th quarter 2010

5 Cure rate and Success rate are not expected for new districts that began implementing RNTCP after 4th quarter 2009

Values for grey areas are not expected

Performance of RNTCP Case Detection (2011), Smear Conversion (Fourth quarter 2010 to Third quarter 2011), and Treatment Outcomes (2010)

State	District	Human Resource Management Score (%)		Financial Management Score (%)		Drugs & Logistics Management Score (%)		Case Finding Efforts Score (%)		Quality of Services Score (%)		Composite Score for Performance Assessment (%)	
West Bengal	Haora	49	76%	20	100%	16	80%	13	43%	74	64%	172	69%
West Bengal	Hugli	48	74%	20	100%	4	20%	6	20%	66	58%	144	58%
West Bengal	Jalpaiguri **	53	82%	10	50%	12	60%	5	17%	61	53%	141	56%
West Bengal	Koch Bihar **	46	71%	0	0%	20	100%	15	50%	50	43%	131	52%
West Bengal	Kolkata	55	84%	20	100%	16	80%	12	39%	59	51%	161	64%
West Bengal	Maldah **	42	65%	20	100%	20	100%	15	50%	45	39%	143	57%
West Bengal	Medinipur East	45	68%	20	100%	8	40%	25	83%	56	48%	153	61%
West Bengal	Medinipur West	44	67%	20	100%	8	40%	15	50%	35	31%	122	49%
West Bengal	Murshidabad	44	68%	20	100%	16	80%	15	50%	68	59%	163	65%
West Bengal	Nadia	47	72%	20	100%	12	60%	18	60%	61	53%	158	63%
West Bengal	North 24 Parganas	41	64%	20	100%	20	100%	26	86%	68	59%	175	70%
West Bengal	Puruliya	37	57%	20	100%	0	0%	19	65%	66	57%	143	57%
West Bengal	South 24 Parganas	49	76%	20	100%	12	60%	30	100%	68	59%	179	72%
West Bengal	Uttar Dinajpur	46	70%	20	100%	16	80%	15	50%	62	54%	159	63%
Grand Total		**47**	**72%**	**13**	**67%**	**15**	**75%**	**12**	**40%**	**69**	**60%**	**156**	**62%**
Summary of performance of Tribal Districts		**41**	**54%**	**16**	**68%**	**16**	**66%**	**11**	**31%**	**66**	**48%**	**149**	**51%**
Summary of performance of Poor and Backward		**45**	**49%**	**9**	**65%**	**16**	**56%**	**12**	**57%**	**68**	**85%**	**149**	**86%**
Zonal Analysis													
North Zone		**46**	**70%**	**11**	**55%**	**15**	**77%**	**12**	**41%**	**70**	**61%**	**154**	**62%**
South Zone		**52**	**81%**	**14**	**73%**	**14**	**72%**	**12**	**40%**	**71**	**63%**	**163**	**67%**
West Zone		50	77%	15	73%	15	77%	12	41%	72	63%	164	66%
East zone		43	66%	14	69%	15	75%	12	39%	65	56%	148	59%
North East		**47**	**42%**	**12**	**59%**	**16**	**46%**	**11**	**22%**	**69**	**35%**	**155**	**36%**

