

Document on
State TB Training and
Demonstration Centre (STDC)



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November 2003

PREFACE

The STDCs have very important role to play in the success of Revised National Control Programme by assisting the State TB officer in various programme related activities and providing inputs on technical issues. The current document for STDC has been developed with a view to provide direction to States for strengthening the existing STDCs and establishing new ones wherever required. The document is extensive compilation of all the infrastructure and manpower requirement for the functions expected out of STDC. However this does not imply any additional financial/ logistic support from Centre apart from the approved norms for support under RNTCP, for which the STCS guidelines may be referred to. The current guidelines do not propose for any additional staff over and above what was proposed in previous document at the STDC albeit some re-designation of duties of some of the staff considering the envisaged role for the STDCS. It is also pertinent to mention here that State TB Officer is the overall in-charge of the programme in the State and hence all programme related activities would be carried out by STDC under the directions and on behalf of STO.

Preamble

The National TB Control Programme (NTP) was conceived in **1962** and formulated by National Tuberculosis Institute (NTI) as a decentralized programme. At the central level, the programme is managed by the Directorate General of Health Services (DGHS), the technical arm of the Ministry of Health and Family Welfare (MOHFW). At the State level, the technical wing is headed by Directorate of Health Services with an exclusive TB Cell to monitor the programme. The District Tuberculosis Officer (DTO) is responsible for implementation the programme within the district through the general health services. The NTP made some headway in the creation of basic infrastructure for running the TB control programme. For implementation of NTP, 446 District TB Centres, 330 urban TB clinics established besides setting up of around 47,000 beds for TB patients. Drug cost for the programme was shared between the Central and State governments equally till Revised National TB Control Programme (RNTCP) was introduced in 1993. After 1993, the entire drug cost for both NTP and RNTCP are being borne by the Centre.

Relevance of STDCs in National TB Control Programme (NTP)

As per the constitution of India “health” is a State subject and hence it is obligatory for the States to shoulder the responsibility of managing all the health programmes. In NTP there were a large number of important technical and managerial responsibilities, which the States were to shoulder themselves. The rapid implementation of NTP in the states made it mandatory for the state health system to assume these functions and responsibilities for the growth of NTP in the right direction. Though many of the District Tuberculosis Programme (DTP) units functioned satisfactorily, still there were many which required considerable administrative and technical assistance / guidance. Such assistance could best be rendered by a specialised technical unit located within the State for reasons of administrative convenience and familiarity with the local conditions. Apart from this consideration, any public health programme of this dimension has a tendency to loose direction and momentum if adequate supervision and constant technical support is not ensured. Regular supervision also yields valuable information for providing feedback to enhance the performance of the programme. The establishment of State level specialized units, therefore, became mandatory to provide technical, managerial and training inputs to further the performance of the programme both in terms of quality and quantity.

Incidentally, TB Demonstration and Training Centres (TDTCs) were in existence even before the formulation of National Tuberculosis Programme (NTP) in 1962. These were established with the aim of demonstrating the practicability of treating tuberculosis patients on ambulatory basis from TB clinics as effectively as inpatients in any TB Hospital or Sanatorium. The TDTCs were upgraded and strengthened under NTP and were re-designated as State Tuberculosis Demonstration and Training Centre (STDC). The STDCs were made to discharge the functions and responsibilities in accordance with the guidelines provided in the STDC documents^{1,2}. They

were expected to play a significant role in the implementation of NTP. The STDCs were entrusted with the responsibility of training the Health workers in the State on the policies and guidelines of TB control, providing technical assistance to STO on programme related issues, supervising district level programme activities on behalf of State health authorities, running a model DTP unit as a demonstration centre, conducting Operational research and providing AFB culture and sensitivity testing facilities.

In order to discharge the various activities, the STDCs were organised into the following Sections

- ✍ Model DTP unit
- ✍ Training
- ✍ Epidemiology
- ✍ Bacteriology
- ✍ BCG
- ✍ Domiciliary Treatment Organization Section
- ✍ Statistics
- ✍ X ray
- ✍ Office (administration)

However, the development of STDCs was not uniform. Some of them discharged the responsibilities as initially envisaged and substantially helped the functioning of DTPs while others remained underdeveloped.

