Revised National TB Control Programme

Out of the Box

State Strategic Plan for TB Elimination in Madhya Pradesh

2019-25

Department of Health and Family Welfare
Government of Madhya Pradesh
Revise National TB Control Programme

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TB Elimination in Madhya Pradesh

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Department of Health and Family Welfare
Government of Madhya Pradesh
Tuberculosis has been a major public health problem causing people and families to suffer. Although a medical disease, its cause and effects are both social, thus pushing vulnerable people into a cycle of disease and poverty. United Nations has called for elimination of Tuberculosis by 2030. We, the people of Madhya Pradesh, hereby declare to consolidate our efforts in bringing down the TB epidemic to elimination by 2025 in the state.

Revised National Tuberculosis Control Program has been in effect since its inception in Madhya Pradesh. Annually 90000 to 1 lakh TB cases are being diagnosed in the public sector in the state, more than 90% of them being successfully put on treatment. State Strategic Plan will galvanize the TB elimination efforts of the state in the direction of elimination.

The state now looks to achieve the TB elimination goals by working on poverty alleviation program such as Mukhya Mantri Yuva Swabhiman Yojana, improving living standards of people with schemes such as Mukhya Mantri Awas Yojana and providing quality healthcare. A collective effort from various stakeholders will be stimulated to make Madhya Pradesh “TB Mukt”.

We bring in the strongest commitment and solidarity with the people of Madhya Pradesh to achieve this goal and to end TB.

(KAMAL NATH)
TB elimination is at the helm of the public health agenda owing to rapid increase in quality diagnostic facilities, availability of shorter regimens and newer drugs, and continued global interest and endeavour.

Madhya Pradesh is the largest state geographically, with promising and growing urban structures and at the same time home to one of the largest share of tribal population. Madhya Pradesh is amongst a few states with a state specific strategic plan for moving towards the goal of elimination of Tuberculosis to cater to the need of the variety of population and challenges thus posed.

The state has initiated and innovated various strategies such as mobile app for chemists for notification, introduction of PPSAs for all districts, Saharia Action Plan for people of Saharia tribe; the strategic plan comes up with more such innovations and consorted efforts and partnerships with diverse partners to accomplish the established outcome of TB elimination by 2025 in Madhya Pradesh.
Tuberculosis is a disease of socially and clinically vulnerable people. The disease kills two people every three minutes. The state of Madhya Pradesh is committed to stop this rampage, and to reduce the disease, death and suffering of the people TB affects, as is also envisioned globally.

To interrupt the epidemic of Tuberculosis it is important to diagnose the missing cases through public and private sector, to put them on the care and support program and to practice the preventive measures to curb the new transmissions. In the state of Madhya Pradesh, we strive to do these by building the human capital and healthcare infrastructure, using appropriate technologies, forging meaningful partnerships with all stakeholders, integrating various platforms and programs in health and social determinants.

The strategic plan will serve as the guide to all the districts and the state of Madhya Pradesh to achieve the TB elimination goals. Success of this endeavour will be an important chapter in the history of control of infectious diseases.

I would like to acknowledge the support of Civil society organisations of state and development partners like WHO, CHAI, more particularly Population Services International through the Sustainable Health Outcomes through Private Sector (SHOPS Plus) project supported by United States Agency for International Development (USAID) for immense technical support to state government in initiating and driving the development of state strategic plan document for Madhya Pradesh.
Tuberculosis is a disease dreaded due to it’s social consequences and age old myths and misconceptions regarding it’s transmission and treatment. It is more often mistreated by the unqualified and untrained thus leading to patients suffering physically and monetarily.

Elimination of Tuberculosis will entail mammoth efforts by each and every stakeholder involved. The launch of this document provides with the necessary roadmap and momentum, in direction of meeting the goals specified.

Our interventions to find cases actively, with help from surveillance units, prompt treatment initiation, innovative patient and family support systems will bring about the needed changes in the state’s response to the TB epidemic.

We are determined to make TB a disease of past and to make the people, villages, wards, blocks, districts, cities and state of Madhya Pradesh TB mukt, collectively by active engagement of community, Civil Society Organisations, Development Partners like PSI, WHO, CHAI, USAID etc. and all other stakeholders.

The State Strategic Document will be guiding force for the TB Mukt Madhya Pradesh.
People who suffer from tuberculosis have to not only suffer physically, but also face stigma and discrimination from the society and thus suffer mentally, and also suffer financially due to myths and misconceptions regarding the tuberculosis treatment. This also causes catastrophic expenditures to the family of the infected, pushing them into the trap of poverty and disease.

The goal and vision of TB elimination thus comprises of decreasing disease, death and suffering of people due to Tuberculosis. The state plans to achieve this through multipronged strategies, involving multiple stakeholders from grassroots level workers to professionals and public to public figures.

The state will now be doing things that have not been done yet, getting out of the comfort zone and getting TB control out of the box with innovative and bold ideas. "I have promises to keep, and miles to go before I sleep, miles to go before I sleep". We promise to break free from TB's clutches and find a world free of disease.

I would like to acknowledge the support of Population Services International through the Sustainable Health Outcomes through Private Sector (SHOPS Plus) project supported by United States Agency for International Development (USAID) through Abt Associates in initiating and driving the development of state strategic plan document for Madhya Pradesh, with active engagement with all stakeholders in the best possible participatory and inclusive manner.
“RNTCP: Out of the box, strategic plan document for TB elimination in Madhya Pradesh by 2025” was possible due to the support and guidance of Dr. Pallavi Jain Govil, IAS, Department of Health and Family Welfare, Govt. of Madhya Pradesh.

Shri Nitesh Vyas, IAS, Commissioner – Health, Directorate of Health Services, Govt. of Madhya Pradesh has always bolstered up our endeavour of strategizing the TB elimination plan and in documenting and our gratitude to him for encouraging our enthusiasm.

Smt Chhavi Bhardwaj, IAS, Mission Director, National Health Mission, Madhya Pradesh have been instrumental in guiding throughout the process of the strategic plan document and have supported the team.

WHO technical support network medical consultants, Dr. Sandeep Mishra, state consultant with his colleagues Dr. Harshad Lande, Dr. Ashutosh Tripathi and Dr. Y K Jani are appreciated for their technical expertise in strategizing the plan for the state of Madhya Pradesh.

I would like to acknowledge the support of Population Services International through the Sustainable Health Outcomes through Private Sector (SHOPS Plus) project supported by United States Agency for International Development (USAID) through Abt Associates. I sincerely appreciate and thanks PSI team for immense support in initiating and driving the development of state strategic plan document for Madhya Pradesh.

The State Strategic Plan document would have not been possible without the support and participation by the representatives from National Urban Health Mission (NUHM) Government of Madhya Pradesh, WHO, IMA, CHAI, IAP, MPVHAI development partners, and community based organizations and civil society organizations who participated in stakeholder consultation workshop during planning of strategy document.
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</thead>
<tbody>
<tr>
<td>ACSM</td>
<td>Advocacy Communication with Social Mobilisation</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immuno-Deficiency Syndrome</td>
</tr>
<tr>
<td>ANM</td>
<td>Auxiliary Nurse Midwife</td>
</tr>
<tr>
<td>ART</td>
<td>Anti-Retroviral Therapy</td>
</tr>
<tr>
<td>ASHA</td>
<td>Accredited Social Health Activist</td>
</tr>
<tr>
<td>AWW</td>
<td>Anganwadi Worker</td>
</tr>
<tr>
<td>BPL</td>
<td>Below Poverty Line</td>
</tr>
<tr>
<td>CBNAAT</td>
<td>Cartridge Based Nucleic Acid Amplification Test</td>
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<tr>
<td>CCC</td>
<td>Community Care Centers</td>
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<tr>
<td>CGHS</td>
<td>Central Government Health Scheme</td>
</tr>
<tr>
<td>CHC</td>
<td>Community Health Centre</td>
</tr>
<tr>
<td>CMHO</td>
<td>Chief Medical Health Officer</td>
</tr>
<tr>
<td>CPT</td>
<td>Cotrimoxazole Preventive Therapy</td>
</tr>
<tr>
<td>CTD</td>
<td>Central TB Division</td>
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<tr>
<td>DEO</td>
<td>Data Entry Operator</td>
</tr>
<tr>
<td>DLN</td>
<td>District Level Network of PLHIV</td>
</tr>
<tr>
<td>DM</td>
<td>District Magistrate</td>
</tr>
<tr>
<td>DMC</td>
<td>Designated Microscopy Centre</td>
</tr>
<tr>
<td>DOT</td>
<td>Directly Observed Treatment</td>
</tr>
<tr>
<td>DOTS</td>
<td>Directly Observed Treatment, Short-Course</td>
</tr>
<tr>
<td>DPM</td>
<td>Deputy Program Manager</td>
</tr>
<tr>
<td>DPM</td>
<td>Deputy Program Manager</td>
</tr>
<tr>
<td>DR</td>
<td>Drug resistant</td>
</tr>
<tr>
<td>DRS</td>
<td>Drug Resistance Surveillance</td>
</tr>
<tr>
<td>DR-TB</td>
<td>Drug resistant tuberculosis</td>
</tr>
<tr>
<td>DS</td>
<td>Drug sensitive</td>
</tr>
<tr>
<td>DST</td>
<td>Drug Sensitivity Testing</td>
</tr>
<tr>
<td>DS-TB</td>
<td>Drug Sensitive Tuberculosis</td>
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<tr>
<td>DTC</td>
<td>District Tuberculosis Centre</td>
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<tr>
<td>DTCS</td>
<td>District TB Control Society</td>
</tr>
<tr>
<td>DTO</td>
<td>District Tuberculosis Officer</td>
</tr>
<tr>
<td>EPTB</td>
<td>Extra Pulmonary Tuberculosis</td>
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<tr>
<td>EQA</td>
<td>External Quality Assessment</td>
</tr>
<tr>
<td>ESI</td>
<td>Employees State Insurance</td>
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<tr>
<td>FBO</td>
<td>Faith Based Organisation</td>
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<tr>
<td>FDC</td>
<td>Fixed Drug Combination</td>
</tr>
<tr>
<td>FICTC</td>
<td>Facility Integrated Counselling and Testing Centre</td>
</tr>
<tr>
<td>ICF</td>
<td>Intensive Case Finding</td>
</tr>
<tr>
<td>ICTC</td>
<td>Integrated Counselling and Testing Centre</td>
</tr>
<tr>
<td>IEC</td>
<td>Information, Education and Communication</td>
</tr>
<tr>
<td>IPT</td>
<td>Isoniazid Preventive Therapy</td>
</tr>
<tr>
<td>IRLs</td>
<td>Intermediate Reference Laboratories</td>
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<tr>
<td>LAC</td>
<td>Link ART Centers</td>
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<tr>
<td>LPA</td>
<td>Line Probe Assay</td>
</tr>
<tr>
<td>LT</td>
<td>Laboratory Technician</td>
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<tr>
<td>LTBI</td>
<td>Latent TB Infection</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>MAS</td>
<td>Mahila Ayog Samiti</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goal</td>
</tr>
<tr>
<td>MDR-TB</td>
<td>Multi Drug Resistant Tuberculosis</td>
</tr>
<tr>
<td>MO</td>
<td>Medical Officer</td>
</tr>
<tr>
<td>MOHFW</td>
<td>Ministry of Health with Family Welfare</td>
</tr>
<tr>
<td>MO-TC</td>
<td>Medical Officer –Tuberculosis Control</td>
</tr>
<tr>
<td>MPHS</td>
<td>Multi –Purpose Health Supervisors</td>
</tr>
<tr>
<td>MPW</td>
<td>Multi-Purpose Workers</td>
</tr>
<tr>
<td>NACP</td>
<td>National AIDS Control Program</td>
</tr>
<tr>
<td>NAICC</td>
<td>National Airborne Infection Control Committee</td>
</tr>
<tr>
<td>NFHS</td>
<td>National Family Health Survey</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>NHM</td>
<td>National Health Mission</td>
</tr>
<tr>
<td>NRLs</td>
<td>National Reference Laboratories</td>
</tr>
<tr>
<td>NSP</td>
<td>New smear positive</td>
</tr>
<tr>
<td>NSP-RNTCP</td>
<td>National Strategic Plan for Tuberculosis Control</td>
</tr>
<tr>
<td>NUHM</td>
<td>National Urban Health Mission</td>
</tr>
<tr>
<td>OPD</td>
<td>Out Patient Department</td>
</tr>
<tr>
<td>OR</td>
<td>Operational Research</td>
</tr>
<tr>
<td>ORW</td>
<td>Out Reach Worker</td>
</tr>
<tr>
<td>OSE</td>
<td>On-Site Evaluation</td>
</tr>
<tr>
<td>PHC</td>
<td>Primary Health Centre</td>
</tr>
<tr>
<td>PHI</td>
<td>Peripheral Health Institution</td>
</tr>
<tr>
<td>PHW</td>
<td>Peripheral Health Worker</td>
</tr>
<tr>
<td>PITC</td>
<td>Provider Initiated HIV testing and counseling</td>
</tr>
<tr>
<td>PLHIV</td>
<td>People Living with HIV/AIDS</td>
</tr>
<tr>
<td>PP</td>
<td>Private Practitioner</td>
</tr>
<tr>
<td>PPM</td>
<td>Public Private Mix/ Partnership</td>
</tr>
<tr>
<td>PSA</td>
<td>Private Provider Support agency</td>
</tr>
<tr>
<td>PRI</td>
<td>Panchayati Raj Institution</td>
</tr>
<tr>
<td>PT</td>
<td>Preventive Therapy</td>
</tr>
<tr>
<td>PTB</td>
<td>Pulmonary Tuberculosis</td>
</tr>
<tr>
<td>PVPI</td>
<td>Pharmacovigilance program of India</td>
</tr>
<tr>
<td>PVTGs</td>
<td>Particularly Vulnerable Tribal Groups</td>
</tr>
<tr>
<td>PWB</td>
<td>Patient Wise Box</td>
</tr>
<tr>
<td>QA</td>
<td>Quality Assurance</td>
</tr>
<tr>
<td>QC</td>
<td>Quality Control</td>
</tr>
<tr>
<td>QI</td>
<td>Quality Improvement</td>
</tr>
<tr>
<td>RKS</td>
<td>Rogi Kalyan Samiti</td>
</tr>
<tr>
<td>RNTCP</td>
<td>Revised National Tuberculosis Control Program</td>
</tr>
<tr>
<td>SA</td>
<td>Statistical Assistant</td>
</tr>
<tr>
<td>SACS</td>
<td>State AIDS Control Society</td>
</tr>
<tr>
<td>SC</td>
<td>Sub Centre</td>
</tr>
<tr>
<td>SC/ST</td>
<td>Scheduled Caste/ Scheduled Tribe</td>
</tr>
<tr>
<td>SCC</td>
<td>State Coordinating Committee</td>
</tr>
<tr>
<td>SOE</td>
<td>Statement of Expenditure</td>
</tr>
<tr>
<td>SPR</td>
<td>Sputum Positivity Rate</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<td>--------------</td>
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</tr>
<tr>
<td>SRS</td>
<td>Sample Registration System</td>
</tr>
<tr>
<td>STCI</td>
<td>Standards of TB Care in India</td>
</tr>
<tr>
<td>STCS</td>
<td>State Tuberculosis Control Society</td>
</tr>
<tr>
<td>STDC</td>
<td>State Tuberculosis Training and Demonstration Centers</td>
</tr>
<tr>
<td>STF</td>
<td>State Task Force</td>
</tr>
<tr>
<td>STLS</td>
<td>Senior Tuberculosis Laboratory Supervisor</td>
</tr>
<tr>
<td>STO</td>
<td>State Tuberculosis Officer</td>
</tr>
<tr>
<td>STS</td>
<td>Senior Treatment Supervisor</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>TBHV</td>
<td>Tuberculosis Health Visitor</td>
</tr>
<tr>
<td>TI</td>
<td>Targeted Intervention</td>
</tr>
<tr>
<td>TU</td>
<td>Tuberculosis Unit</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>VCTC</td>
<td>Voluntary Testing and Counselling Centre</td>
</tr>
<tr>
<td>VHND</td>
<td>Village Health and Nutrition Day</td>
</tr>
<tr>
<td>VHSC</td>
<td>Village Health and Sanitation Committee</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>XDR</td>
<td>Extensively Drug Resistant</td>
</tr>
</tbody>
</table>
Executive Summary

Tuberculosis (TB) epidemic in India is in decline, however still India continues to be the country with the highest TB burden in the world in terms of absolute numbers of incident cases each year. India has the highest burden of both TB and Multi-Drug resistant TB with estimated over one million cases each year that are either not notified or remain undiagnosed. TB kills an estimated 480,000 Indians every year and more than 1,400 every day. Mortality due to TB is the third leading cause of years of life lost (YLLs) in the country. The estimated incidence (new TB cases per year) was 2.8 million cases in 2017 (211 per 100,000 population).

Government of India (GoI) has come up with its National Strategic Plan for TB elimination (2017-2025). The document serves as a guidance document for the entire country to move towards the goal of TB elimination.

Under the NSP (2017-2025), in the state of Madhya Pradesh, there has been significant progress especially in the area of increasing notifications from private sector, expansion of diagnostics services, program architecture and implementation environment for TB control, programmatic management of drug resistant TB (PMDT) service expansion. However, more needs to be done to drastically reduce the TB incidence in Madhya Pradesh which will give impetus to TB elimination in India.

Every state has its own strengths, weaknesses, challenges and the available opportunities; hence TB control program of the state of Madhya Pradesh has come up with its own strategic plan for TB elimination (2019-2025). National Strategic Plan document and the strategies being the base, the state strategic plan further builds upon it to cater to its specific key populations, planning to take the strengths and opportunities in its stride and plan to weaken the weaknesses, thus achieving the goal of TB elimination in the state of Madhya Pradesh.

The State Strategic Plan for TB elimination for Madhya Pradesh is a seven-year strategic plan document 2019-2025. It will guide the districts and state in developing the yearly Project Implementation Plans (PIP) as well as in developing District Health Action Plan (DHAP). The strategic framework is to guide all the stakeholders working in the field of Tuberculosis in the state.