Laboratory Performance Indicators																	
S.No	Name of the Culture & DST Laboratory	Culture workload (from culture register)		DST workload and results (from DST register)							Laboratory Quality Indicators					
				[DST results summary combined all methods]							Propotion of smear positive diagnositic specimens reported as culture positive		Proportion of all specimens with culture 'contaminated' results		Patients (with diagnostic specimens) with DST completed within the benchmark turn-around time	
		Diagnostic Sputum SPECIMENS inoculated	Follow-Up SPECIMENS inoculated	Solid DST Processed	LPA DST done	Liquid DST Done	Total H+R Sens	Total H+R Res	Total H only Res	Total R only Res	Number	%	Number	%	Number	%
1	BPHRC,Andhra Pradesh	440	1426	156	0	0	37	68	7	0	301	96	14	1	133	85
2	IRL,Gujarat	3808	7328	969	1383	0	951	729	214	154	2674	57	546	5	1010	67
3	IRL, Andhra Pradesh	2556	2668	310	1067	0	589	256	91	76	1603	74	193	4	932	79
4	IRL,Kerala	2108	1230	307	0	0	81	149	12	1	620	34	724	21	233	18
5	IRL, Nagpur	3682	2539	464	1486	0	913	239	172	62	1580	73	461	8	397	85
6	IRL, Orrissa	236	404	108	0	0	12	56	4	2	170	56	20	4	68	89
7	SMS,Jaipur	986	1678	173	109	0	99	113	39	23	272	76	91	3	257	93
8	IRL,Chennai	1268	1427	270	0	0	138	77	15	4	441	85	246	10	101	46
9	IRL, West Bengal	926	2560	346	0	0	27	330	16	21	200	63	88	3	112	46
10	CMC,Vellore	55	75	21	0	0	6	6	3	0	40	55	6	49	15	93
11	Hinduja, Mumbai	467	474	0	0	383	134	211	36	1	331	93	0	0	378	99
12	IRL,Jarkhand	334	92	123	0	0	47	38	19	10	143	74	52	11	104	86
13	IRL,Delhi	2408	3448	531	0	0	86	338	67	6	679	46	501	9	425	61
14	IRL Ajmer	636	698	316	0	0	50	113	75	0	368	74	150	10	223	90
15	IRL Puducherry	212	22	62	0	0	58	0	4	0	184	87	4	2	137	100
16	Chotithram,Indore	196	0	74	0	0	16	39	13	6	144	91	2	2	74	88
17	DFIT,Nellore	207	124	122	0	0	88	18	5	2	176	86	5	2	157	93
18	ICMR, Jabalpur	10	0	10	0	0	1	9	0	1	10	100	0	0	10	100
19	BMHRC, Bhopal	14	0	6	0	0	0	5	1	0	12	100	0	0	4	66
	Total	20549	26193	4368	4045	383	3333	2794	793	369	9948	63	3103	7	4770	66

Programmatic Management of Drug Resistant TB (PMDT)
Implementation, Diagnosis, 6 months interim, 12 months Culture Conversion and Treatment Outcome of MDR TB Case
(Reported by DOTS Plus Sites of Implementing States - 2011)

State	*Indicators on Coverage of MDR TB Services*						*Indicators on MDR TB Case Finding*					*Indicators on 6 months interim report*						
	Total Population (In lacs)	Total number of districts	Number of districts implementing PMDT services	Population of districts implementing PMDT services (in lacs)	% population with **access to MDR TB services** under RNTCP in 2011	Number of **DOTS Plus Sites functional** in the state	Number of S+ Re-treatment cases registered in the state in 2011	Number of MDR TB Suspects subjected to C-DST in 2011	Proportion of **S+ RT cases registered** in districts implementing PMDT services who were **tested for MDR-TB $**	Number of MDR TB Cases detected in 2011	Number of **MDR TB Cases** detected that were **registered and initiated on treatment** in 2011 #	Number of MDR TB Case registered and initiated on Cat IV in the 4 cohorts 6-9 months prior (2Q10-1Q11) (a)	Out of a, No. (%) who are **alive, on treatment and culture negative**		Out of a, No. (%) who **died**		Out of a, No. (%) who **defaulted**	
Andaman & Nicobar	4	1	1	4	100%	1	95	12	13%	0	0							
Andhra Pradesh	847	24	17	652	77%	4	16162	2005	12%	506	435	295	180	61%	24	8%	29	10%
Arunachal Pradesh	14	14	2	3	21%	1	342	34	10%	4	0							
Assam	312	24	2	49	16%	1	3818	47	1%	0	0							
Chandigarh	11	1	1	11	100%	1	372	33	9%	0	0							
Chhattisgarh	255	16	3	62	24%	1	1615	10	1%	2	1							
Delhi	168	25	25	168	100%	4	6895	2680	39%	677	562	360	259	72%	33	9%	53	15%
Goa	15	2	2	15	100%	1	274	14	5%	7	5							
Gujarat* (+DD&DNH)	609	33	33	609	100%	4	15308	2417	16%	885	696	630	344	55%	53	8%	55	9%
Haryana	254	21	7	92	36%	1	7573	380	5%	120	82	58	32	55%	11	19%	3	5%
Himachal Pradesh	69	12	2	21	30%	2	2155	270	13%	81	51	4	2	50%	1	25%	0	0%
Jammu & Kashmir	125	14	2	34	27%	2	1825	67	4%	1	0							
Jharkhand	330	24	9	147	45%	1	3240	139	4%	34	20	11	6	55%	1	9%	0	0%
Karnataka	611	31	5	148	24%	1	9572	293	3%	63	43							
Kerala (+LK)	335	15	15	335	100%	2	2349	1137	48%	105	128	114	75	66%	6	5%	4	4%
Madhya Pradesh	726	50	12	226	31%	2	11443	225	2%	53	35							
Mahara-shtra	1124	60	31	504	45%	4	16151	3275	20%	772	534	281	139	49%	29	10%	32	11%
Manipur	27	9	2	10	37%	1	242	85	35%	10	0							
Meghalaya	30	7	2	15	50%	1	584	10	2%	5	0							
Mizoram	11	8	2	5	45%	1	197	51	26%	3	2							
Nagaland	20	11	2	7	35%	1	467	38	8%	1	0							
Orissa	419	31	15	261	62%	1	4258	141	3%	62	47	43	22	51%	3	7%	0	0%
Puducherry	12	1	1	12	100%	1	238	135	57%	6	6							
Punjab	277	20	3	79	29%	2	6424	57	1%	0	0							
Rajasthan	686	33	21	482	70%	1	20242	1223	6%	326	274	200	116	58%	20	10%	14	7%
Sikkim	6	4	1	3	50%	1	231	11	5%	0	0							
Tamil Nadu	721	31	31	721	100%	2	9530	1452	15%	207	184	125	87	70%	9	7%	6	5%
Tripura	37	4	1	17	46%	1	262	6	2%	2	2							
Uttar Pradesh	1996	71	1	44	2%	1	37783	219	0.6%	51	45	2	2	100%	0	0%	0	0%
Uttarakhand	101	13	2	36	36%	1	2560	76	3%	17	16							
West Bengal	913	19	7	361	40%	2	12574	680	5%	221	216	255	143	56%	12	5%	12	5%
India Total	**12102**	**662**	**260**	**5129**	**42%**	**50**	**202599**	**17222**	**9%**	**4221**	**3384**	**2378**	**1407**	**59%**	**202**	**8%**	**208**	**9%**