Revised National TB Control Programme

The necessity to revise the ongoing National Tuberculosis Programme (NTP) arose due to its inability to achieve the desired epidemiological impact. The Government of India (GOI), with the World Health Organization (WHO) and the Swedish International Development Agency (SIDA) undertook a detailed evaluation of the NTP in 1992³. Though scientifically sound, the programme was found to suffer from managerial shortcomings, inadequate supervision and the low priority accorded to it. Some of the main factors which were found to be contributing to the low performance of the programme with respect to case finding and treatment were over reliance on X-ray for diagnosis, multiplicity of drug regimens, erratic drug supply, and lack of accountability besides inability of State to shoulder the responsibility of training the peripheral health workers.

The joint review called for a significant overhaul of the NTP and the adoption of a revised approach to TB control. This approach; the **Revised National Tuberculosis Control Programme (RNTCP)** is an application of the internationally recommended Directly Observed Treatment, Short Course (DOTS) strategy. The basic tenets of the DOTS strategy were discovered in India and the strategy is now recommended by WHO to revitalise tuberculosis control programmes. The strategy has proven successful in areas where it is being implemented. It has offered solution to many a shortfall of the earlier programme. The main objective of RNTCP is to achieve at least 85% cure among new sputum positive TB patients and to detect at least 70% of such patients.

The RNTCP was introduced in India in 1993 as a pilot project and since 1997-98 is being expanded in a phased manner. The whole country is planned to be brought under RNTCP by 2005⁴.

The RNTCP has five essential components of DOTS strategy:

- a. **Political commitment** – This is of paramount importance for the success of any programme. The priority accorded to TB by GOI must be sustained and percolated to the State, district and local levels. Community leaders can take a pro-active role in ensuring that TB services are available for all and are effectively utilized by the community.
- b. **Sputum Microscopy** – To ensure a reliable and a quality diagnosis, stress is laid on diagnosis of pulmonary tuberculosis by three sputum smear examinations. This technique enables identification of sputum positive cases, which are the critical sources of infection.
- c. **Uninterrupted supply of quality drugs** – RNTCP has developed a unique system of allocating a box containing the full complement of drugs for every patient registered for treatment. This ensures availability of full course of drugs to the patient without any delay or interruption. Thus the treatment never fails on account of non-availability of medication.

- d. **SCC given under direct observation**– The essence of RNTCP is use of standardised SCC regimen for Directly Observed Treatment, wherein drugs are given under direct observation of a trained health provider. This is to ensure consumption of all the prescribed drugs by the patient for the prescribed duration besides effective patient education.
- e. **Accountability** – This refers to an effective recording and reporting system that provides for the flow of all relevant information from the most peripheral DOT centre to the central level. The system enables rigorous monitoring and evaluation of the outcome of every patient registered. The cure rate and other key indicators of programme performance are monitored at every level of programme management.

Role of STDCs in the RNTCP

One of the key observations of the joint comprehensive review of the RNTCP conducted by WHO and GOI in Feb 2000 was that the existing STDCs in States were functioning primarily as providers of clinical care rather than public health institutions supporting training, monitoring and supervision of the programme through out the State.⁵ A need was also strongly felt to decentralise implementation and monitoring of the programme to the State in a phased manner. In this scenario it is pertinent that the STDC are strengthened to increase their capacity to assist the State TB Cell (STC) in training, monitoring, supervision and advocacy. The STDCs should mandatorily transfer the clinical activities to the district/ Municipal Corporation in a phased manner. A review of STDCs was conducted by Central TB Division in 2001-02 and it was observed that though STDCs had adopted RNTCP guidelines all of these were not strengthened enough to provide technical support to STO/ STC as envisaged. One of the reasons contributing to the situation was non-availability of standardised guidelines for the role STDCs would need to play in RNTCP. The 2003 GoI-WHO Joint Monitoring Mission of RNTCP also called for strengthening of STDCs as a step towards capacity building of the States for effective implementation of RNTCP related activities.

The objective of this document is to reformulate the guidelines governing the functioning of these institutions in order to help the states in either strengthening or establishing new ones. . It is desirable that the recommended guidelines for STDCs are uniform, sustainable, realistic and operationally feasible for the States to adopt. Some of the main issues which need to be addressed are the nomenclature, location, organizational structure and staff pattern.

It is ideal that each State/ UT should have at least one STDC. For administrative convenience, effective coordination and sharing of responsibilities with State TB Cell, the STDC should preferably be located in the State capital. However, in States where the existing STDC is away from the State head quarter, they may continue to function as it is. Large States may consider having two STDCs

Activities of STDCs

1. Training:

- ✍ To impart quality training to all the District level key personnel and supervisory staff.
- ✍ Translation of training material into local languages
- ✍ Evaluation of the efficacy of training activities.