Developing the State Strategic Plan (SSP)-MP:

SSP-MP (2019-2025) has been developed and formulated in consultation with various stakeholders such as state government, private sector, civil society organizations. The strategies have been derived based on the consultations with stakeholders, program experience in the state, learnings from other states and programs.

Vision
TB-free MP with zero deaths, disease and suffering due to Tuberculosis.

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

1 Central TB Division, annual TB report, 2018
2 Global TB report, WHO, 2017
3 Annual TB report, 2018
## Results Framework

- To reduce Tuberculosis incidence to 77% by the year 2025 in the state of Madhya Pradesh from 189 per lac population for 2018.
- To reduce mortality due to tuberculosis to 95% by the year 2025 in the state of Madhya Pradesh.
- Zero catastrophic costs due to Tuberculosis in affected families by year 2023 in the state of Madhya Pradesh.

### Table 1: Proposed result framework

<table>
<thead>
<tr>
<th>Outcome Indicators</th>
<th>Baseline</th>
<th>Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
<td>2020</td>
</tr>
<tr>
<td>Total TB patient notification</td>
<td>1.583 lac</td>
<td>2.40 Lac</td>
</tr>
<tr>
<td>Total patient Private providers notification</td>
<td>37548</td>
<td>1.48 Lac</td>
</tr>
<tr>
<td>MDR/RR TB patients notified</td>
<td>2,981</td>
<td>4,500</td>
</tr>
<tr>
<td>Proportion of notified TB patients offered DST (%)</td>
<td>35</td>
<td>75</td>
</tr>
<tr>
<td>Proportion of notified patients initiated on treatment (%)</td>
<td>89</td>
<td>95</td>
</tr>
<tr>
<td>Treatment success rate among notified DSTB (%)</td>
<td>81</td>
<td>90</td>
</tr>
<tr>
<td>Treatment success rate among notified RRTB (%)</td>
<td>51</td>
<td>65</td>
</tr>
<tr>
<td>Proportion of identified targeted key affected population undergoing active case finding (%)</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Proportion of notified TB patients receiving financial support through DBT (%)</td>
<td>50</td>
<td>80</td>
</tr>
<tr>
<td>Proportion of notified TB patients using ICT supported adherence systems (%)</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>Proportion of identified/eligible individuals for preventive therapy / LTBI s - initiated on treatment (%)</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Proportion of patient provider support agency units established at the district level (%)</td>
<td>15</td>
<td>90</td>
</tr>
<tr>
<td>Proportion of notified TB pts receiving social support from CBOs, NGOs, FBOs (%)</td>
<td>0</td>
<td>90</td>
</tr>
</tbody>
</table>
Guiding Principles

Strategic plan for Madhya Pradesh (MP) would follow following guiding principles to achieve the Goal and Vision of TB free MP

Building human capital and health infrastructure
An investment in people and infrastructure is the way forward for long term success in any development program. The workforce and the health infrastructure will be prepared for the future that is fast unfolding.

Patient/ Community Centric Approach
A partnership will be built with patients and communities such that decisions and interventions in Tuberculosis healthcare can align with patient’s needs, wants and preferences.

Equitable distribution of resources
Identifying and investing in more resources for areas/ populations where the resources are poor and where there is more need.

Universal access to healthcare
To ensure physical accessibility, financial affordability and socio cultural acceptability of TB care services for universal access to healthcare for all people. This is a step towards universal coverage of healthcare.

Protection of human rights via countering stigma and discrimination against TB
Stigma and discrimination pose a human right challenge for tuberculosis patients. Patients have right to be free from stigma and discriminatory behavior in all settings, healthcare, housing, workplace and education. Rights based approach to TB care ensures accountability, transparency and non-discrimination; and is imbibed in design, implementation, monitoring and evaluation of programs.

Health systems accountability towards patients
Health system actors such as government providers, private providers, ministries, non-governmental providers are all accountable towards patients. Financial support, political commitment and holistic health system approach with utmost accountability are the key components.

Use of Technology & Artificial Intelligence in TB care
Technology affords healthcare to be more collaborative, data driven and accountable. Incorporating artificial intelligence in the current digital technologies being used in TB care can help in transforming delivery of TB care services.
Strategies to achieve goals of TB elimination in MP

TB control activities in the country and the state have gained the required momentum with the new NSP in place. Diagnostic expansion due to newer technologies, availability of better and shorter treatment regimens for drug sensitive and newer drug containing regimen for drug resistant TB, partnerships with private sector have led the state TB control program in achieving better case notifications, moving towards universal DST, better treatment outcomes and better patient care in public as well as private sector including provision of Direct Benefits Transfer to enhance TB patients’ nutritional status.

The SSP-MP identifies the challenges that are still prevailing in state and moves forward to address those. Strategies thus proposed are to augment notifications from key populations, smoothen private sector engagement, build sustainable partnerships, provide quality treatment services and patient support, reduce catastrophic expenditures and provide patient centric care.

New, comprehensively-deployed interventions are required to hasten the rate of decline of incidence of TB many fold, to more than 10-15% annually. The NSP identified four strategic pillars of “Detect – Treat – Prevent – Build” (DTPB) for moving towards TB elimination. The same strategic pillars are adapted to develop the SSP-MP.

1. **DETECT:** Under the pillar of Detect, the strategies focus on improving case notification in state specific key populations, mapping and Active Case Finding in vulnerable populations and in private sector, on communication activities to bring about necessary change in behavior from patients seeking care for early detection of TB and on optimum utilization of diagnostics at every level of healthcare.

2. **TREAT:** Treat envisions strategies that provide patients with quality treatment services, both from public and private sector, patient centric support to prevent loss in cascade of care, reduce catastrophic expenditures for TB patients and their affected families by providing programmatic support for travel, nutrition and rehabilitation facilities, reducing stigma and discrimination and empowering and engaging communities.

3. **PREVENT:** Prevent strategies are formulated to prevent emergence of Tuberculosis in susceptible population and to reduce susceptibility, which include airborne infection control, Latent TB infection-identification and preventive therapy and addressing social determinants of health for reduction in susceptibility of the general population.

4. **BUILD:** Under the Build pillar, the strategies formulated are to enhance the existing infrastructure, build human capital, strengthen inter-sectoral co-ordination and other resources to meet with the increased demand created by the activities undertaken to eliminate TB.

The Goals, objectives and outcomes under SSP will be monitored periodically and basis the learnings the mid-course corrections, modifications will be done to achieve the ultimate vision of TB free MP by 2025.

Strategic Framework: The SSP is designed around a results-based framework that reflects the fast-track targets and the ‘Mission End-TB’ commitment. The framework is based on a relationship between the vision, mission, goal and the outcomes. This will be articulated in terms of inputs, outputs and costs in the implementation plan. While there are several external and internal risks that may positively or adversely affect results, the combination of strategies adopted will be calibrated according to the epidemiological, health priorities and resource scenarios of different districts and in cognizance of needs of TB program. Figure 1 on next page provides an overview of the overall SSP framework that is being proposed.

Based on this strategic framework, a specific planning approach is required which helps differentiate districts according to three predominant epidemiological contexts:
I. Districts with a ‘mature’ epidemic where TB case notification is high in key and other vulnerable at-risk populations and, in some cases, in other segments of the general population.

II. Districts that are having moderate TB case notification among key population and private sector.

III. Districts with ‘low’ TB case notification where there is still a need to focus on potential risks among key population and private sector.

While a range of services is needed in all the three case scenarios, the mix and relative weight of each set of interventions and service-delivery models may need to vary accordingly. The most critical interventions include prevention, outreach, screening, testing, treatment, treatment support, linkages to DBT and social protection. Programmatic support components (e.g. monitoring and evaluation, surveillance, research, laboratory services, procurement etc.) remain relevant across all three contexts. However, the service delivery modality, the level of integration into health systems and corresponding budget requirements will vary according to the epidemiological, social and demographic characteristics of the above three contexts.
**Figure 1: Summary of strategic framework**

**Vision**: TB-free MP with zero deaths, disease and suffering due to Tuberculosis

**Goal**: To achieve a rapid decline in burden of TB, morbidity and mortality while working towards elimination of TB in MP by 2025

**Outcomes**

- **Detect**
  - To detect missing DS/TB and DR-TB cases from tribal, urban poor and private sector

- **Treat**
  - Initiate and sustain all patients on appropriate anti-TB treatment wherever they seek care, with patient friendly systems and social support.

- **Prevent**
  - Prevention of emergence of TB in susceptible population by addressing the social determinants of TB

- **Build**
  - Build and strengthen enabling policies, empowered institutions and HR

**Context**

- **Missing cases**
  - Tribal, urban, women and children
  - Private sector

- **Sustain Cases**
  - Treatment completion around 80%
  - Poor adherence among private sector TB patient

- **Need for focus on prevention to reduce the susceptibility**

- **Zero catastrophic costs due to TB** by year 2023 in MP

**Inputs**

- 1.1: To find all cases
  - Integrated Tribal action plan, integration in urban platform
  - Scale up use of highly sensitive diagnostic to reduce loss and delay
  - Enhance private sector engagement

- 2.1: Enhance access of drugs and diagnosis to all patients
  - Patient centric treatment support
  - Inter sectoral approach to reduce catastrophic cost
  - Community led approach for countering stigma

- 3.1: Community and patient education for prevention
  - LTBI detection and treatment
  - Inter sectoral approach to address social determinants

- 4.1 Build infrastructure, supply chain logistics and offer better governance
  - Robust monitoring and evaluation
  - Effective use of partners
Table 2: Summary of proposed strategies and activities:

<table>
<thead>
<tr>
<th>Objective</th>
<th>Strategy</th>
<th>How this will be achieved</th>
</tr>
</thead>
</table>
| DETECT    | 1. Enhanced case finding activities in key populations including tribal, urban populations, women and children and prison inmates | • Community centric TRIBAL ACTION PLAN to increase case detection among tribal population  
• Specific focus on increasing case detection among urban population by integration with various platforms in urban areas  
• Increase case detection among Children and women by integration among various programs reaching women and children  
• Addressing co-morbidities and substance users  
• Special focus on key population like Prison Inmates, Miners, etc. |
|           | 1.1. Enhanced case finding activities in key populations including tribal, urban populations, women and children and prison inmates | • Community centric TRIBAL ACTION PLAN to increase case detection among tribal population  
• Specific focus on increasing case detection among urban population by integration with various platforms in urban areas  
• Increase case detection among Children and women by integration among various programs reaching women and children  
• Addressing co-morbidities and substance users  
• Special focus on key population like Prison Inmates, Miners, etc. |
|           | 1.2. Scale up and optimum use of highly sensitive diagnostic technologies for different levels of health care | • Community Level: Intensified ACF activities in tribal and hard to reach areas and populations with point of care diagnosis  
• Scale up of newer easy to use highly sensitive diagnostic technologies such as CBNAAT, TruNAAT across all levels of health care delivery points. |
|           | 1.3. Scale up effective private sector engagement strategies | • Engaging PPSAs to extend support to private sector for increased notification and patient support  
• Engaging E-market players for door step delivery of drugs and linkages to diagnostics for patients treated in private sector  
• Medical college involvement  
• Validating case notification from private sector with chemists/pharmacists prescription via use of Schedule H1 implementation mobile app  
• Private hospitals with OPD more than 2000 per month to be converted to DMCs |
# TREAT

2. **Initiate and sustain all patients on appropriate anti-TB treatment wherever they seek care, with patient friendly systems and social support.**

| 2.1. Increased access to High quality standardized drugs and diagnostics as per standards of TB care in India | • Free TB drugs and diagnosis to all patients irrespective of place of treatment  
• Engaging e-pharmacies platforms for deliveries of drugs and diagnostic services  
• Engaging chemists and private hospitals for increasing access of drugs |
| --- | --- |
| 2.2. Patient centric treatment support systems to prevent loss at cascade of care | • Cafeteria approach for treatment adherence support as per patient choice  
• Use of technology for treatment adherence and monitoring  
• ADR monitoring/ aDSM plan in Treatment Units at all levels  
• Implementing community based monitoring mechanisms for high risk populations by engaging community structures |
| 2.3. Reduce catastrophic expenditures | • Ensuring all TB cases receive DBT-NPY  
• Inter-sectoral approach for linking to social protection  
• Exploring incentives for travel re-imbursements for MDR-TB patients  
• Linkages for vocations training and rehabilitation through integration with livelihood schemes |
| 2.4. Countering stigma and discrimination against TB by engaging communities and TB warriors and taking right based approach | • Grievance redressal forums  
• Community Empowerment through increased awareness  
• Engaging TB survivors as champions  
Patient support groups/ Peer clubs (Previously District TB forum) at community, district and state levels |
## PREVENT

3. Prevention of emergence of Tuberculosis in susceptible population and reduction in the susceptibility of the population by addressing the social determinants of TB

| 3.1. Airborne infection control measures in communities and healthcare facilities, prevention of TB in healthcare workers through surveillance and infection control measures | • Community level awareness campaigns to inculcate healthy behaviors  
• Patients education and counseling to prevent infection spread  
• Scale up air-borne infection control measures at health care facilities |
|---|---|
| 3.2. Latent TB infection (LTBI) detection and treatment among at-risk populations | • Detection drives for detecting and treatment of LTBI among the high risk population  
• Treatment for latent TB infection in contacts of bacteriologically-confirmed cases |
| 3.3. Addressing social determinants of TB through inter-sectoral approach | • Inter-sectoral coordination for “Health-in-all-policies” approach  
• Promoting healthy diet and lifestyle among all |
<table>
<thead>
<tr>
<th>BUILD</th>
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<tbody>
<tr>
<td><strong>4. Build and strengthen enabling policies, empowered institutions and human resources with enhanced capacities.</strong></td>
</tr>
<tr>
<td><strong>4.1. Build infrastructure, supply chain logistics and offer better governance for long term success in controlling and eliminating Tuberculosis</strong></td>
</tr>
<tr>
<td>• Integrate with the Urban, rural and tribal health system for providing TB services</td>
</tr>
<tr>
<td>• Integrate TB services across all health care delivery points</td>
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<tr>
<td>• Integrate training on TB across all training components of human resources</td>
</tr>
<tr>
<td>• Build partnerships for strengthening supply chain and logistics management</td>
</tr>
<tr>
<td>• Strategic purchasing of services from private sector where ever required</td>
</tr>
<tr>
<td><strong>4.2. Robust monitoring and evaluation mechanisms for goal of TB elimination</strong></td>
</tr>
<tr>
<td>• Monitoring of epidemiological trends</td>
</tr>
<tr>
<td>• Strengthen routine surveillance and monitoring activities</td>
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<tr>
<td>• Regular monitoring of TB elimination indicators</td>
</tr>
<tr>
<td><strong>4.3. Align and harmonize partners’ activities with program needs to prevent duplication</strong></td>
</tr>
<tr>
<td>• Ensure partners goals are aligned with the state and RNTCP goals</td>
</tr>
<tr>
<td>• Work in coordination and collaboration with partners</td>
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</table>
**Part II**

**Chapter I: Introduction and Background**

State of Madhya Pradesh with 52 districts, is a state rich in its resources. It is divided into 7 health divisions for administrative purpose. The eastern part of the state is rich forestland whereas the western part is the economic and business center of the state. It has a population of 8.30 crores, with people living in a mix of tribal, rural and urban areas; with increasing migration towards emerging urban cities. There are 4 fully tribal districts viz., Jhabua, Alirajpur, Barwani and Dindori and 19 partially tribal districts as shown in the map. Bhopal is the capital of the state whereas Indore is the largest city of the state and a business capital; the other following large cities are Jabalpur, Gwalior, Sagar, Rewa, Ujjain. The cities listed under smart city plan are Indore, Bhopal, Jabalpur, Gwalior, Sagar, Ujjain and Satna. Rural economy is largely agrarian.

![District map of Madhya Pradesh with Tribal and partially tribal districts](image)

**Chapter II: Progress so far under National Strategic Plan (NSP)**

Madhya Pradesh has done significant progress since the national strategic plan 2017, the PPSA has been rolled out and there has been significant increase in case notification from private sector in the state. The state has done rapid expansion of CBNAAT and LPA services across the districts and 73 CBNAAT machines, 1 CBNAAT enabled mobile van and 4 labs supporting LPA testing are operational. Case notification has increased from 156 per lakh
population in Q1 2017 to 206 in Q4 2018 and to 232 in 2Q19; increase in private sector notification is one of the critical factors. 80% of the diagnosed TB patients are put on treatment within seven days of diagnosis. Diagnosis of DR-TB has increased, with more than 80% of DRTB patients initiated on treatment.

TB burden in Madhya Pradesh: Drivers of TB epidemic in the state of Madhya Pradesh are poverty, malnutrition, overcrowding and tobacco smoking. To add to these risk factors, gender, age, caste determine the health seeking behavior. Accessibility of healthcare services in general and for tuberculosis determines healthcare seeking behavior of patients.

![Case Notification Rate per lac population by age group and sex - in public sector for MP – 2018.](image)

Whereas the proportion of male to female case notification is the same in the younger population, the ratio increases as the age group increases, TB being diagnosed and notified in males more than females.

**Case Notification:**

Case notification rate has increased from 131 in 2015 for public sector to 149 per lac population in 2018. District case notification rate for public sector ranges from 88 per lakh population per year to 258 per lakh per year (2018 data). Private sector case notification has increased dramatically for many of the districts owing to the concerted efforts by the RNTCP team in the state and districts. State further needs to put strategies in place to increase this to
reach the 50:50 ratio from the current 3:1 ratio.

**Fig 4: Case Notification Rates for MP**

In districts which share borders with other states such as Betul, Chhatarpur, Alirajpur, Jhabua, Neemuch, Mandsaur, Satna mapping of notified patients found that those blocks neighboring to the border had more notifications compared to other non-bordering districts.

**Fig 5: Case Notification Rates for districts of MP – 2018.**
Status of TB control program in Madhya Pradesh

There are 313 TUs for 346 blocks, 818 DMCs, 36709 Treatment support units, 2 IRL (Indore & Bhopal), 2 C&DST labs (Jabalpur & Gwalior) and one NRL (BMHRC), 51 DDR-TB centers either OPD or IPD based as on June 2019. Of the 248 urban health facilities, 14 have DMCs. 44 TUs and DMCs are proposed in the financial year 2019-20 in urban area.