* Data from Daman-Diu & Dadra Nagar Haveli is included in Gujarat; Data from Lakshadweep is included in Kerala
$ This indicator will be more relevant when S+ve RT cases are considered as MDR TB suspects in all districts in the state

These numbers are NOT from the same cohort of patients from which MDR 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 suspects, hence this should not yet be taken as a proportion of MDR TB diagnosed and used as an indicator for efficiency of initiation on treatment. Future versions of the PMDT reporting system will be based on cohorts of patients tested in laboratories, and will be used for monitoring of timeliness and efficiency of diagnosis and initiation on treatment

Programmatic Management of Drug Resistant TB (PMDT)
Implementation, Diagnosis, 6 months interim, 12 months Culture Conversion and Treatment Outcome of MDR TB Case
(Reported by DOTS Plus Sites of Implementing States - 2011)

State	*Indicators on 12 months Culture Conversion Report*											*Indicators on Treatment Outcome of MDR TB Cases*									
	Number of MDR TB cases registered in the cohort, 12-15 months prior (4Q09-3Q10) (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 **defaulted**		Number of MDR TB cases registered in the cohort, 31-33 months prior (3Q08-2Q09) ©	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 **defaulted**		Out of c, No. (%) who **failed treatment**	
Andaman & Nicobar																					
Andhra Pradesh	244	114	47%	27	11%	15	6%	39	16%	47	19%	71	29	2	44%	16	23%	18	25%	5	7%
Arunachal Pradesh																					
Assam																					
Chandigarh																					
Chhattisgarh																					
Delhi	394	227	58%	27	7%	19	5%	46	12%	64	16%	116	55	7	53%	15	13%	31	27%	1	1%
Goa																					
Gujarat* (+DD&DNH)	518	223	43%	102	20%	33	6%	86	17%	74	14%	108	43	8	47%	24	22%	18	17%	14	13%
Haryana	62	25	40%	16	26%	4	6%	9	15%	8	13%	17	6	2	47%	6	35%	1	6%	2	12%
Himachal Pradesh																					
Jammu & Kashmir																					
Jharkhand																					
Karnataka																					
Kerala (+LK)	125	67	54%	10	8%	25	20%	10	8%	13	10%	56	24	16	71%	4	7%	8	14%	1	2%
Madhya Pradesh																					
Mahara-shtra	173	71	41%	33	19%	21	12%	21	12%	26	15%	79	37	2	49%	12	15%	20	25%	6	8%
Manipur																					
Meghalaya																					
Mizoram																					
Nagaland																					
Orissa	26	8	31%	4	15%	11	42%	3	12%	0	0%										
Puducherry																					
Punjab																					
Rajasthan	191	107	56%	13	7%	29	15%	30	16%	9	5%	15	10	0	67%	2	13%	1	7%	2	13%
Sikkim																					
Tamil Nadu	125	72	58%	16	13%	17	14%	14	11%	5	4%	7	1	0	14%	4	57%	0	0%	2	29%
Tripura																					
Uttar Pradesh																					
Uttarakhand																					
West Bengal	173	100	58%	26	15%	19	11%	13	8%	13	8%	20	11	0	55%	3	15%	5	25%	1	5%
India Total	**2031**	**1014**	**50%**	**274**	**13%**	**193**	**10%**	**271**	**13%**	**259**	**13%**	**489**	**216**	**37**	**52%**	**86**	**18%**	**102**	**21%**	**34**	**7%**