2. Supervision: To undertake supervisory visits to the districts in coordination with the STO.

3. Monitoring and Evaluation:

- ✍ Coordinate and support the STO in monitoring of the programme and providing feedback on the programme activities to districts.
- ✍ Periodic internal evaluation of district programme

4. Quality Assurance (QA) of sputum microscopy:

- ✍ This would include quality control of the STDC laboratory by the national institutes and quality control of laboratories in the district by STDCs as per the RNTCP QA protocol.

5. Advocacy and IEC

- ✍ Assist the STO in co-ordinating the advocacy and IEC activities in the state.

6. Operational Research (OR):

- ✍ Undertake OR and provide technical support to research activities in the state
- ✍ Trend analysis

7. Culture and sensitivity:

- ✍ To provide Culture and Sensitivity facilities for *M. tuberculosis* and undertake Drug Resistance Surveillance in the state

Since the availability of infrastructure and resources would vary from State to State, it may not be possible for all States to establish STDCs ensuring all the functions listed above from the very start. However, as a priority the STDC should focus on the first four activities listed above. Once the STDC stabilises these activities, Operational research and Culture & Sensitivity facilities could be established subsequently.

It may also be emphasized that for STDCs to play an effective and optimal role in the TB control programme of the State, the clinical functions should be done away with.

Sections of STDC

To carry out the assigned activities, the STDC would comprise of the following sections, even though it will function as one composite unit from the administrative point of view. (The organizational and staff structure is depicted in Annexure -I).

I. Training section:

The RNTCP has a full-fledged plan for training all categories of staff from District TB Officer to peripheral level. STDCs would continue to play a major role in State level training activities even after the States are fully implemented under RNTCP. To prepare an action plan for refresher training, district wise information on the status and quality of training is a prerequisite. Besides the districts need to be prioritised for refresher training, based on the performance indicators and assessment during the State Internal Evaluation. The STDC also has to evaluate the training programmes during supervisory visits.

The state and district level programme managers are also to be trained on budgeting, financing and managerial aspects. The central institutes viz., National Tuberculosis Institute (NTI), Bangalore / Tuberculosis Research Centre (TRC), Chennai /Lala Ram Saroop Institute of TB and Allied diseases (LRS), Delhi on the other hand will be responsible for training the staff of STDC as well as state level key trainers. The MOTCs, STS & STLS would be trained at STDC. If required, some LTs from the districts may also be trained at STDC

The important functions of STDC with regard to training, therefore would be to:

- Enhance quality and quantity of State-level training
- Monitor and evaluate the quality of training undertaken at district level and below
- Monitor the training needs by comparing the number of various categories of staff already trained against those in place.
- Prepare training calendar each year and updating it on quarterly basis.
- Translation of training material to local language wherever required.
- Ongoing evaluation to assess the impact of training activities.

Infrastructure requirement for training

Essential	Desirable
Staff	
Training co-ordinator (1) Medical officer trained in RNTCP, preferably with public health background.	Microbiologist from Medical college or district laboratory to facilitate the laboratory training.
Training officer (1) Para medical staff trained in RNTCP.	
Other trainers (3- 6) May be drawn from other sections	Co-ordination with medical colleges to mobilize trainers
Infrastructure	
Two rooms with seating capacity of 8-10 each.	Auditorium with a seating capacity of approximately 50.
One laboratory room to accommodate 10 trainees for smear microscopy	Facility for accommodation (boarding and lodging) of 20-25 trainees.
One Board/ meeting room	Resource Centre/ library with all the latest and relevant literature
	Computer training room to accommodate 3-4 computers.
Equipment & Logistics	
Audio Visual aids – OHP, White Board, TV/ VCR, Tape recorder, Flip chart screens (3). Binocular Microscopes to meet the training needs.	LCD Projector One Projecting Microscope, one Teaching Head Microscope, one LCD projector (for projection microscopy).
Training material (Recent editions)	3 computers for training
Transport facility for field visits.	

- *Responsibilities of Training coordinator*
 - Function as master trainer.
 - Assessment of training needs. Preparation of training curriculum.
 - Organization of training at the State level.
 - Co-ordination of training activities through out the State.
 - Periodic supervision and assessment of quality of training conducted at district and sub district levels.
 - Standardisation of training evaluation methods.
 - Co-ordinating IEC activities with the IEC officer.
- *Responsibilities of training officer*
 - Preparation of annual training calendar.
 - Arranging updated training material.
 - Preparation of budget, procurement, distribution and maintenance of logistics required for training.
 - Identification of resource persons, venue etc.
 - Maintaining updated directory of trained manpower.