Treatment

80% of the diagnosed TB patients are put on treatment within seven days of diagnosis.

Treatment success rate for drug sensitive TB for 2017 registered patients was 81% and that of DR-TB patients was 51%.

![Table 4: Status of DR-TB patients](image)

Diagnosis of DR-TB has increased, with lowering of proportion of patients not initiated on treatment.

Diagnostics

There has been an expansion in the diagnostics in Tuberculosis, and the state is also a part of the countrywide development. Laboratory network is constantly being scaled up with respect to phenotypic and genotypic tests. More laboratories will be required to meet with the increased notifications.

There are 73 CBNAAT sites. It is expected that every CBNAAT site performs at least 250 tests every month. Few of the CBNAAT sites have crossed the level of 500 tests/ month recently.
However, the challenges remain:
Although the state has embarked on a successful journey towards TB elimination under the National Strategic Plan (NSP-2017-2025), the state faces specific challenges in achieving the goals and it is necessary to identify these challenges and address these challenges to keep the pace with achieving the goal.

The journey so far is progressive, however the enormous diversity between districts in terms of the population, terrain, level of development, health systems, and epidemiologic variety pose problems for a uniform centralized approach to TB control. There is diversity across all districts, there are challenges in increasing case notification among key population especially the tribal districts with case notification still less than 150 per lakh population among some of the tribal districts. Health seeking behavior among the key populations and tribal population is one of the key challenges to ensure early diagnosis and completion of treatment among these populations. TB free district initiatives in few districts like Betul and Indore has yielded initial results, however the need is to intensify the efforts across all districts and reach the unreached key populations.

Private sector is massive, heterogeneous, and growing across the state. In spite of mandatory notification, many patients are still not notified to the RNTCP. Two decades of attempts to improve collaboration between the public and private sectors, have not yet worked. The PPSA models has been rolled out however there is need for rapid scale of these models, implement innovative models to reach patients treated in private sector. The existing TB surveillance system lacks the capacity to count the large pool of privately diagnosed and treated TB cases, and what is not measured is unlikely to be improved. There are initial results of private sector engagement which has yielded increase in case notifications in few districts, however similar district specific innovative solutions need to be implemented. Apart from these other stakeholders such as TB patients, civil society leaders, and community-based organizations need to be meaningfully and intensively engaged in the TB response at all levels.

There has been rapid expansion of highly sensitive CBNAAT diagnostic services, however there is need to ensure optimum utilization of these diagnostic services across districts. Innovative partnerships options needs to be implemented to increase the utilization of these services.
Optimum utilization of human resources, strengthening the human resources structure is another challenge that needs to be addressed. There is need for inter-sectoral collaboration and partnerships for various programs and platforms in urban, rural and tribal areas, to increase access of services and reach to the doorstep of key population.

High Catastrophic expenditure to TB patients and their families is one of the critical challenges that the national program and programs in states face. Although there has been roll out of direct benefit transfers to patients under Nikshay Poshan Yojana, the challenge remains as many of the patients lack access to bank accounts and valid ID cards. There is need for increasing the access to these for effective implementation of direct benefit transfer to the patients and families.

State has successfully rolled out universal DST, which has shown results in increasing case detection of DR-TB patients. However, there is need for strengthening the access to universal DST, treatment adherence and treatment completion among DR-TB patients.

### Chapter III: SWOT Analysis: Environment in which TB Program Operates

<table>
<thead>
<tr>
<th>Internal</th>
<th>Strengths:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• High level political commitment at State and National level</td>
</tr>
<tr>
<td></td>
<td>• Newer diagnostic technologies being scaled up</td>
</tr>
<tr>
<td></td>
<td>• Private sector engagement is being prioritized</td>
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<table>
<thead>
<tr>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High risk and vulnerable population</td>
</tr>
<tr>
<td>• Limited human resource limits program management.</td>
</tr>
<tr>
<td>• Private sector participation is not in accordance to its size and dominance in TB care</td>
</tr>
<tr>
<td>• Structure of program demands integration with various platforms and programs</td>
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<table>
<thead>
<tr>
<th>External</th>
<th>Opportunities:</th>
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<tbody>
<tr>
<td></td>
<td>• National and international focus on TB,</td>
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<tr>
<td></td>
<td>• NSP aims at End TB by 2025</td>
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<td></td>
<td>• Innovations and use of technology in Health</td>
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<tr>
<th>Threats:</th>
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<tbody>
<tr>
<td>• Amplification of drug resistance.</td>
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<tr>
<td>• Variable implementation capacity, capability and ownership at district levels</td>
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Chapter IV: Detect

Increase in the case notification can be brought on when the issues of key populations are taken into consideration; similarly, private sector notification increase can also bridge the missing cases gap. Necessary communication and active case finding activities in tandem with diagnostic strategies implementation can lead to bigger leaps in case notification rates for the state of Madhya Pradesh.

<table>
<thead>
<tr>
<th>Detect</th>
<th>Reaching the Unreached state specific Key Populations</th>
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<tbody>
<tr>
<td></td>
<td>Scaling up of newer sensitive diagnostics</td>
</tr>
<tr>
<td></td>
<td>Communication strategies</td>
</tr>
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<td></td>
<td>Strengthening Frontline workers</td>
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<td></td>
<td>Strengthening Private Sector Engagement</td>
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</table>

The “Out of the Box” approaches in Detect

<table>
<thead>
<tr>
<th>Focus on Tribal population (21% of MP population)</th>
<th>Special Task force for tribal, women and children &amp; other economically backward groups</th>
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<tbody>
<tr>
<td></td>
<td>Mobile Vans with digital X-rays for PVTGs</td>
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<td></td>
<td>Establishment of surveillance units at grass root level</td>
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<td></td>
<td>District/ regional tribal supervisor for better co-ordination</td>
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<tr>
<td>Urban TB control</td>
<td>Strategic sourcing of services through private players &amp; e-players</td>
</tr>
<tr>
<td>Paediatric Cases</td>
<td>School Nikshay Program</td>
</tr>
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<td></td>
<td>BMOS and NRC MOs to be trained on paediatric sample collection</td>
</tr>
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<td></td>
<td>Care pathway for presumptive paediatric TB cases in NRCs</td>
</tr>
<tr>
<td>Women</td>
<td>Weekly/ bi-weekly specialized OPD clinics for women</td>
</tr>
<tr>
<td>Active role of Medical colleges</td>
<td>Lead the innovations through research</td>
</tr>
<tr>
<td></td>
<td>Lead in Air borne Infection control certification</td>
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<tr>
<td></td>
<td>Lead in planning, monitoring and evaluation of TB elimination activities</td>
</tr>
<tr>
<td></td>
<td>Center of excellence with specialist services in TB care</td>
</tr>
<tr>
<td>PPSA model based on new guidelines</td>
<td>To help all districts in various steps of TB control and elimination activities</td>
</tr>
<tr>
<td>Promote UDST</td>
<td>PPSAs to support in sputum sample collection and transportation. In lieu of PPSAs, Indian Post or motorcycle based transportation mechanism to be developed</td>
</tr>
<tr>
<td>Case Notification</td>
<td>Schedule H1 implementation mobile App for chemists and pharmacists</td>
</tr>
<tr>
<td></td>
<td>Conversion of private hospitals with more than 2000 OPD into DMCs</td>
</tr>
</tbody>
</table>
Detect: Reaching the Unreached Key Population and Tribal Population

Objective 1: To detect missing drug sensitive and drug resistant cases from the communities, high risk population and private sector.

Introduction

Many sections of society are still underdeveloped, underrepresented and suffer from economic and social deprivation. They also endure lower access to quality healthcare services and geographical difficulties. These are the socially vulnerable groups. These along with the clinically vulnerable groups for TB comprise of the population where vigorous case finding activities can yield better outcomes and detect missing undiagnosed cases. Tribal population is one such key population which is highly vulnerable to TB due to poor health seeking, lack of knowledge, lack of access to services, economic and social deprivation.

Madhya Pradesh accounts for 21.1% of tribal population with 46 ethnic groups (14.7% of the total MP population). Of these, three are notified as Particularly Vulnerable Tribal Groups (PVTGs), Saharias, Baigas and Bharias. The Saharia tribe lives in geographically isolated locations, working mainly as agriculture laborers with very low socioeconomic living conditions.

![Map of Madhya Pradesh with geographic location of population of PVTGs](image)

Fig 7: Map of Madhya Pradesh with geographic location of population of PVTGs
Achievements

There has been an improvement in case notification rate particularly in 2018 owing to expansion of diagnostics, improved supervision and monitoring. The tribal districts are performing similar to the rural districts with respect to case notification. Chhatarpur, Sehore, Ashoknagar, Betul, Tikamgarh and Bhopal are amongst the high performing districts with tremendous increase in their case notifications in private sector, the difference between case notification in 2015 and 2018 ranging from 40 for Chhatarpur to 65 for Bhopal. State has successfully implemented active case finding strategy among the key population and tribal population which has yielded in increasing case detection among these vulnerable populations.

Challenges: Tribal Population
Although case notification has increased in tribal districts, by and large factors commonly found are malnutrition, poverty, overcrowding, illiteracy and ignorance, geographical isolation, unique cultural and social practices, poor general healthcare services, alcohol and smoking abuse, preference to traditional and faith based healers and economic and social deprivation are some of the challenges which continue to hurdle the further progress. The new national strategy envisions a mix of active and passive case finding activities to address the challenge of delayed diagnosis and reaching the unreached, thereby providing universal access to care.

Saharia is the main tribal community in Madhya Pradesh, which generally inhabit small clusters of houses - a hamlet called as ‘Saharana’ outside the main village. Microbiologically confirmed pulmonary TB prevalence in Saharia tribe of MP was found to be 1995 per 100000 population in a 2015 study (Rao et al 2019 BMC).

Inequitable access to general healthcare is one of the biggest challenges for reaching the tribal population. Shortage of health infrastructure in tribal area warrants for innovative methods for reaching the unreached population. There is need for focused approach to break the cycle of disease, death and suffering in these tribes by prioritizing them under TB control program.

Women, Children and Elderly population
Women, children and elderly bear the brunt of poverty, ignorance and illiteracy. Their health is ignored by themselves and by their families. They may not be the decision makers in the families and hence affecting health.
seeking behavior. Hence, it is important to focus on these groups when formulating strategies. Also, maternal and child health services form strategic entry points for increasing access to TB care services for women and their families.

**Urban Poor Population**

Urban population consists of vulnerable population in slums, homeless. Their vulnerability stems from poverty, overcrowding, migration and lack of proper government health infrastructure. Processes are underway on integration of NUHM and RNTCP services, which need to be strengthened further.

**SWOT analysis: DETECT**

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<th>Detect</th>
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<tbody>
<tr>
<td><strong>Internal</strong></td>
<td>Strengths:</td>
<td>Weaknesses:</td>
</tr>
<tr>
<td></td>
<td>• Newer diagnostic technologies being scaled up</td>
<td>• Vulnerable population case Notification rates are getting masked in total case Notification rates. Need to be looked at and enhanced case finding activities including communication strategies and activities needed to reach these populations</td>
</tr>
<tr>
<td></td>
<td>• Private sector engagement is being prioritized</td>
<td>• Work on IRL Bhopal (STDC campus) is yet to begin and so is work on Rewa laboratory</td>
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<tr>
<td></td>
<td>• PPSA model being extended to other than JEET project districts as a state initiative.</td>
<td>• Medical college involvement is limited</td>
</tr>
<tr>
<td></td>
<td>• IRL Gwalior functional</td>
<td>• Private sector engagement has increased, but the rate is slow</td>
</tr>
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<td></td>
<td>• App for Pharmacists and chemists for Schedule H1 drugs, validates number of patients coming from private practitioner</td>
<td>• Sample collection and transportation for universal DST is a challenge from many peripheral places</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Current NUHM infrastructure for urban diagnostic centers is not adequate.</td>
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<tr>
<td><strong>External</strong></td>
<td>Opportunities:</td>
<td>Threats:</td>
</tr>
<tr>
<td></td>
<td>• Newer medical colleges coming up in various districts</td>
<td>• Amplification of drug resistance.</td>
</tr>
<tr>
<td></td>
<td>• National and international focus on TB, leading to improved interest and responsiveness from all stakeholders</td>
<td>• Reduction in budgetary outlay for TB in the state budget</td>
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<td></td>
<td></td>
<td>• Variable implementation capacity, capability and ownership at district levels</td>
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</tbody>
</table>
Strategy 1.1 Enhanced case finding activities in key populations including tribal, urban populations, women and children and prison inmates

Active case finding activities complemented with passive case finding in key populations identified in each of the districts of the state can increase case detection and early diagnosis of TB patients.

Activities

**Tribal Action Plan**

Tribal action plan is a crucial part of addressing the key population group because of their demographic distribution in the state of Madhya Pradesh as well as due to their socio-economic status.

5 tribal districts and 14 semi-tribal districts of MP need to be focusing on active case finding for TB. In collaboration with State tribal affairs and NIRTH Jabalpur, Tribal action plan to be implemented.

a. Special task force for tribal, women and children and other economically poor groups to be constituted. This task force may consist of officers from women and child department, tribal department, rural development, ICDS, RNTCP, NIRTH Jabalpur, NGO partners working in the field of tribes, women and children, etc. This task force will guide and closely monitor the progress of TB elimination in the state with respect to the socially vulnerable groups.

b. Mapping of the high priority tribal spots/ pockets to be done by the districts for focused activities of RNTCP.

c. Communication activities and social mobilization activities to play a major role in increasing the demand for healthcare from this group.

d. Faith healers, quacks, other non-qualified practitioners to be converted into surveillance units and referrals to be obtained from them for early diagnosis. Regulatory mechanism to be developed in case of failure to refer at the earliest.

e. PVTGs with known higher prevalence of TB to be screened for TB with Digital X-ray in the mobile vans. Further confirmation to be done by CBNAAT.

f. On detection of TB, the patients need to be actively sought by the ASHAs/ ANMs for treatment initiation.

g. An operational plan for continuous treatment adherence to be developed with the patient by the counselor/ STS during home visit. This will ensure treatment completion.

h. Issue of malnutrition in the communities to be addressed in collaboration with CDPO and CMHO. Joint efforts with tobacco control program and alcohol de-addiction programs to be made for reduction of the risk factors for TB in the communities by the district RNTCP program. A district/ regional tribal supervisor to be appointed to oversee these activities.

**Urban Action Plan**

Evidence suggests that the TB and MDR-TB burden and transmission remain highest in urban areas, especially in urban slums which have the largest and densest concentrations of vulnerable populations [Sachdeva et al. 2012]. This is important considering that 46% of the country’s population will be urban by 2030.

Unequal distribution of health facilities, lack of convergence among a mix of public health providers (city, state and central), large, diverse and unregulated private providers and limited program management capacities at city levels call for special attention to the design of urban TB programs. Urban areas have
complex population dynamics, which demand innovative solutions. The foremost problems are related to ensuring equitable access for case detection and treatment adherence among poor, migratory and homeless populations.

The key to TB control services in urban areas is synergy between existing health service delivery mechanisms and mechanisms under National Urban Health Mission (NUHM) to make optimum use of scarce resources. Recently, NUHM and RNTCP jointly came up with a broad framework for the integration of their activities. However, the framework has not yet been rolled out. In five cities of MP Jabalpur, Gwalior, Rewa, Sagar and Ujjain, NUHM and RNTCP nodal officers jointly developed the action plan for integration of services and leveraging existing platforms for delivering services. The initial results are encouraging to ensure reach of services to urban poor population.