* Data from Daman-Diu & Dadra Nagar Haveli is in
$ This indicator will be more relevant when S+ve R

These numbers are NOT from the same cohort o
TB diagnosed and used as an indicator for efficienc

Referral of TB Suspects from ICTCs to RNTCP diagnostic units (2011)
(Reported by Phase-I states implementing Joint TB-HIV Action Plan

	Andhra Pradesh		Karnataka		Maharashtra		Manipur		Mizoram		Nagaland		Tamil Nadu		Total	
Total Population (In lakhs)	847		611		1124		27		11		20		721		**6722**	
Total No. of districts	24		31		55		9		8		11		31		**169**	
	HIV Positive	HIV Negative	HIV Positive	HIV Negative	HIV Positive	HIV Negative	HIV Positive	HIV Negative	HIV Positive	HIV Negative	HIV Positive	HIV Negative	HIV Positive	HIV Negative	**HIV Positive**	**HIV Negative**
1. Number of TB suspects referred from VCTCs to RNTCP facilities*	94743		97993		140765		991		618		1454		99316		435880	
2. Out of the above persons, number diagnosed as having TB:																
a) Sputum Positive TB	2642	5612	1448	3911	1465	7265	14	30	13	1	13	76	624	2842	**6219**	**19737**
b) Sputum Negative TB	964	1433	609	879	945	2423	9	12	71	24	11	30	466	828	**3075**	**5629**
c) Extra-Pulmonary TB	145	209	428	469	607	864	8	1	3	0	6	7	200	258	**1397**	**1808**
d) Total diagnosed TB patients	**3751**	**7254**	**2485**	**5259**	**3017**	**10552**	**31**	**43**	**87**	**25**	**30**	**113**	**1290**	**3928**	**10691**	**27174**
3. Out of above total diagnosed TB patients (d), number receiving DOTS	2320	6383	2099	5986	2533	9643	31	42	5	4	26	108	1055	4120	**8069**	**26286**

Source of data: Monthly reports on TB-HIV cross referrals submitted by individual ICTC to the respective state SACS

Treatment Outcome of HIV positive TB patients registered in Annual 2010

States	All TB-HIV NSP Total Case Registered	Treatment Success	Died	Failure	Default	Transferred Out
Andhra Pradesh	4834	77%	13%	2%	4%	1%
Assam	12	92%	8%	0%	0%	0%
Chandigarh	6	83%	17%	0%	0%	0%
Delhi	49	78%	12%	4%	4%	2%
Goa	45	67%	18%	4%	9%	2%
Gujarat	741	76%	15%	2%	6%	1%
Karnataka	2689	73%	18%	2%	7%	1%
Kerala	34	68%	3%	12%	15%	0%
Maharashtra	3617	72%	17%	1%	5%	5%
Manipur	64	94%	6%	2%	2%	0%
Mizoram	25	68%	8%	0%	20%	0%
Nagaland	42	74%	17%	2%	12%	-5%
Pondicherry	10	50%	40%	0%	10%	0%
Punjab	49	67%	16%	4%	6%	2%
Tamil Nadu	1493	76%	15%	1%	8%	0%
West Bengal	68	74%	18%	3%	4%	1%
Grand Total	**13778**	**75%**	**15%**	**2%**	**5%**	**2%**

States	All TB-HIV Total Case Registered	Treatment Success	Died	Failure	Default	Transferred out
Andhra Pradesh	11686	81%	12%	2%	4%	0%
Assam	31	77%	6%	3%	6%	3%
Chandigarh	9	78%	0%	0%	0%	0%
Delhi	302	81%	7%	2%	6%	3%
Goa	175	77%	15%	2%	4%	1%
Gujarat	2936	76%	13%	1%	8%	2%
Karnataka	8909	72%	16%	1%	8%	2%
Kerala	116	70%	9%	6%	6%	4%
Maharashtra	12016	76%	13%	1%	7%	2%
Manipur	203	71%	8%	2%	2%	12%
Mizoram	197	77%	10%	1%	9%	3%
Nagaland	137	78%	8%	1%	7%	6%
Pondicherry	29	72%	24%	0%	3%	0%
Punjab	102	57%	19%	4%	6%	4%
Tamil Nadu	5838	82%	11%	1%	6%	1%
West Bengal	407	57%	16%	2%	6%	12%
Grand Total	43093	77%	13%	1%	6%	2%