II. Monitoring section:

Supervision

It is an important component of the programme aimed at maintaining the work standards and for ensuring supplies. With rapid coverage of the States under RNTCP it becomes inevitable for STO to draw upon the active support of STDC in supervision. A plan for supervision of the districts needs to be chalked out for each quarter for sharing of supervisory activities between State TB Cell and STDC. The district should be supervised on site either by the STO/Director STDC at least once every quarter. The aims of supervision visits should be to find out the shortfalls in implementation of programme, verify correctness of recording and reporting procedures and identify areas that need strengthening. The findings should be noted in the inspection register for records at the facility visited and also mention it in the tour diary for follow-up. Wherever possible, immediate corrective measures should be taken. For corrective actions needing time, a detailed note should be sent to DTO and concerned MO-TC with a copy to STO, suggesting a timeline for the required action. An action-taken report should also be sought simultaneously within the prescribed time - frame.

Monitoring and Evaluation

Monitoring of the programme performance through quarterly reports is a prerequisite for effective supervision. It becomes mandatory that the STDC should be involved in the analysis of quarterly reports of the district with emphasis on programme performance indicators. Providing prompt feed back to the STO and to the districts on the findings of the analysis and the required corrective actions to be taken, is an integral part of monitoring. Monitoring of the programme management and logistics would primarily be the responsibility of the State TB Cell.

The STDC staff should form part of the team for internal evaluation of the districts undertaken every quarter. Compliance on corrective actions recommended in the report submitted by Internal Evaluation team should be monitored by the STDC along with the STO. The main activities of STDC with respect to monitoring & evaluation would thus be:

- Active participation and support to STO in organising quarterly meetings of DTOs of RNTCP and NTP district to review the performance of programme parameters.
- Co-ordinating with STO in providing prompt feedback to each district on the performance based on the analysis of quarterly reports.
- Compilation and Collation of data for trend analysis of various parameters to assess the impact of interventions.
- Publication of quarterly and annual bulletins on programme performance and other activities.

Monitoring preparatory activities of districts that are yet to implement RNTCP.

Infrastructure requirements for Supervision and Monitoring

Essential	Desirable
Staff	
Epidemiologist, Medical officer, Statistician and Statistical Assistant/ Data entry operator	Co-ordination to be established with Medical College where specialist staff is not available
Infrastructure	
Office room	
Records room	
Equipment	
One Computer with internet connectivity, printer and other accessories	
One Photocopier Four-wheeler for Director STDC (hire/purchase)	

- *Responsibilities of Epidemiologist*
 - Programme assessment including feed back and trend analysis of various parameters.
 - Supervision
 - Training
 - Operational research and relevant epidemiological studies in collaboration with national institutes.

- *Responsibilities of Statistician*
 - Scrutiny of quarterly reports from the districts for correctness and consistency
 - Preparation and analysis of State report
 - Ensure timely reporting
 - Supervision and Training
 - Assistance in Research studies

III. Bacteriology section:

This section is designated as State Reference Laboratory and has the following functions to discharge:

1. Training of lab personnel in RNTCP diagnostic strategies
2. Conducting External Quality Assurance (EQA) protocol
3. Providing culture and sensitivity facilities
4. Implementing Drug Resistance Surveillance (DRS) in the State
5. Providing technical support on RNTCP to STO, Medical colleges and other institutions of the State.

The brief description on EQA and DRS activities are given below.

External Quality Assurance

Sputum microscopy has a pivotal role in RNTCP to ensure early and reliable diagnosis of pulmonary tuberculosis. The results of microscopy will not only help in deciding the category of regimen but will also help in determining the final treatment outcome. Hence establishment and strict adherence to quality assurance of microscopy has been given utmost priority in the programme. ⁶

Framework for implementing EQA Laboratory network activities under RNTCP:

There are three levels in EQA Laboratory network under RNTCP;

1. National Reference Laboratories (NRLs), which are the Central Institutes designated under RNTCP. They monitor EQA activities of STDCs/ State labs for the programme. There are three NRLs, viz., National Tuberculosis Institute, Bangalore, Tuberculosis Research Center, Chennai and Lala Ram Sarup Institute of TB & Allied Diseases, Delhi . Each NRL will eventually monitor 11 to 12 STDCs.
2. STDC Laboratories will work as Intermediate Reference Labs (IRLs) in the network. All States should have a State level reference laboratory for EQA.
3. The Microscopy Centres (MCs) working for RNTCP in the districts will be the Peripheral laboratories (PLs).