In the nascent stage of NUHM, it is a good opportunity for the TB program to integrate the services with it. The strategy is to enhance the TB program services in the urban areas through improved NUHM services.

a. City TB officers to be appointed for the administrative control in the bigger municipalities. In smaller cities, city TB supervisors to be appointed.

b. Nodal officers from TB and NUHM to jointly develop plan for integration of TB activities within the NUHM platforms as per the integration framework proposed by RNTCP and NUHM at national level. The action plan for integration of RNTCP and NUHM to be reviewed by CMHO and district collectors.

c. Urban Local Coordination Committee (ULCC) is proposed in each city under NUHM and is conducted every month/quarter chaired by the highest authorities such as CMHOs and District Collectors, the RNTCP nodal officers to be included in the ULCC. The ULCC agenda is to ensure discussions on RNTCP and NUHM integration and progress on city action.

d. Slum and vulnerability mapping to be done in all cities in collaboration with NUHM, in cities where the mapping is already done by NUHM, the mapping can be further substantiated from TB perspective for identifying high vulnerable pockets for TB, using DMC data, data from private practitioners, pharmacies sales data. The GIS tagging can be done for the highly vulnerable population areas for communication and active case finding activities. Communication material to be developed for urban specific population.

e. Urban PHCs to be identified for microscopy services & converted into DMCs where ever lab technicians are available. Where the lab technicians are not available the UPHCs can be made as sputum sample collection and transportation points and NGOs or front line workers can be engaged for sputum sample collection and transportation.

f. Linkages to be established for Sputum testing at CBNAAT labs for urban slum population directly, as these are highly vulnerable population. State to issue guidelines regarding the same.

g. Until the establishment of UPHCs with DMCs is done, sputum examination, chest X-ray can be listed under the basic investigations being outsourced to other private laboratories.

h. In Madhya Pradesh, apart from UPHCs under NUHM, there are civil dispensaries, polyclinics as well as public service unit hospitals and military hospitals in urban areas, and these infrastructures can be used for TB screening, diagnosis and treatment services. The staff in these facilities could be trained on TB for conducting TB related activities.

i. An option of e-market players to be explored for sputum sample collection and transportation to RNTCP laboratories in urban areas. Strategic sourcing of these services will benefit all the parties involved, the patient, RNTCP and the private player. These private players will bring in their trained personnel for...
collection of sample, and offer sample collection at time and place convenient to patient; thus offering quality and convenience.

j. All urban CHCs to be established as Chest X-Ray centers along with microscopy centers.

k. Until the Chest X-ray centers are established, the facility to be provided through private sector.

l. Urban ASHAs and ANMs under NUHM to be involved to coordinate referral linkages, identify Treatment Supporter, supervise them, home visit, contact investigation, chemoprophylaxis and coordinate to make drugs available for TB patients.

m. Front line workers under NUHM, ASHA, ANM and staff at UPHCs needs to be trained on TB and regular refresher trainings to be planned and conducted to keep them updated.

n. Incentives to be built for front line workers for TB screening, Household visits, SCT and treatment adherence support.

o. MahilaArogyaSamiti (MAS) in urban areas to be involved for identification of at risk or presumptive TB cases, their referrals and for treatment support.

p. Apart from NUHM, the other platforms in urban areas such as smart city platforms, urban local bodies, national urban livelihood mission has many schemes, which can be leveraged by RNTCP program by integrating activities within these platforms.

q. In Madhya Pradesh, innovative model of Health and Wellness centers called as 'Arogyam'

**Children**

Nonspecific symptoms, difficulty in diagnosis, and poor understanding of standards of treatment for pediatric population by private providers are the challenges that need to be addressed.

a. Strong referral linkages to be developed with RashtriyaBal Suraksha Karyaram, NRCs for early diagnosis of TB in pediatric age group.

b. Block level medical officers and medical officers in NRCs and district hospitals to be trained in sample collection from pediatric presumptive TB cases.

c. Linkages with private pediatricians and Indian Pediatric Association (IPA) for drawing samples from pediatric cases, specific incentives to be build for private pediatricians for the services provided.

d. Involvement of Anganwadi centers in rural and urban areas for identification, screening and referrals of at risk and presumptive cases in children. Specialised active case finding activities in the areas of Anganwadis with higher child malnutrition.

e. School Nikshay program: Teachers of public sector and private sector schools to screen the students every quarter for TB related symptoms. Those children found to have presumptive TB to be linked to the CBNAAT site. Flipcharts to be made for school children for increased awareness. Nikshay volunteers to be made and trained from amongst the students of higher classes for any help related with TB information, treatment and support. Teachers and volunteers will be trained by the district team and sensitized through TB warriors. Department of School education to be coordinated with and their support sought for, to make this program a success.

f. Household contacts and other close contacts will be systematically screened for active TB and malnourishment. The malnourished children to be referred to NRC
g. Development of strong IEC material for disseminations of RNTCP extended services for diagnosis and treatment for private diagnosed Pediatric TB patients. Private sector will also need to understand ‘Standards for TB care in India’ while diagnosing and treating pediatric TB case.

h. Involvement in Indian Association of Pediatrists for notifying all diagnosed TB patients to RNTCP, use STCI as reference manual while managing presumptive pediatric TB case.

i. RNTCP to associate itself with other ministries and department to address the missing cases in the community.

j. Integration of TB screening, diagnosis in the Maternal and child health programs for early diagnosis and referral of samples for rapid molecular tests/ other technologies.

Women:

To increase the examination rate and notification rate in women, it is imperative to counter the stigma and discrimination against women having Tuberculosis. Also, the decision makers in the families need to be aware about the health risks that TB poses to women’s health for prompt attention and health seeking behavior.

a. Committed communication material for women on TB to be developed. The material should target the women as well as their families.

b. VHNDs and UHNDs to serve as surveillance units and refer presumptive TB cases to the specialized OPD clinics.

c. Weekly/ Bi-weekly specialized OPD clinics for women chest symptomatic at all PHCs/ DMCs.

d. Intensive case finding among pregnant and lactating women, women having infertility, women who smoke, women having diabetes, HIV/AIDS, malnutrition; who constitute clinically vulnerable risk groups for TB

e. Training of staff for increased sensitivity and co-operation towards female patients.

f. Prioritise pregnant and lactating women with TB for access to transportation, nutrition and social welfare schemes.

g. Use of CBNAAT for diagnosing TB and universal DST in pregnant and lactating women.

Poor and other socially backward groups:

Poverty leads to poor decisions and further pushes the poor in debts, which are difficult to emerge from. The strategies suggested in the national strategic plan are pro-poor and thus making TB program pro-poor in its orientation

a. Mapping of poor population and other vulnerable groups in each of the districts

b. Conduct a short research for identification of barriers for diagnosis, care and adherence in these populations.

c. Target the ACSM strategies on barriers identified.

d. Nutritional and financial support to the families of TB patients identified as have had out of pocket expenditures for healthcare prior to seeking government care and thus being pushed into catastrophic debts.
e. Provide social security, rehabilitation, soft loans to any TB patient who may have developed handicap or any form of disability at the end of the treatment.

Co-Morbidities
Clinically vulnerable groups are easier to be targeted in already established clinical settings. For this to work, training of the staff followed by strong referral linkages is the key.

Diabetes Mellitus
a. Communication material on TB-DM for community and patients for increased awareness on the subject.

b. Bi-directional screening of TB and DM across all healthcare settings, specific guidelines to be issued from the State and District level. This is to be implemented across all programs and integrated within all programs.

c. Maintaining record of bi-directional screening and referral linkages as required.

d. Co-ordination with National program on Non-communicable diseases.

e. Training of Diabetes clinic staff in RNTCP and TB.

f. Referrals from diabetes clinic to DMCs to be improved.

g. General physicians in private sector treating diabetics to be sensitized and trained on TB-DM activities.

TB and HIV/AIDS
HIV program has expanded in the state of Madhya Pradesh and District TB officers being the district nodal officers for HIV/AIDS program, it is a good opportunity for the strong linkages between the two programs.

TB-HIV activities have evolved in line with updated scientific evidences. National Framework for joint TB-HIV collaborative activities is developed under which National, State and District level coordinating mechanism were put in place. Components such as dedicated human resources, integration of surveillance, joint training, standard recording with reporting, joint monitoring with evaluation, operational research are strategically implemented. The key approaches suggested as per the National Framework Nov 2013 are as below:

1. Strategies for reducing the burden of TB among People living with HIV/AIDS
a. Intensified case finding activities in HIV care settings: Program will emphasise on use of a simplified clinical algorithm for TB screening that relies on the absence or presence of four clinical symptoms (current cough, weight loss, fever and night sweats) to identify people eligible for further diagnostic work-up of TB. Also rapid molecular test CBNNAT will be offered to all presumptive TB cases among PLHIV for early diagnosis of TB in settings such as ART centers, Link ART Plus center (LAC+), Link ART center (LAC), Integrated Counselling with testing centers (ICTC) and Targeted Intervention Projects

b. Airborne infection control in HIV/TB Care settings: People living with HIV are at higher risk of developing TB and TB is cause of high mortality among PLHIVs. National Airborne infection control guidelines recommend implementation of AIC measures at all HIV/TB Care settings. These measures include:

i. Developing time bound action plan to implement AIC measures at all Centers.

ii. Training of MOs and Nursing Staff in AIC guidelines

iii. Risk assessment at all centers with recommendations of implementing AIC guidelines. iv. Health care workers surveillance for TB and appropriate AIC measures at all centers.
c. TB prevention among PLHIV: Isoniazid Preventive Therapy (IPT) Strategy for prevention of TB among PLHIV, to be scaled up across all districts.

d. Early initiation of ART: All PLHIV with less than 500 CD4 count will be eligible for the ART. Considering this PLHIV already registered in Pre-ART care, additional one lakh fifty thousand patients will require to be started on ART.

2. Strategies for reducing the impact of HIV among TB patients
   a. Provider Initiated HIV testing and Counselling (PTTC) among presumptive TB cases to be scaled up across all districts by 2020.
   
   b. Early initiation of ART among HIV infected TB patients:

Systematic measures to extend financial support to the HIV-infected TB patient for travel to ART center for evaluation and treatment initiation. There will be a provision for travel support for HIV-infected TB patients to visit ART center. Efforts will be made to optimize outreach activity undertaken by different categories of NACP outreach workers.

   c. Nutritional support for TB and HIV patients: Linking all TB and HIV patients for nutritional support through PDS. d. Implementation of daily anti TB regimen with 2 years of post-treatment follow-up

4. Strategies for high priority districts
   a. Early Diagnosis: Increasing access to rapid diagnostics for PLHIV with clients accessing HIV testing services including strengthening Sputum Collection and transportation.
   
   b. Innovative strategies for addressing local epidemics esp. in 20 high priority districts
   
   c. Decentralized TB-HIV treatment delivery services through community led models
   
   d. Strengthening social support and institutional support for co-infected patients
   
   e. Private sector engagement in TB HIV Collaborative activities
   
   f. Newer initiatives Community Based HIV testing, Test and Treat, implementation of Targeted Interventions strategies under NACP, the implementation of TB HIV activities will require CBNAAT to be deployed at all ART/COE’s Centers in the country for early diagnosis of TB (by 2015). Department of AIDS control to expand coverage of whole blood finger prick HIV screening test at all PHIs. General health system needs to provide storage facility for HIV testing kits, budget for implementation of AIC measures at HIV TB care settings (600 ART centers, LAC, ICTC), and budget for ART drugs. Availability of adequate stock of Isoniazid is to be ensured. E-Training module to be used for HIV care staff.

Silicosis

Silicosis program is being run in 8 Districts of MP; following activities will be done for TB control activities.

   a. Periodic screening for people working in stone crushing enterprises, with symptom screening verbally and/or with ChestX-ray.
   
   b. Patients with established silicosis to be ruled out for active TB disease and then given IPT for LTBI.

Substance Users:

TB patients using Tobacco and alcohol find a greater challenge in treatment adherence.
a. Identifying the current users and linking them to de-addiction services.

b. Treatment support plan to be made and revisited by the treatment support counselors throughout the TB treatment of such patients.

c. Tobacco control program and substance abuse program and RNTCP program to work in an integrated manner to create awareness, cross screening, referral linkages and treatment support

**Prison Inmates**

Prison inmates and staff face challenges of overcrowding, poor ventilation, weak nutrition and challenge in accessing health care.

a. Entry level screening for Tuberculosis and further periodic screening

b. Screening for LTBI, preventive therapy for those with LTBI.

c. Treatment counseling for treatment adherence. Operational plan to be made and revisited every month for the inmates to ensure the inmates who get released or transferred continue to get treatment and care.

d. Airborne infection control measures to be identified immediately and implemented upon in all the prisons in the state.

**GIS Mapping of key population**:

Use of GIS spatial mapping will be done to identify hot spots of TB in the district. This can be done in collaboration with district and state IDSP cells. DEOs of each of the districts will be trained on GIS mapping. The mapping would inform on geographical locations for awareness Communication and active case finding activities to be focused based on the results of this activity.
**Detect: Scale up and optimum use of highly sensitive diagnostic technologies for different levels of health care**

**Introduction**

Embracing the newer technologies for diagnosis results in more accurate and faster diagnosis of drug sensitive and drug resistant forms of TB and efficient utilization of resources. It also helps in reaching the unreached populations and vulnerable groups, enabling universal access to healthcare.

Various diagnostic technologies have been approved by national program based on their merits, such as Digital X-Ray with CAD for screening of presumptive TB cases, LED – FM and ZN sputum smear microscopy for diagnosis of sputum smear positive TB, PCR based tests CBNAAT and TruNAT for diagnosis of M.TB and rifampicin resistance, Line Probe Assay (LPA)- first line and second line for diagnosing resistance to first line and second line drugs of TB respectively, liquid culture and solid culture for phenotypic diagnosis and sensitivity testing for first line and second line drugs.

**Achievements**

TB program has expanded in the state with respect to various diagnostic facilities available:

<table>
<thead>
<tr>
<th>Particular</th>
<th>2015</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED-FM microscopes</td>
<td>0</td>
<td>146</td>
</tr>
<tr>
<td>Solid Culture Labs-First line drug</td>
<td>3</td>
<td>3 (NRL Bhopal, IRL Indore, C&amp;DST lab Jabalpur)</td>
</tr>
<tr>
<td>Solid Culture Labs-Second Line drug</td>
<td>3</td>
<td>3 (NRL Bhopal, IRL Indore, C&amp;DST lab Jabalpur)</td>
</tr>
<tr>
<td>Liquid Culture Labs-First line drugs</td>
<td>2</td>
<td>2 (NRL Bhopal, IRL Indore)</td>
</tr>
<tr>
<td>Liquid culture Labs-Second Line drugs</td>
<td>1</td>
<td>2 (NRL Bhopal, IRL Indore)</td>
</tr>
<tr>
<td>LPA – First line drugs</td>
<td>3</td>
<td>3 (NRL Bhopal, IRL Indore, C&amp;DST lab Jabalpur. IRL-Gwalior certification is pending)</td>
</tr>
<tr>
<td>LPA – Second line drugs</td>
<td>0</td>
<td>3 (NRL Bhopal, IRL Indore, C&amp;DST lab Jabalpur)</td>
</tr>
<tr>
<td>CBNAAT</td>
<td>4</td>
<td>73</td>
</tr>
<tr>
<td>TruNAAT</td>
<td>0</td>
<td>56 Sites identified</td>
</tr>
</tbody>
</table>

Laboratory network for the state has changed from sole reliance on Z&N microscopy to diagnosis by LED FM microscopy in high load settings for faster results, and to CBNAAT in pre-defined vulnerable presumptive TB cases for early detection of TB and drug resistance to rifampicin. For drug sensitivity testing, the earlier reliance on the slower solid culture has given way to newer faster technologies such as liquid culture and line probe assays. The state has been working on providing the prerequisites for each of these modern technologies with help from partners such as FIND.
Location of these laboratories has been strategic so as to cover the entire state of Madhya Pradesh evenly. The state has initiated its Universal DST in 2018, after necessary trainings.

Quality of diagnosis is being assured by the state’s quality assurance and quality control systems, with IRL Indore, NRL BMHRC and STDC leading the districts.

**Challenges**
UDST has been initiated; with variable capacities of districts, some districts have already achieved targets of UDST as high as 60%, where as some of the districts are facing challenges in rolling out. Major concern for some of the districts in achieving better results of UDST is the availability of sputum sample collection and transportation mechanism from periphery to the CBNAAT sites.

Also, for optimum utilization of CBNAAT and to offer early and accurate diagnosis for pediatric and extra pulmonary TB, sample collection skills at the block and district level health care facilities is inadequate.

Availability of X-ray facilities at various levels in rural and urban settings is yet a challenge, which is required for screening of TB as well as necessary for exclusion of active TB disease for LTBI identification and treatment.

**Strategy 1.2 Optimum use of various available diagnostic technologies for different levels of health care**

1. Point of care diagnosis through highly sensitive diagnostic tests at community, primary health facility level

2. Strengthen sputum sample collection and transportation mechanisms at block level, district level for optimum utilization of CBNAAT sites.

**Activities**

**Community Level:**

1. Presumptive TB cases found in specialized active case finding activities in tribal and hard to reach high risk communities to be tested with TrueNAAT machines for Mycobacterium Tuberculosis, wherein LT will accompany the frontline worker in the community.

2. Digital X-Ray equipped mobile van for screening in the high prevalent TB community of PVTGs. Linking the presumptive TB cases for further microbiological confirmation with sputum smear microscopy or CBNAAT to be done.

3. All local Melas (fairs) / festivals with major gathering to be mapped by respective districts for ACSM and active case finding activities.

**Primary Health Care Level:**

1. Strengthening of DMCs by turning non-functional units into functional ones, training and re-training of Laboratory Technicians, quality monitoring and improvement.

2. PHI wise analysis to be done for all public health facilities in the district. Referral should be in the range of 3-4% of chest symptomatic for Sputum. Also sputum positivity rate of DMCs should be evaluated (8-12%)

3. Non-DMC PHIs to be focused in active case finding activities for better yield of TB cases.

4. To make sputum microscopy available at urban PHCs, one of the options can be opted for viz., converting UPHC into DMC, strategic purchase and sourcing of sputum sample collection or that of sputum microscopy testing along with other listed tests.
5. Focus on sputum sample collection and transportation from primary level to the CBNAAT sites to improve upon universal DST indicators. Allocate and advertise incentives for the same to promote the practice of sputum collection and transportation in rural areas by the frontline workers.

6. PPSAs to work for sputum collection and transportation from DMCs to CBNAAT sites.

7. In absence of PPSAs, motorcycle based transportation mechanism to be developed for transportation of sputum samples in conjunction with state health system. This delivery mechanism can be established on a weekly basis for transportation of laboratory samples and their results from DMCs to CBNAAT sites and back. Services of omnipresent Indian Post may be availed for sputum transportation with adequate training of their staff and by planning smooth work plan and workflow between sample sending facilities, postman and the sample receiving diagnostic facilities at each of the district.

**Secondary Health Care Level:**

1. Block level DMCs to act as referral units for pediatric and extra-pulmonary sample collections. Block level MO-TCs or any other relevant medical officer to be trained for the sample collection in both cases.

**Tertiary Health Care Level:**

1. Functional Digital X-Ray with CAD facilities to be made available at district hospitals/ other government health care facilities through advocacy with general health care system. If not available in government setting and if available in private sector, provision of the diagnostic facility through private sector by reimbursing the costs.

2. CBNAAT sites to be made more efficient with better sputum transportation mechanisms, extra-pulmonary and pediatric sample collection trainings to MO-TCs or relevant staff at block level DMCs and at district hospitals, sample collection mechanisms from private providers.

3. Continued mentoring and hand holding by IRL staff to the districts in maintaining quality diagnostic services.

4. C&DST lab Gwalior is functional, the one at Rewa to be made functional. IRL at STDC Bhopal to be made functional as per the recommendations from partner (FIND). This will increase state’s laboratory capacity for DST guided treatment of TB patients as well as monitoring capacity.
Detect: Communication

Introduction
Communication leads to positive changes in the behavior of people, by informing them and bringing in more knowledge, changing attitudes and practices, some of which may shift the social mores and/or eliminate barriers to the new behavior. It explores the reasons behind people`s certain behaviours and thus targeting those traits and barriers.

Achievements
TB free Indore campaign has been initiated by the District officials in co-ordination with NGO partner CETI. Slogan has been jointly prepared “Lambi Khaasi, Dhima Bukhar” for wide circulation. NIKSHAY Poshan Yojana is being publicized widely. A Video clip is planned to be played in all movie halls, multiplexes with due permission from DM. Use of local cable channels, local I-bus app and advertisements in FM radio channels for circulation of messages is being done. Interviews of TB champions and community leaders on FM radio channel for better penetration to the public. Use of social media to reach to the youth is being done. Toll free helpline will be provided.

