

# **Revised National Tuberculosis Control Program**

\Revised National Tuberculosis Control Program ('RNTCP) is the state-run tuberculosis (TB) control initiative of the Government of India. As per the National Strategic Plan 2012–17, the program has a vision of achieving a "TB free India", and aims to achieve Universal Access to TB control services.[1] The program provides, various free of cost, quality tuberculosis diagnosis and treatment services across the country through the government health system. It seeks to employ the WHO recommended tuberculosis control strategy, DOTS (Directly Observed Treatment, Short Course), to the Indian scenario.[2]

## **Program working**

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The program initially adopted the directly observed treatment, short-course strategy which consisted of the five components of strong political will and administrative commitment, diagnosis by quality assured sputum smear microscopy, uninterrupted supply of quality assured Short Course chemotherapy drugs, Directly Observed Treatment (DOT) and systematic monitoring and Accountability. The DOTS strategy achieved and sustained the target detection rate of 70% of all estimated cases and a cure rate of 85% in new cases. The strategy is estimated to have saved 1.3 million lives since its implementation, and has cut the disease duration by nearly 70% (by 1.6 years)[9]. Although incidence and mortality remain quite large in magnitude, with 2 million incident cases and over 250,000 deaths from TB in 2009 alone[7], the DOTS has also led to the decrease in incidence of TB in the country.

With progress in achieving objectives outlined in the DOTS Strategy of the 11th Five year Plan, the program defined the new targets of Universal Access to TB care. Under the 12th Five Year Plan of Government of India as the National Strategic Plan for 2012–17. The plan hopes to achieve detection of at-least 90% the total estimated

cases and a cure rate of 90% in new and 85% in re-treatment cases.[1] Following are the key components:

### **Integration with health systems:**

Integrating the RNTCP with the overall health system will increase effectiveness and efficiencies of TB care and control which has been depicted in the picture.

In rural areas the RNTCP can focus integration through the National Rural Health Mission.

In urban areas the RNTCP can integrate through the private sector and the evolving National Urban Health Mission.

Control TB: compared to today's activities, success will:

Accelerate decline in incidence and prevent 22 lakh TB cases

Reduce TB deaths by 75%, and save 17 lakh lives from TB

Contain MDR TB: avert 1 lakh MDR cases and reduce incidence by 50%

Quicker diagnosis of more TB patients, more effective treatment in future direct economic expenditure on TB cases prevented and

Leadership for India: Sustain India's global leadership in TB treatment and control.

### **Diagnosis of pulmonary TB under RNTCP**

Diagnosis is made primarily based on sputum smear examination. X-rays play a secondary role in the standard diagnostic algorithm for pulmonary tuberculosis

Sputum smear microscopy, using the Ziehl-Neelsen staining technique, is employed as the standard case-finding tool. Two sputum samples are collected over two days

(as spot-morning/morning-spot) from chest symptomatics (patients with presenting with a history of cough for two weeks or more) to arrive at a diagnosis. In addition to the test's high specificity, the use of two samples ensures that the diagnostic procedure has a high (>99%) test sensitivity as well.

As a national health program, RNTCP pays more attention to the sputum-positive pulmonary tuberculosis patients (who are likely to spread the disease in the community) than people with other, non-pulmonary forms of the disease.

### **Treatment categories and drug regimens**

Based on results from a recent study, RNTCP has issued guidelines to states on daily treatment for tuberculosis. The daily regimen will replace the existing alternate day (thrice weekly) regimen from January - February 2016 in selected states. The daily regimen has shown to be effective in reducing relapse rates and drug-resistance.

Standardized treatment regimens are one of the pillars of the DOTS strategy. Isoniazid, Rifampicin, Pyrazinamide, Ethambutol, and Streptomycin are the primary antitubercular drugs used. Most DOTS regimens have thrice-weekly schedules and typically last for six to nine months, with an initial intensive phase and a continuation phase.

Based on the nature/severity of the disease and the patient's exposure to previous anti-tubercular treatments, RNTCP classifies tuberculosis patients into two treatment categories.

# Others include patients who are Sputum Smear-Negative or who have Extra-pulmonary disease who can have recurrence or resonance.

### **Public private partnership under RNTCP**

In India a sizable proportion of the people with symptoms suggestive of pulmonary tuberculosis approach the private sector for their immediate health care needs. However, the private sector is overburdened, and lacks the capacity to treat such high volumes of patients. RNTCP-recommended Private-Provider Interface Agencies (PPIAs) help treat and track high volumes of patients through offering treatment vouchers, electronic case notification, and information systems for patient tracking[10].

Due to lacking training and coordination amongst private providers, adherence to the RNTCP protocol is quite variable amongst private providers[11], and less than 1% of private providers comply with all RNTCP recommendations[5]. There is need for regularizing the varied anti-tubercular treatment regimens used by general practitioners and other private sector players. The treatment carried out by the private practitioners vary from that of the RNTCP treatment. Once treatment is started in the usual way for the private sector, it is difficult for the patient to change to the RNTCP panel. Studies have shown that faulty anti-TB prescriptions in the private sector in India ranges from 50% to 100% and this is a matter of concern for the healthcare services in TB currently being provided by the largely unregulated private sector in India.

### **Second phase of RNTCP**

In the first phase of RNTCP (1998–2005), the programme's focus was on ensuring expansion of quality DOTS services to the entire country. The future holds a different set of challenges including MDR TB and HIV/TB

The RNTCP has now entered its second phase, approved for a period of five years from October 2006 to September 2011, in which the programme aims to firstly consolidate the gains made to date, to widen services both in terms of activities and access, and to sustain the achievements. The second phase aims to maintain at least a

70% case detection rate of new smear positive cases as well as maintain a cure rate of at least 85%. This needs to be done in order to achieve the TB-related targets set by the Millennium Development Goals for 2015 and to achieve TB control in the longer term. Today India's TB control program needs to update itself with the international TB guidelines as well as provide an optimal anti TB treatment to the patients enrolled under it or it will land up being another factor in the genesis of drug resistant tuberculosis.[12]