The three main activities under the new RNTCP EQA protocol are;

- a. On site evaluation,
- b. Panel testing and
- c. Blinded rechecking of slides.

On site evaluation: This evaluation is an important activity intended to evaluate whether the programme activities are being carried out in accordance with the recommended guidelines. Guidance is also provided for immediate corrective actions, wherever found necessary. Onsite evaluation of the STDCs is done at least once a year by NRLs. DTCs (STLS) are evaluated once a year by STDCs and all MCs in the districts at least once a month by respective STLS. Importance will be given for taking action immediately at each level.

Panel testing: Panel testing is done mainly to check the staining and smear reading proficiency of LTs of STDC and STLS of TUs. The Panel testing is not used as a routine for LTs working at MCs. Panel testing of LTs of STDC and STLS will be conducted once a year under the supervision of the visiting NRL/ STDC team. A set of pre-fixed unstained manufactured slides are used per technician under supervision of the visiting NRL/ STDC supervisor.

Blinded rechecking: Blinded rechecking is the most important activity under the EQA programme. It determines the correctness of the smear results of LTs of MCs in an unbiased manner. It is not required for LTs of STDC as STDCs are expected to function at the supervisory level and are not required to perform patient related functions such as diagnosis and follow-up.

Methodology for all the three above mentioned activities are provided in detail in the revised RNTCP EQA & DRS Protocols. ⁶

Drug resistance surveillance (DRS):

Undertaking DRS was one of the functions assigned to STDC under NTP to monitor the programme. It was thought mandatory to measure the level of drug resistance in the community periodically as chemotherapy drugs were being deployed on a large scale on domiciliary basis. The activity will acquire greater significance once RNTCP covers the entire country.

It is proposed initially to conduct population based surveillance of drug resistance in tuberculosis in one particular State at a time in the country. The aim of this study would be to determine the prevalence of resistance among patients with no history of previous TB treatment as well as prevalence of resistance among patients with history of previous treatment. The levels of drug resistance would be used as a performance indicator of the tuberculosis programme of the State. Routine Drug Resistance Studies would be planned further, on this basis, to study the trends.

The entire identified State will form the survey area. The STDC will initiate the DRS, train the personnel and conduct the surveillance in the State with the assistance of their respective NRLs. All STDCs need to have a well established laboratory with sufficient infrastructure to carry out these functions. The details of the study proposal, standard operating procedures and the required equipment and consumables for setting up of STDC Culture and sensitivity laboratory are available in the revised DRS Protocol⁷.

However, this should only be carried out after the State is fully covered under RNTCP and other aspects of lab quality assurance and proficiency testing for culture & sensitivity in the State are well established. The STDC would need approval and accreditation of one of the NRLs prior to initiation of such studies.

Infrastructure requirements for Quality assurance / Smear Microscopy

Essential	Desirable
Infrastructure	
Laboratory section (2 room) for sputum examination (+3 rooms - one each for media preparation, for inoculation and for Culture & Sensitivity testing)	
Equipment	
Binocular Microscopes (6) (including those required for training)	
EQA	
<ul style="list-style-type: none"> • Biological safety cabinet • 50 ml plastic screw cap tubes • Vortex • Water bath (55-60°C) • Distillation apparatus • Biosafe Centrifuge • Consumables 	
DRS	
<ul style="list-style-type: none"> • Biological safety cabinet • Centrifuge • 35°C-37°C incubator • Inspissator • Autoclave • Water bath • Bunsen burners • Glassware and plastics • Consumables • Cold storage 	
Manpower	
Microbiologist/ Bacteriologist 1	
Sr Lab Technician 1	
LT trained in RNTCP (4) The training activities will be shared by the staff in addition to other activities mentioned above.	
Lab Attendants 3	

A complete list of equipment and consumables is found in the Revised EQA & DRS Protocol.

IV. Operational Research section

Epidemiology section of the STDC would play a vital role in assessing the TB situation in the state. Periodic analysis of epidemiological data / information will give a direct assessment of the impact of the programme. The activities identified for STDC in relation to Operational Research (OR) are:

- Carrying out research as per the identified priority areas under RNTCP
- Training and guidance in protocol development
- Scrutiny of research proposals submitted by districts and NGOs .
- Collaboration with Central TB Division and national institutes for guidance and training related to operational research.
- Organizing meetings for coordinating research activities.
- Maintaining a directory and networking with research organizations and funding agencies.
- Dissemination of research findings through publications

Infrastructure requirements for operational research: The STDCs would need at least 2 field staff, preferably social workers to organise OR activities. This would be under the overall supervision of the Epidemiologist.