Challenges
There is lack of knowledge and information about TB that can lead to stigma, discrimination and delayed diagnosis and/or treatment. This is also more so for specified vulnerable groups wherein there is lack of committed communication material availability.

There is stigma and discrimination that can prevent people from seeking care and diagnosis; and misunderstandings and myths surrounding TB, including the belief that it is “untreatable”

Strategy 1.3 Communication strategies for increased awareness in general population, focusing on key populations

Activities
1. All DMCs and CB-NAAT sites to be tagged on google maps.

2. “Cough-to-cure” pathway tool to be used to guide the strategic planning process. The pathway helps TB control programs identify where drop-outs are occurring. It identifies six steps to ideal behaviour in TB control and the most common barriers at the individual, group and system levels. It is based on the idea that understanding the behaviour of people living with TB is fundamental to designing interventions.

3. Communication for Social change approach to be advocated through public and private dialogue. This approach uses dialogue that leads to collective problem identification, decision-making and community-based implementation of solutions. This is especially appropriate for strategies where social mores – such as stigma – act as a barrier to behaviour change
   a. People define who they are
   b. What they need
   c. How to get what they need to improve their own lives
   d. Communication that supports decision-making by those who are most affected by the decisions being made

4. Communication-for-behavioural-impact (COMBI) approach: this approach aims to mobilize social and personal influences to prompt behaviour change and maintenance at individual and family levels.
5. Empower community through increased awareness using:
   a. Peer education models
   b. Inter-personal communication
   c. Electronic media campaigns
   d. Use of local media, such as Community radio, Street plays, etc.
   e. Video scrolls at prominent locations, including bus stops, railway stations, airports, traffic signals, cinema halls, etc.
Detect: Strengthen Private Sector Engagement

Objective 2: To bridge the missing cases gap through increased private provider engagement

Introduction
An estimation study from a representative drug sales data in India has revealed 2.2 million cases of TB patients in private sector being treated, double than the assumed 1.1 million (Arinaminpathy N 2016). Regardless, before getting the appropriate diagnosis and treatment, many patients lose their money, pushing them into a cycle of disease, debt and poverty. Early diagnosis in private sector can save them from these catastrophic burdens.

Achievements
Private sector in MP is expanding, with newer medical colleges coming up in the state, there are more private practitioners getting added to the pool. There are 48740 (Source: NSS 2014) private providers in Madhya Pradesh, of which 8193 are registered by the end of 2018. TB notification from private sector has gained momentum in Madhya Pradesh, with increase in notification from near about 10118 in 2015 to 38392 for the year 2018. This is done by continuously engaging with private providers through large and small CMEs, medical college seminars, by one on one communication by the individual DTOs from RNTCP with the practitioners, daily public vs. private TB case notification being analysed and shared with DTOs, registration of private healthcare facilities through Nikshay mapping and review at DTO meeting. Also, dissemination of the importance of notification and failure to do so is being done through newspapers.

Availability of rapid diagnostics free of cost to the patients of private providers also has improved referrals for CBNAAT.

Challenges
1. Already existing government staff is overburdened with program activities; hence places where there is huge private sector presence may not work with the existing resources.

2. Quality of TB care in Private Sector: In a meta-analysis of Indian private sector quality of care for Tuberculosis patients, 10 of 22 studies found less than 50% of the providers had correct knowledge on using sputum smears for diagnosis, 3 of the 4 studies found for patients with chest symptoms, providers ordering smear microscopy was less than 25%. In the treatment part, less than 1/3rd providers had knowledge on standard treatment for drug susceptible TB. (S. Sathyanarayan 2015)

3. Private provider incentive distribution has been slow by the districts, the scheme has not yet been launched in Nikshay.

4. Connecting private providers with rapid molecular diagnostics, CBNAAT, has been difficult, sputum collection being an impediment to it.

5. Many bordering districts such as Neemuch, Mandsaur, Burhanpur, Chhatarpur, etc. have private provider`s/mission hospitals which cater to TB patients not only from the state of Madhya Pradesh but also from bordering states. These private establishments and practitioners need to be engaged for notification and patient support.

Private providers are the links to the missing cases and an inclusive policy is an opportunity to find these missing cases, extend support to the patients and providers and reduce the gap in continuum of care.
**Strategy 2.1 Engaging PPSAs to extend support to private sector for increased notification and patient support**

Districts with vast private sector providers need extra resources to tackle the mammoth tasks of engaging with them. Hence, the concept of Private Provider Support Agency (PPSA) has come about. PPSAs will be connecting with private providers with new zeal and vigor with their exclusive resources and attracting strategies.

The State of Madhya Pradesh under Revised National Tuberculosis Control Program (RNTCP) is looking to expand the scope of its work for diagnosis, treatment and care of Tuberculosis patients in the private sector. Under this program NHM will engage and collaborate with doctors, hospitals, Nursing homes, laboratories and chemists working in the private sector to ensure that no patient is left behind. To this effect, the State TB Cell is establishing an interface agency – Patient –Provider Support Agency (PPSA) that will be managed by a nodal NGO. This Nodal NGO will be identified at Divisional Level and will be assigned to work in all districts of respective Districts of Division as PPSA.

**PPSA will be expected to support in the following areas:**

**A. Public Sector**

1. Community Empowerment- Awareness in the community and demand generation for services
2. Active Case Finding- In 10% key High risk population of the district
3. Sputum Collection & Transportation- From field to DMCs, From Non DMC PHI to DMCs, From DMCs to CBNAAT Site and CBNAAT site to CDST Laboratories
4. Public Health Action- Counselling of Patient and Family at home, Contact Investigation, Chemoprophylaxis, Adherence Support, DOT Provision, ensure Positive Outcome and Follow up, NikshayPoshanYojana including Bank detail collection
5. Pre Treatment Evaluation- For DRTB Patients, pre treatment evaluation needs to be done before initiating on treatment

**B. Private Sector**

1. Private Sector Engagement
2. Outsourcing of X-rays Services
3. Sputum Collection & Transportation
4. Linkages for Diagnosis including extraction of extra pulmonary samples/ tissues at Private Health Facilities
5. Public Health Action- Counselling of Patient and Family at home, Contact Investigation, Chemoprophylaxis, Adherence Support, DOT Provision, ensure Positive Outcome and Follow up, NikshayPoshanYojana including Bank detail collection
7. Pre Treatment Evaluation

**Strategy 2.2 Engaging E-market players for door step delivery of drugs and linkages to diagnostics for patients treated in private sector**

To leverage existing E-market players, mechanisms and platforms to implement innovative ways to activate the concept of delivering free TB drugs to patients treated in private sector. This strategy is being implemented in SHOPS Plus project in three cities viz. Indore, Bhopal and Jabalpur, and will be taken up in other districts by RNTCP

**Strengths and advantages of E-pharmacies:**

- E-pharmacy players are already aggregating key private players in healthcare market such as private doctors, hospitals, labs, chemists etc
• E-pharmacies already have network of supply chain mechanism for drug supply, linkages with diagnostic services

• E-pharmacies are providing last mile delivery to the consumer at door step

• Technology platforms providing tracking mechanisms, treatment adherence mechanisms and digital records for verification, reconciliation

• E-pharmacy market is fast growing: Companies who have come up in last 10 years and are rapidly growing with its geographical spread.

Activities

Linking private providers engaged by RNTCP and Global fund supported JEET project to e-market mechanisms

After the engagement of e-market players and developing a mechanism of services and product delivery, linkage will be established with private providers. Private providers will order diagnostic tests from Cartridge Based Nucleic Acid Amplification Test (CBNAAT) laboratories or selected private laboratories through the technology platform leveraged from e-commerce companies. On receiving the online request, a contracted e-logistics agency will provide sputum collection and transportation to and from the provider’s clinic. If the test is positive, the provider will upload an e-prescription through the mobile app which will reach to the engaged e-pharmacy. The e-pharmacy will validate the prescription as per standards of TB care in India (STCI) guidelines. Fixed Drug Combinations (FDC) drugs will be delivered to the provider either from the RNTCP. In both instances, the purchase will be made by RNTCP. If the purchase is made with the e-pharmacy, RNTCP will reimburse the cost of drugs to the e-pharmacy.

Treatment adherence support

A cafeteria approach will be adapted for the treatment adherence support depending on patient choice and confidentiality. As RNTCP-FDC drugs are linked with 99DOTS, which conducts patient follow-up and treatment completion support, this platform will be leveraged for adherence support. For patients preferring drugs from private pharmacies, IT platforms of e-pharmacies will be used for treatment adherence monitoring; prescription refill will be tracked on monthly basis through this platform. Various other adherence support mechanisms such as MERM, SMS reminders to be adopted.
Given the rapid and exponential growth of internet users and e-commerce in India, including among the urban poor, the mobile app will be easily accessed by both providers and patients. Verification mechanisms will be used to confirm authenticity of transactions and interactions through sample checks and one-time passwords/short codes SMS for every interaction between provider (doctor/lab) and patient.

Fig: E-market player/ e-pharmacies patient and provider support flowchart

Strategy 2.3 Engaging Medical colleges for TB surveillance, monitoring and research

Engaging with medical colleges, government and private, gives an opportunity to connect with under graduate and post graduate medical and paramedical students. These students are the prospective practitioners who will be seeing the patients. Imbibing them with the right knowledge and practices is a step towards better and standard practices in TB care.

Medical colleges have academicians who are also clinicians par excellence and are influencers in the community of medical practitioners and at the same time the hospitals serve the socio economically challenged group of people. To leverage the maximum out of these opportunities, it is imperative to involve the medical colleges to the utmost.

Madhya Pradesh is seeing a boom in medical education. There has been an increase in the number of medical colleges (Total 20 Government + Private) (5 have been permitted for admissions).

Activities

Following are the ways in which medical colleges need to be involved:

1. Active role in Research: The research component of RNTCP should be looked after by the Operational Research committee. These researches should also be encouraged to be done by the DTOs and their staff of the districts and not just limited to students of medical colleges. The OR committee, led by the medical
colleges, should come up with various research questions that need to be answered and thus forwarding the agenda of research in the state of Madhya Pradesh.

Experience of faculties and staff consultants from other research institutes such as NIRTH Jabalpur, BMHRC Bhopal, large corporate hospitals should also be incorporated in building the OR committee.

TB community member/s i.e. TB warrior to be a part of OR committee to enhance the research areas and to ensure that research practices and procedures do not inadvertently result in stigmatization of TB and TB patients.

2. Medical colleges to be the testing units, with sputum microscopy, digital X-ray and CB-NAAT facilities being available at their DMCs or in the hospital. Culture facilities also to be availed of by RNTCP. Microbiology departments of the college to take over managing these testing facilities to ensure quality early diagnosis.

3. Faculty sensitized and trained in standards of TB care in India, and they are to be made “STCI champions”. These champions will not only uphold the standards but also promote them to the practitioner communities for standardized quality diagnosis, treatment and care. Webinars, seminars, CMEs to be used by these STCI champions for enhancement of knowledge of peer practitioners. Professional associations also to be engaged for the same.

4. Regular sensitization and training of the medical and paramedical students on RNTCP and STCI.

5. For decentralization of DR-TB treatment services, DR-TB wards will be established in the new medical colleges which are part of the peripheral/ smaller districts viz., Ratlam, Vidisha, Khandwa, Shahdol, Datia, Shivpuri. Medical college medical officer and TB HV from RNTCP will be utilized for operationalization along with support from DTC DEO for reporting.

6. In highly equipped and specialized medical colleges such as AIIMS Bhopal, etc., centre of excellence for surgical treatment of DR-TB patients to be established.

7. Assessment of Air Borne Infection Control Measures in health care facilities will be done by medical colleges for their own districts and adjoining and/or allotted districts. They will then plan and monitor implementation of recommendations for better AIC measures. The assigned faculties will be trained for doing these tasks by the state RNTCP program. Matron/ nursing faculty will be used for this purpose as well.

8. Planning, surveillance and quality support to own districts and adjoining and/or allotted districts by the medical colleges to be given in the aim of reaching the goals of TB elimination. Department of community medicine with their UHTC and RHTC to be engaged in research for planning TB elimination activities and further monitoring of TB elimination goals and objectives. Department of Microbiology to be engaged in quality control activities of diagnosis in the districts after appropriate training of the concerned faculties.

9. Advocacy with DMER has resulted in a strategy for public as well as private medical colleges to have DR-TB ward, ART center and DMC.
Strategy 2.4 Validating case notification from private sector with chemists/pharmacists prescription via use of Schedule H1 implementation mobile app

As an innovative step, a mobile App has been developed by State Drug Controller Office with the support of IT cell & State TB Cell for use by chemists/pharmacists wherein the prescriptions containing schedule H1 drugs are uploaded by them and these are then verified with the private practitioners’ notification data. This is an effective use of gazette notification of H1 schedule drugs.

**INNOVATION: Out of the Box**

**Mobile app for Schedule H1 drug reporting**

As per govt. of India Gazette notification it was made mandatory for Pharmacist, Chemist & Druggist selling TB Drugs to submit the details of patients purchasing prescribed TB drugs on monthly basis in a specific format.

As the number of chemist shops throughout the state is around 35,000, it was challenging to collect data manually and compile it on real time to do further analysis.

So to overcome this challenge, the Office of Controller Food & Drugs & State TB Cell decided to develop an online platform to collect this data and make it easier and faster to compile the data.

**Objectives:**

- To enroll patients not registered in NIKSHAY portal for receipt of patient support benefits
- To track the movement of TB drugs sold within private market.
- To validate patients notified by the private provider and encourage him/her to do so to avail of the benefits from government.

**Achievements:**

There are around 1340 chemists registered on the app. Close to 20,000 patient details have been uploaded from this app by these chemists.

Strategy 2.5 Effective use of Information and Communication Technologies for support to the private providers and for private patient support

Patients who choose to be with private providers for diagnosis and treatment will be provided support in terms of free diagnostic and treatment facilities. Along with these, the patients will be supported in terms of counseling, nutritional and rehabilitational services amongst others as described in chapter on patient support. Use of Nikshay will be done for this purpose.

Use of webinars, e-learning modules will be done for training and sensitization of practitioners. These will be conducted by the district/state RNTCP teams with faculties from medical colleges. Credit points will be given for completion by such learning methods.
**Strategy 2.6 Increase in notification from private practitioners by timely provision of stipulated incentives and enforcement of regulatory mechanisms**

To motivate private practitioners to notify all of the patients being diagnosed and being treated by them, extrinsic motivators of incentives are now in use.

For a TB case notification, a private provider will be given Rs. 500 as an incentive at the time of diagnosis and another Rs. 500 at the end of completion of treatment. These will incentivize notification of diagnosis as well as that of completion of treatment to the government.

Timely distribution of incentives will make sure that the private practitioners see it as a more sincere effort on part of the government as their partner and that in turn will make them sincere in playing their role.

Private practitioners are partners in RNTCP to government, and hence all the support will be provided to them by the RNTCP staff and government. Regulatory mechanisms are limited and will be used to ensure sustainable and long term success.

Those private practitioners who fail to notify any TB patients, diagnosed and/or treated can be booked under section 269 and 270 of the Indian Penal Code.

Section 269 of The Indian Penal Code: Negligent act likely to spread infection of disease dangerous to life.—Whoever unlawfully or negligently does any act which is, and which he knows or has reason to believe to be, likely to spread the infection of any disease dangerous to life, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine, or with both.

Section 270 of The Indian Penal Code: Malignant act likely to spread infection of disease dangerous to life. Whoever malignantly does any act which is, and which he knows or has reason to believe to be, likely to spread the infection of any disease dangerous to life, shall be punished with imprisonment of either description for a term which may extend to two years, or with fine, or with both.

**Strategy 2.7 Corporate hospitals involvement**

Large corporate hospitals need to be involved in various ways to improve notifications, surveillance and in treating complicated cases of TB, especially the drug resistant ones. These hospitals are many-a-times involved in PG teaching and hence involving them will benefit in future generations of healthcare professionals’ training and sensitization.

**Activities**

1. Centre for excellence in surgical treatment of TB to be established in large corporate hospitals for patients who require surgery in complicated cases. These patients can be admitted under the quota of poor or under CSR initiatives of the hospitals.

2. CBNAAT machines to be set up at high burden facilities.

3. Notification improvement by hospitals linking to their reporting system

4. Awareness programs by corporate hospitals for their patients on TB, TB-DM and other co-morbidities.

5. Involvement of corporate hospitals in TB research.

6. Involvement in NGO-PP schemes as needed.
**Strategy 2.8 Public Sector large hospitals involvement such as ESIS, Railways, etc**

Many central government hospitals and institutes are large and cater to a specific population of employees. This population does not intersect with the general population health facilities, neither government nor private. To reach this population, involvement of these hospitals and health facilities is a must.

**Activities**

1. DMCs in the large hospitals.
2. Smaller units to serve as PHIs and sputum sample collection centers.
3. Training and sensitization of medical officers and paramedical staff of these health facilities on RNTCP and STCI.
4. Notification from those health facilities where there is no DMC, but diagnosis and treatment is being done.
5. Patient support to be extended to those notified through DMC or otherwise.

**Strategy 2.9 Private hospitals with OPD more than 2000 per month to be converted to DMCs**

Those private hospitals that have monthly OPD of more than 2000 will be mapped by each district and to be converted into DMCs with sputum sample collection for UDST and availability of RNTCP FDCs in their pharmacies.

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**Innovation: Out of the Box**

**Gwalior Initiative: DMC in private hospitals with high OPD**

Gwalior district line listed the hospitals from private sector with monthly OPD of more than 2000 or more. Advocacy was done with administration of the hospital identified and were partnered under NGO-PP scheme with following:

- Establishment of DMC in their premises.
- Facility to serve as sputum sample collection center for UDST
- Identification of staff from hospital for notification on Nikshay and for bank account details retrieval from patients for patient support.
- Availability of RNTCP FDCs at their pharmacies instead of market drugs.

22 hospitals were identified and scheme initiated in them.
Chapter V: Treat

TB control program aims at ‘treating every patient, whether from public sector or private sector, having drug sensitive TB or drug resistant TB; with standard and quality drugs and care services responsive to the community needs without financial loss thereby protecting the population especially the poor and vulnerable from TB related morbidity, mortality and poverty’.

To achieve this, efficient access to free drugs for all, efficient use of drug facilities, use of shorter and better regimens by both sectors, availability of patient support systems for all patients is to be ensured. Empowering TB communities, engaging TB survivors and mitigating stigma and discrimination by not only general public but also by healthcare personnel can bring about better adherence and treatment completion for the TB patients.

How this will be achieved?

<table>
<thead>
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<tr>
<td>Increased access to High quality TB care and treatment services</td>
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<tr>
<td>Patient centric treatment support systems to prevent loss at cascade of care</td>
<td></td>
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<tr>
<td>Reduce catastrophic expenditures</td>
<td></td>
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<tr>
<td>Counter stigma &amp; Discrimination &amp; Empowering communities</td>
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The “Out of the Box” approaches in Treat

<table>
<thead>
<tr>
<th>Strong patient support systems</th>
<th>Nikshay Kendra (centre) for patient support, rehabilitation</th>
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<tr>
<td>Operational plan for treatment adherence for patients by professional counselors</td>
<td></td>
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<tr>
<td>Peer support through Nikshay meetings for patients and affected care givers</td>
<td></td>
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<tr>
<td>Force of TB warriors for system accountability and fight against stigma and discrimination</td>
<td></td>
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<tr>
<td>Establishment of center of excellence in large corporate and medical college hospitals for surgical treatment of TB</td>
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<td>Strong grievance redressal system</td>
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**TB Care and Treatment Services**

**Objective 3: Ensure universal access to high quality TB treatment services for Drug sensitive and drug resistant TB**

**Introduction**
Case holding is determined by the quality of treatment services including responding to the needs of the patient other than just medical treatment to prevent loss from cascade of care. There were 31008 DS-TB and 2521 DR-TB patients registered/notified under RNTCP in the year 2018.

**Achievements**
The treatment services have changed drastically for DS-TB and are in further phase of amendments for DR-TB with newer shorter regimens coming up, and with launch of Bedaquilin and Delamanid. There was reported 81% success rate for DS-TB for 2017 registered patients. Daily drug regimen for drug sensitive TB has been successfully initiated, drastically reducing pill burden for patients. This in turn ensures better adherence. Newer shorter regimens have been initiated for drug resistant TB which improves patient compliance, are better tolerated and better suitable.
Decentralization of newer drug DR-TB treatment services has been achieved at many districts. More than 30 IPD based DDRTB centres have been established. Uncomplicated DRTB regimens can be initiated at district level either in OPD or IPD based DDRTBCs.

**Challenges**

Quality of treatment by private providers is a challenge as the STCI guidelines are not always adhered due to lack of knowledge of STCI guidelines. Also, treatment adherence of the patients from private sector is not assessed owing to the time limitations of the private providers.

Treatment adherence for daily drug regimen for drug sensitive TB is yet to be streamlined.

Improvement in drugs logistics maintenance at both state and district levels immediately can lead to smoother flow of medicines. Physical verification of drug and putting digital entries in NIKSHAY Aushadhi are both challenges at district level.

Several patients who are diagnosed with drug resistant TB are not put on treatment. Some patients have to travel long distances for initiation of treatment, which can be inconvenient, leading to loss of wages and is often one of the causes of loss to follow up.
### SWOT Analysis: TREAT

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<tr>
<th>Treat</th>
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<tbody>
<tr>
<td><strong>Internal Strengths:</strong></td>
<td>• Availability of daily regimen FDCs for drug sensitive TB</td>
<td><strong>Weaknesses:</strong></td>
</tr>
<tr>
<td></td>
<td>• Availability of shorter/DST guided regimen for drug resistant TB</td>
<td>• Private sector quality of treatment is less than desirable</td>
</tr>
<tr>
<td></td>
<td>• Newer drugs such as Bedaquilin and Delamanid available</td>
<td>• Treatment adherence for daily drug regimen needs to be streamlined</td>
</tr>
<tr>
<td></td>
<td>• NIKSHAY PoshanYojana being rolled out for improving nutrition status of patients, better tolerance to drugs and reducing lost to follow up</td>
<td>• Other patient support strategies are yet to be fanned out which will reduce catastrophic costs and suffering to the TB patients as well as affected families</td>
</tr>
<tr>
<td></td>
<td>• Decentralization of DR-TB treatment services</td>
<td>• Long standing stigma and discrimination against TB and TB patients</td>
</tr>
<tr>
<td><strong>External Opportunities:</strong></td>
<td>• Schedule H1 app for use to monitor private sector quality of treatment</td>
<td><strong>Threats:</strong></td>
</tr>
<tr>
<td></td>
<td>• Many development schemes from government are available which can be linked to provide patient support</td>
<td>• Variable implementation capacity, capability and ownership at district levels</td>
</tr>
<tr>
<td></td>
<td>• E-tailers are available and are in growing phase, can lend a hand in various activities</td>
<td>• Sufficient supply of TB drugs from National level</td>
</tr>
</tbody>
</table>
Strategy 3.1 Increased access to High quality standardized diagnosis, drugs and treatment modalities as per standards of TB care in India

Access to quality TB care and treatment with patient centric treatment adherence support is the need of hour for both drug sensitive and drug resistant TB.

Activities

Drug Sensitive TB:

1. Access to Daily FDCs to all the TB patients in public sector according to their weight bands for drug sensitive TB close to the patient to reduce travel time and cost.

2. Family DOTS has been initiated and needs to be scaled up to ensure better access and treatment adherence

3. Involving community level structures such as front line workers, Mahila Arogya Samiti (MAS) for DOTS in consultation with patients for increasing access.

4. Adequate supply of drugs to be made available by the state and STDC to the districts.

5. Patient and family counseling to be done on regular basis to ensure treatment adherence as described in patient support strategies.

6. For supply of drugs to patients treated in private sector, innovative strategies like supply of drugs through local chemists, engaging e-pharmacies, engaging private clinics and hospitals, at JEET hubs to be done. Detailed steps of this engagement are discussed in the chapter on private sector engagement

7. Treatment initiation to be done as early as possible for both public and private sector patients, within one week of diagnosis. Monitoring from private sector to be done for the same via NIKSHAY.

8. Post treatment follow up to be done at 6 months, 12 months, 18 months and 24 months of completion of treatment

Drug Resistant TB: to provide DST guided shorter and effective treatment regimens as per international and Indian standards for drug resistant TB.

1. DST guided Treatment: Capacity building of medical officers and staff in newer drug regimens for drug resistant cases. Expansion of these DST guided services will ensure better treatment outcome for the DR-TB patients.

   a. Isoniazid mono/poly resistant cases: Scaling up of 9-12 months regimen for isoniazid mono/poly resistant cases with other available fist line drugs

   b. Rifampicin Resistant (RR)/ MDR TB patients: Shorter 9-11 months MDR-TB regimen to be scaled up in the state.

   c. RR/ MDR TB patients with additional resistance: Access to newer drugs such as Bedaquilllin and Delamanid launch expanded for such patients.

   d. RR/ MDR TB patients with additional resistance to flouroquinolones and second line injectables with or without resistance to any other first or second line drugs, but not eligible, unfit or non-consenting to newer drugs to be managed by appropriate DST guided regimens

2. Non-Tuberculous Mycobacterium (NTM) management: Non-tuberculous Mycobacterium are environmental opportunistic microorganisms that can cause human disease with signs and symptoms similar to MTB. These
organisms can affect the lungs or any other extra-pulmonary sites. The diagnostic approach will require a mix of various diagnostic technologies like smear microscopy, rapid molecular tests, conventional culture and species identification while the treatment may vary with species. NTM management to be in line with national guidelines and strategies.

3. Decentralisation of DR-TB services: New medical colleges in the state of Madhya Pradesh provide an opportunity for decentralizing DR-TB services. DR-TB centers to be established in these medical colleges. In the absence of any medical college in the districts, district hospitals, civil hospitals, private hospitals to have DRTB centers. This will reduce the travel time for patients to reach DR-TB centers and minimize drop outs. In the decentralized centers districts to ensure that infrastructure, HR and resources are in line with the current guidelines for DR-TB centers. Adequate training and capacity building to be provided by the RNTCP officials. State has already initiated 33 IPD based DRTBCs till date.

4. Palliative Care: Palliative care services to be offered to the terminally ill DR-TB patients. These services to be given by creating linkages with palliative care program of the state and other NGO services in the same area.

5. Patients in private sector to be given the same benefits once notified by the providers.

**Strategy 3.2  Patient centric treatment support systems to prevent loss at cascade of care**

<table>
<thead>
<tr>
<th>Prevalent cases</th>
<th>Reached diagnostic centres</th>
<th>Diagnosed with TB</th>
<th>Registered for treatment</th>
<th>Completed treatment</th>
<th>Recurrence-free survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>67%</td>
<td>59%</td>
<td>53%</td>
<td>45%</td>
<td>39%</td>
</tr>
</tbody>
</table>

In a landmark study, it was found that only 39% of all prevalent TB cases are able to have a recurrence free survival. The rest are the missed cases. To prevent loss at the cascade of care, the following activities can be undertaken.

**Activities**

1. Barriers that lead to loss at every step of the cascade of care need to be identified and addressed. Quick qualitative assessment would be helpful to identify these barriers. Support of medical colleges can be taken to conduct the qualitative assessments. Qualitative assessment to be followed by planning, implementation and monitoring of recommendations.

2. Treatment adherence: For intensive phase, daily observation of dose being taken by the patient to be encouraged for treatment supporters. For continuation phase, treatment supporters to observe first dose of the week being taken by the patient. Family members to be counseled and encouraged to be the treatment supporters. It is essential that the treatment supporter to be identified as close to the patients without insisting them to travel to RNTCP centers, which is one of the biggest barriers and cause of treatment drop outs.
3. ICT tools for adherence: 99 DOTS, MERM, VOTS, e-compliance will be used as per national guidelines and with the help of PPSAs wherever applicable for treatment adherence monitoring.

4. Nikshay Kendras (Centers) to be established in every district at DTC and TU level for patient support activities such as counseling, health and wellness activities, peer support, nutritional and recreational support for the TB patients. Patients who are unable to reach these centers may be given the services through Arogyam health and wellness centers.

5. Introduction of Counselors: It is proposed to appoint professional counselors at each Nikshay Kendra. Peer counselors to be allotted areas of the DMCs and PHIs. Operational Treatment and Adherence plans to be made by the patient with the help of these counselors. All DR-TB patients to be counseled by professional counselors. Patient support group meetings to be attended by professional counselors as well as by peers.

6. Patients from private sector to be given telephonic counseling in conjunction with group meeting sessions. For consenting private patients, counseling services to be offered at the TU/DMC as will be given to patients from public sector.

7. Family support, employer support and teacher support to be sought by engaging them in counseling and patient group activities.

8. Act to reduce stigma and discrimination towards TB and TB patients is mentioned in detail in chapter on the same.

9. Migrant TB patients: Continuum of care to be maintained for patients who seek to migrate. Every district to come up with their migrant plan specifically addressing their migrant issue. Initial meeting with counselor to assess this situation for the patient and to address his/her needs during the period of migration. NIKSHAY ID to be used for the purpose of identifying and transferring such patients along with valid ID card number from one place/district to the other. Migrant plan to include the following:

   - Detailed history of patient, including the nature of job, his migration pattern, his detailed home address, current residential address, mobile numbers of patient and his relatives.

   - Sectors which involve the migrant workers such as, construction, plantation, urban small industries, rag picking, etc. to be identified in respective districts and specific plans to be made for such sectors. Contractors, employers from these sectors to be involved and engaged for providing support

   - NIKSHAY ID to be ensured for such cases as tracking unique ID, and the ID to be mentioned on the other identity cards of patient

     Cross border meetings can facilitate continuum of care along with above mentioned plan.

10. Community based treatment adherence and monitoring system: It is proposed to engage community based structures such as Mahila Arogya Samiti (MAS) in urban areas, panchayati raj institutions in rural areas, contractors and employer structures in specific sectors. Initially there is requirement of creating awareness and education among these groups to alleviate stigma among them. These structures can effectively be used for creating awareness among their communities, monitoring of TB patients within their communities and ensuring treatment adherence among patients.
Treat: Patient centric treatment support

Objective 4: Reduce catastrophic expenditures of TB patients through patient centric approach and community engagement

Introduction
Evidence shows that although, access to free TB care has expanded substantially across the country over the past two decades, however, many TB and MDR-TB patients and families are still facing very high direct and indirect costs due to TB illness and care-seeking, hampering access and putting people at risk of financial ruin or further poverty. These high Out of pocket (OOP) expenditures are particularly evident in the user fees, loss of wages, travel cost, cost of diagnosis and treatment, often resulting in catastrophic health expenditure for poorer patients.4

As a part of End TB strategy, zero catastrophic cost due to TB is one of the essential goals. This leads to the concept of catastrophic expenditures where no person or family will have to suffer from debts due to contracting of TB.

Achievements
Under NIKSHAY Poshan Yojana, Government of India has initiated provision of INR 500 for every TB patient every month for nutrition during the entire course of treatment as per the category of a TB patient as a direct cash benefit transfer to their accounts. This is available for both public and private sector patients. This scheme is being implemented in the state of Madhya Pradesh, more than 50% beneficiaries of 2018 have received the DBT by February 2019.

Challenges
To further reduce out of pocket expenditures and catastrophic expenditures, newer linkages and strategies need to be considered which target to reduce the out of pocket expenses on travel, loss of wages and other indirect costs.

Under NIKSHAY Poshan Yojana, retrieving bank account details and obtaining ID card details of the TB patients have been a challenge in most districts. There is need to ensure facilitating the collection of bank details, facilitating linkages to bank accounts, etc. for TB and DR-TB patients.

Strategy 4.1 Patient support strategies and advocacy to reduce catastrophic expenditures
Throughout their treatment, whether drug sensitive or drug resistant, TB patients require support which act as enablers in adhering to the treatment and ensure treatment completion. Also, they help patients to have faith in their treatment givers and finally reduce catastrophic expenditures.

Activities

Direct Benefit Transfer:
Research shows that improving nutrition of patient during TB treatment improves patient adherence as well as treatment outcome. As part of nutrition support to all notified TB patients, national program has initiated incentive of INR 500 per patient per month till completion of treatment irrespective of seeking care in public sector or private sector, which is transferred in the bank accounts of TB patients as direct benefit transfer. The scheme has been successfully initiated in Madhya Pradesh.

For this benefit to reach the beneficiaries at the earliest, a smoother operation needs to be established by the district officials. Patients’ bank account details and valid ID card details to be made available at the initiation of treatment or during the first home visit being done by the health care worker at the latest. The same should immediately be updated in the NIKSHAY. Patients and family members need to be counseled on the need

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of nutrition for better treatment outcomes and these incentives to be used for nutrition support. Nutrition assessment to be done for the patient at the treatment initiation followed by individualized nutrition counseling and a diet plan to be made by the counselor. The plan should be revisited every month as the nutritional status of the patient changes.

For patients who don’t have bank accounts, linkages to be established to the Pradhan Mantri Jan Dhan Yojana (PMJDY) to open bank accounts and linking the accounts with valid ID card and DBT schemes. This can be initiated with the help of banks assigned for opening Jan Dhan accounts and issuing letters from authorities like district collectors at the district level. Specific days camps can be organized for opening such accounts.

National program envisages that the Poshan Yojana is transitioned from DBT incentives to direct supply of nutritional support. A pilot of supply of nutritious products in daily use to be provided through grocery vendors has been done in Dhar district funded by USAID through child fund international. The pilot has showed promising results and is being now extended to all the districts of Indore and Ujjain division by the funding agency. The same can be replicated by the state which will ensure quality products being delivered at the doorstep of the patients every month. This will also ensure that the patient receives nutritious food and the incentives are not used for other purposes by the patient and family members. The progress of improvement in nutritional status of patient to be monitored on monthly basis.

**Reduction of other direct costs:**

Cost of diagnosis and drugs is to be borne by the program for public as well as private sector with private sector patients being given the option of free quality drugs through pharmacies/e-pharmacies. Private sector patients are prioritized for diagnosis by CBNAAT machines supplied by the government. Cost of travel for diagnosis and treatment to be reimbursed by the program. Tribal patients to get incentives for completion of treatment. Budget for RNTCP is accordingly escalated for patient support activities. Strategic purchasing of CBNAAT, Chest X-ray services can be done through the private labs available in the district so that patient receives the diagnostic services free of cost at accessible service delivery points.

**Employment/work facilities:**

Loss of wage due to debilitating condition of TB contributes to the catastrophic expenditure for many TB patients. An assessment of such situation should be done by the counselor for every TB patient notified and further plan made to circumvent such situation of debt and poverty. Meetings with employers/family members for sensitizing towards TB and its treatment to be done. This can be done through patient support groups/Nikshay Peers/clubs. The nature and outcome of TB treatment to be made to understand to the employers for their support. For those patients who need change of occupation after TB treatment, rehabilitation services to be offered in linkage with Madhya Pradesh’s Yuva Swabhiman Yojana and MGNREGA and skill development welfare schemes of the government and NGOs to be involved for same.

Action will be taken against employers or co-workers at workplace for promoting any discriminatory practices through grievance redressal cells.

**Rehabilitation facilities:**

Patients who need physical rehabilitation to be linked with appropriate health facilities for the same. Financing can be done through Rashtriya Swasthya Bima Yojana or through CSR activities of corporate hospitals as the case may be.

**Advocacy with other departments and linkages for social protection of TB patients needs to be done.**

Linkage with Ayushman Bharat, RSBY, PDS for support to patients. Wherever feasible, patients’ TB card to be made a valid document for provision of benefits.
Treat: Counter stigma & Discrimination & Empowering communities

Strategy 4.2 Counter stigma and discrimination against TB by engaging communities and TB warriors and taking right based approach.