V. IEC/ Publicity section

The State TB Cell has been provided with an IEC Officer for carrying out and coordinating the IEC activities in the State. The over all responsibility of IEC and publicity would therefore be of the State TB Cell. The STDCs would be required to provide only technical inputs to make the IEC activities more effective and also partake in certain advocacy activities themselves. The nature of responsibilities of STDCs in this area could thus be described as under:

- Development of IEC action plan, relevant material and translation of IEC material to local language
- Co-ordinate with medical colleges, NGOs, IMA, etc. on recommended TB Control policies
- Conduct orientation and training sessions for opinion leaders
- Co ordination with the State Health Education Bureau.
- Maintenance of Books and Periodicals and updates on programme policies.
- Dissemination of information on programme performance and other information through periodic publication of Bulletin / Newsletter.
- Advocate increased commitment and priority to tuberculosis at State and District levels.

Infrastructure requirements for IEC activities: Sufficient funds have been provided to State TB Cells for IEC activities. An IEC officer has also been provided on contractual basis at the State level. A proper coordination mechanism needs to be developed between STO and STDC Director to have maximum output from the available resources

Clinical functions

In the current scenario, STDCs are not expected to carry out clinical activities. STDCs should rather be performing the important technical and managerial activities assigned to them. Clinical activities hitherto being performed by STDC should be taken up by local DTC. However, in certain States the DTC or TU is located within the premises of the STDC. They may continue to function in the premises but as a separate unit.

VI. Administrative section:

It will take care of the personnel, budget, accounts, other financial matters, co-ordination of training courses, the stores, vehicles and their maintenance, supplies, building etc.,

Administrative Control of STDCs

The Director of STDC provides technical support to the State TB Officer who is responsible for managing the RNTCP in the State. The STDCs shall, therefore, co-ordinate with the STO and shall discharge the various technical functions on behalf of the STO. While the STO will have overall technical and administrative control, the STO would draw upon the technical expertise and resources of STDCs as and when required. Close co-ordination shall have to be maintained between the STO and the STDCs to derive maximum benefit for the programme.

Role of national institutes

The central institutions viz., the National Tuberculosis Institute, Tuberculosis Research Centre and Lala Ram Sarup institute of Tuberculosis and allied diseases have a significant role in the development of the STDCs in the states according to the guidelines. The national institutes will function as nodal agencies for the STDCs and will be assigned specific tasks. An action plan with time frame will be prepared by these nodal agencies for the calibrated development of the assigned tasks allotted and the progress of activities undertaken by the state governments for strengthening STDCs will be monitored by them. In addition, the central institutes will render their assistance to ensure the sustenance of following activities in the STDCs:

1. **Supervision:** The allotted STDCs will be supervised periodically by the central institutes. A check list will be developed to maintain uniformity in supervision and reporting to the CTD.
2. **Training:** Responsibility of 'Training of the trainers' of the State and district level will be undertaken by the central institutes. The National Tuberculosis Institute, Bangalore has taken a lead in this regard and is conducting the following training programmes every year
 - a. Training of Trainers including paramedicals – January (two weeks)
 - b. Training for STDC staff (Epidemiologist, Microbiologist, TB Specialist, Statistician)- March (three weeks)
 - c. Training for state level programme managers – September (Two weeks)

3. External Quality Assurance (EQA):

The following activities have been envisaged for national institutes in this area.

- a. On site visit once a year to the assigned STDCs and more frequently, if needed, for supervision and panel testing of slides.
 - b. Training the lab technicians for two weeks on the revised EQA protocol.
 - c. Sensitization to STDC Directors and microbiologists for 2 days on revised EQA procedures.
4. **Drug Resistance Surveillance:**
 - a. Required technical assistance in establishment of culture & sensitivity laboratory will be given to the STDCs.
 - b. Proficiency testing of STDCs allotted.
 - c. Provide assistance in training (6 weeks for LTs and 3 days sensitization for Director, STDCs and microbiologists) and technical guidance for conducting DRS.
 5. **Operations research:** The central institutes will give technical guidance and training for conducting epidemiological and operations research studies.

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- ⁶ Revised EQA protocol.