Stigma in TB acts as a barrier in accessing TB care and treatment services. People anticipate stigma and discrimination when the environment is so and thus avoid seeking test or treatment of TB. They cause health inequities and are human rights violation.

Strong community engagement could lead to accountability of the program, reduction in stigma and discrimination and reduction in delay in the diagnosis and treatment.

Activities

Countering Stigma and discrimination

Destigmatizing TB is one of the important objectives in achieving “zero suffering” of WHO’s End TB strategy.

a. Counter stigma and discrimination against TB and TB patients by strict actions against healthcare workers who promote any such activities including community healthcare workers, paramedical and medical staff in public and private sector. Grievance redressal system to be functional through district TB forums for this purpose. Every district should have a district grievance redressal cell with chairman of the committee being the collector of the district. TB warriors/ TB champions, NGOs to play an active role in communicating grievances from the sufferer to the grievance redressal cell. Contact number of grievance cell to be made available with ASHAs, gram panchayats and displayed at every health facilities along with communication messages relating to the same. State grievance redressal cell also to be established on the similar lines to monitor district activities. CM helpline, which is a unique initiative of Madhya Pradesh, can also be used for the same.

b. Empower community through “TB Mukt Pradesh” campaign for increased awareness using:

- Peer education models
- Inter-personal communication
- Electronic media campaigns
- Use of local media, such as Community radio like Vanya radio services in Saharia and other tribal districts, Street plays, etc.
- Video scrolls at prominent locations, including bus stops, railway stations, airports, traffic signals, cinema halls, etc.
- Awareness creation on extra pulmonary TB amongst general population to mitigate delay in diagnosis
- Stories and images of healthy TB survivors to be promoted for public awareness as part of positive public representation through media campaigns.
Community Engagement and TB warriors for patient support through right based approach

a. Engage and work with TB survivors at the district and state level, make them the warriors against TB. Public campaigns with these warriors will inform and empower the public thereby reducing stigma. Every district to identify and rope in TB survivors/warriors from their pool of successfully treated TB patients.

b. Create patient support groups (previously known as TB forums), “Nikshay Peers/Club”, for current registered TB patients with TB survivors as their DOSTS & peer counselors in the group. These groups will empower patients with knowledge around TB treatment, transmission and prevention, patient support; will support them in treatment adherence through their experiences and common challenges. The groups and the warriors will also give the patients, a space to voice their problems and will be a means to demand their rightful services. The motto line for the groups being “TB harega, HUM jitenge”, this may also be decided later by the peers for ownership. Organization of peers to be from blocks to district to state level. A space to be provided for such peers to organize into powerful patient network organization, learnings for which can be taken from PLHIV networks.

c. TB survivors/warriors as peer counselors to help patients in patient support groups as well as in the community, visiting patients at their home and work place for support in treatment adherence.

d. Nikshay Peers/club meetings to be conducted for every DMC at a neutral place, every fortnight with their registered TB patients. The patients from private sector may also join the same groups or separate groups can be formed depending on the number of patients.

e. The support groups can also invite and be attended by the affected family members, who can give support to the patients and may also need space to vent their burnout in caring for the patients. Patients’ employers, co-workers or teachers as the case may be, also to attend the group at least once after treatment initiation, for sensitization in supporting the patient during treatment.

f. A session by the TB survivors/warriors to be conducted in every training of health care workers including medical officers, paramedical staff, frontline workers and sensitization of private practitioners to acknowledge their suffering, give them voice, to make the healthcare workers sensitive to the patient needs and reduce stigmatizing and discriminatory behavior towards TB patients.

g. TB patients to be advised about right to access to treatment and choose their provider, public or private.
**Chapter VI: Prevent**

Prevention of emergence of Tuberculosis in susceptible population with airborne infection control measures and identification of those vulnerable groups with latent TB infection, along with reduction in susceptibility of general population to contract TB.

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<td>Latent TB Infection</td>
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<td>Social Determinants of TB</td>
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**The “Out of the Box” approaches in Prevent**

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<th>Focus on Prevention activities</th>
<th>Communication Campaign on cough etiquette and community control measures for airborne infection control</th>
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<td>Mandatory certification of all government health facilities for airborne infection control measures</td>
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<td>Triage and fast tracking of coughers</td>
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Objective 5: Prevention of emergence of tuberculosis in susceptible population and reduction in the susceptibility of the population by addressing the social determinants of TB.

Infection prevention and control measures in health-care settings are of central importance to the safety of patients, health-care workers and the environment, and to the management of communicable disease threats to the global and local community. Application of basic IPC precautions, such as standard safety precautions, is a cornerstone for providing safe health care. In an era of emerging and reemerging infectious diseases, IPC in health care is of key importance. TB infection control is a combination of measures aimed at minimizing the risk of TB transmission within populations. The foundation of such infection control is early and rapid diagnosis, and proper management of TB patients.

National guidelines on airborne infection control in all health settings including HIV care settings were developed that included combination of simple managerial, administrative, environmental and personal protection measures to prevention of emergence of Tuberculosis in susceptible population and reduction in the susceptibility of the population by addressing the social determinants of TB.

Challenges:
In MP, the National Air Borne Infection control guidelines implementation has been initiated across all health care settings however following challenges still remain:

Challenges at Community Level
Poor social habits such as cough etiquettes not being followed, Indiscriminate spitting and sneezing without covering face, substance abuse, delay in reaching health facility for specific diagnosis and environmental pollutions. These challenges are further aggravated in special groups such as migrant population, backward areas and tribal pockets, old age homes, poor homes, children homes, jails, hard to reach areas and delay in diagnosis in co-morbid conditions like Diabetes, HIV and Cancers.

Challenges at Institutional level:
Challenges at Institutional level include, patients with chest infection at outpatient settings, Overcrowding - mixing of patients in queues and waiting area, poor ventilation in the facilities. Challenges of in-patient facility include, Infectious patients getting admitted at General wards, cough etiquettes not being followed in wards and overcrowding in the wards – with no restricted entries
SWOT Analysis: PREVENT

<table>
<thead>
<tr>
<th>Prevent</th>
<th>Strengths:</th>
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| Internal | - Contact tracing getting more accountable with Shahdol initiative.  
- National Airborne Infection Control (NAIC) guidelines available |
| Weaknesses: |
| - Ruling out active TB infection for LTBI treatment is a challenge, owing to unavailability of functional X-ray machines at districts  
- Healthcare facilities are not assessed for airborne infection control measures, are overcrowded and overburdened, increasing chances of nosocomial infections as well as serving occupational hazard to healthcare workers |

<table>
<thead>
<tr>
<th>External</th>
<th>Opportunities:</th>
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</table>
| - Certification of all healthcare facilities is possible for airborne infection control  
- Strategic purchase and sourcing of X-ray facilities is possible from private sector |
| Threats: |
| - Amplification of drug resistance.  
- Variable implementation capacity at district level |

Following strategies are proposed:

**Strategy 5.1 Airborne infection control measures in communities and healthcare facilities, prevention of TB in healthcare workers through surveillance and infection control measures**

TB transmission as occupational hazard to healthcare workers and as a nosocomial infection to other attendees of healthcare facility is recognized as a public health problem. This is preventable and can be mitigated if airborne infection control measures are in place for every healthcare facility. Airborne infection control plays a vital role in cutting the chain of transmission; availability of National Airborne Infection Control guidelines is a good opportunity in implementing control measures in the communities and in the healthcare facilities. The following activities are based upon the NAIC guidelines.

Activities

**Community control:**

a. Campaign on cough etiquettes:
   i. A campaign on Cough etiquettes to be conducted for publicizing cough hygiene using various media, to general public and schools. Positive messages around coughing and sneezing etiquettes and practices in various forms to be given for involvement of communities.

   ii. Engage community leaders and representatives as torch bearers of TB prevention activities including cough campaign.
iii. Develop IEC materials for communities featuring natural ventilation and cough hygiene.

iv. The campaign may be in collaboration with other airborne infections program including swine flu for which media has already created a buzz in the society.

v. Penalties to be enacted and enforced against spitting in public places

b. Infection control in households of TB patients:
   i. Include AIC measures in training of health workers who visit TB patients at home. Train them on how to conduct home visits, assessment and planning of infection control at home and community.
   
   ii. Houses should be adequately ventilated, particularly rooms where people with infectious TB spend considerable time (natural ventilation may be sufficient to provide adequate ventilation).
   
   iii. Cough etiquettes for coughing patients to be told, to be followed all the time.
   
   iv. Contact tracing to be done, children less than 6 years of age to be prevented by minimal contact with infectious patients, and screening for active TB followed by IPT.

   c. Special activities to be done targeting airborne infection control in people of Saharia tribes and other TB high prevalent tribes. ACSM activities to be done. The need for structural changes in their houses and living practices to be assessed, recommendations made to the state, tribal affairs and the community itself. A plan with consent from community to be made for following up on the recommendations suggested. Long term behavior change communication practices, if needed, to be planned.

   Healthcare facility control:
   a. NAIC guideline will be implemented at high risk centers at DR-TB Centers, ART Centers, C and DST Laboratory immediately.

      Mandatory certification of all government healthcare facilities to be considered for airborne infection control measures. A risk assessment to be done for all levels of healthcare facilities in the state by the state/ district airborne infection control committee with involvement of medical colleges. Recommendations to be made by the committees for the same, to be followed by implementation of recommendations and certification.

      Establishment of new health care centres will be in accordance with NAIC guidelines.

   b. Administrative control measures:

      i. Triage of coughers: Assign duty to triage cough patients to special “cough triage officers”. Develop a standard triage procedure or checklist. Develop cough corners/ counters where cough screening, separation, fast tracking and availability of mask and counseling will be done.

      ii. Reception areas: Create outdoor covered areas for seating while waiting for their turn for patients with cough.

      iii. Display of cough etiquettes in the reception area for patients with cough. Staff to be trained in communicating with patients about cough etiquettes.

      iv. Minimize time spent in healthcare facilities by fast tracking patients with cough

      v. Prevention in healthcare workers: periodic screening of staff, PPE for concerned staff, training of healthcare workers
c. Environmental Controls:
   i. Proper ventilation to be ensured in healthcare facilities. Renovations, addition of small modifications in the placement of furniture, to be considered as per requirement.
   ii. Mopping of floors with disinfectants.

d. Personal Protective Measures:
   i. Health care workers to be given N95 masks in high risk settings.
   ii. Nursing staff to take lead in activities related to airborne infection control in the healthcare facilities.

Congregate settings control:

a. Facility assessment to be conducted.

b. Support early identification of inmates with cough of 15 days or more and use of cough etiquette by supplying cloths. Early identification to be followed by supporting the patient to seek early healthcare services without stigmatizing them.

c. Preventing the spread of infection from community to prison.
   i. Using intensified TB screening for new or transferred prisoners.
   ii. Preparing adaptation blocks or rooms (to be used for two to four weeks) for new or transferred prisoners.

d. Preventing TB infection among prisoners (from one TB prisoner to other prisoners) or to prison’s staff.
   i. Conducting a contact investigation for TB suspects and cases.
   ii. Improving infection control (i.e. implementing managerial, administrative, and environmental interventions) in prisons.
   iii. Using IEC for prisoners.

e. Preventing infection to family members and the community from released prisoners or prison staff.
   i. Examining prisoners before release.
   ii. Examining prison staff regularly.
Prevent: Latent TB Infection

India, with one-fourth of the global burden of TB, has 40 per cent of the population infected with TB. Treating 40 per cent of the population for LTBI based on Tuberculin Skin Test (TST) positivity or Interferon Gamma Release Assay is neither rational nor practicable, thus emphasizing the need for a focused approach.

Strategy 5.2 Latent TB infection (LTBI) testing of at-risk populations and treatment

Latent TB infection represents the TB reservoir. 5 to 15% of people with LTBI get disease reactivation, developing TB disease in their lifetime. This is true for HIV negative healthy people. For HIV infected individuals, lifetime risk of developing TB disease is 60% owing to their immunosuppression; although ART reduces this risk considerably. Therefore, it is important to cut the chain of transmission for at risk individuals who are more likely to develop disease from a latent infection.

Following are the at risk groups for intervention on LTBI with respect to state of Madhya Pradesh:

a. People living with HIV (PLHIV)
b. Child Pulmonary TB contacts
c. Patients with silicosis
d. All patients where clinically indicated such as those on long term immunosuppressant, DM and Cancer patients
e. High risk adult contacts, especially in Saharia and other tribes.

Activities

The proposed activities for LTBI interventions are:

1. Awareness activities around LTBI treatments to be done for at risk populations.
2. For better acceptance of LTBI treatments, separate or same patient support group meetings to be attended by the individuals on IPT. Also, counseling of these individuals to be done by the professional counselors. SMS reminders to be sent for better adherence.
3. To rule out active TB disease, use of chest X-ray and rapid diagnostics such as CBNAAT or TruNAAT to be done for at risk populations.
4. For capacity building of practitioners, use of ECHO platform to be done.
5. Isoniazid tablets to be given as 10 mg/kg/day for six months as Isoniazid preventive therapy.
6. Engaging the front line workers for contact tracing and identifying LTBI, incentives to be built for the front line workers for these activities
7. Monitoring and reporting of drug adverse reactions/events to be done.

Focus on Isoniazid Preventive Therapy (IPT):

Children are more susceptible to TB infection, more likely to develop active TB disease soon after infection, and more likely to develop severe forms of disseminated TB. Children < 6 years of age, who are close contacts of a TB patient, will be evaluated for active TB by a medical officer/pediatrician. After excluding active TB he/she will be given INH preventive therapy irrespective of their BCG or nutritional status. The dose of INH for preventive therapy is 10 mg/kg body weight administered daily for a minimum period of six months. The INH tablets will be collected on monthly basis. The contacts will be closely monitored for TB symptoms.
In addition to above, INH preventive therapy will be considered in following situation:

- All Children living with HIV (CLHIV) who had successfully completed TB treatment should receive IPT for additional six months
- All Children living with HIV (CLHIV) who either had a known exposure to an infectious TB case or are Tuberculin skin test (TST) positive (>=5mm induration) but have no active TB disease.
- All TST positive children who are receiving immunosuppressive therapy (e.g. Children with nephrotic syndrome, acute leukemia, etc.).
- A child born to mother who was diagnosed to have TB in pregnancy will receive prophylaxis for 6 months, provided congenital TB has been ruled out. BCG vaccination can be given at birth even if INH preventive therapy is planned.

Isoniazid Preventive Therapy (IPT) For PLHIVs

Children living with HIV who are more than 12 months of age and who are unlikely to have active TB on symptom-based screening, and have no contact with a TB case will receive six months of IPT (10 mg/kg/day) as part of a comprehensive package of HIV prevention and care services.

Contacts of MDR-TB patients: Close contacts of index cases with proven DR-TB will be monitored closely for signs and symptoms of active TB as isoniazid may not be prophylactic in these cases. The following measures will be taken to prevent spread of DR-TB infection:

1. Early diagnosis and appropriate treatment of MDR-TB cases
2. Screening of contacts as per RNTCP guidelines

Systematic recording and reporting:

All events in the cascade of IPT implementation including symptom screening of all contacts, IPT eligibility assessment, investigations, and the compliance with regimen will be systematically recorded and reported.
Prevent: Social determinants of TB

Strategy 5.3 Addressing social determinants of TB
Tuberculosis has been described as a social disease with medical aspect early in 20th century by Sir William Osler; it still is apt in the 21st century India. Serious considerations are deserved in addressing the social determinants of TB.

Activities
- Feedback to be given by District TB control program to the general health system and to the concerned departments of urban planning, collector, tribal affairs, women and children department regarding the vulnerable populations and their vulnerability issues with respect to TB.
- The district TB control program and state TB control program to advocate in poverty alleviation programs.
- “Health-in-all-policies” approach through advocacy for addressing social determinants of TB and any other health ailment in collaboration with general health system of state. Poverty, food insecurity, living and working conditions, prison conditions, and migrant situations are some of the areas for work. Promoting healthy diet and lifestyle through communication strategies of TB program and general health system for primordial prevention should be done.
Chapter VII: Build

Build capacities, infrastructure, partnerships for an environment that can fit in the rapidly changing technologies and policies in the TB prevention, diagnosis, treatment and care, thus benefiting the community.

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<td>Health Systems strengthening</td>
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<td>Human Capital building</td>
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<td>Strengthening use of NIKSHAY for surveillance &amp; monitoring</td>
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<td>TB elimination goals - monitoring &amp; evaluation</td>
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The “Out of the Box” approaches in Build

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<th>Build Systems</th>
<th>The “Out of the Box” approaches in Build</th>
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<tbody>
<tr>
<td>One more state drug store to be established</td>
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<tr>
<td>Building partnerships at various levels with government and non-government agencies</td>
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<tr>
<td>Political and administrative commitment and review</td>
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<tr>
<td>Building well-trained, empathetic, non-discriminatory and sustainable human capital</td>
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| Model Nikshay Center | A model center with all ideal diagnostic and treatment and support facilities for TB by the volunteer district |

| Monitoring and Evaluation | Robust mechanism for validation of TB elimination goals |
Build: Health Systems

Objective 6: Health system strengthening by building human resource, infrastructure commensurate with the program goal of elimination and better governance

SWOT Analysis: BUILD

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<tbody>
<tr>
<td>Internal</td>
<td><strong>Strengths:</strong></td>
<td><strong>Weaknesses:</strong></td>
</tr>
<tr>
<td></td>
<td>• TB is being accounted as a major public health problem, garnering ever increasing political commitment.</td>
<td>• NUHM is in its nascent stage, infrastructure and service availability is low for urban areas</td>
</tr>
<tr>
<td></td>
<td>• Quality IRL infrastructure available, and is being constantly up scaled</td>
<td>• Infrastructure and vacancies have a large shortfall at district and state level</td>
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<tr>
<td>External</td>
<td><strong>Opportunities:</strong></td>
<td><strong>Threats:</strong></td>
</tr>
<tr>
<td></td>
<td>• All stakeholders are slowly sensitized and are thus available for partnerships with RNTCP. This includes private providers, NGOs, patient communities, medical colleges and others</td>
<td>• Variable implementation capacity at district level</td>
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Strategy 6.1 Build infrastructure, supply chain logistics and offer better governance for long term success in controlling and eliminating Tuberculosis

For elimination goals to be achieved in a speedy manner, the state needs to be equipped to handle the incoming rush of presumptive TB & DR-TB cases, diagnosed TB cases, LTBI diagnosed cases. The infrastructure and the workers need to be prepared and accommodative for the rapidly enhancing algorithms, technologies and policies.

Activities

State TB elimination board to be established for TB elimination activities in state of Madhya Pradesh. The board will oversee all the activities of TB elimination, guide State TB cell and monitor the progress in terms of elimination goals.

Urban System

The urgent need for integration of RNTCP with an emerging NUHM is called for. Since the systems in NUHM are in the process of establishments, this is a good time to forge a good relationship between both systems.

a. Urban TB control mission to be established under the state health society headed by the administrative head of the city.

b. TB to be included as a part of Urban local co-ordination committee meetings.

c. For the cities listed under government’s smart city plan, co-ordination to be done with the respective planning heads for better TB care services for the city population.
d. City action plans for integration of TB activities within the urban health platform to be developed, monitored at highest district leaderships level.

e. City TB office to be made for cities with population > 35 lakhs. Urban TU to be made for 1.5 to 2.5 lac population. Urban DMCs to be made according to the RNTCP guidelines.

f. Where needed, strategic purchasing and sourcing to be done of the diagnostic facilities through private providers such as e-market players, private laboratories to bridge the gap of diagnostic services, treatment facilities.

g. Secondary health care facilities and tertiary health care facilities from public as well as private sectors to be utilized to the optimum for diagnosis, treatment, rehabilitation and prevention purposes.

h. Innovative partnership mechanisms to be implemented wherever there is human resource crunch, to leverage strengths, platforms of partners such as NGOs, CBOs, private hospitals, labs, local chemist, e-pharmacies to provide services such as sputum sample collection, drug deliveries, contact tracing, etc.

**Tribal System**

a. Tribal TB control and elimination to be monitored by Tribal TB control mission under the auspices of State Tribal Affairs department. Mission to be headed by administrative head of State Tribal affairs department.

b. Mobile vans to be utilized for reaching the unreached tribal population and for easy access to diagnostic facilities such as point of care testing with TrueNAAT and digital X-ray.

c. Diagnostic centers in tribal and semi-tribal districts to be fully functional, including digital X-ray facilities at district level. If unavailable at district hospital, the digital X-ray facility to be made available through private sector under NGO-PP scheme.

d. Strong community engagement activities to be in place to make TB control program accountable to the needs of tribes in state of Madhya Pradesh.

e. Each district collector to review TB control program in tribal and semi-tribal districts as public health priority.

**Rural System**

a. All levels of healthcare facilities, primary, secondary and tertiary, diagnostic, treatment or referral facilities to be up-to-date and functional.

b. Sample collection and transportation facilities to be prioritized for effective implementation of Universal DST through strategic purchase and sourcing of sample collection and transportation/ motorbike model/ Indian Post model.

c. CMHOs to review RNTCP in DHS review with following points:
   - PHI wise symptomatic referral for sputum microscopy (4%)
   - SPR (Sputum Positivity Rate) 10% of all DMCs (Source: PHI Reports)
   - NIKSHAY entry by PHI staff.
   - ID card & Bank detail updation of all treatment supporters, Private Providers in NIKSHAY.
- DBT status of payments to treatment supporters, Private Providers and Patients.
- Monthly reporting from drug inspector about H1 schedule Anti TB drugs from all the Chemists in the district.
- Death Audit to be conducted for all TB Deaths
- Review of Loss to follow up

d. District collector to review progress of TB elimination goals and activities regularly as public health priority including the status of vacancies, infrastructure, private provider engagement amongst others.

e. Regional Joint Directors to review divisional RNTCP activities and progress of all districts of divisions with other programs for TB elimination goals.

**Drugs and Logistics**

a. One more state drug store to be built to ease the distance, space and staff burden issues.

b. Smooth flow of drugs to be ensured. NIKSHAY Aushadhi software to be used, training and implementation of this to be streamlined for smoother workflow.

**Building Partnerships**

Mammoth task of TB elimination in the state will be fulfilled only when meaningful partnerships are forged. Hence, partnership is the essence of the new strategic plan of Tuberculosis elimination. The partners bring in their expertise from various areas and help government to reach the goal of TB elimination. They also pass on their models of work and the product guidelines for the government to be replicated in other geographical areas.

Technical assistance to the government to be enhanced by addition of regional and other divisional consultants by the technical support network of WHO. This will be done in consultation with CTD.

Patient Provider Support Agencies contracted for work on private provider engagement will be able to provide Diagnostic facilities including culture facilities will be availed through partners for key populations including urban, tribal and difficult to reach areas apart from general population. Treatment facilities will be provided with newer arena of e-pharmacies for patients from private providers and corporate hospitals to be partnered for rehabilitative surgical procedures. Outreach facilities for patient support to key population and others to be provided through partners where needed.

Professional associations of practitioners will be guiding the private provider engagement movement in the state of Madhya Pradesh. Practitioners here are the consumers and hence their needs to be taken into account for interventions.

Other health and non-health governmental and non-profit agencies will be partnered with for comprehensive care of TB patients.

**Establishment and official inauguration of a model Nikshay center with model diagnostic and treatment facilities**

A volunteer district can initiate the establishment of model TB care center. This model center will serve as an encouragement for the other centers and districts, as well as the inauguration of the same will enhance political and administrative commitment and will be a part of public awareness campaign on TB.

The model center to have the following services:
1. All primary diagnostic facilities such as CBNAAT machine, Sputum microscopy and Digital chest x-ray facilities to be made available and functional.
2. Ideal drug storage facility available for DMC with patient wise boxes
3. Availability of special OPD timings/ clinic for women
4. Nikshay center facilities such as counseling, nutrition, health and wellness and peer support
5. Availability of well trained personnel for diagnosis, treatment and support including medical officer and other staff
6. Establishment of Nikshay Peers/ club in the center
7. IEC material to be available in the center at appropriate places
8. Well-developed linkages with other departments and NGOs for better patient care
9. Facility tagged on google maps.
10. Availability of Nikshay platform for real time entry and analysis
Strategy 6.2 Building well-trained, empathetic, non-discriminatory and sustainable human capital

Political commitment on giving jobs to people is an opportune event for filling vacant positions in the TB control program at state and district level. Vacancies at different levels to be filled in on priority basis.

There are various incentives and payments being given to various cadres, which when done on a regular and timely basis can help in retaining trained manpower. This includes incentives for frontline workers for being treatment supporters, to private providers, staff working in tribal areas.

Activities

i. Vacancies: Filling of vacancies to 100% by the end of three months from acceptance and publication of this document. Monitoring of vacancy situations; no district or state should have vacancies more than 10% at any given time.

ii. New cadres of counselors, peer counselors to be engaged after inclusion in PIP.

iii. Training centers: STDC to build capacities of regional training centers at Indore, Gwalior and Jabalpur in conducting various RNTCP trainings. List of master trainers to be made available for each of the regional training centers and at the state level for various training.

iv. Training material and methods:
   a. Training materials, where not available or not appropriately updated, needs to be updated and made in easy, simplified local language for the benefit of the trainees.
   b. Use of flipcharts to be considered for frontline workers and counselors for presumptive TB patients and TB diagnosed patients, respectively. Material to be made in collaboration with experienced agencies.
   c. Counseling tools and checklists to be made in collaboration with experienced agencies, with specialized training programs for professional and peer counselors.
   d. Checklist for home visit by STS/ TB-HV to be made for drug sensitive and drug resistant TB.
   e. Audio visual aids, e-seminars, webinars, ECHO project to be utilized to maximum as and where indicated.

v. Inculcate culture of serving the patients of Tuberculosis with empathy (not sympathy) in all cadres of workers/officers of RNTCP.

vi. Sessions on soft skills, use of technology including NIKSHAY to be included in trainings of all cadres of workers/officers. Session on soft skills to be given by trainers specialized in communication.

vii. A session by TB survivor/warrior is to be introduced for sensitizing staff on issues faced by TB patients and their families and thus reduce stigmatizing and discriminatory practices by healthcare workers.

viii. Implement incentives, yearly increments for staff and provide growth opportunities to existing staff.

ix. To reduce work fatigue and burnout, and keep morales of the staff high, districts to engage staff in recreational activities such as retreats on yearly basis. Therapies to be made available for counselor/worker burnout.

x. Frontline workers and other staff to be honored / rewarded for exemplary performances/ going above the call of duty by the districts and state.
The rest of the year of 2019 will be earmarked for building health systems that can take upon the challenge of TB elimination in the states, districts and cities. Vacancies to be filled, training materials and methods devised, various suggested committees to be formed, patient support groups to be initiated, infrastructure development to be fast-tracked, diagnostic facilities to be fully equipped, upscale of technological innovations to be started, PPSAs to be contracted, sputum transportation mechanism to be established, short research projects to be completed, communication material upgraded for TB elimination needs, backed with highest level of political and administrative support at state and districts. Following which will be trainings of staff and execution of the various program activities for TB elimination.
**Build: NIKSHAY for Surveillance & Monitoring**

**Objective 7: Stringent monitoring of the program and enhanced surveillance activities for transitioning from control to elimination goals for Tuberculosis**

**Introduction**
NIKSHAY, which is an award winning monitoring and surveillance innovation of RNTCP, is a web based, case based tool for real time data entry and analysis. Real time entry can help in getting real time analysis. This can be used for routine surveillance as well as to ensure TB elimination efforts are being directed correctly.

**Achievements**
Madhya Pradesh has been a successful part of surveillance activity for DR-TB, Drug Resistant Survey.

Epi-info has given way to more robust, easy to use, case based tool of NIKSHAY. Implementation has been slow but has improved over the years.

**Challenges**
Real time entries in laboratory modules, treatment modules have been a challenge. Districts are at a variable capacity to use NIKSHAY as a tool for analysis of data and for further planning of the TB control activities in the district.

**Strategy 7.1 Maximum utilization of NIKSHAY for surveillance and monitoring of all TB elimination activities and goals**
The application is available on all platforms, mobile and on web for all types and cadres of users. This will also be used for monitoring of indicators for TB elimination goals of the district and state.

**Activities**

**Monitoring of epidemiological trends:**
- a. TB epidemiology characteristics and trends to be monitored through NIKSHAY and other reporting systems. This will enable program managers to direct policies and interventions in the right direction.

- b. GIS based Spatial Mapping of TB patients can give hot spots for transmission of TB. This can be done with help of NIKSHAY/web forms.

- c. Medical colleges to be involved in sentinel surveillance as directed by CTD.

**Building capacities of districts to handle ICT platforms for better surveillance and monitoring:**
- d. New cadre of posts for surveillance as suggested in NSP to be filled and then trained. Existing data entry operators to be given chance to excel in use of the new platforms.

- e. Training and re-training with hands on methods and good A-V aids to be conducted for staff for effective monitoring and surveillance.

**Routine surveillance and monitoring activities:**
- f. Clarity in documentation to be ensured by DTOs for all district RNTCP staff.

- g. Real time data entry in NIKSHAY by all staff to be ensured by DTOs for better reporting, prompt data analysis and for further planning of TB activities.

- h. Ease of NIKSHAY mobile apps/ web app to be offered to private providers for notification; their paramedical staff to be trained in reporting in NIKSHAY.

- i. Laboratory surveillance mechanism to be real time for validation and ascertainment of diagnosis.
j. Deduplication activities to be done regularly.

k. TB death audits to be done for all deaths occurring in notified/registered TB patients and reported to STDC by every district within 1 week of death of the patient. STDC to give feedback on the same within one week of receiving death audit report.

B. **Use of NIKSHAY for patient support activities for TB patients:**

   a. Bank details, ID card numbers to be updated in NIKSHAY on real time basis for direct benefit transfer schemes.

   b. SMS reminders, 99 DOTS, MERM to be utilized for TB treatment adherence in patients.
Build: TB elimination goals monitoring

Strategy 7.2 Robust monitoring and evaluation mechanisms for goal of TB elimination.
TB elimination indicators will need to be monitored regularly and yearly for progress and strategies and goals evaluated for TB elimination program of state. Robust validating mechanism will need to be applied for certifying TB elimination for villages, blocks/wards, districts/cities.

Activities
Before declaration of zero TB village/ward/block/district/city, the said geographical entity will undergo an evaluation activity. This activity will be on the lines of SIE with special focus on quality of data of indicators for declaring the area TB free. Apart from the regular members of SIE, this evaluation will also have a member from patient groups/TB warrior/patient organization representing TB community and a member from non-governmental partner organization. Certification to be done by the district collector after the report of such evaluation has been submitted.

Definition of “TB Mukt (TB-free) village/ward”: No active TB patient in 2 years, No TB deaths in past two years, Access to TB care services including trained and motivated ASHA, awareness amongst residents on cough etiquettes, no patient with catastrophic expenditures in last two years.

This has been extrapolated from End TB strategy of Zero TB deaths, disease and suffering.

Regular SIE, CIE activities to be carried on with addition of member from patient organization/patient support groups in SIEs. IRL and STDC will monitor quality diagnostic services throughout the state with support from NRL. State TB cell will monitor drugs and logistics supply to districts being done through STDC.

State TB elimination board will oversee and monitor overall progress, activities for TB elimination in the state of Madhya Pradesh.
**Betul Initiative: Mapping and classification**

District Betul in Madhya Pradesh initiated a process of village level mapping of TB patients based on data available from NIKSHAY on maps of blocks. Mapping then led to classification and colour coding of villages with no TB patients in last 18 months (January 2017 to June 2018) and those with patients of TB. Those TB villages from where no TB patient was reported, house to house survey was conducted to ensure no TB patient or no presumptive TB patient was left unattended. The activity was conducted simultaneously in entire district led by BMOs with RNTCP staff and other NHM staff and frontline workers such as ASHAs. Block was the surveillance unit, BMO as the surveillance officer for this activity. 248 villages thus found to be without any TB patients in last 18 months, were labeled as Zero TB villages. Mapping also led to identification of TB transmission hot spots such as urban areas, areas bordering state of Maharashtra; the program activities such as active case finding were then focused on such areas.

**Learnings:**

- Surveillance units at blocks with BMO as block surveillance officer is a scalable concept.
- Zero TB village/block is an achievable concept, and can be scaled up.
- Mapping of patients on maps helps in re-organizing TB control activities.
**Implementation of State Strategic Plan (2019-2025)**

**Introduction**

The aspirations of the SSP cannot be achieved without the planning and provision of sufficient resources such as time, money, assets and people. The implementation approach is crucial in the planning process that the program undertakes when developing the operational plans and the annual project implementation plans. A process of monitoring and reporting allows these strategies to be evaluated and alterations incorporated to ensure strategies and actions continue to be in line with delivering the aspirations detailed in the SSP.

**Implementation approach:**

A twin track approach will be used for the Implementation of the SSP. Prioritized strategies for achieving a rapid decline in the incidence and mortality of TB to be able to meet the SDG goal for TB five years ahead of time will be undertaken with increased intensity while the ongoing program strategies will be reinvigorated to support these ambitious targets. Implementing the SSP will see the development of 5 year operational plans followed by the annual plans of the program at the district and city level, which will draw from this SSP. The results framework (RF) will guide the development of the annual plans and also for tracking the progress of the interventions.

**Structures**

To take full advantage of the high level commitment for TB control nationally, the program will make functional and organizational changes and rebalance the skill-mix composition of its staff and management. This entails the creation of the TB Elimination Board and other structures as detailed in the chapter on HSS and the section BUILD, to ensure
highest level of political commitment, adequate finances and other resources and support from all the ministries. Strengthening program capacity to sharpen focus on SSP results, including private sector collaborations, health system strengthening and building an enabling environment is costly in the short term but will yield significant dividends over the next decades. Over the next 5 years the program is expected to save XXXX lives and Rs XXXXX to the Indian economy. The requisite skill-mix adjustment will be undertaken with the least amount of disruption in program activities.

**Partnerships**

To harmonize national TB control efforts, increase selectivity and achieve complementarities with global and local partners, the national program will seek agreements with them on collaborative partnerships. The national program will continue to concentrate its knowledge creation and policy advice activities on its areas of comparative advantage. It will seek its partners’ advice on areas in which it has limited or no comparative benefit. Synergistic efforts of all stakeholders involved in TB control in India are the key towards realizing the goal of “Universal access to TB care and treatment for all”. It is known that the government is not the sole provider of services for TB and optimum efforts will be made to utilize the resources in the private sector. In this context an enabling environment will be created through regular interaction with partners involved in TB control and promoting innovative TB control initiatives at district, state and national level. The program defines partnership as an arrangement between any two or more entities; most often, government owned entity on one side and a private sector entity on the other, for the provision of public assets and/or public services, through investments being made and/or management being undertaken by the private sector entity, for a specified period of time. Such arrangements may have options of receiving performance linked incentives that conform (or are benchmarked) to specified and pre-determined performance standards, measurable by the public entity or its representative. This concept of partnership is much broader as compared to previous approaches of Public Private Mix (PPM) under RNTCP which entailed strategies that link all entities within the private and public sectors (including health providers in other governmental ministries) to the national TB program.

Details of partnerships are available in the National Guideline for Partnerships which provides information on how different stakeholders can supplement the efforts of the government for TB control in India.

**Outsourcing and procurement of services from the private sector**

With a heavy workload expected owing to the ambitious strategies of this NSP, outsourcing of select functions will make such functions efficient and ultimately improve the access of TB services to hitherto unreached populations.

These functions include:

a. Enlist private laboratories to support diagnostic functions through a policy intervention.

b. The program also envisages a shift away from a quality assured laboratory to an empaneled laboratory.

c. Promote sputum collection and transport through e-pharmacies, Courier Company or PPSAs.

d. Outsourcing of HR management structure to an HR management agency – Ensures a 60% of burn rate with enhanced efficiency of HR management processes and systems. Outsourcing also saves the district program manager from time consuming administrative work.
9. Shewade HD, Kokane AM, Singh AR. Provider reported barriers and solutions to improve testing among tuberculosis patients “eligible for drug susceptibility test”: A qualitative study from programmatic setting in India. One to One. 2018;1–18.
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